2000/29

New Zealand Seismological Report 1998

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E-181

D E Maunder (ed.)

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POSTAL SERVICE

All measurement and interpretation of records is carried out at the central station. Requests and communications should therefore be sent to:

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Correspondents are asked to note that surface mails from Europe and the Americas are infrequent, and that articles not sent by airmail may take four or five months to reach us.

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INTRODUCTION

The form of this Report follows lines established in recent years. The main list of regional shocks contains only earthquakes of magnitude 3.5 or greater located within 10^{o} of Wellington, and smaller earthquakes known to have been felt in New Zealand. Many other earthquakes have however been assigned serial numbers, so the serials of the shocks listed are often not consecutive.

Phase data are not published here, but are instead sent to the International Seismological Centre, and appear in their bulletins, which constitute the only medium now in use for routine reporting of arrival time observations made in New Zealand. The lists of origin coordinates and magnitudes include sufficient supplementary information for assessment of the quality of the data on which they are based.

There is also a list of origins of earthquakes in the Wellington area with magnitudes of 2.0 or more. This list gives less information on the quality of individual determinations, but the density of recording stations in the area and their easy accessibility for maintenance ensure that errors are small.

Seismologists urgently requiring unpublished New Zealand data may apply to the Observatory. Historical data are also available, but it is the Observatory's practice to make a charge for recovery of this material unless a two-way information exchange is involved. Definitive origins for local earthquakes are usually available within a few months of their occurrence.

The Observatory moved from Kelburn to Gracefield at the end of February. Changes in receipt of data from the Wellington station and network are described in the section on Instrumentation.

Although the Report for 1993 has not yet been published, the data has been analysed and is available from the Observatory.

D E Maunder
Editor

STAFF IN 1998

Wellington

Chief Seismologist:	T H Webb, BSc (Hons), PhD (Cant)
Scientists:	R E Abercrombie, BA (Cantab), PhD (Reading) (until February) R A Benites, BSc (UNI Peru), PhD (MIT) M P C Chadwick MSc, PhD (VUW) G L Downes, BSc (Hons), MSc K R Gledhill, MSc (Hons), PhD P J McGinty, MSc (until June) A Pancha, MSc M E Reyners, BSc (Hons), PhD R Robinson, MSc, PhD (Stanford)
Technical Officers:	A F Cresswell, NZCS B G Ferris, NZCS J S Harris, NZCS D E Maunder, BSc R D Maunder C W O'Reilly, NZCE
Technicians:	G J Campbell, NZCE S C Ede M Kopeykin F Langford, NZCE, BSc
Technical Artist:	C Hume

STAFF IN 1998

Wairakei (Volcanic Networks)

Scientists:	C J Bryan, PhD (Hawaii) B J Scott NZCS, NZ Dip Sci S Sherburn, BSc (Hons)
Technician:	D E Keen

Christchurch

Technical Officer:	T J O'Neill, NZCE

Rarotonga

Observer in Charge:	R Taia

Raoul Island

Observer:	R Dudfield

Scott Base

Observers:	H Binnie G Redvers

NEW ZEALAND SEISMICITY IN 1998

New Zealand was again fortunate to avoid a large damaging earthquake in 1998, but moderate-sized events did occur including several in places where earthquakes are not often recorded.

The first earthquake in an unusual place occurred inland from Oamaru, near Danseys Pass, on February 8 (Event 98/1375). The shallow earthquake, M_L 5.1, caused some local damage and was felt from Christchurch to Dunedin. Several aftershocks occurred, continuing until the end of March. A shallow M_L 5.8 earthquake 41 km east of Haast (45 km west south west of Mount Cook) occurred on October 20 (Event 98/1398). This event was large enough to trigger icefalls near Mount Cook and knock goods from shelves at Mount Cook Village and Franz Josef. It was felt strongly on the West Coast and as far away as Christchurch and Dunedin. This part of the central South Island does not often experience earthquakes. Another earthquake in an unusual location was one on May 16 (Event 98/6323), which caused damage on Rakino Island and was felt on Waiheke Island. This event was shallow and very small, M_L 2.7, but was a useful reminder that all parts of New Zealand can experience earthquakes.

Two shallow magnitude, M_L 5.2, earthquakes occurred offshore. The first on Feb 24 (Event 98/1922) occurred 30 km south of Seddon, while the second on June 22 (Event 98/7631) was centred off Taranaki. While earthquakes of this magnitude do not typically cause major damage, the fact that these were offshore meant that damage was very minor.

Two other moderate events were felt. The first on April 22 (Event 98/5475), M_L 5.1, 48 km deep, occurred 44 km south east of Wairoa and was felt from Gisborne to northern Hawkes Bay. The second, on May 14 (Event 98/6228), M_L 5.1, 46 km deep and 55 km south of Opotiki, was felt from Opotiki to northern Hawkes Bay.

The largest earthquake of 1998 occurred on April 20 (Event 98/5421) at a depth of 234 km with a magnitude of 6.8. This earthquake, located 33 km west south west of Taumarunui, was felt from Gisborne to Christchurch and across to Taranaki, but because of its depth little damage was reported. Such large deep earthquakes under the North Island are relatively common. Two other deep earthquakes of moderate magnitude occurred later in the year. An earthquake on October 21 (Event 98/11422), M_L 5.5, 200 km deep near Tokoroa and another on December 29 (Event 98/13679), M_L 5.7, 160 km deep near Rotorua were both felt, but no damage was reported.

Swarms of earthquakes are common in New Zealand, especially in the volcanic regions. The most active swarm in 1998 occurred just south of Rotorua where over 40 events were felt between March 24 and April 2. The largest event (Event 98/3240), M_L 4.7, occurred on 24 March. This activity continued during April and May. An earthquake sequence occurred 20 km south of Ohakune in February, with the largest event, M_L 3.8 on February 8 (Event 98/1345), causing minor damage in the Turahina Valley.

There were six deep earthquakes with magnitudes between 5 and 5.9 located to the north of White Island. Only two of these were felt and no damage was reported because of their distance offshore. The earthquakes that were felt occurred on May 1 (Event 98/5781), M_L 5.9, 189 km deep, 352 km north northeast of Opotiki and September 2 (Event 98/9823), M_L 5.6, 138 km deep, 97 km north of Opotiki.

There were a number of shallow earthquakes located south of Fiordland during January. Nine of these had magnitudes of 5 or greater. The largest M_L 5.9 occurred on January 26 (Event 98/827) and was felt in Invercargill.

INSTRUMENTATION IN 1998

By the end of 1998, the New Zealand network consisted of 33 digital stations (22 three-component and 11 single component), three analogue stations (excluding the stations from regional networks that record visually as well as digitally), seven regional networks and an IRIS system. We also received analogue records from stations outside New Zealand (RAO, SBA and VNDA).

The change from visual records, needing to be changed daily, to digital tapes which run for a week has meant that it has been possible to install instruments at seismically quieter sites. Those analogue stations left are used to add data to a few poorly determined epicentres and as displays in museums or other public areas. Continuous recording by the IRIS system for the registration of teleseisms and the use of pen-recorders at some sites for immediate inspection of large events continued.

A new kind of station was added to the National Seismograph Network in late 1998. It is intended that these stations will slowly replace the current EARSS based stations. The new stations record six components of ground motion (three components of weak motion and three components of strong motion) and telemeter data continuously to both Gracefield and Wairakei. The data is received on a Sun workstation at both centres, and earthquake events are detected and added to the rest of the data for the appropriate events. The continuous record of ground motion is also archived at Gracefield. A pilot network of four sites (KNZ, TOZ, DSZ, MQZ) was installed beginning in October, but teething problems with the telemetry equipment meant that it was some months before the data stream became continuous.

Each site consists of a vault and a small shed. The vault houses a Guralp CMG-40T broadband seismometer and a Kinemetrics EpiSensor force-balance accelerometer. The Kinemetrics EpiSensor can record strong ground shaking of up to 2g, and the Guralp CMG-40T has a bandwidth from 50 Hz to 30 or 60 seconds period. The data logger employed is a Quanterra Q4126 equipped with a GPS receiver for absolute timing, a hard disk for on-site recording, and an ethernet card so that data can be sent in real-time using standard Internet protocols. The Quanterra Q4126 has a 24 bit digitiser and thus has a dynamic range of over 140 dB. The power supply for each site consists of a bank of 12 volt batteries on continuous charge using mains power. If the mains power fails the batteries have enough capacity to operate the site for about three days.

Each site has a very small aperture terminal (VSAT) satellite transceiver system comprising an indoor unit (IDU) housed inside the shed with the Quanterra data logger, and a small dish antenna (1.8 m in diameter) with an attached outdoor unit. The IDU contains an ethernet card so the Quanterra data logger plugs directly into it and sends data via satellite to both Gracefield and Wairakei.

Until new 6-component stations replace the existing stations, the main recording system is still the EARSS (Equipment for the Automatic Recording of Seismic Signals). EARSS data loggers come in two main types: a three channel system used at the standard National Network stations, and a 16 channel system used to record the telemetry networks at Rotorua, Wairakei, and Gracefield. The volcano-seismic networks run in Auckland and Taranaki by the respective regional councils also use 16 channel EARSS recorders. The three-channel EARSS system employs automatic magnification adjustment ("gain-ranging") to extend the dynamic range of the 13-bit (12 bit plus sign) digitiser giving a dynamic range of 120 dB. In contrast the 16-channel version just uses the digitisation system without the gain-ranging and thus has a dynamic range of 76 dB. However, this is sufficient as the dynamic range of telemetry networks is restricted by the current telemetry technology to less than 50 dB. A frequency domain earthquake detector is used by both three and 16 channel EARSS systems to identify possible earthquake events which are then recorded on magnetic tape or computer hard disks.

With the move of the seismological observatory function to Gracefield at the end of February the recording of the Wellington Seismograph network, and the Kelburn EARSS station changed. The EARSS recorder for the Wellington network was moved to the Cotton building at Victoria University of Wellington in Kelburn. The data is continuously recorded (with the aid of a notebook computer) and transmitted to Gracefield via spread-spectrum radio link. The data are received at Gracfield on a Sun workstation where event detection takes place. Data from the Kelburn EARSS is also now transmitted by spread-spectrum radio to Gracefield and received by the same Sun computer.

INSTRUMENTAL CHANGES IN 1998

The main change in 1998 was the installation of four new Quanterra Q4126 digital seismographs during October. Two of these were installed at the existing national network sites of McQueen's Valley (MQZ) and Denniston North (DSZ). Two new sites were established: Kokohu (KNZ) in Northern Hawkes Bay and Tahuroa Road (TOZ) near Morrinsville. Each of these sites is equipped with a broadband seismometer (Guralp CMG-40T) and a strong motion accelerometer (Kinemetrics EpiSensor). The signals from these stations are sent via satellite to Gracefield.

The original seismographs and recorders at McQueen's Valley continued to record until January 1999. The station at Whitehall (WLZ) was closed in December and replaced by Tahuroa Road (TOZ).

The office at Kelburn (Wellington) moved to Gracefield, (Lower Hutt) at the end of February. The signals from the Wellington network are now received at Victoria University of Wellington and transmitted to Gracefield.

A new station, Kauri Point (KAAZ) was added to the Auckland network during May. Mount Adams (AMW), a station of the Wellington network, was closed in August.

Paper records are received from Vanda (VNDA) and the short period vertical instrument at Scott Base (SBA). There are parts of the year when there are no records from these stations.

There were no records from Raoul Island for this year.

INDEX OF STATION CODES AND POSITIONS

The number of seismograph stations has grown so much in recent years that it is not always possible to find short mnemonic codes that are unique in the world. Nearly all the codes used below are recognised and used by the United States NEIS and by ISC, but some of those for stations in the telemetered networks may not be. The coordinates for the New Zealand stations are NZGD49 on the Hayford (International) spheroid.

CODE	NAME	LATITUDE d	m	s		LONGITUDE d	m	s		ALTITUDE metres
					SEISMIC RESEARCH OBSERVATORY					
SNZO	South Karori	41	18	37	S	174	42	17	E	-10
					STANDARD NETWORK					
AXZ	Alexandra	45	16	02	S	169	19	52	E	260
BFZ	Birch Farm	40	40	54	S	176	14	46	E	318
BSZ	Bushy Park	39	47	55	S	174	55	52	E	150
BWZ	Berwen	44	31	54	S	169	52	59	E	500
CHR	Christchurch	43	31	58	S	172	37	36	E	8
DCZ	Deep Cove	45	28	04	S	167	09	15	E	20
DSZ	Denniston North	41	44	49	S	171	48	09	E	630
EWZ	Erewhon	43	30	42	S	170	51	09	E	650
HBZ	Hicks Bay	37	35	57	S	178	18	05	E	0
KHZ	Kahutara	42	25	05	S	173	32	25	E	70
KNZ	Kokohu (from October)	39	01	17	S	177	40	25	E	
KUZ	Kuaotunu	36	44	50	S	175	43	12	E	40
LMZ	Lake Moeraki	43	42	59.5	S	169	16	10	E	-50
LTZ	Lake Taylor	42	46	58	S	172	16	08	E	640
MLZ	Mavora Lakes	45	20	52	S	168	10	22	E	640
MOZ	Mahoenui	38	30	21	S	174	48	11	E	160
MQZ	McQueen's Valley	43	42	28	S	172	39	08	E	60
MRZ	Mangatainoka River	40	39	45	S	175	34	45	E	320
MSZ	Milford Sound	44	40	31.5	S	167	55	39	E	90
NOZ	North Gisborne	38	37	05	S	178	02	12	E	60
NRZ	Ngariki	39	20	15	S	173	55	59	E	250
ODZ	Otahua Downs	45	02	43	S	170	38	40	E	270
OIZ	Oio	39	02	48	S	175	23	33	E	470
OUZ	Omahuta	35	13	17	S	173	35	46	E	40
PUZ	Puketiti	38	04	24	S	178	15	26	E	420
QRZ	Quartz Range	40	49	39	S	172	31	44	E	260
RAO	Raoul Island	29	15	06	S	177	55	06	W	110
RAR	Rarotonga	21	12	45	S	159	46	24	W	28
RTY	Rotoiti	41	48	27	S	172	50	35	E	635
SBA	Scott Base	77	50	57	S	166	45	26	E	48

SIZ	Stewart Island	46	52	30	S	168	07	59	E	60
THZ	Top House	41	45	50	S	172	54	13	E	760
TOZ	Tahuroa Road (from October)	37	43	51	S	173	30	07	E	
TUZ	Tuapeka	45	57	22	S	169	37	56	E	110
URZ	Urewera	38	15	37	S	177	06	37	E	100
VNDA	Vanda	77	30	50.2	S	161	50	44.2	E	-2
WCZ	Waipu Caves	35	56	28	S	174	20	40	E	140
WEL	Wellington	41	17	10	S	174	46	06	E	122
WHZ	Wether Hill	45	53	41	S	167	56	51	E	320
WLZ	Whitehall (until December)	37	52	12	S	175	35	46	E	190
WVZ	Waitaha Valley	43	04	35	S	170	44	10	E	75

AUCKLAND VOLCANO-SEISMIC NETWORK

KAAZ	Kauri Point	36	49	27	S	174	42	13	E	65
MKAZ	Moumoukai	37	06	41.1	S	175	09	59.6	E	120
MTAZ	Motutapu	36	47	17.3	S	174	54	36.2	E	60
OTAZ	Otara	36	57	04	S	174	55	29	E	140
WTAZ	Waiatarua	36	56	03.1	S	174	34	26.0	E	340

BAY OF PLENTY VOLCANO-SEISMIC NETWORK

EDRZ	Edgecumbe	38	06	27.5	S	176	44	17	E	780
HARZ	Haroharo	38	05	28	S	176	30	07	E	740
LIRZ	Lichensteins Road	38	00	18	S	176	23	03	E	340
MARZ	Manawahe	37	59	12	S	176	40	28	E	480
PARZ	Papamoa	37	44	01	S	176	17	24	E	180
PATZ	Paeroa	38	22	53	S	176	15	30	E	940
TAZ	Tarawera	38	13	59	S	176	30	28	E	1037
UTU	Utuhina	38	10	39	S	176	11	32	E	410
WIZ	White Island	37	31	42	S	177	11	21	E	40

HAWKES BAY NETWORK

PAHZ	Panekirikiri	38	51	33	S	177	06	15	E	563
TTH	Taradale Trig	39	32	29	S	176	49	34	E	120
WAHZ	Wakarara	39	41	57	S	176	21	19	E	657

TARANAKI VOLCANO-SEISMIC NETWORK

DFE	Dawson Falls	39	19	39	S	174	06	13	E	880
NEZ	North Egmont	39	16	19	S	174	05	44	E	920
NRZ	Ngariki	39	20	15	S	173	55	59	E	250
NWEZ	Newall Rd	39	16	30	S	173	52	00	E	230
PKE	Puketiti	39	11	44	S	173	59	14	E	485
RAEZ	Rainy Point	39	17	18	5	174	23	36	E	326

TAUPO VOLCANO-SEISMIC NETWORK

HATZ	Hinemaiaia	38	57	32	S	176	05	31	E	492
KATZ	Kakaramea	38	58	36	S	175	41	40	E	1280
RATZ	Rangitukia	38	52	07	S	175	46	16	E	649
WATZ	Waihaha	38	42	35	S	175	43	58.5	E	520
WHTZ	Whakaroa	38	40	04	S	175	57	27	E	780

TONGARIRO VOLCANO-SEISMIC NETWORK

CNZ	Chateau	39	12	00	S	175	32	51	E	1116
DRZ	Dome Shelter	39	16	35	S	175	33	49	E	2600
KAVZ	Karewarewa	39	05	55	S	175	38	45	E	1200
MGZ	Maungaku	39	00	07	S	175	32	20	E	806
NGZ	Ngaruhoe	39	10	37	S	175	36	04	E	806
TUVZ	Tukino	39	16	09	S	175	39	13	E	1410

WELLINGTON NETWORK

AMW	Mt Adams (until November)	41	18	34	S	175	45	39	E	400
BBW	Blackbirch	41	42	45	S	173	52	42	E	250
BHW	Baring Head	41	24	33	S	174	52	17	E	10
BLW	Big Hill	41	22	07	S	175	28	29	E	340
CAW	Cannon Point	41	06	32	S	175	04	04	E	330
CCW	Cape Campbell	41	45	03	S	174	13	01	E	216
DIW	D'Urville Island	40	48	08	S	173	55	19	E	460
GFW	Glenfield	41	27	24	S	173	49	51	E	230
KIW	Kapiti Island	40	51	50	S	174	54	42	E	320
MOW	Moikau	41	25	18	S	175	15	07	E	430
MRW	Makara Radio	41	13	57	S	174	42	18	E	235
MTW	Mount Morrison	41	09	34	S	175	30	07	E	282
OTW	Orongorongo Valley	41	16	39	S	175	00	15	E	230
TCW	Tory Channel	41	12	48	S	174	16	33	E	150
WEL	Wellington	41	17	10	S	174	46	06	E	122

INSTRUMENTATION AND LITHOLOGY

STANDARD NETWORK AND CONTRIBUTING STATIONS

Stations are listed in alphabetical order of their abbreviations. Pendulum period, T_o, is given in seconds. Damping when not listed, may be assumed to be critical. Magnifications listed are for the period of maximum response, except for World-Wide Standard Station instruments, where the magnifications are given at the conventional periods of 1.0 and 15 seconds. Response curve for Mark Products L4-C seismographs and an EARSS system is shown at the end of this section.

	Instrument	Component	T_o	Damping	Magnification
AXZ	ALEXANDRA Foundation: Schist. Mark Products L4-3D (with EARSS digital gain-ranging recorder).	ZNE	1.0		
BFZ	BIRCH FARM Foundation: Greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).	ZNE	1.0		
BSZ	BUSHY PARK Foundation: Quaternary marine sediments. Mark Products L4-C (with EARSS digital gain-ranging recorder).	Z	1.0		
BWZ	BERWEN Foundation: Greywacke. Mark Products L4-C (with EARSS digital gain-ranging recorder).	Z	1.0		
CHR	CHRISTCHURCH Foundation: Alluvial sands, silts and gravels. Willmore II (with Kinemetrics VR-1 pen-recorder).	Z	1.0		
DCZ	DEEP COVE Foundation: Granite. Mark Products L4-3D (with EARSS digital gain-ranging recorder).	ZNE	1.0		
DSZ	DENNISTON NORTH Foundation: Upper Precambrian greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).	ZNE	1.0		
	Replaced in October by: Guralp CMG-40T (with Quanterra Q4126 recorder)	ZNE	30		
	Kinemetrics EpiSensor (with Quanterra Q4126 recorder)	ZNE	-		

	Instrument	Component	T_o	Damping	Magnification
EWZ	EREWHON Foundation: Triassic Greywacke. Mark Products L4-C (with EARSS digital gain-ranging recorder).				
		Z	1.0		
HBZ	HICKS BAY Foundation: Consolidated conglomerate. Mark Products L4-C in borehole (with EARSS digital gain-ranging recorder).				
		Z	1.0		67 500 at 0.10s
KHZ	KAHUTARA Foundation: Jurassic Greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		
KNZ	KOKOHU (from October) Foundation: Miocene Limestone. Guralp CMG-40T (with Quanterra Q4126 recorder)				
		ZNE	30		
	Kinemetrics FBA23 (with Quanterra Q4126 recorder)				
		ZNE	-		
KUZ	KUAOTUNU Foundation: Greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		
LMZ	LAKE MOERAKI Foundation: Precambrian Greywacke. Mark Products L4-C (with EARSS digital gain-ranging recorder).				
		Z	1.0		
LTZ	LAKE TAYLOR Foundation: Triassic Greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		
MLZ	MAVORA LAKES Foundation: Greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		
MOZ	MAHOENUI Foundation: Jurassic Greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		
MQZ	McQUEEN'S VALLEY Foundation: Miocene Volcanics. Mark Products L4-3D (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		
	From October: Guralp CMG-40T (with Quanterra Q4126 recorder)				
		ZNE	30		
	Kinemetrics EpiSensor (with Quanterra Q4126 recorder)				
		ZNE	-		

	Instrument	Component	T_o	Damping	Magnification
MRZ	MANGATAINOKA Foundation: Greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).	ZNE	1.0		
MSZ	MILFORD SOUND Foundation: Gneiss. Mark Products L4-C (with EARSS digital gain-ranging recorder).	Z	1.0		
NOZ	NORTH GISBORNE Foundation: Upper Miocene Siltstone. Mark Products L4-C (with EARSS digital gain-ranging recorder).	Z	1.0		
NRZ	NGARIKI Foundation: Andesite. Mark Products L4-C (with EARSS digital gain-ranging recorder).	Z	1.0		
ODZ	OTAHUA DOWNS Foundation: Greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).	ZNE	1.0		
OIZ	OIO Foundation: Tertiary sandstone. Mark Products L4-3D (with EARSS digital gain-ranging recorder).	ZNE	1.0		
OUZ	OMAHUTA Foundation: Greywacke. Mark Products L4-C (with EARSS digital gain-ranging recorder).	Z	1.0		
PUZ	PUKETITI Foundation: Cretaceous Greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).	ZNE	1.0		
QRZ	QUARTZ RANGE Foundation: Golden Bay Schist. Mark Products L4-3D (with EARSS digital gain-ranging recorder).	ZNE	1.0		
RAO	RAOUL ISLAND Foundation: Volcanic rock. Willmore II (with Kinemetrics VR-1 pen-recorder).	Z	1.0		4 800 at 0.25s
RAR	RAROTONGA (World-Wide Standard Station) Foundation: Basalt. GeoTech KS36000i broad band seismometer recorded on IRIS-2 digital recording system. Data sent to NEIS				

	Instrument	Component	T_0	Damping	Magnification
RTY	ROTOITI Foundation: Glacial gravels. Mark Products L4-C (with Kinematics VR-1 pen-recorder).				
		Z	1.0		Uncertain
SBA	SCOTT BASE (World-Wide Standard Station) Foundation: Frozen basaltic debris resting on lava flows.				
	Benioff	ZNE	1.0		12 500-50 000 at 1.0s According to season
	Press-Ewing	ZNE	15		750 at 15s
SIZ	STEWART ISLAND Foundation: Granite. Mark Products L4-C (with EARSS digital gain-ranging recorder).				
		Z	1.0		
THZ	TOPHOUSE Foundation: Permian Greywacke. Willmore II (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		
TOZ	TAHUROA ROAD (from October) Foundation: Jurassic Greywacke. Guralp CMG-40T (with Quanterra Q4126 recorder)				
		ZNE	30		
	Kinemetrics EpiSensor (with Quanterra Q4126 recorder)				
		ZNE	-		
TUZ	TUAPEKA Foundation: Haast Schist. Mark Products L4-3D (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		
URZ	UREWERA Foundation: Greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		
VNDA	VANDA Foundation: Granite gneiss intruded by quartz porphyry dykes. GeoTech K53 6000i broadband 3-D seismometer recorded at Scott Base.				
		Z	1.0		
		ZNE	15		
WCZ	WAIPU CAVES Foundation: Limestone. Mark Products L4-C (with EARSS digital gain-ranging recorder).				
		Z	1.0		
WEL	WELLINGTON (World-Wide Standard Station) Foundation: Greywacke. Kinemetrics force-balance accelerometer (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		

	Instrument	Component	T_0	Damping	Magnification
WHZ	WETHER HILL Foundation: Greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		
WLZ	WHITEHALL (until December) Foundation: Jurassic Greywacke. Mark Products L4-3D (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		
WVZ	WAITAHA VALLEY Foundation: Granite. Mark Products L4-3D (with EARSS digital gain-ranging recorder).				
		ZNE	1.0		

BROADBAND IRIS STATION

This station is sponsored by the United States Geological Survey. A three-component GeoTech KS36000i BD broadband seismometer sealed in a gas-filled capsule is located in a borehole, 165 mm in diameter and about 100 m deep, at a quiet site several kilometres from the Observatory. The ground surface there is 88 m above, and the seismometer 10 m below, sea level. The lithological foundation is Jurassic-Permian Greywacke. Both digital and analogue recordings are made from the three long-period and the vertical component short-period outputs. The digital signal is recorded by an IRIS-2 system. The digital tape records of detected events are held by the USGS. The recorder is at the observatory site in Gracefield, and the signals are transmitted to it by landline.

Magnifications given below are for the analogue recorder.

Code	Station	Component	Magnification
SNZO	South Karori	ZNE Z	1 500 at 15s 6 250 at 1.0s

AUCKLAND VOLCANO-SEISMIC NETWORK

This network has been installed in Auckland to monitor seismic activity associated with volcanic and tectonic processes in the Auckland volcanic region and is operated by Auckland Regional Council in conjunction with GNS Wairakei and the University of Auckland. The instruments are single component L4-C seismometers telemetered to an EARSS digital recorder, and are also recorded on VR-1 visual recorders.

Code	Station	Component	Foundation
KAAZ	Kauri Point	Z	Miocene mudstone
MKAZ	Moumoukai	Z	Greywacke
MTAZ	Motuapu	Z	Jurassic mudstone
OTAZ	Otara	Z	Sandstone
WTAZ	Waiatarua	Z	Miocene volcanoclastics

BAY OF PLENTY VOLCANO-SEISMIC NETWORK

This network is operated by the Volcanology Programme in conjunction with the Seismological Observatory and monitors seismic activity associated with volcano, geothermal and tectonic processes in the northern portion of the Taupo Volcanic Zone.

Data from these stations are telemetered to a 16-channel EARSS at Rotorua and also Wairakei. Selected stations are also recorded on VR-1 pen-and-ink visual recorders. The seismometers are Mark Products L4-C (1 Hz) short-period vertical seismometers.

Code	Station	Component	Lithology
EDRZ	Edgecumbe	Z	Andesite
HARZ	Haroharo	Z	Rhyolite
LIRZ	Lichensteins Rd	Z	Rotoiti breccia
MARZ	Manawahe	Z	Andesite
PARZ	Papamoa	Z	Andesite
PATZ	Paeroa	Z	Ignimbrite
TAZ	Tarawera	Z	Ryolite lava
UTU	Utuhina	Z	Ignimbrite
WIZ	White Island	Z	Recent Andesite

HAWKES BAY NETWORK

The Hawkes Bay network was installed to monitor seismicity in an area which has not only some potential for hydroelectric power generation, but also a history of severe earthquakes. The network is recorded by a three-channel EARSS digital gain-ranging recorder at Havelock North.

One of the stations is also recorded on a VR-1 pen-and-ink visual recorder.

Code	Station	Component	Foundation
PAHZ	Panekirikiri	Z	Pumice tuff
TTH	Taradale Trig	Z	Calcareous mudstone
WAHZ	Wakarara	Z	Greywacke

TARANAKI VOLCANO-SEISMIC NETWORK

This network is operated by the Taranaki Civil Defence and GNS Wairakei to monitor volcanic activity around Taranaki volcano. The stations are single component L4-C seismometers telemetered to a 16-channel EARSS recorder at New Plymouth. NRZ (Ngariki) is also part of the New Zealand Seismic Network.

Code	Station	Component(s)	Foundation
DFE	Dawson Falls	Z	Volcanic ash
NEZ	North Egmont	Z	Volcanic ash
NRZ	Ngariki	Z	Andesite
NWEZ	Newall Rd	Z	Andesite
PKE	Pukeiti	Z	Andesite
RAEZ	Rainy Point	Z	Sandstone/Mudstone

TAUPO VOLCANO-SEISMIC NETWORK

This network is operated by the Volcanology Programme in conjunction with the Seismological Observatory and monitors seismic activity associated with volcanic and tectonic processes in the central part of the Taupo Volcanic Zone. Data from the stations are telemetered to a 16-channel EARSS at Wairakei. One station is usually also recorded on a VR-1 pen-and-ink visual recorder. The seismometers are all Mark Products L4-C (1 Hz) vertical-component instruments. The equipment for the network was funded by a grant from the New Zealand Lottery Grants Board's Science Research Committee.

Code	Station	Component(s)	Foundation
HATZ	Hinemaiaia	Z	Ignimbrite
KATZ	Kakaramea	Z	Ignimbrite
RATZ	Rangitukia	Z	Ignimbrite
WATZ	Waihaha	Z	Ignimbrite
WHTZ	Whakaroa	Z	Pumice alluvium

TONGARIRO VOLCANO-SEISMIC NETWORK

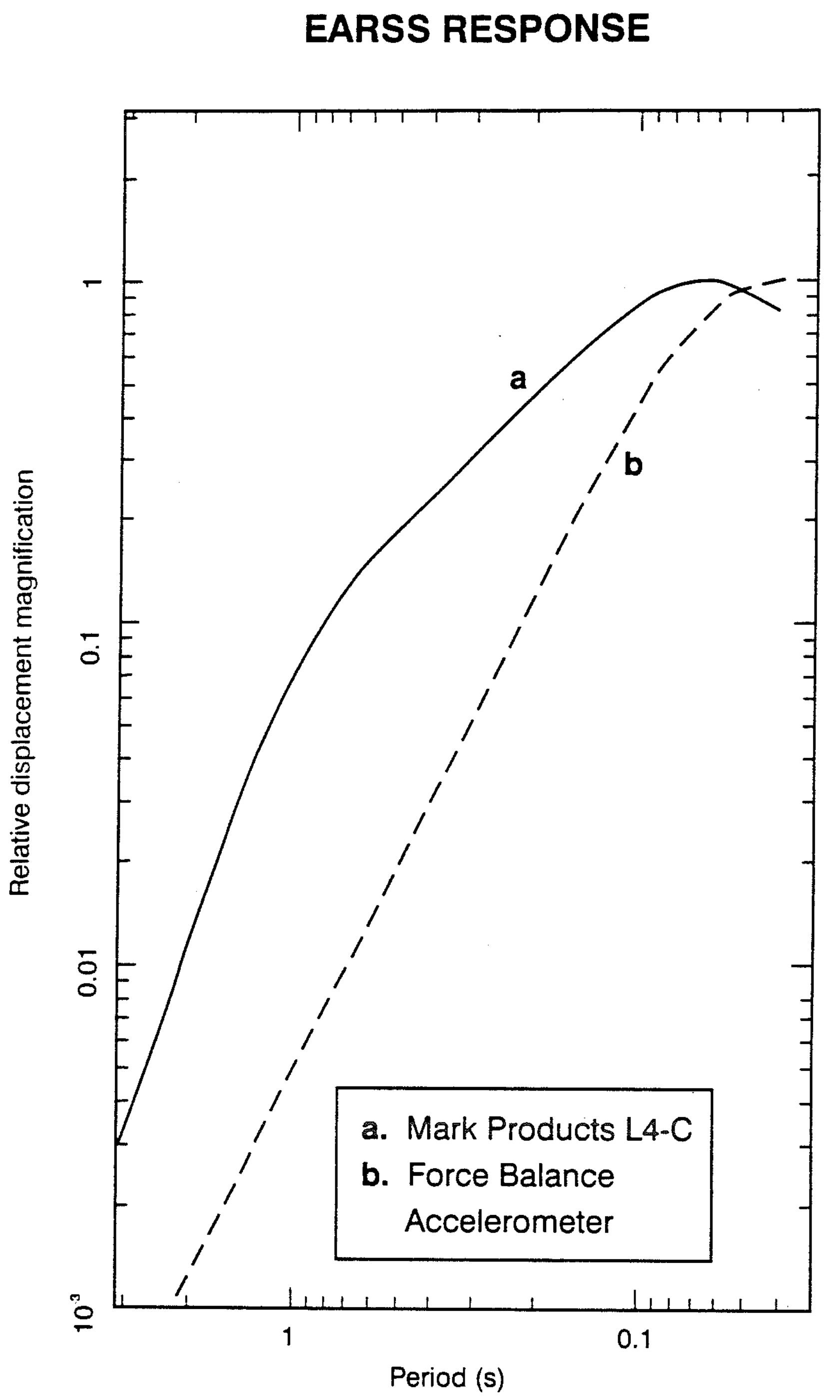
This network is operated jointly by the Volcanology programme and the Seismological Observatory to monitor seismic activity associated with volcanic and tectonic processes about Tongariro Volcanic Centre. The instruments at all sites are Mark Products L4-C short-period vertical seismometers and their signals are telemetered and recorded on a 16-channel EARSS at the Chateau Observatory. The signals from selected stations are also recorded on VR-1 pen-and-ink recorders.

Code	Station	Component(s)	Foundation
CNZ	Chateau	Z	Andesitic ash
DRZ	Dome Shelter	Z	Andesite ash
KAVZ	Karewarewa	Z	Lava
MGZ	Maungaku	Z	Andesite
NGZ	Ngaruhoe	Z	Andesite lava
TUVZ	Tukino	Z	Tephra

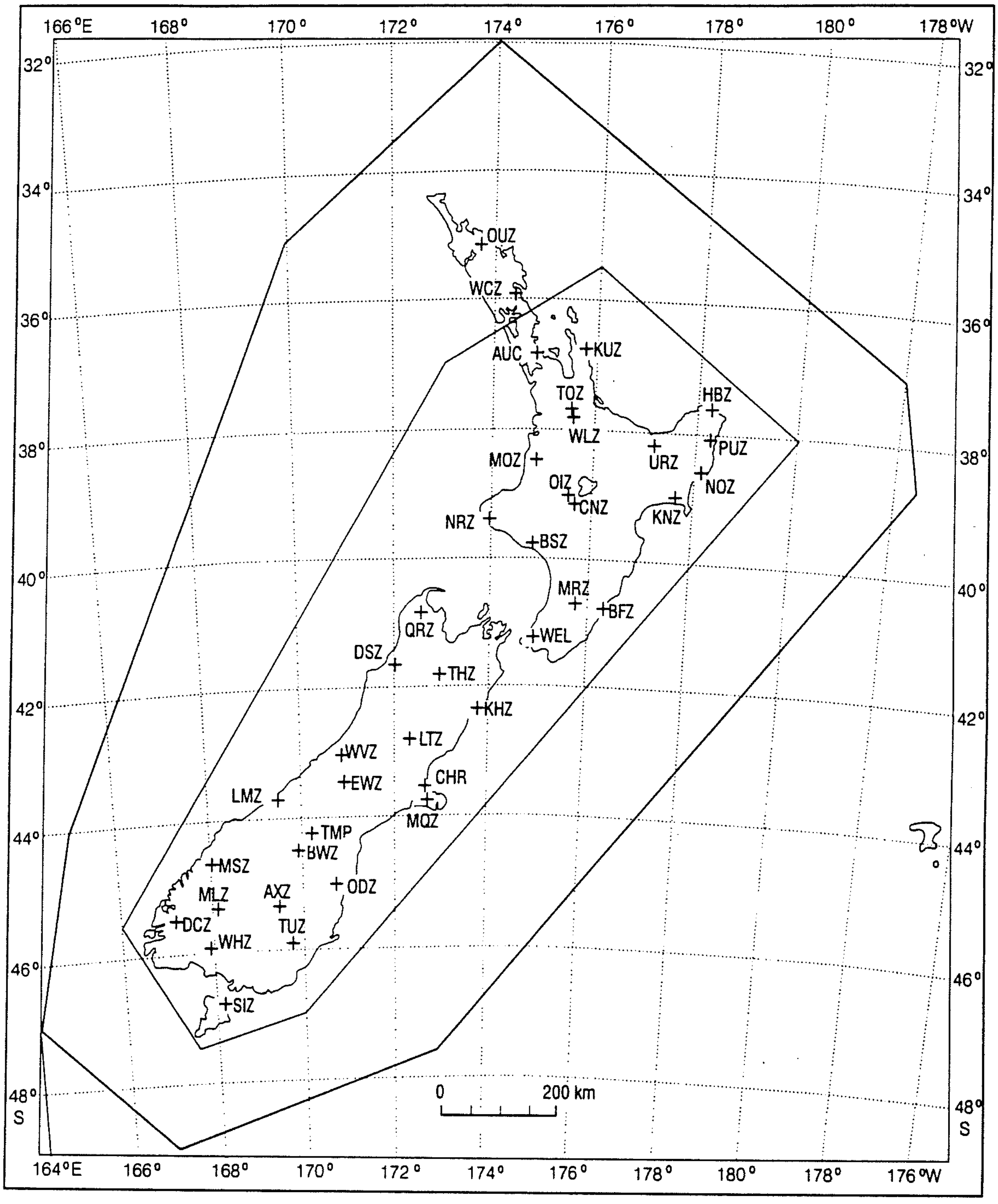
WELLINGTON NETWORK

The stations of the Wellington network are linked by radio or land-line to event-detecting and recording systems at the Observatory at Kelburn. The primary recording of the Wellington network was moved to a 16-channel EARSS in April, but the SNARE magnetic tape system was retained as a backup. The EARSS recording system sends detected events directly to the Observatory computers. The instrument at WEL is a Kinemetrics force balance accelerometer and the seismometer at MRW is a Mark Products L4-3D. The seismometers for the rest of the network are Mark Products L4-C instruments with a period of 1.0 second. The lithological foundation at most stations is Jurassic-Permian Greywacke. The exceptions are BBW (schist), CCW (Miocene sandstone) and DIW (Granodiorite). Mt Adams (AMW) was closed in November.

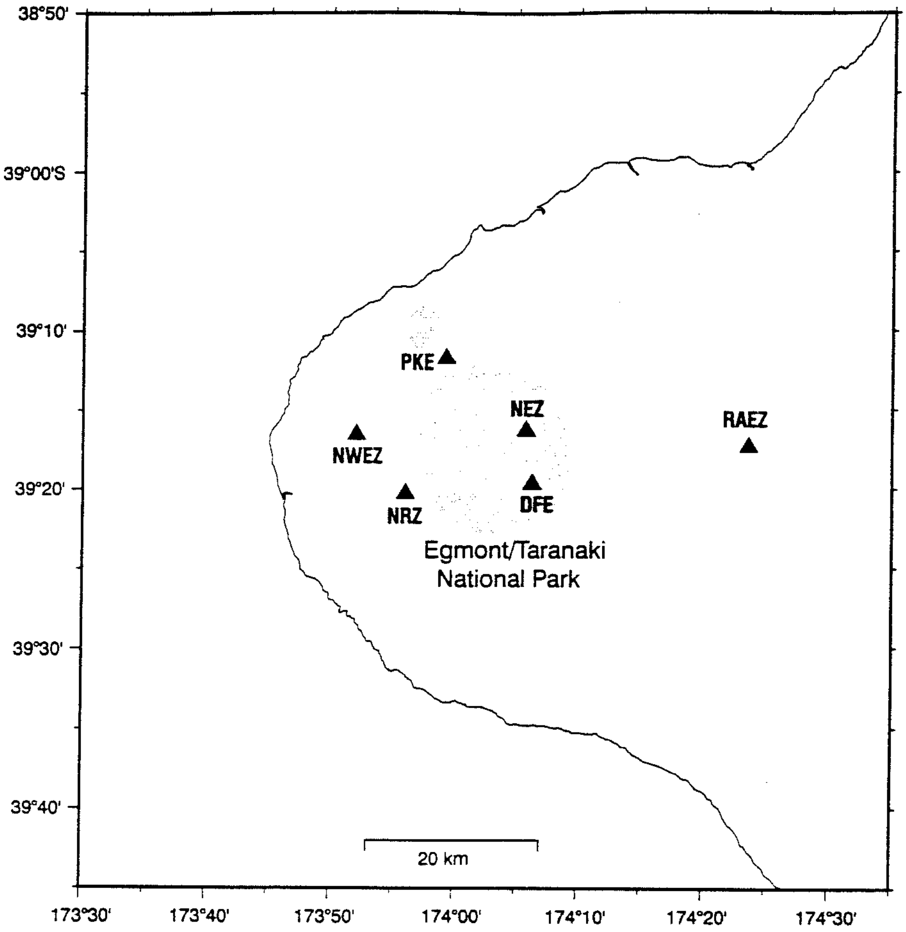
Code	Station	Component(s)
AMW	Mt Adams	Z
BBW	Blackbirch	Z
BHW	Baring Head	Z
BLW	Big Hill	Z
CAW	Cannon Point	Z
CCW	Cape Campbell	Z
DIW	D'Urville Island	Z
GFW	Glenfield	Z
KIW	Kapiti Island	Z
MOW	Moikau	Z
MRW	Makara Radio	ZNE
MTW	Mount Morrison	Z
OTW	Orongorongo Valley	Z
TCW	Tory Channel	Z
WEL	Wellington	ZNE

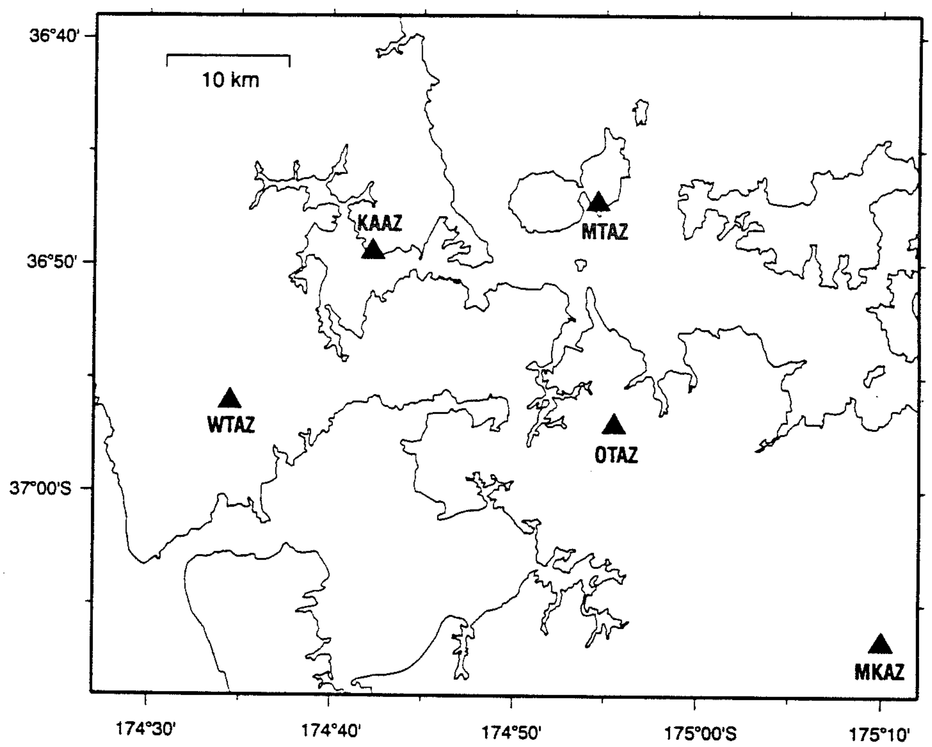


Period response curve of L4-C seismometers with EARSS recorders.

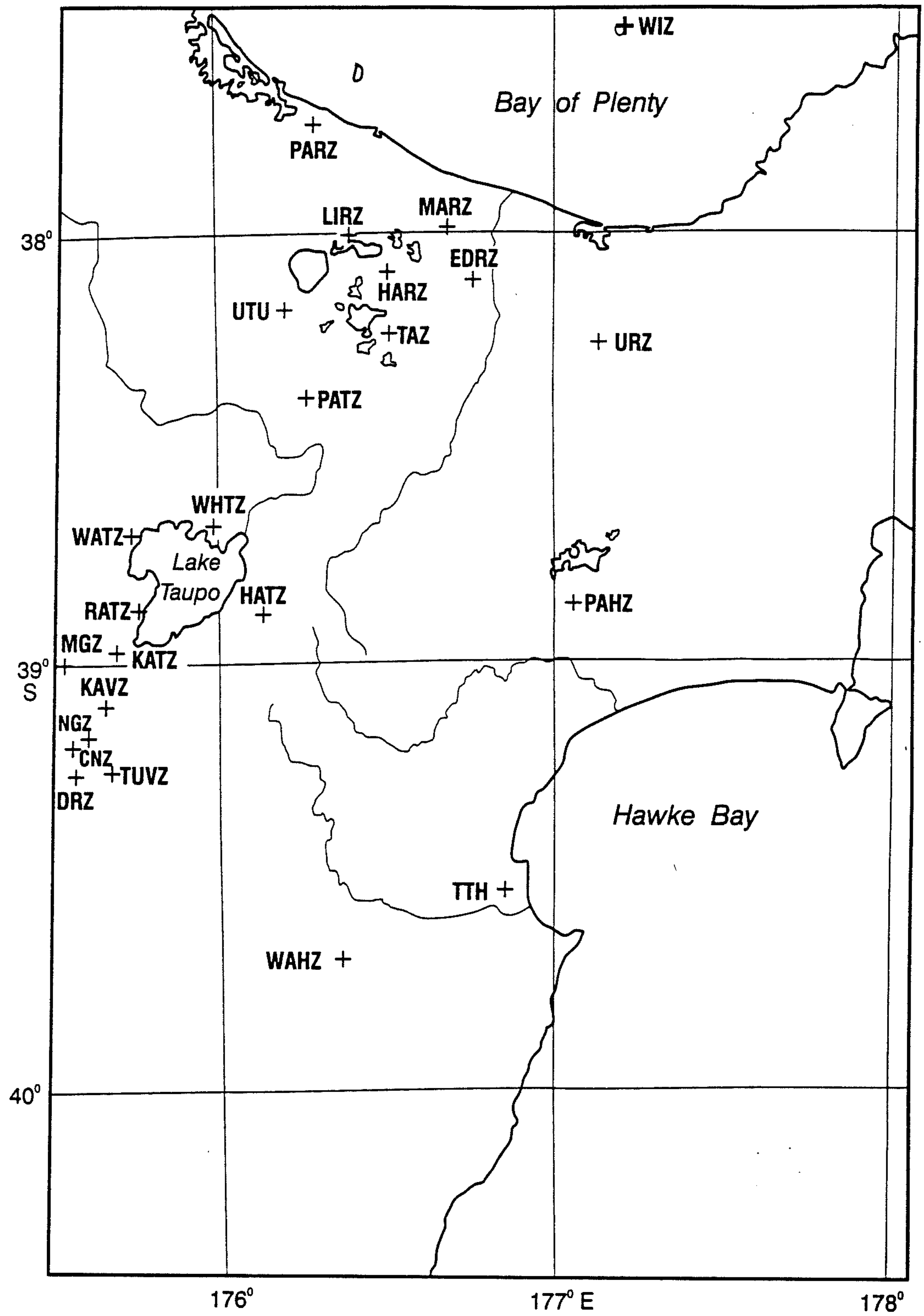


Stations of the National Seismograph Network. Some stations that are too closely spaced to show on this scale are shown instead on the map of the Volcano-seismic and Hawkes Bay Networks. The inner and outer polygons define areas where accuracy of epicentre locations is considered reliable, less reliable and inadequate.

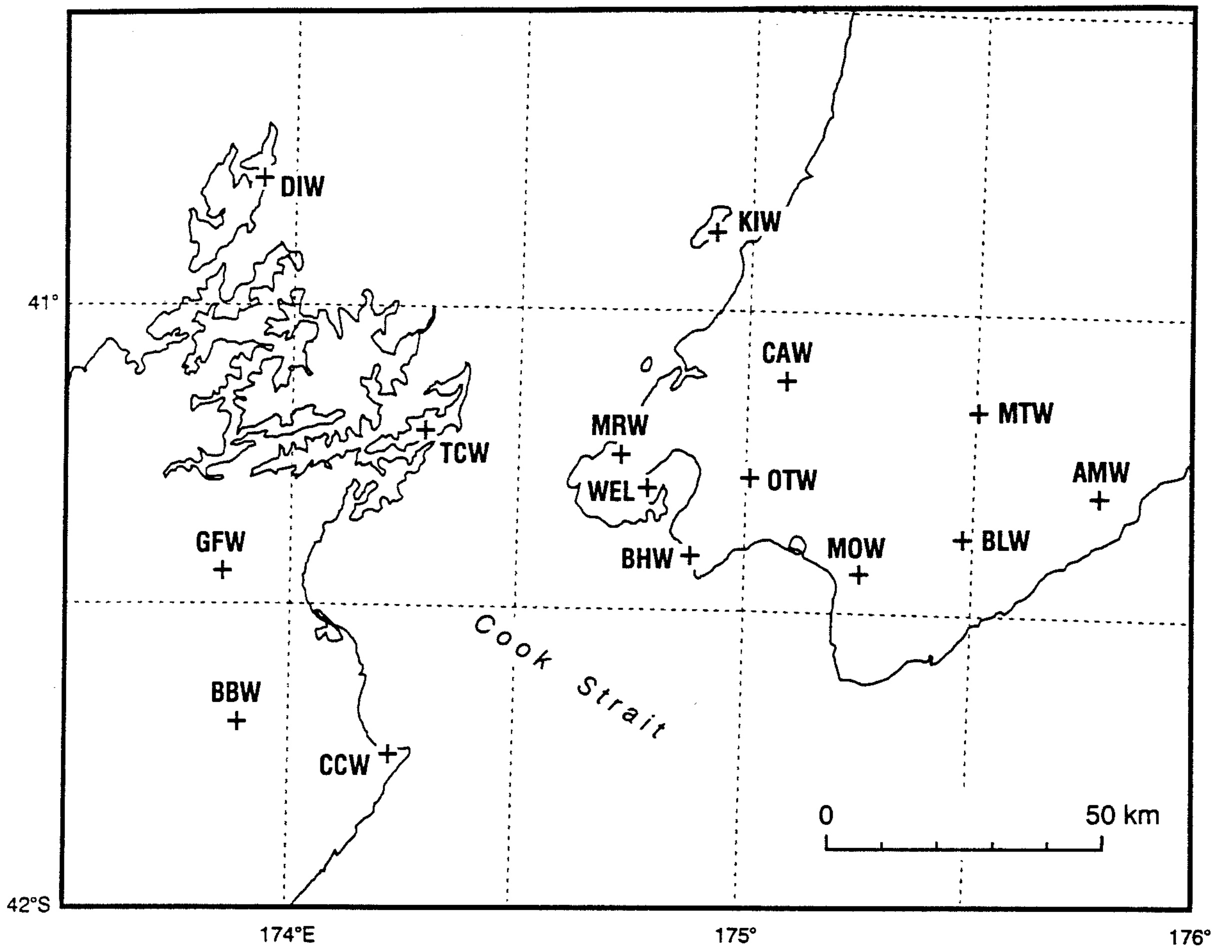




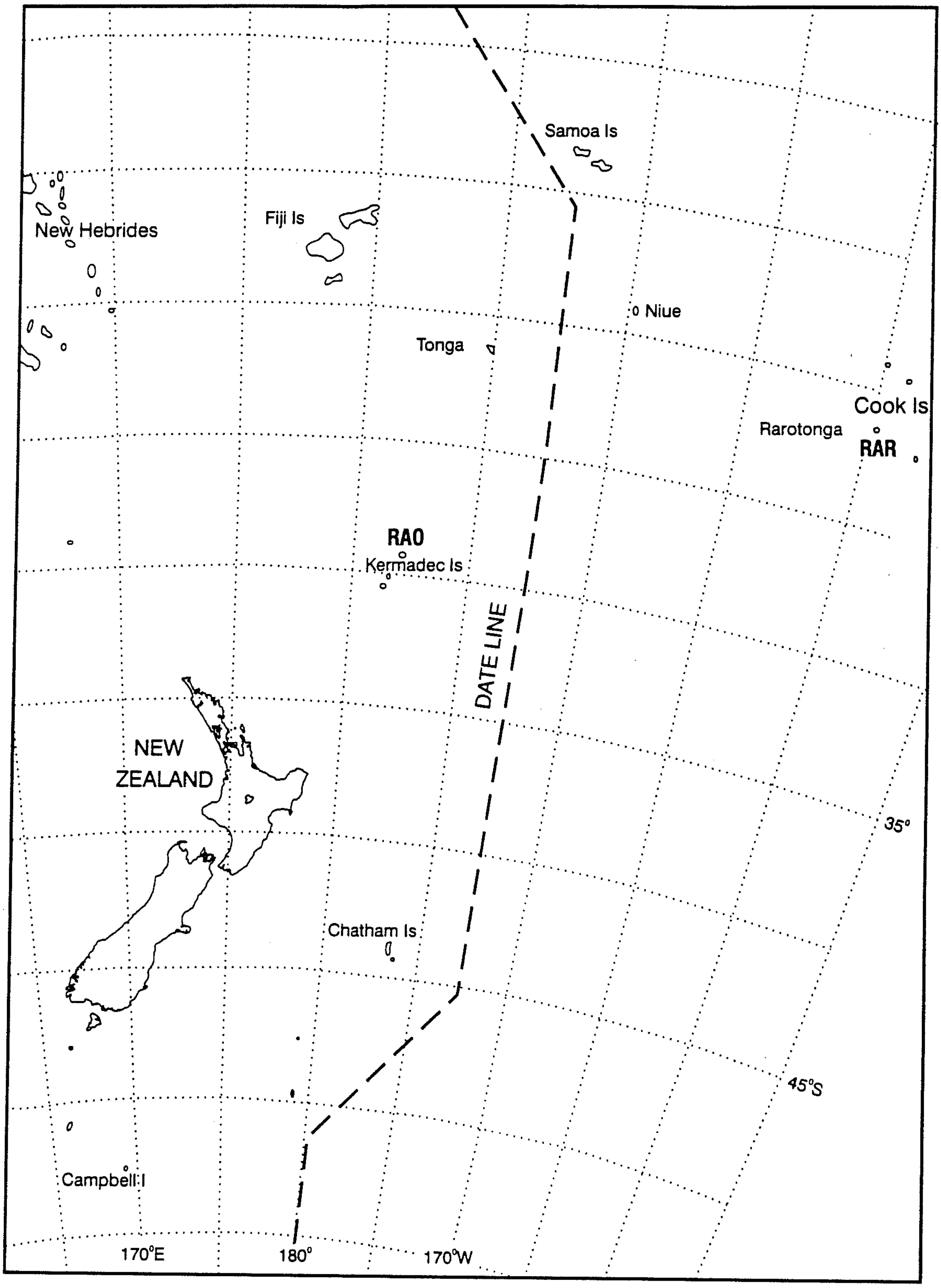
Stations of Taranaki and Auckland Volcano-seismic Networks.



Stations of the Volcano-seismic and Hawkes Bay Networks. Other stations lying within the boundaries of the map are also shown.



The Wellington Network includes stations on both sides of Cook Strait.



Pacific Island Stations

TIMING ARRANGEMENTS

Unless stated otherwise, times in this Report are given in Universal Time (U.T. or, more strictly, U.T.C., which is basically atomically kept time, adjusted when necessary by one second steps ("leap seconds") to agree with the astronomically determined time known as UT1). For most seismological and civil purposes this may be regarded as the Mean Solar Time of the Greenwich meridian.

On paper seismograms made by the national network, minute marks, derived from quartz crystal clocks of high stability, appear on records as abrupt trace deflections of about two seconds duration. Radio time signals also operate the trace deflector so that the relationship between the locally generated minute marks and Universal Time can be established. In most cases the radio signals are those of the New Zealand Time Service, transmitted hourly through the stations of Radio New Zealand, but in areas where local reception is bad, a time signal broadcast from overseas may be used. It is estimated that the total error in time-signal recording resulting from signal transmission and delay in operation of the trace deflector should never exceed 30 milliseconds.

SNARE and EARSS instruments are also equipped with high stability clocks and radio receivers tuned to pick up Time Service signals. A software routine establishes a clock drift rate and applies a correcting signal calculated to bring the clock smoothly into synchronism with the time signals (which are usually received hourly). The difference between internally kept time and Time Service times is recorded and a correction applied by CUSP interactive display software to the phase onset times chosen by analysts. Corrected arrival times are expressed to a precision of one hundredth of a second, usually with an accuracy of a few hundredths, but errors of almost a tenth of a second have occasionally been detected.

Stations of the World-Wide Standard Seismograph Network have the timing arrangements usual at such stations. At other stations beyond New Zealand, time signals originating from the national Time Service or some other reliable time service are used.

It is sometimes desirable to know the local civil time at which an earthquake occurred. The times now used for civil purposes in New Zealand (except the Chatham Islands) are New Zealand Standard Time, and New Zealand Daylight Time, which are defined in the Time Act, 1974. New Zealand Standard Time is 12 hours, and New Zealand Daylight Time 13 hours, ahead of U.T. The period of Daylight Time is specified by Order in Council, as provided by the Act, and in 1998 Daylight Time was in effect until 02h NZST on March 15th, and from 02h NZST on October 4th until the end of the year.

The time observed in the Chatham Islands is 45 minutes in advance of that currently in use in New Zealand. New Zealand Standard Time is observed at Scott Base, in Fiji and on Raoul Island. Times kept elsewhere in the South Pacific are set by the governments of the respective countries. Those used in places which sometimes report earthquakes to the Observatory are listed below.

Western Samoa	11h 00m behind U.T.
Niue	11h 00m behind U.T.
Rarotonga	10h 00m behind U.T.
Tonga	13h 00m ahead of U.T.
Norfolk Island	11h 30m ahead of U.T.
French Polynesia	10h 00m behind U.T.

Note that Western Samoa, Niue, Rarotonga and French Polynesia are on the opposite side of the International Date Line from New Zealand.

ORIGIN INFORMATION

CONTENT

This section contains origin times, epicentres, focal depths, and magnitudes of earthquakes in the New Zealand region that the Observatory has located from instrumental data, together with indicators of the quality of the data used.

In the areas within the inner and outer polygons outlined on the map on page 19, the Observatory attempts to determine origins for all shallow earthquakes of M_L 3.5 or more, and all shocks of M_L 4.0 or more, respectively. (Origins are regarded as shallow if their depth is less than 60 km.) Origins are also calculated for smaller or more distant earthquakes reported to have been felt in New Zealand. Weak shocks felt during earthquake swarms do not automatically get this individual attention, but an origin is found for at least one shock in any sequence giving rise to felt reports.

DETERMINATION OF ORIGINS

Earthquake origins are determined using P & S phases or first-arriving crustal P & S phases. Four different velocity/depth structures are used to calculate travel-times of rays passing through and immediately beneath the crust in different parts of the country (see table below). Beneath the "Moho" defined by these models, velocities are smoothly merged with those of the Jeffreys-Bullen Tables (British Association for the Advancement of Science, 1958). The Standard velocity model is used to calculate crustal velocities beneath all regions except those defined in the following table.

MODEL	UPPER DEPTH BOUNDARY (km)	Vp (km/s)	Vs (km/s)	CORNERS OF REGION Lat.	Long.
				(in clockwise order)	
New Zealand Standard	0.0	5.5	3.3		
	12.0	6.5	3.7		
	33.0	8.1	4.6		
Wellington	0.0	4.40	2.54	41.0 S	178.0 E
	0.4	5.63	3.16	43.5 S	175.0 E
	5.0	5.77	3.49	42.0 S	173.0 E
	15.0	6.39	3.50	39.7 S	175.7 E
	25.0	6.79	3.92		
	35.0	8.07	4.80		
	45.0	8.77	4.86		
Taupo	0.0	3.00	1.70	35.6 S	180.0 E
	2.0	5.30	3.00	38.0 S	177.5 E
	5.0	6.00	3.50	39.7 S	175.7 E
	15.0	7.40	4.30	39.0 S	175.0 E
	33.0	7.78	4.39	37.0 S	176.0 E
	65.0	7.94	4.51	34.6 S	178.5 E
	96.4	8.08	4.52		
Clyde	0.0	4.4	2.6	45.5 S	172.0 E
	0.5	6.0	3.3	49.0 S	167.0 E
	12.0	6.5	3.7	44.5 S	168.0 E
	33.0	8.1	4.6	44.0 S	169.0 E

Seismograms are displayed on high-resolution graphics monitor screens under the control of CUSP (Caltech-USGS Seismic Processor) interactive software, for an analyst to select phase onset times by positioning a cursor on the trace. The analyst also selects the amplitude maximum to be used in magnitude calculations. Whenever possible, locations are based exclusively on times of first-arriving P and S phases.

Weights are initially assigned to phase arrival times by analysts according to the precision of the measurement. The weight of readings is further modified by the location program, which, after each iteration, weights the residuals used to adjust the trial origin. The procedure (see Jeffreys, H., 1939: Probability Theory, Cambridge University Press) greatly reduces the weight given to phases with residuals greater than three standard errors.

In general, all four coordinates of the earthquake origin are calculated (origin time, latitude, longitude, and focal depth). In some cases, however, the focal depth is not allowed to vary, but restricted to some chosen depth. This is most commonly done for crustal earthquakes. Unless there is a station within 25 km of a shock in the upper crust, or within 50 km of a shock in the lower crust, a nominal depth of either 12 or 33 km is usually assigned, according to the crustal phases present and the goodness of fit of the resulting solution. Less often, the depth is restricted to a smaller value, particularly when the strengths of locally reported felt intensities indicate an uncommonly shallow focus. The letter R printed after the depth in the lists which follow indicates a restriction for any of the foregoing reasons. There are also times when data not suitable for input to the location program (e.g. overseas PKP readings), indicate the depth of focus; in such cases the depth is similarly fixed and the restriction shown by following the depth by the letter G (to indicate intervention by a Geophysicist). When convergence of the location program fails for lack of enough data, both epicentre and depth are fixed at values consistent with the available information, and computation limited to finding a compatible origin time. Such doubly-restricted origins have the letters RR printed after the depth.

In routine origin determinations, sufficient of the stations nearest to the epicentre are read to ensure that there will be enough data for a satisfactory solution. When enough near observations are available, arrival times recorded at stations more distant from the epicentre are excluded from the calculations. Observatory analysts are free to completely reject data which they think to be unreliable, or to assign a low initial weight to it in the location program's procedure for minimising mean residuals. (See earlier details of how the weights are used).

In using the results in this section, it is essential to keep in mind that the positions of earthquakes with epicentres outside the network of seismograph stations can be very uncertain, even though the mean residual is small. With the aim of helping the reader to assess the reliability of the results presented here, the positional relationships between an epicentre, and the stations which recorded the data used to find it, are given after the calculated origin coordinates. Similarly, the number of magnitude estimates contributing to the mean value, and an indication of their scatter, are also shown.

The solutions presented here are in all cases based upon uniform procedures applied to laterally homogeneous models. Because well-established local models have been used to calculate the origins of shocks within the Wellington and Clyde Networks, systematic errors in these areas should be smaller than in other parts of the country.

The extensive development of CUSP software necessary to adapt it for use in New Zealand was undertaken by Dr T Webb and Dr E Smith.

MAGNITUDES

The magnitudes assigned to local earthquakes are intended to be the values of M_L as originally defined by C.F. Richter (Bull. Seism. Soc. Am. 25: 1-32, 1935), but his procedure for performing the magnitude calculation at other than the standard distance of 100 km has been modified, to take account of the observed characteristics of energy propagation in New Zealand, including the effect of focal depth (Haines, A.J., Bull. Seism. Soc. Am. 71: 275-94, 1981).

For stations more than 100 km away from the epicentre, an amplitude-distance relationship of the form

$$A = A_0 R^{-N} \exp(-\alpha R)$$

where A is an amplitude recorded at an epicentral distance R, A_0 is a calibration function, N is a geometric spreading factor and α is an inelastic attenuation coefficient, has been found appropriate for all parts of the country.

For all New Zealand crustal earthquakes N is 2 and α generally takes a value close to 0. With these values, the relationship describes head-wave propagation with no attenuation. In the Central Volcanic Region, however, (see Map, page 29), α takes values of 0.8 deg^{-1} for P waves and 1.05 deg^{-1} for S waves. Adjustments are therefore made according to the distance travelled in the volcanic region.

For deep earthquakes in the Main Seismic Region the same parameters as for crustal earthquakes apply ($N = 2$, $\alpha = 0$), provided that (i) R now measures the slant distance from the focus to the base of the crust, and (ii) stations to the west of the Volcanic Region or south of the Main Seismic Region are not used, because the structure there necessitates different spreading and attenuation terms.

For deep earthquakes in Fiordland the same amplitude-distance relationship is used, with (i) N given the value 1 (body wave propagation), (ii) α increasing with focal depth, and (iii) stations in the North Island not used, because of variations of the coefficients N and α. Milford Sound (MSZ), Wether Hill (WHZ), and Deep Cove (DCZ) should ideally be excluded for the same reason, but as they are sometimes the only stations from which any estimate of magnitude can be made, they are used when necessary, with $N = 2$ and $\alpha = 0$.

For stations closer than 100 km to the epicentre, the formula

$$M_A = \log_{10} A + 1.0 \log_{10} R + 0.0029 R + K$$

developed by R. Robinson (Pageoph 125: 579-596, 1987) is used, where A is the maximum digital count, R is the slant distance from the station to the earthquake focus (in kilometres) and K is a station correction allowing for site factors.

Empirical corrections are applied to allow for differences in site effects. They are made in such a manner as to give the most consistent estimates of magnitude from the different stations, and their absolute level is adjusted to give a standard Wood-Anderson instrument at Wellington a zero correction, a procedure that can be justified on *a priori* grounds and provides a smooth connection with previously published New Zealand magnitudes. Station corrections (see Table on page 28 for synthetic Wood-Anderson values) are added to the individual estimates of magnitude, which are then averaged.

The amplitudes on which magnitude calculations are based are no longer published, but the number of measurements and the number of stations contributing to the average magnitude are listed (e.g. "5M/4stn" appearing in a data summary indicates that 5 amplitude measurements of records from 4 stations were used to compute an average).

The definitive local magnitude is finally calculated as a weighted average of all station estimates. Estimates from stations at distances less than 100 km are given half weight, as are stations WHZ, DCZ, and MSZ for deep earthquakes in Fiordland. When 8 or more synthetic Wood-Anderson readings are available, magnitudes derived from vertical component amplitudes are given zero weight.

CALCULATION OF AMPLITUDES

Synthetic Wood-Anderson seismograms are computed for all horizontal components at non-telemetered EARSS stations having Mark Products L4-C 1 Hz seismometers or, in the case of WEL, a Kinemetrics force-balance accelerometer (see Map, page 29). The Wood-Anderson gain used is 2080. The maximum amplitude for each computed trace is picked automatically, but can be updated by the analyst. Only amplitudes exceeding a pre-determined level for each station are given weight in the calculations to avoid amplitudes being picked from micro-seismic noise.

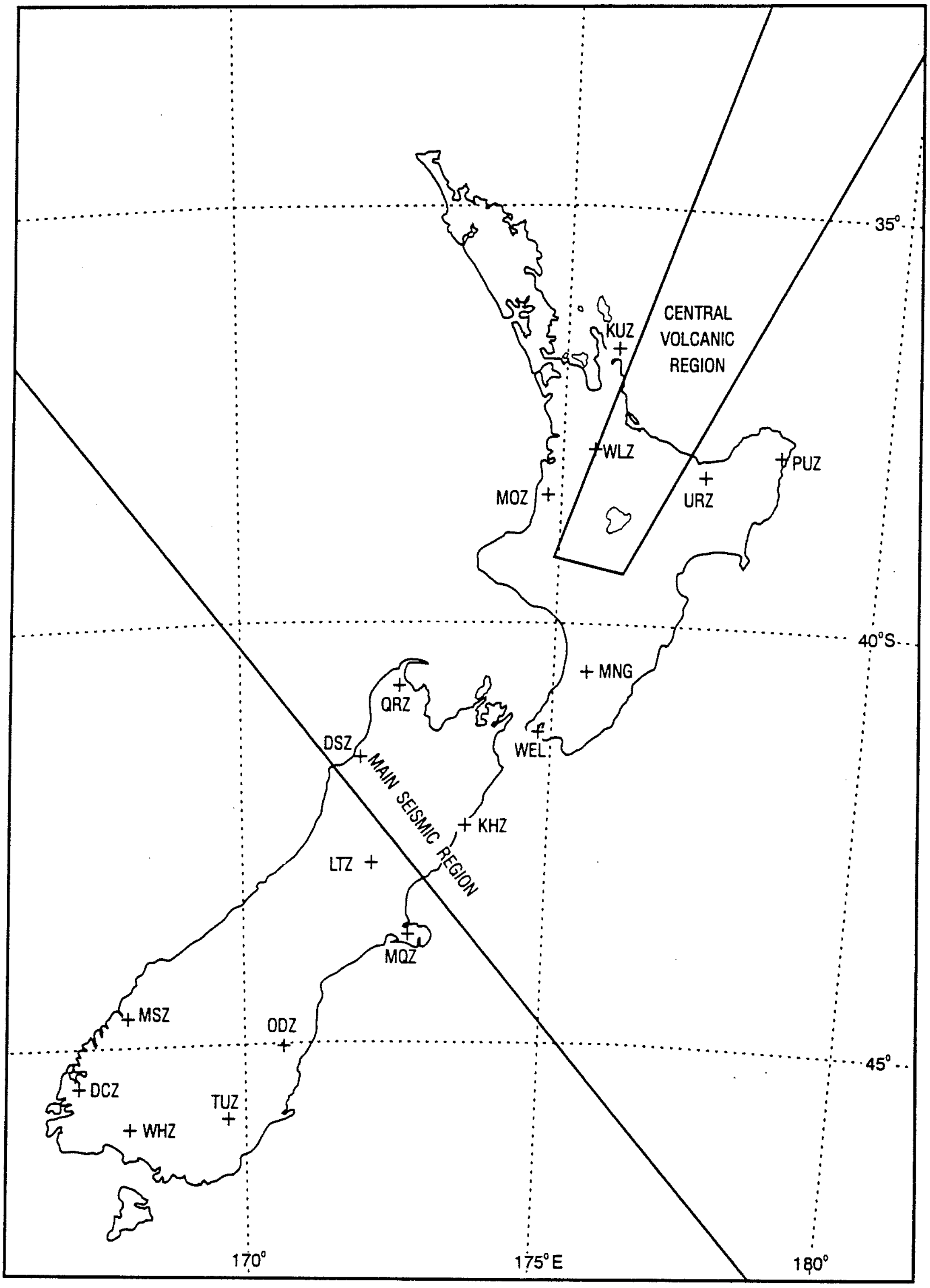
Maximum amplitudes are also picked off vertical traces for both telemetered and non-telemetered stations. This is necessary to obtain readings for small events. For very small events, traces are high-pass filtered to enable an amplitude to be picked. Magnitudes are unable to be calculated for only a few small deep events for which no east coast station has been triggered.

Note that there are usually two horizontal seismograms for each 3-component station, so that synthetic Wood-Anderson values tend to dominate the average magnitude.

Magnitude corrections for the two classes of focal depth, for earthquakes recorded on synthetic Wood-Anderson seismograms.

Station	Component		Correction (h≤33 km)	Correction (h>33 km)
DCZ	H	Fiordland only		+0.59
DCZ	H	All shallow	+0.60	
DSZ	H	Fiordland only		+0.22
DSZ	H	All shallow	+0.22	
KHZ	H		+0.43	+0.33
KUZ	H		+0.36	
LTZ	H		+0.59	
MNG	H		+0.51	+0.45
MOZ	H		+0.36	
MQZ	H		+0.46	
ODZ	H		+0.45	
PUZ	H		+0.29	+0.57
QRZ	H		+0.35	
TUZ	H		+0.31	
URZ	H		+0.35	+0.67
WEL	N		0.00	0.00
WEL	E		+0.09	+0.09
WHZ	H	Fiordland only		+0.35
WHZ	H	All shallow	+0.19	
WLZ	H	All shallow	+0.30	

H refers to horizontal seismometers, either N/S or E/W.
Note that WEL E needs a slight empirical correction to agree with the N component and with the standard Wood-Anderson instrument.



Stations and regions used for determination of synthetic Wood-Anderson magnitudes from digital records.

DATA FROM THE NATIONAL NETWORK

LAYOUT

The first entry for each earthquake is the reference number, used throughout the Report. The second line gives the origin coordinates and the magnitude and the third line shows, beneath each of the coordinates in line two, its standard error. Where depth has been restricted, the letter R or G in place of the standard error indicates the fact. The fourth line starts with Rsd, the standard deviation of residuals (in seconds), an indication of how well the adopted origin reconciles the available data with the earth models used by the location program. Formally,

$$\mathrm{Rsd} = \left[\sum_{i=1}^{n} \{(w_i\, r_i)^2 / (n - m)\} \right]^{1/2}$$

where r_i is the ith residual, w_i its weight, n the number of readings and m the number of parameters determined (4 for unrestricted depth, 3 when depth is restricted.) When the number of readings used and the number of parameters are the same, the standard errors and Rsd are not defined. This is shown by the letters ND. The remainder of the fourth line and most of the fifth line present information indicating to the reader the degree of constraint on the adopted origin. Xph/Ystn shows that X phases from Y stations were used in the determination of the origin. (All phases given non-zero weight are counted but stations which failed to provide such a phase are not). Dmin is the distance from the epicentre to the nearest of these Y stations and Az. gap is the greatest angular gap in their distribution about the epicentre.

Corr. is the correlation coefficient of the errors in latitude and longitude. It may be used to construct an epicentral confidence region. (See Flinn, E.A., 1965, "Confidence regions and error determinations for seismic event locations". Rev. Geophys. 3: 156-185.) pM/Qstn shows that p magnitude estimates from phases recorded at Q stations contributed to the average value shown on line two. Msd is the standard deviation of the magnitude estimates.

The numbers of upward and downward first motions recorded are indicated at the end of line five.

Additional information may be appended to the above. This usually consists of a short summary of the places where a shock has been felt and the intensities there, but may include other comments. Further details of reports received by the Observatory concerning the effects of earthquakes and the intensities assessed from these observations appear in later sections of this Report.

The telemetered networks all detect earthquakes of very small magnitude in their respective regions. These are all located and the data are held in the Observatory's archives. The following list, however, contains only those events which were of magnitude 3.5 or greater, or were reported felt. Smaller events have been excluded, as have events located more than 10° from Wellington.

98/4
JAN 01 052332.5s 35.98S 178.28E 200km M=4.4
0.5 0.05 0.05 7
Rsd 0.1s 14ph/13stn Dmin 180km Az.gap 312°
Corr. -0.424 20M/17stn Msd 0.3

98/7
JAN 01 074500.3s 41.57S 174.62E 34km M=3.5
0.1 0.01 0.01 1
Rsd 0.2s 22ph/15stn Dmin 27km Az.gap 141°
Corr. -0.438 12M/9stn Msd 0.3 3↑ 5↓

98/15
JAN 01 140113.3s 36.11S 178.20E 286km M=3.6
1.5 0.25 0.32 23
Rsd 0.3s 6ph/5stn Dmin 279km Az.gap 332°
Corr. -0.819 6M/6stn Msd 0.2
Poor station coverage.

98/21
JAN 01 155547.1s 38.69S 175.96E 114km M=3.7
0.4 0.01 0.01 4
Rsd 0.2s 18ph/16stn Dmin 25km Az.gap 91°
Corr. 0.397 18M/15stn Msd 0.4 4↑ 2↓

98/47
JAN 02 115659.1s 38.03S 176.09E 205km M=3.6
1.6 0.04 0.05 14
Rsd 0.1s 12ph/12stn Dmin 82km Az.gap 226°
Corr. -0.873 8M/8stn Msd 0.2

98/57
JAN 02 153757.6s 38.54S 177.10E 59km M=4.6
0.2 0.01 0.01 4
Rsd 0.2s 30ph/27stn Dmin 58km Az.gap 96°
Corr. -0.035 9M/5stn Msd 0.1 7↑ 9↓
Felt Whakatane (27) and Ruatuna Rd (35), MM4.

98/82
JAN 03 182540.3s 37.82S 176.17E 251km M=3.9
1.5 0.06 0.07 14
Rsd 0.3s 16ph/14stn Dmin 159km Az.gap 221°
Corr. -0.734 12M/12stn Msd 0.2

98/85
JAN 03 195424.9s 46.89S 166.21E 33km M=3.5
1.7 0.09 0.11 R
Rsd 0.7s 9ph/5stn Dmin 147km Az.gap 312°
Corr. 0.302 4M/4stn Msd 0.3 1↑

98/86
JAN 04 003119.5s 38.42S 176.48E 110km M=3.7
0.3 0.01 0.01 3
Rsd 0.2s 20ph/15stn Dmin 53km Az.gap 112°
Corr. -0.109 11M/10stn Msd 0.2 1↑ 2↓

98/113
JAN 04 163954.7s 38.17S 176.36E 247km M=3.6
1.4 0.11 0.16 17
Rsd 0.3s 11ph/9stn Dmin 135km Az.gap 215°
Corr. -0.948 11M/10stn Msd 0.3

98/121
JAN 04 210257.5s 38.09S 176.74E 131km M=3.6
1.3 0.05 0.03 16
Rsd 0.3s 10ph/8stn Dmin 133km Az.gap 175°
Corr. -0.563 7M/6stn Msd 0.2

98/123
JAN 04 220538.4s 38.56S 175.61E 277km M=3.9
0.3 0.01 0.06 2
Rsd 0.1s 11ph/10stn Dmin 70km Az.gap 267°
Corr. 0.504 9M/9stn Msd 0.3
Poor station coverage.

98/128
JAN 05 071720.8s 39.65S 179.69E 33km M=4.0
1.4 0.06 0.09 R
Rsd 0.6s 12ph/10stn Dmin 215km Az.gap 258°
Corr. -0.649 21M/18stn Msd 0.2 1↓

98/134
JAN 05 103107.3s 47.75S 165.21E 33km M=3.5
0.5 0.04 0.04 R
Rsd 0.2s 10ph/5stn Dmin 242km Az.gap 334°
Corr. -0.231 6M/5stn Msd 0.3

98/137
JAN 05 115338.5s 38.36S 176.14E 200km M=3.5
2.0 0.08 0.10 18
Rsd 0.4s 8ph/7stn Dmin 88km Az.gap 211°
Corr. -0.871 4M/4stn Msd 0.1

98/139
JAN 05 152308.0s 47.68S 165.20E 33km M=4.6
0.4 0.03 0.02 R
Rsd 0.1s 11ph/6stn Dmin 240km Az.gap 324°
Corr. 0.063 8M/4stn Msd 0.2

98/147
JAN 05 200126.4s 38.70S 178.01E 33km M=4.1
0.2 0.02 0.02 R
Rsd 0.1s 18ph/16stn Dmin 10km Az.gap 197°
Corr. -0.771 35M/30stn Msd 0.3 1↑ 1↓
Felt Gisborne (45) MM4.

98/156
JAN 06 004032.8s 47.54S 165.39E 5km M=4.0
0.8 0.05 0.05 R
Rsd 0.3s 10ph/7stn Dmin 221km Az.gap 322°
Corr. 0.139 8M/5stn Msd 0.1 1↑

98/160
JAN 06 023706.2s 47.60S 165.39E 12km M=3.8
0.7 0.05 0.05 R
Rsd 0.2s 9ph/6stn Dmin 223km Az.gap 332°
Corr. 0.035 6M/5stn Msd 0.2

98/161
JAN 06 023947.7s 47.67S 165.40E 12km M=5.2
0.6 0.04 0.04 R
Rsd 0.2s 10ph/6stn Dmin 225km Az.gap 323°
Corr. -0.163 12M/6stn Msd 0.2

98/167
JAN 06 050125.4s 47.65S 165.46E 12km M=5.2
0.9 0.06 0.05 R
Rsd 0.3s 10ph/6stn Dmin 220km Az.gap 323°
Corr. -0.029 15M/8stn Msd 0.2

98/172
JAN 06 073322.8s 38.52S 178.87E 23km M=4.0
0.4 0.01 0.02 2
Rsd 0.2s 21ph/19stn Dmin 73km Az.gap 246°
Corr. -0.338 36M/32stn Msd 0.3 1↑

98/173
JAN 06 082328.7s 40.37S 176.40E 54km M=3.5
0.1 0.01 0.01 2
Rsd 0.2s 23ph/20stn Dmin 37km Az.gap 179°
Corr. -0.523 16M/12stn Msd 0.3 3↑ 1↓

98/177
JAN 06 101332.3s 47.64S 165.28E 5km M=4.2
0.6 0.04 0.04 R
Rsd 0.2s 10ph/6stn Dmin 232km Az.gap 323°
Corr. 0.153 14M/7stn Msd 0.3

98/180
JAN 06 112338.8s 39.44S 174.74E 218km M=3.7
0.3 0.02 0.03 3
Rsd 0.1s 16ph/12stn Dmin 43km Az.gap 288°
Corr. 0.205 11M/11stn Msd 0.3
Poor station coverage.

98/188
JAN 06 153643.9s 38.60S 175.57E 171km M=4.1
0.4 0.02 0.01 3
Rsd 0.1s 23ph/19stn Dmin 18km Az.gap 82°
Corr. 0.165 21M/16stn Msd 0.3 2↑ 1↓

98/196
JAN 07 004152.3s 38.89S 175.21E 205km M=4.3
0.4 0.02 0.01 3
Rsd 0.2s 31ph/25stn Dmin 31km Az.gap 68°
Corr. -0.019 22M/16stn Msd 0.3 10↑ 7↓

98/199
JAN 07 012347.1s 38.46S 175.88E 176km M=4.0
0.4 0.02 0.02 3
Rsd 0.2s 23ph/19stn Dmin 24km Az.gap 85°
Corr. -0.002 18M/15stn Msd 0.2 5↑ 2↓

98/204
JAN 07 081213.7s 41.70S 172.89E 75km M=3.6
0.2 0.02 0.02 2
Rsd 0.2s 21ph/16stn Dmin 8km Az.gap 148°
Corr. -0.783 16M/12stn Msd 0.1 1↓

98/210
JAN 07 120719.4s 47.59S 165.58E 12km M=5.5
0.8 0.04 0.06 R
Rsd 0.3s 10ph/6stn Dmin 209km Az.gap 322°
Corr. 0.243 20M/10stn Msd 0.2 1↑ 1↓

98/211
JAN 07 121117.9s 47.63S 165.53E 12km M=4.1
0.7 0.06 0.04 R
Rsd 0.3s 11ph/5stn Dmin 214km Az.gap 332°
Corr. -0.277 9M/4stn Msd 0.2

98/213
JAN 07 122144.7s 47.60S 165.64E 12km M=3.5
1.6 0.09 0.12 R
Rsd 0.5s 7ph/6stn Dmin 206km Az.gap 321°
Corr. 0.139 6M/5stn Msd 0.2

98/214
JAN 07 122631.9s 47.66S 165.61E 12km M=3.6
0.8 0.05 0.05 R
Rsd 0.3s 10ph/6stn Dmin 210km Az.gap 323°
Corr. 0.154 6M/5stn Msd 0.2

98/215
JAN 07 125907.5s 47.61S 165.77E 12km M=4.0
1.5 0.08 0.11 R
Rsd 0.6s 9ph/7stn Dmin 197km Az.gap 322°
Corr. 0.130 7M/5stn Msd 0.2

98/220
JAN 07 134735.1s 47.64S 165.79E 12km M=3.6
1.1 0.07 0.07 R
Rsd 0.4s 10ph/7stn Dmin 197km Az.gap 322°
Corr. 0.111 6M/5stn Msd 0.2

98/221
JAN 07 135136.5s 47.67S 165.70E 12km M=3.7
1.1 0.08 0.08 R
Rsd 0.4s 9ph/6stn Dmin 204km Az.gap 323°
Corr. -0.006 6M/5stn Msd 0.2

98/236
JAN 08 005942.1s 38.81S 176.10E 213km M=3.6
1.8 0.14 0.23 19
Rsd 0.4s 9ph/8stn Dmin 101km Az.gap 315°
Corr. -0.817 5M/5stn Msd 0.3 1↑
Poor station coverage

98/238
JAN 08 033615.7s 47.64S 165.35E 12km M=3.5
1.6 0.10 0.12 R
Rsd 0.5s 6ph/5stn Dmin 227km Az.gap 323°
Corr. -0.013 4M/4stn Msd 0.2

98/239
JAN 08 053745.2s 47.53S 165.78E 12km M=3.8
2.1 0.11 0.14 R
Rsd 0.7s 7ph/6stn Dmin 192km Az.gap 319°
Corr. 0.379 6M/4stn Msd 0.3

98/240
JAN 08 053818.4s 47.63S 165.31E 12km M=3.6
0.7 0.06 0.05 R
Rsd 0.2s 9ph/5stn Dmin 229km Az.gap 337°
Corr. -0.461 4M/4stn Msd 0.2

98/243
JAN 08 075209.7s 47.70S 165.64E 12km M=3.5
1.2 0.10 0.07 R
Rsd 0.4s 9ph/6stn Dmin 210km Az.gap 324°
Corr. -0.072 4M/4stn Msd 0.1

98/244
JAN 08 082420.0s 39.31S 175.43E 12km M=3.6
0.1 0.01 0.01 R
Rsd 0.3s 20ph/17stn Dmin 16km Az.gap 75°
Corr. 0.199 15M/13stn Msd 0.4 1↑ 1↓

98/250
JAN 08 154552.5s 37.07S 177.40E 5km M=3.7
0.5 0.04 0.02 R
Rsd 0.3s 10ph/9stn Dmin 54km Az.gap 246°
Corr. 0.524 13M/11stn Msd 0.3 1↓

98/252
JAN 08 195442.0s 38.22S 176.36E 172km M=4.3
0.3 0.01 0.01 3
Rsd 0.2s 32ph/29stn Dmin 13km Az.gap 80°
Corr. -0.008 8M/4stn Msd 0.1 8↑ 3↓

98/255
JAN 09 010228.7s 38.34S 175.83E 180km M=4.3
0.5 0.02 0.02 4
Rsd 0.1s 23ph/20stn Dmin 38km Az.gap 91°
Corr. -0.129 16M/12stn Msd 0.2 7↑ 2↓

98/259
JAN 09 083714.0s 38.05S 176.13E 199km M=4.2
0.8 0.04 0.03 6
Rsd 0.3s 10ph/8stn Dmin 53km Az.gap 140°
Corr. -0.473 17M/13stn Msd 0.2

98/261
JAN 09 113613.4s 43.25S 171.57E 12km M=3.1
0.2 0.02 0.01 R
Rsd 0.4s 8ph/5stn Dmin 65km Az.gap 150°
Corr. -0.439 5M/3stn Msd 0.1 1↑
Felt Harper River (99) MM4.

98/263
JAN 09 162732.9s 47.65S 165.65E 12km M=4.2
1.5 0.08 0.11 R
Rsd 0.5s 7ph/6stn Dmin 207km Az.gap 323°
Corr. 0.209 10M/6stn Msd 0.3 1↑

98/276
JAN 10 120623.8s 47.61S 165.63E 12km M=3.6
1.4 0.10 0.10 R
Rsd 0.5s 7ph/5stn Dmin 207km Az.gap 322°
Corr. -0.019 5M/4stn Msd 0.3

98/278
JAN 10 142438.7s 36.68S 179.68E 12km M=3.8
1.0 0.05 0.09 R
Rsd 0.2s 6ph/5stn Dmin 160km Az.gap 324°
Corr. -0.187 7M/5stn Msd 0.3

98/284
JAN 10 162843.8s 40.25S 174.95E 70km M=4.3
0.2 0.01 0.01 3
Rsd 0.2s 33ph/28stn Dmin 51km Az.gap 84°
Corr. 0.051 15M/10stn Msd 0.2 3↑ 2↓
Felt Wanganui (57), Marton (61) and Silverstream (69), MM4.

98/295
JAN 10 212004.5s 40.38S 175.80E 66km M=3.7
0.2 0.01 0.01 3
Rsd 0.2s 29ph/26stn Dmin 37km Az.gap 87°
Corr. -0.523 19M/14stn Msd 0.3 5↑ 5↓

98/308
JAN 11 134859.6s 40.03S 173.97E 244km M=3.7
0.3 0.02 0.03 3
Rsd 0.1s 10ph/10stn Dmin 122km Az.gap 221°
Corr. -0.704 5M/5stn Msd 0.3

98/315
JAN 11 222016.1s 47.60S 165.39E 12km M=3.6
1.4 0.08 0.13 R
Rsd 0.4s 6ph/5stn Dmin 223km Az.gap 337°
Corr. -0.400 5M/4stn Msd 0.3 1↓

98/318
JAN 12 010831.2s 39.49S 174.37E 133km M=3.6
0.7 0.02 0.03 7
Rsd 0.3s 17ph/14stn Dmin 59km Az.gap 173°
Corr. -0.261 8M/7stn Msd 0.2 1↑ 2↓

98/319
JAN 12 013436.6s 47.55S 165.11E 12km M=4.1
1.1 0.06 0.09 R
Rsd 0.3s 6ph/5stn Dmin 241km Az.gap 338°
Corr. -0.310 7M/4stn Msd 0.2 1↑

98/320
JAN 12 031315.4s 37.20S 177.19E 270km M=4.3
0.3 0.01 0.01 3
Rsd 0.1s 12ph/10stn Dmin 174km Az.gap 280°
Corr. -0.119 8M/6stn Msd 0.1

98/322
JAN 12 063306.9s 38.21S 176.20E 169km M=4.1
2.4 0.08 0.04 19
Rsd 0.2s 10ph/10stn Dmin 76km Az.gap 216°
Corr. -0.250 15M/13stn Msd 0.2 4↑ 1↓

98/334
JAN 12 225021.7s 38.15S 176.24E 160km M=4.0
0.7 0.03 0.02 6
Rsd 0.2s 13ph/11stn Dmin 76km Az.gap 232°
Corr. -0.094 16M/13stn Msd 0.3 1↑

98/335
JAN 13 014547.5s 38.05S 176.01E 198km M=4.1
0.6 0.03 0.02 4
Rsd 0.2s 16ph/13stn Dmin 44km Az.gap 135°
Corr. 0.089 18M/13stn Msd 0.2 1↑

98/337
JAN 13 033019.0s 38.58S 175.76E 153km M=4.2
0.4 0.01 0.02 3
Rsd 0.2s 22ph/17stn Dmin 32km Az.gap 75°
Corr. 0.207 8M/4stn Msd 0.2 3↑ 2↓

98/341
JAN 13 061253.4s 39.05S 175.22E 140km M=3.7
0.5 0.02 0.02 4
Rsd 0.2s 19ph/15stn Dmin 28km Az.gap 192°
Corr. 0.109 11M/11stn Msd 0.2 1↑

98/355
JAN 13 154937.1s 38.04S 176.30E 161km M=3.7
1.3 0.04 0.03 12
Rsd 0.3s 11ph/10stn Dmin 66km Az.gap 146°
Corr. -0.478 13M/13stn Msd 0.2 1↑

98/367
JAN 14 002933.0s 40.39S 173.37E 161km M=3.8
0.4 0.03 0.02 3
Rsd 0.2s 23ph/19stn Dmin 65km Az.gap 156°
Corr. -0.176 10M/10stn Msd 0.2 3↑ 1↓

98/375
JAN 14 045820.7s 45.10S 167.48E 120km M=4.1
0.4 0.02 0.02 3
Rsd 0.2s 13ph/8stn Dmin 59km Az.gap 231°
Corr. 0.032 10M/5stn Msd 0.2 1↑

98/378
JAN 14 064409.6s 45.52S 167.12E 66km M=3.5
0.2 0.01 0.02 4
Rsd 0.2s 11ph/6stn Dmin 76km Az.gap 241°
Corr. 0.004 10M/6stn Msd 0.2 1↓

98/380
JAN 14 071644.4s 40.00S 176.94E 12km M=3.8
0.4 0.01 0.03 R
Rsd 0.3s 31ph/27stn Dmin 52km Az.gap 229°
Corr. -0.317 32M/28stn Msd 0.3 1↑ 3↓
Felt Waipawa (60) MM4.

98/388
JAN 14 111237.4s 37.20S 176.32E 33km M=4.3
1.0 0.08 0.05 R
Rsd 0.4s 7ph/4stn Dmin 181km Az.gap 276°
Corr. -0.590 5M/4stn Msd 0.3

98/399
JAN 14 194627.9s 37.91S 179.60E 12km M=3.6
1.5 0.10 0.08 R
Rsd 0.7s 5ph/3stn Dmin 119km Az.gap 314°
Corr. 0.001 5M/3stn Msd 0.2 1↑

98/400
JAN 14 221450.0s 39.49S 177.19E 25km M=4.2
0.2 0.01 0.01 1
Rsd 0.2s 33ph/29stn Dmin 32km Az.gap 180°
Corr. -0.629 8M/6stn Msd 0.3 4↑ 1↓
Felt Napier (60).

98/417
JAN 16 121325.9s 40.52S 174.71E 64km M=3.5
0.3 0.02 0.01 6
Rsd 0.3s 21ph/16stn Dmin 42km Az.gap 103°
Corr. -0.336 12M/9stn Msd 0.2 1↑
Felt Waitarere Beach (65) MM4.

98/418
JAN 16 125122.3s 45.29S 167.28E 95km M=3.8
0.2 0.01 0.02 2
Rsd 0.1s 13ph/8stn Dmin 70km Az.gap 237°
Corr. 0.068 8M/4stn Msd 0.3 1↑ 3↓

98/419
JAN 16 145347.1s 37.39S 177.59E 94km M=4.9
0.3 0.02 0.01 2
Rsd 0.1s 28ph/24stn Dmin 39km Az.gap 185°
Corr. 0.294 20M/15stn Msd 0.2 4↑ 11↓
Felt Ruatuna Rd (35) MM4.

98/430
JAN 16 232645.6s 36.81S 177.97E 135km M=4.8
0.3 0.02 0.01 3
Rsd 0.1s 26ph/23stn Dmin 92km Az.gap 252°
Corr. 0.498 20M/15stn Msd 0.2 1↑ 2↓

98/433
JAN 17 052124.6s 38.96S 175.08E 235km M=3.5
0.4 0.02 0.03 3
Rsd 0.1s 15ph/12stn Dmin 49km Az.gap 248°
Corr. -0.541 9M/9stn Msd 0.2 1↓

98/434
JAN 17 052233.4s 38.09S 179.90E 12km M=3.6
1.4 0.08 0.09 R
Rsd 0.5s 5ph/3stn Dmin 144km Az.gap 319°
Corr. 0.197 4M/3stn Msd 0.1 1↑ 1↓

98/448
JAN 17 185159.7s 39.64S 175.78E 58km M=4.1
0.1 0.01 0.01 2
Rsd 0.2s 36ph/29stn Dmin 42km Az.gap 70°
Corr. 0.083 16M/13stn Msd 0.1 3↑ 3↓

98/457
JAN 18 032119.8s 42.13S 173.96E 12km M=3.7
0.3 0.02 0.02 R
Rsd 0.4s 19ph/15stn Dmin 48km Az.gap 154°
Corr. -0.522 23M/18stn Msd 0.2 2↑ 1↓

98/466
JAN 18 102052.3s 38.11S 176.05E 176km M=3.8
1.1 0.03 0.02 10
Rsd 0.2s 14ph/13stn Dmin 50km Az.gap 129°
Corr. -0.560 15M/14stn Msd 0.2 1↑

98/468
JAN 18 141818.8s 39.91S 176.81E 12km M=3.6
0.3 0.01 0.02 R
Rsd 0.2s 19ph/15stn Dmin 41km Az.gap 208°
Corr. -0.432 19M/19stn Msd 0.3 1↑ 1↓

98/478
JAN 18 214458.2s 37.67S 177.96E 5km M=3.5
0.2 0.01 0.01 R
Rsd 0.2s 7ph/4stn Dmin 31km Az.gap 172°
Corr. -0.204 7M/5stn Msd 0.4 1↑ 1↓

98/489
JAN 19 072737.9s 47.64S 165.45E 12km M=4.0
0.7 0.05 0.05 R
Rsd 0.3s 9ph/6stn Dmin 220km Az.gap 323°
Corr. -0.129 9M/5stn Msd 0.2

98/503
JAN 19 163018.0s 39.69S 174.48E 124km M=3.6
0.4 0.02 0.03 5
Rsd 0.4s 26ph/20stn Dmin 41km Az.gap 140°
Corr. -0.488 9M/8stn Msd 0.2 4↑ 3↓

98/516
JAN 20 014005.4s 46.46S 168.28E 13km M=3.8
0.1 0.01 0.01 2
Rsd 0.1s 11ph/6stn Dmin 47km Az.gap 144°
Corr. 0.088 8M/4stn Msd 0.3 4↑ 1↓
Felt Invercargill (149) MM4.

98/528
JAN 20 144649.9s 38.98S 175.12E 184km M=4.5
0.4 0.01 0.02 3
Rsd 0.2s 39ph/32stn Dmin 25km Az.gap 107°
Corr. -0.180 8M/4stn Msd 0.1 11↑ 9↓

98/529
JAN 20 150511.8s 36.76S 178.31E 71km M=4.7
0.2 0.02 0.01 3
Rsd 0.1s 14ph/11stn Dmin 93km Az.gap 298°
Corr. 0.424 20M/14stn Msd 0.2 1↑ 7↓

98/548
JAN 21 002548.4s 42.86S 173.32E 33km M=4.4
0.1 0.01 0.01 R
Rsd 0.1s 20ph/16stn Dmin 86km Az.gap 162°
Corr. -0.583 21M/11stn Msd 0.2 1↑ 6↓
Felt Hanmer (85) and Cheviot district (96), MM4.

98/559
JAN 21 050137.2s 38.21S 176.45E 194km M=3.7
0.4 0.04 0.06 6
Rsd 0.1s 13ph/11stn Dmin 151km Az.gap 312°
Corr. -0.863 8M/8stn Msd 0.1

98/560
JAN 21 055031.3s 38.38S 176.11E 150km M=4.1
0.4 0.02 0.02 3
Rsd 0.2s 20ph/16stn Dmin 50km Az.gap 104°
Corr. -0.052 22M/17stn Msd 0.3 1↑

98/587
JAN 21 224715.9s 45.06S 167.58E 93km M=4.0
0.3 0.02 0.02 3
Rsd 0.2s 12ph/7stn Dmin 51km Az.gap 225°
Corr. 0.041 8M/4stn Msd 0.2 2↑ 1↓

98/591
JAN 21 233926.3s 41.69S 178.36E 33km M=4.0
0.5 0.03 0.03 R
Rsd 0.3s 22ph/19stn Dmin 209km Az.gap 242°
Corr. -0.578 20M/19stn Msd 0.3

98/597
JAN 22 025106.0s 35.71S 179.17E 243km M=4.2
1.1 0.12 0.09 14
Rsd 0.3s 10ph/7stn Dmin 274km Az.gap 324°
Corr. 0.097 15M/12stn Msd 0.3

98/635
JAN 22 211419.8s 39.15S 175.24E 134km M=4.0
0.3 0.01 0.01 2
Rsd 0.3s 39ph/34stn Dmin 17km Az.gap 65°
Corr. -0.136 8M/4stn Msd 0.2 9↑ 5↓

98/641
JAN 23 000817.9s 43.56S 172.45E 15km M=3.5
0.1 0.00 0.01 1
Rsd 0.1s 9ph/7stn Dmin 23km Az.gap 125°
Corr. 0.401 8M/4stn Msd 0.4 1↑
Felt near Christchurch.

98/652
JAN 23 070735.9s 37.21S 179.26E 12km M=4.6
0.5 0.03 0.03 R
Rsd 0.1s 16ph/13stn Dmin 95km Az.gap 297°
Corr. -0.113 8M/5stn Msd 0.3 1↓

98/667
JAN 23 152754.9s 47.29S 165.28E 5km M=4.7
1.0 0.06 0.06 R
Rsd 0.5s 10ph/7stn Dmin 222km Az.gap 317°
Corr. 0.128 9M/5stn Msd 0.2

98/672
JAN 23 162147.3s 47.30S 165.36E 12km M=3.5
0.9 0.05 0.07 R
Rsd 0.3s 8ph/5stn Dmin 216km Az.gap 328°
Corr. 0.010 4M/4stn Msd 0.3

98/675
JAN 23 172138.4s 47.29S 165.44E 5km M=3.7
1.1 0.07 0.07 R
Rsd 0.4s 8ph/5stn Dmin 210km Az.gap 317°
Corr. 0.185 3M/3stn Msd 0.3

98/677
JAN 23 184904.9s 47.64S 165.67E 12km M=3.8
1.4 0.10 0.09 R
Rsd 0.7s 9ph/6stn Dmin 205km Az.gap 323°
Corr. 0.046 5M/5stn Msd 0.3

98/682
JAN 23 224157.6s 37.72S 177.57E 289km M=3.7
1.0 0.33 0.48 18
Rsd 0.2s 10ph/9stn Dmin 72km Az.gap 253°
Corr. -0.982 10M/9stn Msd 0.2

98/688
JAN 24 005333.5s 37.77S 177.43E 276km M=3.5
2.4 0.14 0.15 19
Rsd 0.6s 11ph/9stn Dmin 79km Az.gap 170°
Corr. -0.425 10M/10stn Msd 0.3

98/710
JAN 24 083931.1s 38.20S 175.94E 177km M=4.3
0.4 0.02 0.02 3
Rsd 0.2s 33ph/28stn Dmin 22km Az.gap 108°
Corr. -0.256 23M/17stn Msd 0.2 2↑ 1↓

98/714
JAN 24 100454.0s 39.85S 176.98E 37km M=3.7
0.2 0.01 0.02 5
Rsd 0.2s 26ph/23stn Dmin 37km Az.gap 178°
Corr. -0.562 21M/17stn Msd 0.3 1↑ 1↓

98/717
JAN 24 114507.0s 38.16S 176.10E 205km M=4.3
0.5 0.02 0.02 4
Rsd 0.2s 22ph/19stn Dmin 9km Az.gap 122°
Corr. -0.347 21M/18stn Msd 0.2 1↑

98/722
JAN 24 134331.6s 45.27S 167.14E 69km M=3.7
0.5 0.02 0.04 5
Rsd 0.2s 11ph/6stn Dmin 81km Az.gap 247°
Corr. -0.282 16M/10stn Msd 0.3 1↑ 2↓

98/759
JAN 25 102641.5s 35.90S 179.34E 317km M=4.0
4.1 1.48 1.82 37
Rsd 0.4s 9ph/7stn Dmin 259km Az.gap 345°
Corr. -0.991 10M/9stn Msd 0.2 1↑

98/763
JAN 25 131817.0s 37.33S 179.49E 12km M=3.6
0.7 0.07 0.06 R
Rsd 0.3s 10ph/9stn Dmin 109km Az.gap 322°
Corr. -0.542 13M/11stn Msd 0.4

98/766
JAN 25 140433.0s 38.60S 178.89E 22km M=3.6
0.6 0.02 0.03 3
Rsd 0.2s 18ph/16stn Dmin 75km Az.gap 249°
Corr. -0.464 31M/29stn Msd 0.3 3↑ 1↓

98/772
JAN 25 164826.5s 38.65S 175.79E 118km M=3.8
0.2 0.01 0.01 2
Rsd 0.2s 25ph/20stn Dmin 24km Az.gap 69°
Corr. -0.151 17M/15stn Msd 0.3 5↑ 1↓

98/787
JAN 26 010804.2s 37.78S 177.40E 122km M=3.7
0.8 0.04 0.02 7
Rsd 0.4s 12ph/9stn Dmin 82km Az.gap 169°
Corr. 0.403 16M/14stn Msd 0.2

98/792
JAN 26 035916.0s 48.43S 165.40E 5km M=3.8
0.7 0.06 0.06 R
Rsd 0.2s 8ph/5stn Dmin 269km Az.gap 342°
Corr. -0.340 6M/5stn Msd 0.3

98/807
JAN 26 115822.5s 47.70S 165.44E 12km M=4.5
1.0 0.06 0.06 R
Rsd 0.4s 10ph/8stn Dmin 223km Az.gap 324°
Corr. 0.063 8M/5stn Msd 0.3

98/808
JAN 26 130500.3s 47.59S 165.36E 12km M=3.5
0.7 0.05 0.04 R
Rsd 0.2s 7ph/5stn Dmin 225km Az.gap 332°
Corr. 0.137 5M/5stn Msd 0.1

98/809
JAN 26 133003.9s 38.74S 175.34E 224km M=4.0
0.5 0.03 0.02 3
Rsd 0.2s 21ph/18stn Dmin 34km Az.gap 126°
Corr. 0.223 19M/15stn Msd 0.3 6↑ 2↓

98/812
JAN 26 152957.6s 38.10S 176.29E 176km M=4.0
0.5 0.02 0.01 5
Rsd 0.1s 20ph/18stn Dmin 68km Az.gap 138°
Corr. -0.283 15M/15stn Msd 0.3 3↑ 1↓

98/813
JAN 26 153927.0s 38.47S 175.99E 161km M=4.2
0.2 0.01 0.01 2
Rsd 0.2s 34ph/28stn Dmin 25km Az.gap 91°
Corr. 0.049 18M/15stn Msd 0.3 11↑ 4↓

98/819
JAN 26 163719.7s 37.80S 176.25E 207km M=3.8
0.6 0.03 0.04 5
Rsd 0.1s 11ph/9stn Dmin 58km Az.gap 216°
Corr. 0.140 16M/14stn Msd 0.2 1↑

98/821
JAN 26 165812.4s 37.81S 176.24E 201km M=3.9
0.3 0.02 0.01 3
Rsd 0.1s 17ph/14stn Dmin 58km Az.gap 177°
Corr. -0.413 19M/16stn Msd 0.2 1↑

98/827
JAN 26 230557.5s 47.63S 165.28E 12km M=5.9
0.3 0.02 0.02 R
Rsd 0.1s 11ph/6stn Dmin 232km Az.gap 323°
Corr. -0.117 25M/13stn Msd 0.2 1↓
Felt Invercargill (149).

98/828
JAN 26 230849.4s 47.60S 165.67E 12km M=3.9
1.1 0.07 0.09 R
Rsd 0.4s 9ph/6stn Dmin 203km Az.gap 330°
Corr. -0.227 5M/5stn Msd 0.2

98/829
JAN 26 231047.2s 47.70S 165.34E 12km M=3.8
0.2 0.02 0.02 R
Rsd 0.1s 11ph/6stn Dmin 231km Az.gap 334°
Corr. -0.208 10M/10stn Msd 0.4

98/830
JAN 26 231205.6s 47.67S 165.41E 12km M=5.0
0.6 0.04 0.04 R
Rsd 0.2s 11ph/8stn Dmin 224km Az.gap 323°
Corr. -0.191 10M/5stn Msd 0.3

98/831
JAN 26 231442.9s 47.67S 165.34E 12km M=3.9
0.5 0.04 0.04 R
Rsd 0.2s 10ph/5stn Dmin 229km Az.gap 333°
Corr. -0.310 5M/5stn Msd 0.3

98/833
JAN 26 231645.6s 47.70S 165.60E 12km M=3.5
0.6 0.04 0.05 R
Rsd 0.2s 10ph/6stn Dmin 212km Az.gap 324°
Corr. -0.167 5M/5stn Msd 0.2

98/834
JAN 26 231832.1s 47.71S 165.32E 12km M=3.8
0.6 0.05 0.04 R
Rsd 0.3s 10ph/6stn Dmin 232km Az.gap 334°
Corr. -0.291 5M/5stn Msd 0.2

98/835
JAN 26 231938.5s 47.67S 165.29E 12km M=4.1
0.7 0.05 0.05 R
Rsd 0.2s 9ph/5stn Dmin 232km Az.gap 323°
Corr. -0.065 6M/4stn Msd 0.1

98/837
JAN 26 232506.6s 47.59S 165.22E 12km M=5.1
0.6 0.05 0.04 R
Rsd 0.2s 12ph/9stn Dmin 235km Az.gap 323°
Corr. -0.009 15M/8stn Msd 0.2

98/841
JAN 26 233201.5s 47.63S 165.37E 12km M=3.8
0.3 0.02 0.02 R
Rsd 0.1s 10ph/6stn Dmin 225km Az.gap 332°
Corr. -0.139 8M/5stn Msd 0.3

98/844
JAN 26 234041.3s 47.67S 165.39E 12km M=3.9
0.5 0.04 0.04 R
Rsd 0.3s 10ph/5stn Dmin 226km Az.gap 333°
Corr. -0.272 8M/5stn Msd 0.3 1↓

98/845
JAN 26 234318.5s 47.60S 165.48E 12km M=3.9
0.5 0.04 0.03 R
Rsd 0.2s 10ph/5stn Dmin 217km Az.gap 332°
Corr. -0.107 7M/5stn Msd 0.3

98/848
JAN 26 234624.3s 47.71S 165.29E 12km M=3.7
0.6 0.05 0.04 R
Rsd 0.3s 10ph/5stn Dmin 235km Az.gap 333°
Corr. -0.319 5M/5stn Msd 0.2

98/849
JAN 26 234821.7s 47.63S 165.23E 12km M=4.1
0.6 0.04 0.04 R
Rsd 0.3s 11ph/6stn Dmin 235km Az.gap 323°
Corr. -0.094 9M/5stn Msd 0.2

98/853
JAN 26 235727.9s 47.71S 165.21E 12km M=5.2
0.4 0.03 0.02 R
Rsd 0.2s 11ph/6stn Dmin 240km Az.gap 325°
Corr. -0.037 14M/7stn Msd 0.2

98/855
JAN 27 001321.4s 40.27S 173.50E 165km M=3.5
0.5 0.02 0.02 5
Rsd 0.2s 22ph/19stn Dmin 69km Az.gap 179°
Corr. -0.079 8M/8stn Msd 0.2 1↑

98/856
JAN 27 001517.4s 47.65S 165.36E 12km M=4.1
0.5 0.04 0.03 R
Rsd 0.2s 11ph/6stn Dmin 227km Az.gap 323°
Corr. -0.089 7M/5stn Msd 0.2

98/857
JAN 27 003621.4s 47.67S 165.13E 12km M=4.1
0.4 0.03 0.03 R
Rsd 0.2s 10ph/6stn Dmin 244km Az.gap 324°
Corr. -0.195 7M/5stn Msd 0.1

98/859
JAN 27 004624.3s 47.65S 165.09E 12km M=4.0
0.5 0.04 0.04 R
Rsd 0.2s 9ph/6stn Dmin 247km Az.gap 324°
Corr. -0.219 11M/6stn Msd 0.3

98/862
JAN 27 010553.0s 47.62S 165.23E 12km M=3.7
0.5 0.04 0.04 R
Rsd 0.2s 7ph/5stn Dmin 235km Az.gap 333°
Corr. -0.302 6M/5stn Msd 0.2

98/865
JAN 27 012057.9s 47.60S 165.28E 12km M=3.6
0.6 0.04 0.05 R
Rsd 0.3s 8ph/5stn Dmin 230km Az.gap 332°
Corr. -0.203 5M/5stn Msd 0.2 1↑

98/866
JAN 27 012844.5s 47.60S 165.40E 12km M=3.8
0.8 0.04 0.07 R
Rsd 0.3s 7ph/5stn Dmin 222km Az.gap 331°
Corr. -0.445 4M/4stn Msd 0.2

98/867
JAN 27 013231.6s 47.64S 165.23E 12km M=4.1
0.8 0.06 0.07 R
Rsd 0.4s 10ph/7stn Dmin 235km Az.gap 323°
Corr. -0.271 8M/6stn Msd 0.2

98/869
JAN 27 020655.4s 47.55S 165.26E 12km M=3.6
0.7 0.04 0.06 R
Rsd 0.3s 8ph/5stn Dmin 231km Az.gap 331°
Corr. -0.464 6M/5stn Msd 0.3 1↑

98/875
JAN 27 023542.7s 47.65S 165.33E 12km M=3.7
0.7 0.05 0.06 R
Rsd 0.3s 10ph/6stn Dmin 229km Az.gap 332°
Corr. -0.213 7M/5stn Msd 0.3

98/876
JAN 27 024126.4s 47.54S 165.27E 12km M=3.6
0.3 0.02 0.02 R
Rsd 0.2s 9ph/5stn Dmin 230km Az.gap 331°
Corr. -0.196 6M/5stn Msd 0.4

98/877
JAN 27 025732.3s 47.47S 165.24E 12km M=3.6
0.8 0.05 0.05 R
Rsd 0.3s 8ph/4stn Dmin 230km Az.gap 331°
Corr. -0.083 5M/4stn Msd 0.4

98/878
JAN 27 030903.3s 47.67S 165.26E 12km M=3.8
0.4 0.03 0.03 R
Rsd 0.1s 10ph/5stn Dmin 235km Az.gap 333°
Corr. -0.228 6M/5stn Msd 0.2

98/883
JAN 27 042629.2s 47.64S 165.32E 12km M=3.9
0.4 0.03 0.03 R
Rsd 0.2s 10ph/5stn Dmin 230km Az.gap 333°
Corr. -0.145 8M/6stn Msd 0.3 1↑ 1↓

98/894
JAN 27 053720.0s 47.58S 165.28E 12km M=3.8
0.8 0.05 0.06 R
Rsd 0.3s 10ph/6stn Dmin 230km Az.gap 332°
Corr. -0.128 6M/5stn Msd 0.3

98/899
JAN 27 062435.3s 47.53S 165.21E 12km M=3.5
0.6 0.05 0.04 R
Rsd 0.3s 10ph/5stn Dmin 233km Az.gap 331°
Corr. -0.208 6M/5stn Msd 0.4

98/906
JAN 27 072340.1s 47.54S 165.36E 12km M=3.8
0.7 0.05 0.05 R
Rsd 0.3s 10ph/6stn Dmin 223km Az.gap 331°
Corr. -0.175 6M/5stn Msd 0.2

98/907
JAN 27 072539.3s 47.71S 165.24E 12km M=3.6
0.8 0.06 0.06 R
Rsd 0.3s 10ph/6stn Dmin 238km Az.gap 334°
Corr. -0.275 5M/5stn Msd 0.2

98/909
JAN 27 073929.6s 47.48S 165.29E 12km M=3.5
1.2 0.09 0.09 R
Rsd 0.4s 7ph/4stn Dmin 226km Az.gap 336°
Corr. -0.215 5M/3stn Msd 0.5

98/910
JAN 27 084252.5s 37.03S 176.82E 365km M=3.8
0.3 0.03 0.04 5
Rsd 0.0s 12ph/10stn Dmin 299km Az.gap 338°
Corr. -0.809 8M/8stn Msd 0.2
Very poor station coverage.

98/913
JAN 27 095950.1s 47.53S 165.33E 12km M=4.8
0.3 0.03 0.02 R
Rsd 0.1s 11ph/7stn Dmin 225km Az.gap 321°
Corr. -0.173 11M/6stn Msd 0.2

98/917
JAN 27 121957.8s 47.63S 165.45E 12km M=3.5
0.5 0.04 0.04 R
Rsd 0.2s 7ph/5stn Dmin 220km Az.gap 332°
Corr. -0.131 6M/5stn Msd 0.3

98/921
JAN 27 132954.8s 47.65S 165.25E 12km M=4.0
0.5 0.04 0.03 R
Rsd 0.2s 10ph/5stn Dmin 235km Az.gap 332°
Corr. -0.211 8M/5stn Msd 0.2

98/922
JAN 27 133651.3s 47.57S 165.48E 12km M=3.7
0.3 0.02 0.02 R
Rsd 0.1s 10ph/5stn Dmin 215km Az.gap 331°
Corr. -0.169 6M/6stn Msd 0.3

98/925
JAN 27 165215.4s 39.78S 174.38E 207km M=3.7
0.4 0.02 0.03 4
Rsd 0.2s 23ph/19stn Dmin 47km Az.gap 192°
Corr. -0.385 17M/15stn Msd 0.2 1↑ 1↓

98/926
JAN 27 172157.6s 36.97S 177.51E 115km M=4.0
0.4 0.03 0.03 5
Rsd 0.1s 14ph/12stn Dmin 99km Az.gap 261°
Corr. -0.312 16M/13stn Msd 0.2 1↓

98/933
JAN 27 195009.2s 47.62S 165.34E 12km M=4.8
0.5 0.03 0.04 R
Rsd 0.2s 10ph/7stn Dmin 227km Az.gap 330°
Corr. -0.269 10M/5stn Msd 0.2

98/935
JAN 27 195409.4s 47.62S 165.46E 12km M=3.6
0.6 0.04 0.05 R
Rsd 0.2s 8ph/5stn Dmin 218km Az.gap 331°
Corr. -0.118 5M/5stn Msd 0.2 1↑

98/940
JAN 27 213437.0s 47.69S 165.16E 12km M=3.8
0.5 0.04 0.04 R
Rsd 0.2s 10ph/5stn Dmin 242km Az.gap 334°
Corr. -0.279 7M/5stn Msd 0.2

98/944
JAN 27 231208.1s 47.60S 165.31E 12km M=3.9
0.4 0.03 0.03 R
Rsd 0.2s 10ph/5stn Dmin 229km Az.gap 332°
Corr. -0.261 11M/6stn Msd 0.3

98/945
JAN 27 234606.6s 47.69S 165.27E 12km M=5.1
0.6 0.04 0.05 R
Rsd 0.2s 10ph/7stn Dmin 235km Az.gap 332°
Corr. -0.276 15M/9stn Msd 0.2

98/946
JAN 27 235523.3s 47.69S 165.46E 12km M=4.8
0.6 0.04 0.04 R
Rsd 0.2s 10ph/6stn Dmin 222km Az.gap 324°
Corr. -0.239 10M/5stn Msd 0.3

98/951
JAN 28 024259.7s 47.56S 165.19E 12km M=3.6
0.3 0.02 0.02 R
Rsd 0.1s 9ph/5stn Dmin 236km Az.gap 332°
Corr. -0.107 6M/5stn Msd 0.3

98/956
JAN 28 035521.3s 47.57S 165.29E 12km M=3.8
0.7 0.04 0.05 R
Rsd 0.2s 9ph/6stn Dmin 229km Az.gap 332°
Corr. -0.088 8M/6stn Msd 0.3

98/958
JAN 28 053206.1s 38.29S 176.05E 175km M=4.4
0.7 0.03 0.03 5
Rsd 0.3s 19ph/16stn Dmin 43km Az.gap 110°
Corr. 0.108 21M/15stn Msd 0.2 3↑ 2↓

98/965
JAN 28 093944.6s 47.54S 165.14E 12km M=3.5
0.7 0.03 0.05 R
Rsd 0.2s 6ph/4stn Dmin 238km Az.gap 332°
Corr. -0.013 5M/3stn Msd 0.6

98/966
JAN 28 101348.1s 47.62S 165.38E 12km M=4.1
0.4 0.03 0.03 R
Rsd 0.1s 10ph/6stn Dmin 224km Az.gap 323°
Corr. -0.025 12M/6stn Msd 0.3

98/971
JAN 28 134059.3s 47.65S 165.49E 12km M=5.0
0.6 0.04 0.04 R
Rsd 0.2s 11ph/6stn Dmin 218km Az.gap 323°
Corr. 0.063 12M/6stn Msd 0.2

98/981
JAN 28 155418.4s 47.55S 165.50E 12km M=3.9
1.0 0.08 0.06 R
Rsd 0.4s 9ph/6stn Dmin 213km Az.gap 331°
Corr. 0.005 6M/5stn Msd 0.1

98/983
JAN 28 161526.6s 47.63S 165.44E 12km M=4.6
0.5 0.04 0.03 R
Rsd 0.2s 11ph/6stn Dmin 221km Az.gap 322°
Corr. 0.176 12M/7stn Msd 0.3

98/984
JAN 28 180132.4s 47.56S 165.31E 12km M=3.8
0.4 0.03 0.03 R
Rsd 0.1s 9ph/5stn Dmin 227km Az.gap 332°
Corr. -0.255 7M/5stn Msd 0.3

98/987
JAN 28 183317.6s 47.57S 165.47E 12km M=4.0
0.8 0.05 0.05 R
Rsd 0.2s 10ph/6stn Dmin 216km Az.gap 322°
Corr. 0.030 15M/8stn Msd 0.3

98/988
JAN 28 184842.1s 47.59S 165.48E 12km M=3.5
0.6 0.04 0.04 R
Rsd 0.2s 10ph/7stn Dmin 216km Az.gap 322°
Corr. 0.015 7M/6stn Msd 0.3

98/990
JAN 28 192235.8s 47.56S 165.33E 12km M=4.2
0.5 0.04 0.03 R
Rsd 0.2s 10ph/6stn Dmin 225km Az.gap 322°
Corr. -0.099 8M/4stn Msd 0.2

98/993
JAN 28 202416.8s 47.72S 165.43E 12km M=3.7
0.8 0.06 0.05 R
Rsd 0.4s 11ph/6stn Dmin 225km Az.gap 325°
Corr. -0.179 7M/5stn Msd 0.4 1↑

98/997
JAN 28 225136.2s 37.36S 179.52E 33km M=4.6
0.4 0.03 0.03 R
Rsd 0.2s 16ph/11stn Dmin 111km Az.gap 316°
Corr. -0.179 32M/26stn Msd 0.3 1↓

98/998
JAN 28 232833.8s 47.56S 165.49E 12km M=4.3
0.9 0.06 0.06 R
Rsd 0.4s 10ph/6stn Dmin 214km Az.gap 321°
Corr. -0.040 8M/5stn Msd 0.2

98/999
JAN 28 233910.2s 47.57S 165.31E 12km M=3.7
1.4 0.11 0.10 R
Rsd 0.7s 9ph/6stn Dmin 228km Az.gap 332°
Corr. -0.241 7M/5stn Msd 0.3

98/1001
JAN 29 001706.1s 47.60S 165.60E 12km M=3.6
1.0 0.06 0.07 R
Rsd 0.3s 8ph/5stn Dmin 208km Az.gap 331°
Corr. -0.123 7M/5stn Msd 0.4

98/1004
JAN 29 023737.9s 45.17S 167.48E 131km M=3.9
0.3 0.02 0.02 2
Rsd 0.2s 13ph/8stn Dmin 58km Az.gap 228°
Corr. -0.058 7M/6stn Msd 0.3 1↑

98/1008
JAN 29 034509.9s 38.19S 176.52E 199km M=3.7
1.4 0.12 0.20 23
Rsd 0.5s 11ph/9stn Dmin 153km Az.gap 223°
Corr. -0.945 10M/9stn Msd 0.2 1↑
Poor station coverage.

98/1011
JAN 29 065425.9s 47.54S 165.65E 12km M=4.2
1.1 0.06 0.09 R
Rsd 0.5s 10ph/8stn Dmin 202km Az.gap 320°
Corr. 0.006 8M/4stn Msd 0.2 1↑

98/1015
JAN 29 085510.0s 47.39S 165.30E 12km M=3.6
1.7 0.11 0.14 R
Rsd 0.5s 7ph/6stn Dmin 223km Az.gap 329°
Corr. -0.293 7M/5stn Msd 0.4 1↓

98/1027
JAN 30 061427.0s 38.76S 175.62E 167km M=3.6
0.3 0.01 0.01 2
Rsd 0.1s 13ph/11stn Dmin 47km Az.gap 278°
Corr. -0.160 9M/8stn Msd 0.2

98/1045
JAN 31 032533.3s 37.38S 177.12E 12km M=4.3
0.2 0.02 0.01 R
Rsd 0.2s 14ph/12stn Dmin 78km Az.gap 175°
Corr. -0.195 16M/14stn Msd 0.2

98/1056
JAN 31 122608.2s 39.49S 175.63E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.3s 30ph/25stn Dmin 24km Az.gap 101°
Corr. 0.101 9M/5stn Msd 0.2 4↑ 2↓

98/1061
JAN 31 151530.6s 37.70S 179.89E 12km M=3.8
0.3 0.02 0.02 R
Rsd 0.1s 6ph/4stn Dmin 141km Az.gap 313°
Corr. 0.064 5M/3stn Msd 0.2

98/1064
JAN 31 210025.4s 45.15S 167.49E 114km M=3.5
0.3 0.01 0.02 3
Rsd 0.2s 11ph/7stn Dmin 58km Az.gap 227°
Corr. 0.060 8M/5stn Msd 0.2 1↓

98/1065
JAN 31 215637.7s 47.59S 165.43E 12km M=3.7
1.5 0.09 0.11 R
Rsd 0.5s 8ph/7stn Dmin 220km Az.gap 322°
Corr. 0.180 6M/5stn Msd 0.2

98/1072
FEB 01 021332.7s 47.60S 165.40E 12km M=4.3
0.4 0.02 0.03 R
Rsd 0.2s 10ph/8stn Dmin 222km Az.gap 322°
Corr. -0.092 8M/4stn Msd 0.2 1↑ 2↓

98/1078
FEB 01 064112.0s 39.92S 176.72E 27km M=3.5
0.1 0.01 0.01 1
Rsd 0.2s 18ph/13stn Dmin 39km Az.gap 192°
Corr. -0.067 18M/14stn Msd 0.2 2↑ 1↓
Felt Waipawa (60) MM4.

98/1084
FEB 01 123025.0s 39.80S 176.97E 41km M=4.4
0.3 0.01 0.02 5
Rsd 0.2s 32ph/29stn Dmin 31km Az.gap 183°
Corr. -0.411 16M/11stn Msd 0.2 5↑ 3↓
Felt Hawkes Bay (52,60) MM4.

98/1090
FEB 01 164930.3s 38.49S 175.52E 272km M=3.6
0.3 0.01 0.04 3
Rsd 0.1s 14ph/12stn Dmin 68km Az.gap 292°
Corr. -0.109 8M/8stn Msd 0.2 1↑

98/1093
FEB 01 174954.0s 37.76S 176.73E 190km M=3.5
1.2 0.03 0.03 12
Rsd 0.2s 9ph/7stn Dmin 140km Az.gap 231°
Corr. -0.616 8M/8stn Msd 0.2

98/1113
FEB 02 121237.6s 39.63S 174.38E 218km M=4.2
0.6 0.01 0.02 5
Rsd 0.3s 32ph/28stn Dmin 38km Az.gap 81°
Corr. -0.134 17M/14stn Msd 0.4 6↑ 5↓

98/1136
FEB 02 203725.7s 47.55S 165.48E 12km M=4.0
0.5 0.03 0.03 R
Rsd 0.2s 10ph/6stn Dmin 215km Az.gap 321°
Corr. -0.152 8M/5stn Msd 0.2 1↑

98/1140
FEB 02 221639.5s 37.81S 174.29E 12km M=3.7
0.3 0.01 0.03 R
Rsd 0.1s 11ph/8stn Dmin 89km Az.gap 334°
Corr. 0.404 7M/7stn Msd 0.4

98/1143
FEB 02 234122.1s 39.28S 175.11E 27km M=3.9
0.0 0.01 0.01 1
Rsd 0.2s 30ph/26stn Dmin 35km Az.gap 68°
Corr. 0.318 10M/7stn Msd 0.2 3↑ 6↓
Felt Ohakune (49) and Wanganui (57), MM4.

98/1149
FEB 03 022533.8s 47.58S 165.52E 12km M=4.2
0.6 0.04 0.04 R
Rsd 0.2s 10ph/6stn Dmin 213km Az.gap 322°
Corr. -0.024 13M/6stn Msd 0.3

98/1152
FEB 03 030505.4s 47.54S 165.40E 12km M=3.9
0.7 0.04 0.05 R
Rsd 0.3s 10ph/6stn Dmin 220km Az.gap 331°
Corr. -0.182 7M/5stn Msd 0.3

98/1153
FEB 03 033059.3s 47.59S 165.38E 12km M=4.1
0.6 0.04 0.04 R
Rsd 0.2s 11ph/6stn Dmin 223km Az.gap 322°
Corr. -0.076 10M/5stn Msd 0.2

98/1166
FEB 03 100012.6s 36.22S 178.53E 103km M=4.0
0.8 0.14 0.14 31
Rsd 0.2s 10ph/8stn Dmin 154km Az.gap 329°
Corr. -0.807 10M/8stn Msd 0.4

98/1171
FEB 03 131338.7s 36.27S 178.64E 215km M=3.8
0.1 0.04 0.37 3
Rsd 0.0s 5ph/3stn Dmin 150km Az.gap 358°
Corr. -0.946 4M/3stn Msd 0.1

98/1172
FEB 03 132116.4s 45.06S 167.65E 122km M=3.6
0.4 0.02 0.02 3
Rsd 0.2s 13ph/8stn Dmin 48km Az.gap 217°
Corr. -0.074 9M/6stn Msd 0.2 1↓

98/1177
FEB 03 165217.7s 39.92S 176.96E 29km M=4.4
0.2 0.01 0.02 2
Rsd 0.1s 17ph/14stn Dmin 43km Az.gap 182°
Corr. -0.452 12M/7stn Msd 0.4 2↑ 2↓
Felt Napier to Waipawa (60), MM4.

98/1194
FEB 04 114114.5s 43.02S 171.37E 5km M=3.7
0.2 0.01 0.01 R
Rsd 0.3s 13ph/11stn Dmin 69km Az.gap 129°
Corr. -0.469 16M/12stn Msd 0.4 1↓

98/1195
FEB 04 124815.5s 47.60S 165.44E 12km M=4.3
0.6 0.04 0.04 R
Rsd 0.2s 11ph/6stn Dmin 219km Az.gap 322°
Corr. -0.144 8M/5stn Msd 0.1

98/1198
FEB 04 155005.0s 47.56S 165.60E 12km M=3.7
0.6 0.04 0.04 R
Rsd 0.3s 10ph/6stn Dmin 206km Az.gap 321°
Corr. -0.072 8M/6stn Msd 0.3

98/1202
FEB 04 183229.7s 47.65S 165.55E 12km M=4.5
0.8 0.06 0.05 R
Rsd 0.3s 10ph/6stn Dmin 214km Az.gap 323°
Corr. 0.042 14M/8stn Msd 0.2

98/1203
FEB 04 184256.0s 47.58S 165.48E 12km M=4.0
1.2 0.07 0.10 R
Rsd 0.5s 10ph/8stn Dmin 216km Az.gap 321°
Corr. -0.229 7M/5stn Msd 0.2 1↑ 1↓

98/1217
FEB 05 042646.1s 42.93S 171.92E 5km M=3.5
0.1 0.01 0.01 R
Rsd 0.1s 14ph/11stn Dmin 33km Az.gap 123°
Corr. -0.109 24M/17stn Msd 0.2 2↑ 3↓

98/1239
FEB 05 150619.9s 37.50S 176.41E 328km M=3.8
0.2 0.01 0.01 2
Rsd 0.0s 15ph/13stn Dmin 183km Az.gap 270°
Corr. -0.764 9M/9stn Msd 0.2 1↑

98/1256
FEB 05 182315.7s 38.27S 176.54E 86km M=3.6
0.5 0.03 0.01 5
Rsd 0.2s 22ph/20stn Dmin 5km Az.gap 69°
Corr. -0.529 15M/13stn Msd 0.2

98/1265
FEB 06 003611.9s 40.77S 172.03E 5km M=3.6
0.3 0.01 0.02 R
Rsd 0.2s 15ph/12stn Dmin 43km Az.gap 207°
Corr. -0.473 21M/19stn Msd 0.3 1↓

98/1272
FEB 06 045436.1s 47.55S 165.48E 12km M=3.7
0.6 0.04 0.04 R
Rsd 0.2s 10ph/5stn Dmin 215km Az.gap 331°
Corr. -0.074 6M/5stn Msd 0.2

98/1275
FEB 06 064734.3s 47.61S 165.36E 12km M=3.8
0.9 0.06 0.06 R
Rsd 0.3s 10ph/6stn Dmin 226km Az.gap 332°
Corr. -0.089 7M/5stn Msd 0.3

98/1293
FEB 07 005058.9s 37.97S 176.47E 141km M=3.8
0.8 0.04 0.02 9
Rsd 0.3s 10ph/9stn Dmin 104km Az.gap 218°
Corr. -0.771 13M/12stn Msd 0.3 1↑

98/1294
FEB 07 012353.2s 47.54S 165.45E 12km M=3.9
0.7 0.06 0.04 R
Rsd 0.3s 9ph/5stn Dmin 217km Az.gap 331°
Corr. -0.169 8M/5stn Msd 0.3

98/1302
FEB 07 064208.5s 41.03S 174.18E 45km M=3.6
0.1 0.01 0.01 2
Rsd 0.2s 35ph/27stn Dmin 22km Az.gap 40°
Corr. 0.026 11M/8stn Msd 0.2 3↑ 6↓

98/1315
FEB 07 115825.2s 47.57S 165.42E 12km M=4.5
0.5 0.03 0.04 R
Rsd 0.2s 10ph/6stn Dmin 219km Az.gap 330°
Corr. -0.236 9M/5stn Msd 0.3

98/1320
FEB 07 151550.9s 35.46S 177.66E 185km M=3.8
1.5 0.15 0.42 58
Rsd 0.1s 5ph/3stn Dmin 244km Az.gap 330°
Corr. -0.986 3M/3stn Msd 0.3

98/1323
FEB 07 165035.6s 41.32S 172.60E 201km M=3.7
0.4 0.03 0.02 3
Rsd 0.2s 20ph/15stn Dmin 55km Az.gap 119°
Corr. -0.427 11M/10stn Msd 0.3 5↑ 2↓

98/1329
FEB 07 193058.1s 36.70S 176.26E 174km M=3.9
0.9 0.12 0.19 43
Rsd 0.2s 10ph/6stn Dmin 234km Az.gap 277°
Corr. -0.975 12M/10stn Msd 0.2 1↑

98/1339
FEB 07 231012.7s 38.01S 178.00E 33km M=3.6
0.2 0.01 0.02 R
Rsd 0.2s 8ph/7stn Dmin 24km Az.gap 163°
Corr. -0.546 14M/11stn Msd 0.2 1↑

98/1344
FEB 08 024116.0s 44.05S 169.55E 5km M=4.2
0.1 0.01 0.01 R
Rsd 0.1s 15ph/10stn Dmin 43km Az.gap 88°
Corr. 0.652 12M/6stn Msd 0.1 4↑ 2↓

98/1345
FEB 08 040311.0s 39.51S 175.64E 5km M=3.8
0.1 0.01 0.01 R
Rsd 0.4s 34ph/29stn Dmin 26km Az.gap 79°
Corr. -0.082 32M/27stn Msd 0.2 4↑ 3↓
Felt Turahina Rd (50) MM5 and Tangiwai (50). Several aftershocks were felt.

98/1360
FEB 08 112844.3s 39.49S 175.65E 5km M=3.7
0.1 0.01 0.01 R
Rsd 0.3s 32ph/28stn Dmin 24km Az.gap 81°
Corr. 0.222 10M/6stn Msd 0.3 2↑ 2↓
Felt Tangiwai (50). Largest aftershock of event on Feb 08 at 04h 03m.

98/1374
FEB 08 181838.0s 37.10S 177.90E 228km M=3.8
1.0 0.05 0.04 7
Rsd 0.2s 8ph/7stn Dmin 66km Az.gap 268°
Corr. 0.173 5M/4stn Msd 0.2

98/1375
FEB 08 182606.3s 45.07S 170.39E 5km M=5.1
0.2 0.02 0.01 R
Rsd 0.4s 14ph/10stn Dmin 20km Az.gap 128°
Corr. -0.278 22M/13stn Msd 0.3 5↑ 4↓
Felt Christchurch to Dunedin, maximum intensity MM6 at Danseys Pass (125).

98/1381
FEB 08 195737.0s 45.03S 170.40E 5km M=4.2
0.2 0.02 0.01 R
Rsd 0.3s 11ph/8stn Dmin 19km Az.gap 113°
Corr. 0.184 13M/7stn Msd 0.2 2↑ 1↓
Felt Oamaru (127).

98/1387
FEB 08 215541.8s 45.04S 170.44E 12km M=3.9
0.1 0.01 0.00 R
Rsd 0.1s 11ph/7stn Dmin 16km Az.gap 121°
Corr. -0.182 10M/5stn Msd 0.2 1↑ 2↓
Felt Oamaru (127).

98/1397
FEB 09 014117.1s 45.05S 170.37E 5km M=3.4
0.2 0.02 0.01 R
Rsd 0.3s 10ph/5stn Dmin 22km Az.gap 124°
Corr. -0.163 15M/9stn Msd 0.2 2↑ 1↓
Felt Oamaru (127).

98/1408
FEB 09 073525.3s 45.05S 170.39E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.3s 16ph/10stn Dmin 20km Az.gap 121°
Corr. -0.311 9M/6stn Msd 0.2 1↑ 2↓
Felt Oamaru (127).

98/1415
FEB 09 114756.4s 45.10S 170.42E 5km M=4.1
0.2 0.02 0.01 R
Rsd 0.2s 13ph/11stn Dmin 19km Az.gap 144°
Corr. -0.559 13M/7stn Msd 0.2 5↑ 3↓
Felt Oamaru (127).

98/1427
FEB 09 160310.9s 45.04S 170.41E 5km M=3.8
0.2 0.02 0.01 R
Rsd 0.3s 12ph/10stn Dmin 18km Az.gap 120°
Corr. -0.226 8M/4stn Msd 0.1 2↑ 2↓
Felt Oamaru (127).

98/1454
FEB 10 123930.1s 38.74S 176.11E 98km M=4.0
0.2 0.01 0.01 2
Rsd 0.2s 26ph/23stn Dmin 16km Az.gap 59°
Corr. -0.678 8M/4stn Msd 0.1 3↑ 2↓

98/1464
FEB 10 205627.5s 35.32S 177.90E 215km M=4.1
0.7 0.12 0.31 26
Rsd 0.2s 10ph/7stn Dmin 256km Az.gap 330°
Corr. -0.951 7M/6stn Msd 0.2

98/1468
FEB 11 003102.7s 37.92S 175.99E 225km M=4.8
1.0 0.02 0.02 8
Rsd 0.2s 22ph/20stn Dmin 33km Az.gap 118°
Corr. 0.194 8M/4stn Msd 0.2 1↑ 4↓

98/1469
FEB 11 012804.5s 36.45S 177.92E 234km M=4.1
1.6 0.11 0.11 16
Rsd 0.5s 9ph/7stn Dmin 132km Az.gap 296°
Corr. -0.238 14M/10stn Msd 0.3

98/1486
FEB 11 140225.0s 40.67S 176.59E 34km M=3.5
0.4 0.03 0.03 3
Rsd 0.2s 14ph/12stn Dmin 29km Az.gap 214°
Corr. -0.797 14M/10stn Msd 0.3 1↑ 1↓

98/1496
FEB 11 180625.4s 47.58S 165.43E 12km M=3.8
1.0 0.07 0.07 R
Rsd 0.3s 10ph/6stn Dmin 220km Az.gap 331°
Corr. -0.101 6M/5stn Msd 0.1

98/1520
FEB 12 122728.0s 45.04S 170.38E 5km M=3.8
0.1 0.01 0.01 R
Rsd 0.2s 14ph/8stn Dmin 21km Az.gap 119°
Corr. -0.138 10M/6stn Msd 0.2 2↑ 2↓

98/1525
FEB 12 133618.8s 42.84S 173.30E 33km M=4.0
0.2 0.01 0.01 R
Rsd 0.1s 17ph/12stn Dmin 84km Az.gap 168°
Corr. -0.414 11M/6stn Msd 0.2 1↑ 1↓

98/1526
FEB 12 134813.7s 47.65S 165.40E 12km M=3.5
0.6 0.04 0.04 R
Rsd 0.2s 9ph/5stn Dmin 225km Az.gap 333°
Corr. -0.250 6M/5stn Msd 0.3

98/1538
FEB 12 180132.9s 37.70S 176.28E 192km M=3.5
1.6 0.12 0.15 27
Rsd 0.3s 11ph/9stn Dmin 179km Az.gap 241°
Corr. -0.915 7M/7stn Msd 0.2
Poor station coverage.

98/1545
FEB 12 220652.4s 40.47S 176.80E 44km M=3.6
0.7 0.04 0.06 7
Rsd 0.4s 13ph/10stn Dmin 52km Az.gap 238°
Corr. -0.805 13M/9stn Msd 0.2 1↑

98/1548
FEB 12 225221.5s 37.05S 176.58E 356km M=4.4
0.6 0.05 0.05 5
Rsd 0.1s 14ph/11stn Dmin 164km Az.gap 264°
Corr. -0.779 14M/12stn Msd 0.3

98/1549
FEB 12 233232.6s 38.63S 175.36E 284km M=3.6
0.6 0.02 0.04 5
Rsd 0.1s 17ph/15stn Dmin 44km Az.gap 218°
Corr. 0.319 7M/7stn Msd 0.3

98/1562
FEB 13 051624.2s 39.31S 175.18E 129km M=3.5
0.5 0.02 0.01 4
Rsd 0.3s 26ph/23stn Dmin 34km Az.gap 115°
Corr. 0.177 11M/11stn Msd 0.3 1↑ 1↓

98/1563
FEB 13 052610.7s 47.59S 165.37E 12km M=3.6
0.8 0.05 0.07 R
Rsd 0.3s 10ph/6stn Dmin 224km Az.gap 332°
Corr. -0.225 5M/4stn Msd 0.2

98/1568
FEB 13 090158.5s 37.89S 176.70E 162km M=4.3
0.6 0.02 0.02 5
Rsd 0.3s 20ph/19stn Dmin 11km Az.gap 101°
Corr. -0.369 17M/13stn Msd 0.3 2↑ 5↓

98/1570
FEB 13 093549.1s 38.51S 175.85E 179km M=3.6
0.3 0.01 0.02 2
Rsd 0.1s 15ph/12stn Dmin 61km Az.gap 292°
Corr. 0.347 8M/8stn Msd 0.2 1↑

98/1588
FEB 14 013601.2s 39.92S 174.48E 113km M=4.8
0.3 0.01 0.01 4
Rsd 0.2s 34ph/31stn Dmin 41km Az.gap 85°
Corr. -0.070 14M/9stn Msd 0.2 8↑ 13↓
Felt Wanganui (57) to Wellington (68), MM4.

98/1592
FEB 14 071519.4s 39.44S 174.77E 166km M=4.5
0.5 0.03 0.02 4
Rsd 0.3s 25ph/20stn Dmin 37km Az.gap 64°
Corr. 0.088 12M/7stn Msd 0.2 5↑ 6↓

98/1593
FEB 14 073309.7s 42.48S 172.88E 5km M=3.9
0.3 0.01 0.03 R
Rsd 0.4s 10ph/6stn Dmin 61km Az.gap 139°
Corr. -0.214 11M/6stn Msd 0.3 1↓

98/1594
FEB 14 081154.3s 38.09S 176.22E 201km M=3.8
1.3 0.06 0.07 12
Rsd 0.4s 13ph/10stn Dmin 118km Az.gap 220°
Corr. -0.670 7M/5stn Msd 0.2 1↑

98/1596
FEB 14 153334.8s 38.51S 176.11E 133km M=4.0
0.4 0.01 0.01 4
Rsd 0.2s 24ph/21stn Dmin 19km Az.gap 101°
Corr. -0.317 7M/6stn Msd 0.4 1↑

98/1609
FEB 15 033700.7s 45.43S 167.38E 147km M=3.7
0.3 0.02 0.02 2
Rsd 0.2s 11ph/7stn Dmin 62km Az.gap 247°
Corr. 0.134 6M/5stn Msd 0.5 1↑

98/1612
FEB 15 051348.1s 37.88S 176.90E 145km M=4.4
0.3 0.02 0.02 3
Rsd 0.2s 22ph/20stn Dmin 23km Az.gap 88°
Corr. -0.246 11M/7stn Msd 0.2 5↑ 4↓

98/1625
FEB 15 133256.5s 37.82S 178.31E 75km M=3.8
0.6 0.02 0.03 5
Rsd 0.1s 18ph/14stn Dmin 24km Az.gap 197°
Corr. 0.699 7M/6stn Msd 0.3 1↓

98/1626
FEB 15 151919.5s 37.98S 176.34E 220km M=3.8
0.6 0.03 0.03 6
Rsd 0.2s 12ph/9stn Dmin 134km Az.gap 226°
Corr. -0.671 7M/6stn Msd 0.3

98/1627
FEB 15 162656.1s 40.95S 174.31E 80km M=4.1
0.2 0.01 0.01 3
Rsd 0.1s 28ph/22stn Dmin 53km Az.gap 73°
Corr. -0.186 9M/4stn Msd 0.2 1↓
Felt Raumati (65) to Fighting Bay (78). MM4.

98/1634
FEB 16 004517.8s 37.80S 176.39E 258km M=4.0
0.9 0.05 0.06 9
Rsd 0.3s 13ph/10stn Dmin 163km Az.gap 259°
Corr. -0.652 9M/8stn Msd 0.2

98/1638
FEB 16 025231.8s 40.42S 179.02E 12km M=3.6
1.8 0.09 0.13 R
Rsd 0.7s 12ph/8stn Dmin 217km Az.gap 256°
Corr. -0.794 9M/8stn Msd 0.2

98/1640
FEB 16 042603.3s 38.54S 178.01E 50km M=3.7
0.3 0.01 0.01 5
Rsd 0.2s 15ph/12stn Dmin 9km Az.gap 150°
Corr. -0.275 11M/9stn Msd 0.3

98/1641
FEB 16 043904.7s 38.12S 176.31E 155km M=4.0
0.3 0.01 0.01 4
Rsd 0.2s 19ph/18stn Dmin 12km Az.gap 105°
Corr. 0.022 12M/10stn Msd 0.2 1↑

98/1644
FEB 16 071649.5s 39.51S 175.58E 5km M=4.9
0.1 0.01 0.01 R
Rsd 0.3s 35ph/31stn Dmin 26km Az.gap 58°
Corr. -0.080 21M/12stn Msd 0.2 9↑ 5↓
Felt Kakahi (39) to Sanson (61), maximum intensity MM4.

98/1659
FEB 16 115126.6s 47.73S 165.72E 12km M=3.7
1.8 0.12 0.11 R
Rsd 0.6s 10ph/7stn Dmin 206km Az.gap 324°
Corr. 0.216 6M/5stn Msd 0.2

98/1677
FEB 16 202204.8s 41.01S 173.96E 80km M=3.8
0.4 0.02 0.01 6
Rsd 0.3s 36ph/27stn Dmin 51km Az.gap 78°
Corr. -0.135 8M/4stn Msd 0.2 2↑ 4↓

98/1683
FEB 17 025300.0s 44.63S 168.43E 12km M=4.3
0.2 0.02 0.01 R
Rsd 0.3s 16ph/11stn Dmin 40km Az.gap 131°
Corr. 0.236 13M/7stn Msd 0.2 2↑ 1↓
Felt Mt Aspiring Stn (113) MM4.

98/1692
FEB 17 055224.2s 44.61S 168.40E 12km M=3.7
0.2 0.01 0.01 R
Rsd 0.2s 16ph/11stn Dmin 39km Az.gap 137°
Corr. -0.233 10M/5stn Msd 0.2
Felt Mt Aspiring (113) MM4.

98/1706
FEB 17 160543.2s 37.91S 176.08E 278km M=4.0
0.6 0.04 0.04 6
Rsd 0.3s 15ph/11stn Dmin 130km Az.gap 202°
Corr. -0.549 10M/10stn Msd 0.3

98/1709
FEB 17 162105.5s 44.34S 168.11E 5km M=3.9
0.3 0.02 0.02 R
Rsd 0.2s 14ph/10stn Dmin 40km Az.gap 213°
Corr. -0.781 13M/7stn Msd 0.3 1↑

98/1726
FEB 18 023940.6s 41.19S 172.53E 178km M=3.6
0.8 0.05 0.09 5
Rsd 0.3s 6ph/4stn Dmin 71km Az.gap 285°
Corr. 0.439 1M/1stn Msd 0.0 1↓

98/1753
FEB 18 233314.9s 37.33S 177.68E 80km M=3.7
0.5 0.05 0.02 7
Rsd 0.2s 6ph/3stn Dmin 97km Az.gap 303°
Corr. -0.208 4M/3stn Msd 0.4

98/1754
FEB 19 002754.8s 38.40S 175.81E 174km M=4.2
0.5 0.03 0.01 4
Rsd 0.2s 22ph/19stn Dmin 60km Az.gap 167°
Corr. -0.218 15M/11stn Msd 0.3 5↑ 1↓

98/1757
FEB 19 013209.6s 41.26S 175.18E 28km M=4.2
0.1 0.01 0.01 2
Rsd 0.1s 13ph/10stn Dmin 15km Az.gap 187°
Corr. -0.616 10M/6stn Msd 0.1 5↑ 2↓
Felt Wellington (68) and Upper Hutt (69), MM4.

98/1760
FEB 19 033820.0s 39.51S 175.63E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.2s 23ph/20stn Dmin 27km Az.gap 105°
Corr. 0.031 24M/19stn Msd 0.3 3↑ 2↓

98/1774
FEB 19 081311.9s 36.90S 178.14E 12km M=3.7
0.9 0.05 0.05 R
Rsd 0.4s 9ph/7stn Dmin 79km Az.gap 291°
Corr. 0.407 13M/9stn Msd 0.2

98/1775
FEB 19 085452.5s 37.71S 175.79E 183km M=3.7
1.1 0.09 0.14 13
Rsd 0.6s 8ph/5stn Dmin 131km Az.gap 295°
Corr. -0.783 5M/5stn Msd 0.4 1↑
Very poor station coverage.

98/1779
FEB 19 110522.0s 38.90S 175.48E 119km M=3.6
0.5 0.03 0.02 4
Rsd 0.2s 19ph/15stn Dmin 13km Az.gap 169°
Corr. 0.019 9M/8stn Msd 0.3 3↑ 3↓

98/1792
FEB 19 173433.8s 36.15S 178.94E 12km M=4.2
0.8 0.05 0.05 R
Rsd 0.2s 10ph/8stn Dmin 170km Az.gap 323°
Corr. -0.011 15M/13stn Msd 0.3 1↓

98/1799
FEB 20 051346.7s 37.45S 179.29E 12km M=3.6
0.8 0.05 0.05 R
Rsd 0.3s 5ph/3stn Dmin 89km Az.gap 333°
Corr. -0.319 6M/4stn Msd 0.2 1↑

98/1817
FEB 20 205334.6s 37.67S 176.88E 139km M=4.8
0.3 0.02 0.01 3
Rsd 0.2s 25ph/23stn Dmin 32km Az.gap 121°
Corr. -0.052 8M/4stn Msd 0.1 6↑ 2↓

98/1818
FEB 20 234353.4s 40.54S 176.91E 12km M=3.6
0.4 0.02 0.03 R
Rsd 0.3s 15ph/13stn Dmin 104km Az.gap 238°
Corr. -0.445 17M/15stn Msd 0.3 1↑ 2↓

98/1819
FEB 21 011122.5s 37.38S 179.24E 12km M=3.6
0.6 0.03 0.04 R
Rsd 0.2s 5ph/3stn Dmin 87km Az.gap 334°
Corr. -0.284 5M/3stn Msd 0.3 1↓

98/1823
FEB 21 051901.8s 39.51S 175.62E 12km M=3.5
0.2 0.01 0.02 R
Rsd 0.4s 21ph/18stn Dmin 27km Az.gap 73°
Corr. -0.229 21M/17stn Msd 0.3 2↑ 1↓

98/1825
FEB 21 064926.9s 38.19S 178.28E 12km M=3.7
0.3 0.01 0.03 R
Rsd 0.3s 9ph/8stn Dmin 13km Az.gap 202°
Corr. -0.515 15M/11stn Msd 0.2 2↑ 1↓

98/1846
FEB 21 172750.5s 38.64S 176.12E 135km M=3.7
0.9 0.05 0.04 7
Rsd 0.4s 12ph/8stn Dmin 65km Az.gap 190°
Corr. -0.521 9M/9stn Msd 0.2 3↑ 2↓

98/1847
FEB 21 174440.8s 40.46S 176.74E 17km M=3.7
0.4 0.02 0.02 3
Rsd 0.2s 20ph/15stn Dmin 91km Az.gap 209°
Corr. -0.722 21M/18stn Msd 0.3 2↑ 1↓

98/1848
FEB 21 182744.4s 38.55S 175.72E 144km M=3.8
0.8 0.07 0.10 10
Rsd 0.5s 18ph/14stn Dmin 126km Az.gap 200°
Corr. -0.928 14M/11stn Msd 0.3 1↑

98/1856
FEB 22 050830.0s 45.12S 170.44E 5km M=3.9
0.2 0.02 0.01 R
Rsd 0.3s 16ph/10stn Dmin 18km Az.gap 150°
Corr. -0.563 11M/7stn Msd 0.2 1↑ 1↓

98/1863
FEB 22 071316.9s 45.09S 167.58E 119km M=3.7
0.4 0.02 0.03 3
Rsd 0.2s 10ph/6stn Dmin 54km Az.gap 229°
Corr. -0.008 11M/5stn Msd 0.1 1↓

98/1867
FEB 22 092948.9s 37.75S 175.90E 254km M=4.3
0.4 0.05 0.03 3
Rsd 0.1s 11ph/9stn Dmin 120km Az.gap 227°
Corr. -0.713 14M/11stn Msd 0.2 1↓

98/1868
FEB 22 100442.2s 40.80S 176.57E 12km M=3.5
0.3 0.02 0.02 R
Rsd 0.3s 13ph/10stn Dmin 85km Az.gap 215°
Corr. -0.584 14M/12stn Msd 0.2 1↑

98/1882
FEB 22 214939.2s 38.16S 176.49E 75km M=4.7
0.3 0.01 0.01 5
Rsd 0.3s 19ph/17stn Dmin 55km Az.gap 112°
Corr. -0.088 10M/5stn Msd 0.1 2↑ 3↓
Felt Ruatuna Rd (35) MM4.

98/1892
FEB 23 115715.5s 39.78S 174.68E 135km M=3.5
0.3 0.01 0.02 3
Rsd 0.2s 18ph/14stn Dmin 22km Az.gap 78°
Corr. 0.014 8M/8stn Msd 0.2 2↑ 1↓

98/1895
FEB 23 133704.7s 40.75S 173.29E 141km M=3.6
0.3 0.01 0.01 3
Rsd 0.2s 26ph/19stn Dmin 65km Az.gap 115°
Corr. -0.063 10M/9stn Msd 0.2 5↑ 3↓

98/1903
FEB 23 235328.9s 44.40S 168.01E 5km M=4.2
0.5 0.03 0.04 R
Rsd 0.3s 11ph/8stn Dmin 31km Az.gap 213°
Corr. -0.755 14M/8stn Msd 0.3 2↑ 2↓

98/1914
FEB 24 114125.8s 38.18S 175.95E 265km M=3.7
0.9 0.06 0.07 8
Rsd 0.3s 13ph/10stn Dmin 102km Az.gap 231°
Corr. -0.667 8M/8stn Msd 0.2

98/1922
FEB 24 171750.7s 41.92S 174.24E 12km M=5.2
0.3 0.02 0.01 R
Rsd 0.2s 16ph/13stn Dmin 61km Az.gap 162°
Corr. -0.684 32M/17stn Msd 0.4 9↑ 5↓
Felt Raumati (65) to Blenheim (77), MM4.

98/1926
FEB 24 183339.0s 38.51S 175.78E 177km M=4.2
0.5 0.03 0.02 4
Rsd 0.2s 21ph/15stn Dmin 51km Az.gap 90°
Corr. -0.057 18M/12stn Msd 0.2 5↑ 1↓

98/1927
FEB 24 184107.1s 41.91S 174.27E 19km M=4.0
0.4 0.03 0.02 4
Rsd 0.3s 20ph/14stn Dmin 63km Az.gap 162°
Corr. -0.722 16M/9stn Msd 0.2 3↑ 4↓

98/1933
FEB 24 205144.8s 39.91S 177.09E 22km M=3.8
0.4 0.01 0.02 3
Rsd 0.3s 23ph/17stn Dmin 47km Az.gap 190°
Corr. -0.352 28M/22stn Msd 0.3 1↑ 1↓

98/1937
FEB 24 233648.4s 45.02S 170.40E 5km M=3.5
0.1 0.01 0.00 R
Rsd 0.1s 10ph/6stn Dmin 19km Az.gap 113°
Corr. -0.001 12M/6stn Msd 0.4 1↑ 2↓

98/1938
FEB 25 000648.3s 41.92S 174.24E 12km M=4.1
0.3 0.02 0.01 R
Rsd 0.3s 19ph/14stn Dmin 19km Az.gap 170°
Corr. -0.744 13M/8stn Msd 0.1 3↑ 1↓

98/1948
FEB 25 104532.6s 47.58S 165.40E 12km M=3.5
0.7 0.06 0.05 R
Rsd 0.2s 6ph/4stn Dmin 221km Az.gap 337°
Corr. -0.037 5M/4stn Msd 0.3

98/1950
FEB 25 134823.2s 41.86S 174.25E 14km M=3.7
0.3 0.03 0.01 2
Rsd 0.3s 17ph/13stn Dmin 13km Az.gap 159°
Corr. -0.690 12M/7stn Msd 0.2 4↑ 2↓

98/1955
FEB 25 200732.7s 45.06S 167.51E 95km M=4.8
0.3 0.01 0.02 3
Rsd 0.2s 12ph/7stn Dmin 54km Az.gap 231°
Corr. -0.094 11M/6stn Msd 0.3 3↑ 3↓
Felt Manapouri (138) MM4 and Queenstown (132).

98/1956
FEB 25 205710.8s 36.37S 177.70E 254km M=4.4
0.7 0.10 0.13 6
Rsd 0.3s 9ph/7stn Dmin 146km Az.gap 307°
Corr. -0.847 16M/12stn Msd 0.3 1↓

98/1968
FEB 26 062756.3s 37.41S 175.54E 33km M=3.6
0.3 0.02 0.01 R
Rsd 0.1s 8ph/6stn Dmin 168km Az.gap 296°
Corr. -0.456 6M/6stn Msd 0.3

98/1982
FEB 26 215406.7s 41.90S 174.32E 33km M=4.2
0.3 0.03 0.02 R
Rsd 0.3s 18ph/14stn Dmin 78km Az.gap 163°
Corr. -0.749 15M/9stn Msd 0.2 1↑ 1↓

98/1983
FEB 26 230332.8s 39.15S 174.80E 191km M=3.7
0.5 0.07 0.04 9
Rsd 0.2s 11ph/9stn Dmin 180km Az.gap 317°
Corr. -0.603 7M/7stn Msd 0.1 1↑
Very poor station coverage.

98/1985
FEB 26 233201.8s 37.19S 176.67E 251km M=3.8
0.5 0.06 0.05 6
Rsd 0.2s 10ph/8stn Dmin 125km Az.gap 250°
Corr. -0.703 11M/10stn Msd 0.2

98/1995
FEB 27 032516.7s 46.87S 166.18E 33km M=3.7
1.3 0.07 0.09 R
Rsd 0.6s 10ph/8stn Dmin 149km Az.gap 299°
Corr. 0.350 7M/6stn Msd 0.2 1↑

98/2004
FEB 27 092415.6s 45.08S 167.55E 57km M=4.8
0.3 0.01 0.01 5
Rsd 0.1s 12ph/8stn Dmin 54km Az.gap 226°
Corr. -0.306 20M/10stn Msd 0.3 3↑ 3↓
Felt Te Anau (130) MM4 and Mt Aspiring Stn (113).

98/2011
FEB 27 145401.3s 45.40S 167.25E 88km M=3.6
0.5 0.02 0.04 5
Rsd 0.4s 9ph/7stn Dmin 78km Az.gap 236°
Corr. -0.201 9M/6stn Msd 0.4 1↓

98/2013
FEB 27 171136.5s 36.99S 177.89E 133km M=4.0
0.4 0.03 0.02 4
Rsd 0.2s 15ph/12stn Dmin 77km Az.gap 268°
Corr. 0.255 14M/12stn Msd 0.1 1↓

98/2033
FEB 28 105356.1s 43.01S 171.37E 5km M=3.6
0.2 0.01 0.01 R
Rsd 0.1s 13ph/10stn Dmin 52km Az.gap 114°
Corr. -0.251 16M/11stn Msd 0.3 1↑

98/2043
FEB 28 221212.4s 41.87S 174.25E 12km M=4.1
0.3 0.02 0.01 R
Rsd 0.3s 19ph/15stn Dmin 14km Az.gap 160°
Corr. -0.522 14M/8stn Msd 0.2 4↑ 3↓

98/2050
MAR 01 021232.8s 38.11S 176.56E 144km M=3.9
0.4 0.02 0.01 3
Rsd 0.2s 22ph/18stn Dmin 6km Az.gap 102°
Corr. -0.362 21M/15stn Msd 0.2 1↑

98/2063
MAR 01 123011.1s 39.20S 174.79E 25km M=3.6
0.0 0.01 0.00 1
Rsd 0.2s 35ph/29stn Dmin 35km Az.gap 91°
Corr. -0.180 10M/6stn Msd 0.1 5↑ 6↓
Felt Kakahi (39) MM3.

98/2068
MAR 01 142605.3s 45.12S 167.47E 87km M=3.6
0.3 0.01 0.02 3
Rsd 0.2s 11ph/7stn Dmin 61km Az.gap 231°
Corr. -0.136 7M/7stn Msd 0.2 1↑ 2↓

98/2095
MAR 02 034852.2s 38.19S 176.20E 149km M=3.8
0.5 0.02 0.02 4
Rsd 0.2s 11ph/9stn Dmin 80km Az.gap 234°
Corr. -0.409 15M/14stn Msd 0.2 1↑

98/2114
MAR 02 124625.7s 35.77S 178.56E 257km M=3.7
1.3 0.18 0.21 16
Rsd 0.4s 7ph/4stn Dmin 204km Az.gap 341°
Corr. -0.664 5M/4stn Msd 0.4

98/2121
MAR 02 172806.9s 45.27S 166.91E 5km M=3.7
1.1 0.02 0.08 R
Rsd 0.4s 10ph/8stn Dmin 104km Az.gap 253°
Corr. -0.032 14M/10stn Msd 0.2 1↓

98/2131
MAR 02 214650.6s 41.29S 173.35E 105km M=3.8
0.4 0.02 0.01 4
Rsd 0.3s 24ph/20stn Dmin 44km Az.gap 67°
Corr. 0.016 18M/13stn Msd 0.2 6↑ 6↓

98/2141
MAR 03 084754.8s 40.19S 173.67E 151km M=4.0
0.4 0.01 0.02 4
Rsd 0.3s 32ph/27stn Dmin 71km Az.gap 137°
Corr. -0.004 22M/19stn Msd 0.3 12↑ 4↓

98/2143
MAR 03 114754.8s 36.81S 177.58E 189km M=4.2
0.8 0.07 0.04 8
Rsd 0.3s 10ph/8stn Dmin 109km Az.gap 268°
Corr. 0.120 25M/20stn Msd 0.3

98/2147
MAR 03 132041.9s 37.85S 179.27E 22km M=3.6
1.3 0.06 0.07 10
Rsd 0.6s 9ph/5stn Dmin 90km Az.gap 296°
Corr. -0.282 10M/8stn Msd 0.2 1↓

98/2161
MAR 03 184526.2s 37.23S 176.55E 201km M=4.0
0.6 0.06 0.06 5
Rsd 0.3s 9ph/7stn Dmin 125km Az.gap 256°
Corr. -0.796 17M/15stn Msd 0.2

98/2171
MAR 04 013539.2s 35.69S 179.54E 292km M=4.6
0.6 0.12 0.07 11
Rsd 0.2s 12ph/8stn Dmin 288km Az.gap 330°
Corr. -0.195 19M/14stn Msd 0.3

98/2190
MAR 04 155129.9s 36.90S 177.20E 206km M=3.6
0.3 0.03 0.03 2
Rsd 0.1s 7ph/5stn Dmin 152km Az.gap 321°
Corr. -0.583 5M/5stn Msd 0.1
Poor station coverage.

98/2196
MAR 04 194630.3s 42.67S 172.80E 33km M=3.7
0.2 0.01 0.01 R
Rsd 0.2s 22ph/17stn Dmin 45km Az.gap 120°
Corr. -0.392 12M/6stn Msd 0.3 2↑ 2↓

98/2202
MAR 04 224633.9s 36.63S 177.87E 12km M=3.6
0.7 0.04 0.03 R
Rsd 0.3s 8ph/4stn Dmin 115km Az.gap 302°
Corr. 0.318 5M/5stn Msd 0.6

98/2205
MAR 05 024628.1s 38.16S 176.50E 146km M=3.6
1.1 0.05 0.04 8
Rsd 0.3s 9ph/7stn Dmin 8km Az.gap 223°
Corr. -0.156 10M/10stn Msd 0.2 1↑

98/2206
MAR 05 060347.4s 40.45S 173.32E 225km M=3.6
1.7 0.10 0.05 14
Rsd 0.3s 11ph/10stn Dmin 64km Az.gap 219°
Corr. 0.089 9M/8stn Msd 0.4 1↑

98/2209
MAR 05 094144.3s 41.34S 173.24E 92km M=3.7
0.3 0.02 0.01 4
Rsd 0.3s 21ph/18stn Dmin 51km Az.gap 64°
Corr. -0.131 12M/12stn Msd 0.4 2↑ 6↓

98/2230
MAR 06 041532.2s 37.81S 175.67E 287km M=3.7
0.5 0.12 0.27 15
Rsd 0.1s 11ph/9stn Dmin 136km Az.gap 271°
Corr. -0.988 11M/10stn Msd 0.3

98/2235
MAR 06 105353.9s 35.73S 178.72E 245km M=4.1
1.0 0.11 0.09 14
Rsd 0.3s 10ph/8stn Dmin 211km Az.gap 320°
Corr. -0.175 18M/17stn Msd 0.3

98/2246
MAR 07 060808.8s 37.13S 176.72E 265km M=3.9
1.1 0.11 0.14 11
Rsd 0.5s 9ph/7stn Dmin 130km Az.gap 267°
Corr. -0.798 7M/6stn Msd 0.3

98/2268
MAR 08 055240.0s 39.52S 174.33E 209km M=3.9
0.5 0.02 0.04 4
Rsd 0.3s 24ph/17stn Dmin 60km Az.gap 154°
Corr. -0.130 20M/18stn Msd 0.3 2↑ 1↓

98/2272
MAR 08 090618.6s 38.04S 176.04E 166km M=4.1
0.6 0.04 0.04 5
Rsd 0.3s 10ph/7stn Dmin 97km Az.gap 227°
Corr. -0.508 21M/19stn Msd 0.3 1↑

98/2274
MAR 08 111728.3s 37.14S 177.52E 134km M=5.0
0.5 0.03 0.02 5
Rsd 0.2s 16ph/13stn Dmin 52km Az.gap 242°
Corr. 0.148 12M/6stn Msd 0.3 2↑ 2↓

98/2283
MAR 08 164356.8s 38.01S 175.43E 177km M=4.0
0.7 0.06 0.07 11
Rsd 0.4s 16ph/14stn Dmin 150km Az.gap 243°
Corr. -0.673 16M/16stn Msd 0.3 1↑

98/2293
MAR 09 025534.8s 40.23S 174.33E 93km M=3.6
0.2 0.01 0.01 3
Rsd 0.2s 30ph/25stn Dmin 70km Az.gap 95°
Corr. -0.047 19M/15stn Msd 0.4 1↑ 2↓

98/2314
MAR 09 134129.1s 38.50S 175.89E 149km M=3.8
0.6 0.02 0.02 5
Rsd 0.3s 18ph/15stn Dmin 47km Az.gap 97°
Corr. -0.062 18M/14stn Msd 0.3 1↑ 1↓

98/2315
MAR 09 134153.1s 45.04S 170.48E 13km M=4.2
0.2 0.02 0.02 3
Rsd 0.3s 11ph/9stn Dmin 13km Az.gap 121°
Corr. -0.289 15M/8stn Msd 0.2 3↑ 3↓
Felt Oamaru (127).

98/2333
MAR 10 045332.7s 36.82S 176.67E 289km M=4.1
0.6 0.07 0.07 6
Rsd 0.2s 10ph/8stn Dmin 165km Az.gap 273°
Corr. -0.721 16M/13stn Msd 0.3

98/2336
MAR 10 081300.0s 39.68S 174.24E 204km M=4.2
0.4 0.01 0.02 4
Rsd 0.3s 42ph/34stn Dmin 41km Az.gap 103°
Corr. -0.053 26M/21stn Msd 0.3 1↑ 2↓

98/2347
MAR 10 173223.7s 39.66S 174.43E 213km M=3.7
0.3 0.01 0.03 3
Rsd 0.2s 28ph/23stn Dmin 46km Az.gap 182°
Corr. -0.572 17M/16stn Msd 0.3 1↑

98/2352
MAR 10 231910.1s 48.24S 165.14E 33km M=3.7
0.4 0.04 0.03 R
Rsd 0.2s 8ph/4stn Dmin 272km Az.gap 340°
Corr. -0.464 4M/4stn Msd 0.2

98/2361
MAR 11 072031.0s 37.17S 176.70E 253km M=3.7
1.2 0.13 0.12 10
Rsd 0.5s 9ph/7stn Dmin 126km Az.gap 279°
Corr. -0.810 6M/5stn Msd 0.3 1↑ 1↓

98/2363
MAR 11 083757.7s 37.13S 177.13E 12km M=3.9
0.9 0.06 0.04 R
Rsd 0.6s 7ph/4stn Dmin 116km Az.gap 237°
Corr. -0.292 8M/4stn Msd 0.4

98/2365
MAR 11 102256.0s 37.08S 176.85E 285km M=4.0
0.6 0.06 0.06 5
Rsd 0.2s 10ph/8stn Dmin 133km Az.gap 285°
Corr. -0.691 6M/5stn Msd 0.3

98/2371
MAR 11 151955.5s 38.56S 176.04E 190km M=3.6
1.2 0.06 0.07 10
Rsd 0.4s 12ph/9stn Dmin 78km Az.gap 219°
Corr. -0.524 7M/7stn Msd 0.3 1↑ 1↓

98/2372
MAR 11 155139.1s 42.42S 173.30E 33km M=3.8
0.3 0.02 0.02 R
Rsd 0.3s 17ph/15stn Dmin 20km Az.gap 109°
Corr. -0.180 8M/6stn Msd 0.2 3↑ 5↓

98/2404
MAR 12 102032.0s 44.31S 167.97E 5km M=4.2
0.6 0.03 0.04 R
Rsd 0.2s 11ph/9stn Dmin 41km Az.gap 222°
Corr. -0.772 11M/6stn Msd 0.1 1↑
Felt Hollyford Valley (121).

98/2406
MAR 12 123625.1s 45.13S 167.55E 118km M=3.7
0.6 0.03 0.04 6
Rsd 0.4s 10ph/7stn Dmin 55km Az.gap 224°
Corr. -0.018 7M/7stn Msd 0.2

98/2436
MAR 13 172409.2s 41.92S 173.44E 16km M=4.3
0.2 0.02 0.01 2
Rsd 0.3s 22ph/18stn Dmin 43km Az.gap 98°
Corr. -0.145 17M/9stn Msd 0.2 3↑ 5↓

98/2452
MAR 14 034127.8s 37.94S 175.85E 191km M=3.6
1.0 0.07 0.08 8
Rsd 0.3s 13ph/11stn Dmin 116km Az.gap 261°
Corr. -0.785 13M/13stn Msd 0.2 1↑
Poor station coverage.

98/2455
MAR 14 071627.9s 44.37S 169.57E 12km M=3.6
0.3 0.02 0.02 R
Rsd 0.5s 13ph/8stn Dmin 31km Az.gap 87°
Corr. -0.222 16M/10stn Msd 0.3 1↑

98/2470
MAR 14 180512.0s 44.25S 169.68E 5km M=3.5
0.2 0.01 0.02 R
Rsd 0.3s 10ph/8stn Dmin 35km Az.gap 80°
Corr. 0.335 12M/10stn Msd 0.2 1↑

98/2472
MAR 14 201514.0s 40.31S 174.59E 5km M=3.5
0.1 0.01 0.01 R
Rsd 0.3s 32ph/25stn Dmin 67km Az.gap 81°
Corr. 0.157 8M/5stn Msd 0.2 2↑ 2↓

98/2478
MAR 15 041830.1s 38.48S 175.91E 135km M=3.6
1.1 0.07 0.07 9
Rsd 0.4s 13ph/10stn Dmin 86km Az.gap 229°
Corr. -0.801 13M/11stn Msd 0.3 1↑

98/2479
MAR 15 053324.3s 36.98S 175.77E 217km M=3.9
1.1 0.12 0.18 20
Rsd 0.3s 10ph/8stn Dmin 185km Az.gap 303°
Corr. -0.766 5M/5stn Msd 0.2
Very poor station coverage.

98/2480
MAR 15 070756.6s 37.42S 177.61E 92km M=3.5
0.3 0.02 0.01 3
Rsd 0.2s 9ph/7stn Dmin 64km Az.gap 213°
Corr. 0.003 8M/7stn Msd 0.2 1↓

98/2499
MAR 15 220536.6s 38.82S 175.20E 218km M=4.5
0.3 0.02 0.01 3
Rsd 0.2s 33ph/27stn Dmin 30km Az.gap 68°
Corr. -0.263 23M/19stn Msd 0.3 2↑ 4↓

98/2511
MAR 16 073139.2s 38.58S 175.90E 158km M=3.6
1.4 0.07 0.08 13
Rsd 0.5s 15ph/12stn Dmin 75km Az.gap 218°
Corr. -0.724 14M/11stn Msd 0.3

98/2515
MAR 16 094505.7s 37.02S 177.47E 152km M=3.5
0.6 0.05 0.04 6
Rsd 0.3s 8ph/5stn Dmin 98km Az.gap 281°
Corr. -0.580 11M/10stn Msd 0.2

98/2539
MAR 16 213403.0s 45.50S 167.14E 67km M=3.5
0.3 0.01 0.02 5
Rsd 0.2s 10ph/6stn Dmin 83km Az.gap 240°
Corr. -0.235 10M/7stn Msd 0.2

98/2545
MAR 17 030852.4s 42.50S 173.83E 9km M=3.7
0.3 0.01 0.01 2
Rsd 0.2s 20ph/14stn Dmin 25km Az.gap 171°
Corr. -0.468 25M/19stn Msd 0.3 2↑ 3↓

98/2552
MAR 17 104537.3s 38.25S 176.27E 12km M=3.7
0.2 0.01 0.01 R
Rsd 0.4s 21ph/18stn Dmin 10km Az.gap 58°
Corr. -0.091 9M/5stn Msd 0.5 5↑ 1↓
Felt Ngakuru (33) MM4.

98/2583
MAR 18 020134.3s 38.84S 175.17E 221km M=3.6
0.5 0.01 0.06 4
Rsd 0.1s 14ph/12stn Dmin 37km Az.gap 254°
Corr. -0.180 8M/8stn Msd 0.3

98/2614
MAR 18 110318.6s 38.16S 175.88E 179km M=3.9
1.0 0.06 0.04 7
Rsd 0.3s 13ph/12stn Dmin 98km Az.gap 212°
Corr. -0.603 20M/17stn Msd 0.3 3↑ 1↓

98/2639
MAR 19 102857.3s 40.83S 173.85E 101km M=3.9
0.3 0.01 0.01 4
Rsd 0.3s 35ph/29stn Dmin 6km Az.gap 90°
Corr. 0.127 8M/4stn Msd 0.2 9↑ 5↓

98/2655
MAR 19 190420.5s 45.20S 167.43E 93km M=3.8
0.3 0.01 0.02 2
Rsd 0.2s 13ph/8stn Dmin 60km Az.gap 230°
Corr. 0.015 9M/5stn Msd 0.2 2↑ 4↓

98/2663
MAR 20 062257.4s 38.59S 175.81E 141km M=4.0
0.4 0.02 0.02 4
Rsd 0.1s 13ph/11stn Dmin 41km Az.gap 196°
Corr. -0.761 19M/18stn Msd 0.3 3↑ 2↓

98/2672
MAR 20 140440.1s 45.02S 167.57E 76km M=3.6
0.3 0.01 0.02 3
Rsd 0.2s 11ph/8stn Dmin 48km Az.gap 229°
Corr. -0.124 8M/5stn Msd 0.1 1↓

98/2684
MAR 20 215041.6s 38.18S 176.17E 169km M=3.7
0.5 0.04 0.03 4
Rsd 0.2s 10ph/9stn Dmin 83km Az.gap 221°
Corr. -0.711 14M/12stn Msd 0.3

98/2689
MAR 21 012808.7s 37.91S 176.52E 164km M=4.5
0.5 0.03 0.02 4
Rsd 0.3s 27ph/23stn Dmin 16km Az.gap 163°
Corr. -0.201 10M/5stn Msd 0.2 4↑ 2↓

98/2708
MAR 21 163359.2s 38.85S 175.54E 166km M=3.6
0.7 0.04 0.06 9
Rsd 0.3s 14ph/12stn Dmin 118km Az.gap 213°
Corr. -0.796 14M/13stn Msd 0.3

98/2713
MAR 21 192826.2s 35.98S 178.01E 186km M=4.4
0.2 0.02 0.02 3
Rsd 0.1s 13ph/11stn Dmin 182km Az.gap 319°
Corr. -0.457 21M/17stn Msd 0.3

98/2724
MAR 22 004517.8s 35.78S 179.42E 12km M=3.7
0.3 0.03 0.04 R
Rsd 0.1s 5ph/3stn Dmin 225km Az.gap 346°
Corr. -0.644 4M/3stn Msd 0.6

98/2729
MAR 22 020710.2s 37.86S 176.58E 146km M=3.6
0.5 0.05 0.03 5
Rsd 0.3s 12ph/10stn Dmin 64km Az.gap 230°
Corr. -0.791 9M/8stn Msd 0.3 1↑

98/2735
MAR 22 061734.3s 39.13S 175.74E 87km M=4.2
0.2 0.01 0.01 2
Rsd 0.3s 38ph/35stn Dmin 9km Az.gap 40°
Corr. -0.395 10M/5stn Msd 0.1 16↑ 7↓

98/2744
MAR 22 131756.2s 45.21S 167.00E 5km M=4.8
0.3 0.01 0.02 R
Rsd 0.1s 12ph/8stn Dmin 93km Az.gap 248°
Corr. -0.085 21M/11stn Msd 0.1 1↓
Felt Te Anau (120) and Manapouri (138,139), MM4.

98/2745
MAR 22 132023.4s 45.24S 167.03E 5km M=3.0
0.3 0.01 0.02 R
Rsd 0.2s 8ph/5stn Dmin 90km Az.gap 273°
Corr. 0.100 6M/6stn Msd 0.1
Felt West Arm Manapouri (138).

98/2751
MAR 22 155309.4s 37.39S 177.39E 136km M=3.5
0.2 0.02 0.01 3
Rsd 0.1s 9ph/5stn Dmin 83km Az.gap 258°
Corr. -0.723 6M/4stn Msd 0.2 1↑ 1↓

98/2754
MAR 22 163459.1s 41.36S 174.67E 20km M=3.4
0.1 0.01 0.01 2
Rsd 0.3s 21ph/18stn Dmin 11km Az.gap 103°
Corr. -0.442 24M/19stn Msd 0.2 3↑ 7↓
Felt Wellington (68).

98/2777
MAR 23 145458.7s 38.50S 175.80E 164km M=4.0
0.6 0.04 0.02 5
Rsd 0.3s 20ph/17stn Dmin 60km Az.gap 183°
Corr. -0.192 22M/19stn Msd 0.3 1↑

98/2792
MAR 23 235532.7s 37.88S 176.46E 157km M=4.2
0.5 0.03 0.02 4
Rsd 0.2s 21ph/18stn Dmin 22km Az.gap 196°
Corr. -0.279 27M/20stn Msd 0.2 1↑

98/2853
MAR 24 185537.1s 38.28S 176.26E 5km M=3.3
0.1 0.01 0.01 R
Rsd 0.2s 13ph/10stn Dmin 11km Az.gap 111°
Corr. 0.114 13M/11stn Msd 0.3 1↑ 1↓
Felt Ngakuru (33) MM4.

98/2923
MAR 25 001720.5s 38.29S 176.25E 5km M=3.3
0.1 0.00 0.00 R
Rsd 0.1s 9ph/8stn Dmin 10km Az.gap 90°
Corr. -0.024 10M/10stn Msd 0.3 1↑
Felt Ngakuru and Rotorua (33), MM4.

98/2928
MAR 25 002144.9s 38.21S 176.23E 5km M=4.1
0.2 0.01 0.01 R
Rsd 0.3s 23ph/20stn Dmin 49km Az.gap 107°
Corr. 0.097 9M/5stn Msd 0.3 1↑ 1↓
Felt Ngakuru (33) MM5, Reporoa and Rotorua (33).

98/2948
MAR 25 004633.0s 38.25S 176.27E 5km M=3.5
0.1 0.01 0.01 R
Rsd 0.3s 20ph/16stn Dmin 11km Az.gap 62°
Corr. -0.041 20M/14stn Msd 0.3
Felt Ngakuru and Rotorua (33), MM4.

98/2969
MAR 25 010842.0s 38.26S 176.26E 5km M=3.9
0.1 0.01 0.01 R
Rsd 0.4s 20ph/17stn Dmin 10km Az.gap 86°
Corr. -0.241 9M/5stn Msd 0.2
Felt Rotorua (33) MM4.

98/2971
MAR 25 011156.6s 38.25S 176.24E 5km M=4.1
0.1 0.01 0.01 R
Rsd 0.2s 25ph/23stn Dmin 9km Az.gap 53°
Corr. -0.141 9M/5stn Msd 0.3 1↑
Felt Ngakuru (33) MM4.

98/2972
MAR 25 011338.7s 38.29S 176.27E 5km M=2.9
0.1 0.01 0.01 R
Rsd 0.2s 12ph/10stn Dmin 10km Az.gap 72°
Corr. 0.076 7M/7stn Msd 0.2
Felt Ngakuru and Reporoa (33) MM4.

98/3001
MAR 25 020049.5s 38.25S 176.27E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.4s 16ph/13stn Dmin 11km Az.gap 60°
Corr. -0.196 9M/5stn Msd 0.2 1↑ 1↓
Felt Rotorua (33) MM4 and Ngakuru (33).

98/3002
MAR 25 020243.2s 38.25S 176.27E 5km M=4.4
0.1 0.01 0.01 R
Rsd 0.2s 21ph/18stn Dmin 11km Az.gap 57°
Corr. 0.233 13M/7stn Msd 0.2 3↑ 2↓
Felt Rotorua (33) MM5 and Ngakuru (33).

98/3030
MAR 25 023245.2s 38.24S 176.28E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.3s 19ph/15stn Dmin 10km Az.gap 70°
Corr. -0.053 9M/5stn Msd 0.3
Felt Ngakuru and Rotorua (33) MM3.

98/3035
MAR 25 023725.6s 38.27S 176.27E 5km M=3.3
0.1 0.01 0.01 R
Rsd 0.2s 18ph/13stn Dmin 12km Az.gap 52°
Corr. -0.039 16M/15stn Msd 0.3 1↑
Felt Ngakuru (33) MM3.

98/3067
MAR 25 031843.6s 38.30S 176.22E 5km M=3.2
0.1 0.01 0.01 R
Rsd 0.1s 10ph/7stn Dmin 14km Az.gap 117°
Corr. 0.327 8M/5stn Msd 0.2
Felt Ngakuru (33) MM3.

98/3068
MAR 25 032157.3s 38.34S 176.22E 5km M=3.0
0.1 0.01 0.01 R
Rsd 0.2s 9ph/7stn Dmin 6km Az.gap 174°
Corr. 0.503 7M/6stn Msd 0.3
Felt Ngakuru (33) MM3.

98/3077
MAR 25 033303.5s 38.26S 176.27E 5km M=3.0
0.1 0.01 0.01 R
Rsd 0.3s 13ph/11stn Dmin 12km Az.gap 95°
Corr. 0.105 9M/9stn Msd 0.3 1↑
Felt Ruatuna Rd (35) MM4.

98/3079
MAR 25 033330.7s 38.39S 177.13E 37km M=3.6
0.1 0.02 0.01 2
Rsd 0.2s 12ph/10stn Dmin 14km Az.gap 116°
Corr. -0.616 11M/9stn Msd 0.4

98/3084
MAR 25 033754.7s 38.31S 176.22E 5km M=3.2
0.1 0.01 0.01 R
Rsd 0.2s 15ph/11stn Dmin 9km Az.gap 73°
Corr. -0.043 15M/13stn Msd 0.2
Felt Ngakuru (33) MM4.

98/3086
MAR 25 034041.5s 38.34S 176.20E 5km M=2.3
0.2 0.01 0.01 R
Rsd 0.2s 7ph/4stn Dmin 7km Az.gap 185°
Corr. 0.666 4M/4stn Msd 0.4 1↑
Felt Ngakuru (33) MM3.

98/3134
MAR 25 050642.6s 38.30S 176.23E 5km M=3.3
0.1 0.01 0.01 R
Rsd 0.2s 15ph/11stn Dmin 14km Az.gap 89°
Corr. -0.255 27M/22stn Msd 0.3
Felt Ngakuru (33) MM3.

98/3143
MAR 25 051437.4s 38.37S 176.23E 5km M=3.4
0.1 0.01 0.01 R
Rsd 0.3s 20ph/15stn Dmin 21km Az.gap 64°
Corr. -0.220 23M/18stn Msd 0.3
Felt Ngakuru (33) MM4.

98/3239
MAR 25 081533.9s 38.36S 176.24E 5km M=2.1
0.1 0.00 0.01 R
Rsd 0.1s 6ph/4stn Dmin 3km Az.gap 206°
Corr. 0.385 4M/4stn Msd 0.1 1↓
Felt Reporoa (33) MM4.

98/3240
MAR 25 081849.3s 38.24S 176.31E 5km M=4.7
0.1 0.01 0.01 R
Rsd 0.3s 24ph/22stn Dmin 12km Az.gap 52°
Corr. -0.405 12M/7stn Msd 0.3 1↑
Felt Reporoa (33) MM4.

98/3241
MAR 25 082018.3s 38.27S 176.28E 5km M=3.2
0.1 0.00 0.00 R
Rsd 0.1s 15ph/12stn Dmin 13km Az.gap 57°
Corr. -0.196 8M/8stn Msd 0.2 1↑
Felt Ngakuru (33) MM5, Reporoa and Rotorua (33).

98/3245
MAR 25 082237.5s 38.26S 176.31E 5km M=3.4
0.1 0.01 0.00 R
Rsd 0.2s 18ph/15stn Dmin 13km Az.gap 62°
Corr. -0.060 18M/14stn Msd 0.3 1↑ 1↓
Felt Ngakuru and Rotorua (33) MM4.

98/3246
MAR 25 082310.1s 38.31S 176.16E 5km M=3.0
0.2 0.01 0.01 R
Rsd 0.3s 7ph/5stn Dmin 11km Az.gap 183°
Corr. 0.493 7M/7stn Msd 0.3
Felt Rotorua (33) MM4.

98/3261
MAR 25 083357.0s 38.18S 176.33E 5km M=3.5
0.1 0.01 0.01 R
Rsd 0.2s 15ph/11stn Dmin 55km Az.gap 158°
Corr. 0.384 19M/15stn Msd 0.3
Felt Ngakuru and Rotorua (33) MM4.

98/3265
MAR 25 083852.6s 38.25S 176.30E 5km M=3.5
0.1 0.01 0.01 R
Rsd 0.2s 25ph/21stn Dmin 13km Az.gap 53°
Corr. -0.280 8M/5stn Msd 0.3 1↑ 1↓
Felt Reporoa (33) MM4.

98/3268
MAR 25 084042.1s 38.25S 176.29E 5km M=3.2
0.1 0.01 0.01 R
Rsd 0.3s 21ph/15stn Dmin 12km Az.gap 55°
Corr. -0.149 17M/15stn Msd 0.2
Felt Ngakuru (33) MM4.

98/3278
MAR 25 085107.7s 38.23S 176.32E 5km M=3.8
0.1 0.01 0.01 R
Rsd 0.3s 21ph/19stn Dmin 13km Az.gap 52°
Corr. -0.255 8M/4stn Msd 0.3 2↑ 1↓
Felt Rotorua (33) MM4 and Ngakuru (33).

98/3470
MAR 25 143054.2s 37.45S 177.08E 5km M=3.6
0.4 0.03 0.01 R
Rsd 0.3s 13ph/9stn Dmin 13km Az.gap 177°
Corr. -0.265 14M/11stn Msd 0.3

98/3474
MAR 25 143632.4s 37.29S 177.12E 5km M=4.0
0.5 0.03 0.02 R
Rsd 0.5s 14ph/12stn Dmin 27km Az.gap 183°
Corr. 0.234 14M/10stn Msd 0.3 1↓

98/3546
MAR 25 195947.1s 38.35S 176.18E 5km M=2.5
0.2 0.02 0.01 R
Rsd 0.3s 6ph/5stn Dmin 8km Az.gap 204°
Corr. 0.672 5M/5stn Msd 0.3 1↓
Felt Reporoa (33) MM4.

98/3547
MAR 25 200525.5s 38.28S 176.25E 5km M=3.4
0.1 0.01 0.01 R
Rsd 0.4s 20ph/16stn Dmin 12km Az.gap 88°
Corr. -0.117 24M/19stn Msd 0.3 4↑ 1↓
Felt Ngakuru (33) MM4.

98/3550
MAR 25 202146.2s 37.31S 177.10E 5km M=3.9
0.2 0.02 0.01 R
Rsd 0.2s 12ph/10stn Dmin 25km Az.gap 181°
Corr. 0.147 18M/13stn Msd 0.3

98/3608
MAR 26 021522.4s 38.22S 176.31E 5km M=3.8
0.1 0.01 0.01 R
Rsd 0.3s 23ph/18stn Dmin 11km Az.gap 73°
Corr. -0.181 11M/6stn Msd 0.3
Felt Rotorua (33) MM4 and Ngakuru (33).

98/3626
MAR 26 024423.6s 45.35S 166.99E 12km M=4.6
0.3 0.01 0.02 R
Rsd 0.1s 13ph/8stn Dmin 92km Az.gap 275°
Corr. 0.144 16M/8stn Msd 0.2 1↓

98/3656
MAR 26 060250.3s 38.99S 176.74E 52km M=3.6
0.2 0.01 0.01 3
Rsd 0.2s 23ph/18stn Dmin 31km Az.gap 111°
Corr. -0.431 10M/7stn Msd 0.3 1↑

98/3658
MAR 26 060700.5s 40.42S 173.47E 161km M=3.8
0.4 0.01 0.01 3
Rsd 0.2s 31ph/25stn Dmin 57km Az.gap 135°
Corr. -0.002 15M/15stn Msd 0.3 3↑ 1↓

98/3668
MAR 26 063010.7s 37.12S 179.27E 12km M=3.9
0.7 0.05 0.06 R
Rsd 0.2s 10ph/8stn Dmin 101km Az.gap 328°
Corr. -0.463 16M/13stn Msd 0.2

98/3692
MAR 26 085533.4s 39.52S 174.54E 201km M=3.6
0.6 0.01 0.03 6
Rsd 0.2s 20ph/18stn Dmin 45km Az.gap 187°
Corr. -0.460 11M/10stn Msd 0.3 3↑ 1↓

98/3703
MAR 26 101648.6s 37.74S 176.05E 171km M=3.7
0.5 0.05 0.03 5
Rsd 0.2s 14ph/11stn Dmin 109km Az.gap 238°
Corr. -0.703 21M/19stn Msd 0.4

98/3728
MAR 26 142153.0s 38.22S 176.31E 5km M=4.3
0.1 0.01 0.01 R
Rsd 0.2s 31ph/26stn Dmin 11km Az.gap 54°
Corr. -0.250 13M/7stn Msd 0.3 1↓
Felt Reporoa (33) MM4.

98/3729
MAR 26 142352.4s 38.29S 176.24E 5km M=2.2
0.2 0.02 0.02 R
Rsd 0.3s 8ph/6stn Dmin 10km Az.gap 141°
Corr. 0.476 5M/5stn Msd 0.3
Felt Rotorua (33) MM4.

98/3730
MAR 26 142429.4s 38.28S 176.27E 5km M=2.7
0.1 0.01 0.01 R
Rsd 0.2s 13ph/8stn Dmin 11km Az.gap 123°
Corr. 0.055 7M/7stn Msd 0.4
Felt Rotorua (33) MM4.

98/3735
MAR 26 142729.3s 38.31S 176.27E 5km M=2.5
0.1 0.01 0.01 R
Rsd 0.2s 12ph/7stn Dmin 8km Az.gap 121°
Corr. 0.084 7M/7stn Msd 0.3
Felt Ngakuru (33) MM4.

98/3769
MAR 26 150415.8s 38.28S 176.28E 5km M=3.5
0.1 0.00 0.00 R
Rsd 0.1s 13ph/9stn Dmin 12km Az.gap 120°
Corr. 0.141 30M/24stn Msd 0.3 1↓
Felt Rotorua and Ngakuru (33), MM4.

98/3828
MAR 26 194330.6s 40.37S 176.82E 45km M=3.8
0.2 0.01 0.02 5
Rsd 0.2s 25ph/22stn Dmin 59km Az.gap 191°
Corr. -0.675 20M/16stn Msd 0.2 4↑ 2↓

98/3839
MAR 26 214758.9s 47.01S 166.09E 12km M=3.7
0.9 0.07 0.06 R
Rsd 0.3s 7ph/6stn Dmin 189km Az.gap 322°
Corr. -0.021 7M/6stn Msd 0.3 1↓

98/3852
MAR 27 003752.1s 38.92S 175.21E 208km M=3.7
0.9 0.05 0.05 7
Rsd 0.3s 17ph/14stn Dmin 43km Az.gap 201°
Corr. -0.676 13M/13stn Msd 0.3 2↑ 3↓

98/3854
MAR 27 005253.2s 38.46S 176.01E 207km M=3.7
0.7 0.04 0.05 6
Rsd 0.3s 14ph/12stn Dmin 87km Az.gap 219°
Corr. -0.769 13M/13stn Msd 0.2

98/3873
MAR 27 035605.4s 38.26S 176.26E 5km M=3.5
0.1 0.01 0.00 R
Rsd 0.2s 18ph/15stn Dmin 11km Az.gap 55°
Corr. 0.094 8M/5stn Msd 0.2 5↑ 5↓
Felt Rotorua and Ngakuru (33), MM4.

98/3936
MAR 27 132001.4s 38.49S 175.80E 179km M=4.2
0.5 0.02 0.02 4
Rsd 0.3s 29ph/24stn Dmin 61km Az.gap 81°
Corr. -0.179 13M/9stn Msd 0.3 3↑ 3↓

98/4027
MAR 28 012351.6s 38.30S 176.27E 5km M=2.0
0.1 0.01 0.01 R
Rsd 0.1s 6ph/5stn Dmin 9km Az.gap 151°
Corr. -0.204 4M/4stn Msd 0.1 1↑ 2↓
Felt Rotorua (33) MM4.

98/4028
MAR 28 014332.6s 37.27S 176.38E 247km M=3.8
1.6 0.13 0.11 10
Rsd 0.3s 12ph/11stn Dmin 128km Az.gap 292°
Corr. -0.722 8M/8stn Msd 0.1

98/4041
MAR 28 042939.6s 45.11S 167.52E 123km M=3.6
0.5 0.02 0.03 4
Rsd 0.3s 10ph/7stn Dmin 58km Az.gap 235°
Corr. 0.012 8M/6stn Msd 0.3 1↓

98/4053
MAR 28 070759.3s 45.52S 167.12E 79km M=3.7
0.4 0.02 0.03 3
Rsd 0.2s 9ph/6stn Dmin 77km Az.gap 272°
Corr. 0.223 8M/4stn Msd 0.2 1↓

98/4068
MAR 28 093930.3s 41.81S 171.92E 12km M=3.2
0.2 0.01 0.03 3
Rsd 0.3s 13ph/9stn Dmin 12km Az.gap 93°
Corr. -0.288 15M/11stn Msd 0.2 1↑
Felt Westport (79) MM4.

98/4071
MAR 28 111924.0s 36.53S 178.53E 156km M=3.9
1.1 0.13 0.13 12
Rsd 0.4s 7ph/5stn Dmin 120km Az.gap 335°
Corr. -0.567 4M/3stn Msd 0.5

98/4080
MAR 28 125513.4s 38.03S 176.49E 157km M=3.9
0.5 0.03 0.02 4
Rsd 0.2s 15ph/12stn Dmin 60km Az.gap 149°
Corr. 0.101 21M/21stn Msd 0.3 6↑ 1↓

98/4090
MAR 28 163344.8s 37.30S 178.37E 32km M=3.7
0.4 0.02 0.03 1
Rsd 0.2s 7ph/3stn Dmin 34km Az.gap 321°
Corr. 0.378 5M/3stn Msd 0.4 2↑ 1↓

98/4106
MAR 28 220026.7s 38.60S 175.90E 168km M=3.6
1.0 0.13 0.20 20
Rsd 0.4s 9ph/5stn Dmin 105km Az.gap 258°
Corr. -0.957 2M/2stn Msd 0.2
Poor station coverage.

98/4125
MAR 29 020656.3s 38.39S 175.89E 164km M=3.6
1.1 0.07 0.12 15
Rsd 0.5s 13ph/9stn Dmin 107km Az.gap 244°
Corr. -0.770 6M/6stn Msd 0.4

98/4128
MAR 29 041723.0s 37.40S 179.91E 12km M=3.5
0.8 0.06 0.06 R
Rsd 0.2s 5ph/3stn Dmin 144km Az.gap 341°
Corr. -0.399 5M/3stn Msd 0.3

98/4132
MAR 29 061806.5s 36.37S 177.43E 12km M=3.7
0.8 0.05 0.04 R
Rsd 0.2s 4ph/3stn Dmin 157km Az.gap 323°
Corr. -0.028 4M/3stn Msd 0.4

98/4147
MAR 29 133427.1s 36.76S 177.46E 185km M=3.7
0.9 0.09 0.09 10
Rsd 0.5s 9ph/6stn Dmin 119km Az.gap 292°
Corr. -0.437 6M/5stn Msd 0.2

98/4156
MAR 29 171603.5s 45.11S 167.48E 101km M=4.7
0.4 0.02 0.02 3
Rsd 0.2s 12ph/7stn Dmin 60km Az.gap 239°
Corr. -0.258 17M/9stn Msd 0.2 4↑ 3↓
Felt Te Anau (130) MM4.

98/4181
MAR 30 113747.3s 44.20S 168.68E 5km M=3.7
0.1 0.01 0.01 R
Rsd 0.2s 14ph/9stn Dmin 72km Az.gap 174°
Corr. -0.512 8M/5stn Msd 0.1 1↑

98/4182
MAR 30 115413.4s 37.76S 176.60E 144km M=3.8
0.5 0.03 0.02 5
Rsd 0.3s 10ph/7stn Dmin 71km Az.gap 180°
Corr. -0.021 11M/10stn Msd 0.2 1↑

98/4224
MAR 30 223943.4s 38.66S 175.97E 119km M=3.8
0.2 0.01 0.01 2
Rsd 0.1s 19ph/14stn Dmin 28km Az.gap 110°
Corr. 0.109 17M/16stn Msd 0.2 1↑

98/4260
MAR 31 100144.7s 35.90S 179.61E 146km M=4.1
0.6 0.06 0.06 9
Rsd 0.2s 10ph/7stn Dmin 222km Az.gap 326°
Corr. -0.151 4M/3stn Msd 0.4

98/4262
MAR 31 111258.3s 45.08S 170.49E 12km M=4.2
0.2 0.02 0.01 R
Rsd 0.2s 16ph/11stn Dmin 13km Az.gap 141°
Corr. -0.620 13M/8stn Msd 0.2 2↑ 1↓
Felt from Ranfurly (135) to Dunedin (144).

98/4264
MAR 31 112418.3s 45.12S 167.56E 126km M=3.5
0.3 0.01 0.02 2
Rsd 0.2s 11ph/6stn Dmin 54km Az.gap 229°
Corr. 0.105 8M/6stn Msd 0.2 1↑ 1↓

98/4280
MAR 31 140514.4s 40.55S 173.44E 148km M=4.0
0.3 0.01 0.01 3
Rsd 0.2s 40ph/31stn Dmin 49km Az.gap 127°
Corr. -0.053 21M/18stn Msd 0.2 6↑ 2↓

98/4296
MAR 31 203738.9s 43.23S 171.47E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.2s 14ph/10stn Dmin 59km Az.gap 83°
Corr. -0.304 10M/5stn Msd 0.2 1↑ 3↓
Felt Harper River (99) MM4.

98/4307
APR 01 040818.8s 36.29S 177.92E 215km M=4.1
1.3 0.12 0.15 12
Rsd 0.5s 8ph/5stn Dmin 149km Az.gap 325°
Corr. -0.801 7M/5stn Msd 0.2

98/4313
APR 01 104901.4s 37.30S 177.26E 5km M=3.9
0.4 0.03 0.02 R
Rsd 0.4s 14ph/10stn Dmin 26km Az.gap 246°
Corr. -0.392 17M/13stn Msd 0.3 1↓

98/4319
APR 01 154327.9s 41.63S 172.84E 107km M=3.8
0.4 0.02 0.02 4
Rsd 0.4s 25ph/19stn Dmin 16km Az.gap 82°
Corr. -0.285 16M/16stn Msd 0.3 3↑ 4↓

98/4326
APR 01 193849.3s 40.59S 174.97E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.3s 35ph/33stn Dmin 31km Az.gap 65°
Corr. 0.039 39M/33stn Msd 0.3 1↑ 3↓

98/4350
APR 02 063458.4s 38.14S 176.49E 5km M=4.5
0.1 0.01 0.01 R
Rsd 0.2s 13ph/12stn Dmin 15km Az.gap 76°
Corr. -0.224 11M/6stn Msd 0.2
Felt Rotorua (33) MM4.

98/4379
APR 02 065903.0s 38.13S 176.49E 5km M=4.8
0.1 0.01 0.01 R
Rsd 0.2s 15ph/12stn Dmin 12km Az.gap 81°
Corr. -0.194 14M/8stn Msd 0.2 1↑
Felt Ngakuru and Rotorua (33) MM4.

98/4380
APR 02 065957.9s 38.11S 176.50E 5km M=3.6
0.2 0.01 0.01 R
Rsd 0.2s 10ph/8stn Dmin 16km Az.gap 88°
Corr. -0.041 16M/16stn Msd 0.4
Felt Rotorua (33) MM4.

98/4384
APR 02 070254.2s 38.14S 176.50E 5km M=4.0
0.1 0.01 0.01 R
Rsd 0.2s 13ph/11stn Dmin 6km Az.gap 65°
Corr. -0.226 8M/4stn Msd 0.2
Felt Rotorua (33) MM4.

98/4397
APR 02 071415.3s 38.11S 176.51E 5km M=4.4
0.1 0.01 0.01 R
Rsd 0.2s 12ph/10stn Dmin 13km Az.gap 88°
Corr. -0.209 11M/6stn Msd 0.2 1↑ 1↓

98/4484
APR 02 100857.3s 37.87S 176.22E 176km M=4.1
0.5 0.04 0.04 3
Rsd 0.2s 12ph/10stn Dmin 89km Az.gap 218°
Corr. -0.797 20M/17stn Msd 0.3

98/4541
APR 02 134428.0s 40.14S 173.63E 198km M=3.5
0.5 0.03 0.02 5
Rsd 0.3s 22ph/16stn Dmin 78km Az.gap 188°
Corr. -0.219 10M/10stn Msd 0.3 2↑ 1↓

98/4559
APR 02 164436.4s 36.79S 176.93E 241km M=3.9
0.6 0.06 0.06 7
Rsd 0.2s 7ph/5stn Dmin 151km Az.gap 281°
Corr. -0.538 10M/9stn Msd 0.2

98/4580
APR 02 185111.2s 38.26S 176.00E 156km M=3.5
1.1 0.07 0.13 13
Rsd 0.5s 13ph/9stn Dmin 97km Az.gap 246°
Corr. -0.697 10M/10stn Msd 0.2 1↓

98/4620
APR 02 235805.0s 39.11S 175.76E 220km M=3.6
0.7 0.03 0.05 5
Rsd 0.1s 12ph/10stn Dmin 21km Az.gap 170°
Corr. -0.850 8M/8stn Msd 0.3

98/4633
APR 03 044543.3s 37.46S 176.44E 196km M=3.8
0.8 0.08 0.07 8
Rsd 0.4s 11ph/9stn Dmin 106km Az.gap 250°
Corr. -0.750 17M/16stn Msd 0.3 1↑

98/4658
APR 03 155319.7s 47.72S 165.16E 33km M=3.7
0.7 0.06 0.06 R
Rsd 0.3s 9ph/5stn Dmin 295km Az.gap 340°
Corr. -0.474 5M/5stn Msd 0.3 1↓

98/4674
APR 04 011238.2s 38.65S 176.11E 156km M=3.7
0.2 0.01 0.01 2
Rsd 0.1s 10ph/7stn Dmin 98km Az.gap 218°
Corr. -0.654 4M/4stn Msd 0.4
Poor station coverage.

98/4714
APR 04 224318.3s 37.59S 177.10E 189km M=3.5
0.7 0.08 0.10 4
Rsd 0.2s 6ph/5stn Dmin 74km Az.gap 239°
Corr. -0.918 9M/9stn Msd 0.3

98/4721
APR 05 023643.7s 40.52S 173.32E 165km M=4.2
0.5 0.01 0.02 4
Rsd 0.2s 31ph/27stn Dmin 60km Az.gap 136°
Corr. -0.010 22M/19stn Msd 0.3 5↑ 5↓

98/4724
APR 05 040213.6s 42.55S 171.45E 12km M=4.4
0.2 0.01 0.01 R
Rsd 0.2s 15ph/11stn Dmin 72km Az.gap 145°
Corr. -0.005 21M/12stn Msd 0.1 3↑ 3↓
Felt Greymouth (85) and Paroa (92).

98/4727
APR 05 041726.6s 36.29S 177.94E 12km M=3.5
1.3 0.09 0.06 R
Rsd 0.4s 5ph/3stn Dmin 149km Az.gap 330°
Corr. -0.044 3M/3stn Msd 0.1 1↓

98/4749
APR 05 151146.5s 39.58S 173.68E 12km M=4.0
0.2 0.01 0.02 R
Rsd 0.3s 29ph/25stn Dmin 34km Az.gap 170°
Corr. -0.200 9M/6stn Msd 0.5 4↑ 1↓

98/4751
APR 05 161040.9s 45.04S 167.54E 94km M=4.1
0.3 0.01 0.02 3
Rsd 0.2s 12ph/8stn Dmin 51km Az.gap 235°
Corr. -0.119 10M/5stn Msd 0.2 1↑ 5↓

98/4753
APR 05 183955.5s 37.27S 176.47E 209km M=3.8
0.9 0.09 0.09 7
Rsd 0.4s 10ph/7stn Dmin 124km Az.gap 272°
Corr. -0.805 9M/8stn Msd 0.2 1↓

98/4754
APR 05 184536.4s 39.39S 174.67E 175km M=3.8
0.5 0.01 0.01 4
Rsd 0.2s 27ph/23stn Dmin 50km Az.gap 130°
Corr. 0.000 16M/15stn Msd 0.2 1↑

98/4756
APR 05 200245.7s 39.41S 174.38E 196km M=3.9
0.4 0.02 0.04 4
Rsd 0.2s 26ph/21stn Dmin 64km Az.gap 175°
Corr. -0.100 22M/20stn Msd 0.2 1↓

98/4758
APR 05 215007.8s 40.51S 174.50E 68km M=3.6
0.2 0.01 0.01 4
Rsd 0.2s 35ph/26stn Dmin 52km Az.gap 81°
Corr. 0.104 20M/17stn Msd 0.2 1↓

98/4776
APR 06 085652.7s 45.04S 167.45E 59km M=4.3
0.4 0.01 0.03 3
Rsd 0.2s 10ph/8stn Dmin 55km Az.gap 244°
Corr. -0.093 10M/7stn Msd 0.5 2↑ 2↓
Felt Arrowtown (122) to Invercargill (149) MM4.

98/4777
APR 06 085654.9s 45.05S 167.50E 60km M=4.8
0.2 0.01 0.01 2
Rsd 0.1s 12ph/8stn Dmin 53km Az.gap 236°
Corr. -0.119 20M/10stn Msd 0.3

98/4778
APR 06 102420.7s 37.49S 179.41E 12km M=3.7
0.6 0.04 0.04 R
Rsd 0.2s 5ph/3stn Dmin 99km Az.gap 334°
Corr. -0.532 5M/3stn Msd 0.3

98/4783
APR 06 123622.3s 35.87S 178.74E 153km M=4.6
0.6 0.07 0.05 11
Rsd 0.2s 12ph/10stn Dmin 196km Az.gap 327°
Corr. -0.091 28M/21stn Msd 0.3 1↓

98/4784
APR 06 130708.0s 41.22S 174.24E 42km M=4.1
0.1 0.01 0.01 2
Rsd 0.2s 28ph/23stn Dmin 3km Az.gap 70°
Corr. -0.364 14M/8stn Msd 0.2 4↑ 7↓
Felt Wellington (68) and Picton (78) MM4.

98/4799
APR 06 193204.5s 39.18S 174.82E 220km M=4.0
0.5 0.02 0.03 4
Rsd 0.2s 20ph/17stn Dmin 52km Az.gap 195°
Corr. -0.292 23M/19stn Msd 0.3 2↑ 1↓

98/4801
APR 06 200735.9s 43.01S 171.39E 5km M=3.5
0.2 0.01 0.01 R
Rsd 0.2s 13ph/10stn Dmin 54km Az.gap 112°
Corr. -0.063 21M/17stn Msd 0.4 1↑ 5↓

98/4805
APR 06 222753.6s 35.74S 178.77E 247km M=4.0
1.0 0.16 0.19 10
Rsd 0.3s 10ph/7stn Dmin 263km Az.gap 337°
Corr. -0.770 4M/4stn Msd 0.1

98/4832
APR 07 134948.9s 37.11S 177.26E 164km M=3.8
0.6 0.06 0.04 6
Rsd 0.3s 12ph/10stn Dmin 107km Az.gap 269°
Corr. -0.599 14M/13stn Msd 0.2

98/4837
APR 07 143327.0s 37.43S 176.84E 244km M=3.5
0.6 0.04 0.10 5
Rsd 0.2s 10ph/8stn Dmin 95km Az.gap 312°
Corr. -0.677 14M/14stn Msd 0.3

98/4841
APR 07 172322.9s 38.52S 176.09E 108km M=3.6
0.5 0.02 0.01 4
Rsd 0.2s 22ph/20stn Dmin 21km Az.gap 168°
Corr. -0.746 17M/17stn Msd 0.2 1↑

98/4845
APR 07 190147.1s 45.19S 167.44E 77km M=3.6
0.5 0.01 0.04 4
Rsd 0.3s 13ph/7stn Dmin 60km Az.gap 241°
Corr. 0.081 12M/7stn Msd 0.2 1↑ 2↓

98/4852
APR 08 011451.2s 38.46S 175.98E 156km M=4.4
0.5 0.02 0.02 4
Rsd 0.2s 29ph/26stn Dmin 26km Az.gap 147°
Corr. -0.477 28M/22stn Msd 0.3 1↓

98/4859
APR 08 045047.4s 40.72S 175.49E 29km M=3.7
0.2 0.01 0.01 3
Rsd 0.3s 26ph/22stn Dmin 10km Az.gap 74°
Corr. -0.514 29M/25stn Msd 0.2 2↑ 2↓

98/4869
APR 08 091830.5s 39.13S 175.05E 215km M=3.9
0.5 0.03 0.04 4
Rsd 0.2s 24ph/21stn Dmin 44km Az.gap 217°
Corr. -0.311 21M/21stn Msd 0.2 1↑

98/4871
APR 08 093403.6s 37.58S 177.22E 157km M=3.6
1.9 0.11 0.08 19
Rsd 0.4s 10ph/9stn Dmin 95km Az.gap 226°
Corr. -0.387 7M/5stn Msd 0.3

98/4873
APR 08 101037.9s 45.00S 167.70E 87km M=3.6
0.5 0.02 0.03 4
Rsd 0.3s 11ph/6stn Dmin 41km Az.gap 217°
Corr. -0.142 8M/6stn Msd 0.3 1↓

98/4893
APR 08 225337.4s 38.34S 176.34E 105km M=4.3
0.2 0.01 0.01 2
Rsd 0.1s 32ph/28stn Dmin 8km Az.gap 79°
Corr. -0.230 28M/22stn Msd 0.2 2↑ 3↓

98/4898
APR 09 013057.3s 38.21S 178.99E 28km M=3.5
0.8 0.03 0.04 7
Rsd 0.2s 8ph/5stn Dmin 66km Az.gap 266°
Corr. -0.683 8M/6stn Msd 0.4 1↑ 1↓

98/4900
APR 09 031709.7s 38.26S 176.28E 5km M=3.9
0.1 0.01 0.01 R
Rsd 0.3s 18ph/16stn Dmin 12km Az.gap 82°
Corr. -0.075 20M/18stn Msd 0.3 1↑

98/4916
APR 09 040326.1s 44.95S 167.35E 62km M=3.7
0.3 0.01 0.03 4
Rsd 0.2s 13ph/7stn Dmin 55km Az.gap 251°
Corr. -0.175 17M/11stn Msd 0.3 1↑ 1↓

98/4947
APR 09 200619.3s 37.87S 176.40E 185km M=3.9
0.9 0.02 0.02 9
Rsd 0.1s 10ph/10stn Dmin 71km Az.gap 169°
Corr. -0.664 12M/12stn Msd 0.3 1↑

98/4963
APR 10 050107.6s 41.35S 172.76E 150km M=3.6
0.4 0.03 0.02 4
Rsd 0.3s 26ph/20stn Dmin 48km Az.gap 178°
Corr. -0.595 13M/12stn Msd 0.2 1↑ 1↓

98/4965
APR 10 074022.1s 37.55S 177.15E 172km M=4.1
0.4 0.03 0.01 4
Rsd 0.2s 14ph/12stn Dmin 102km Az.gap 160°
Corr. 0.257 21M/16stn Msd 0.2 1↓

98/4975
APR 10 142703.4s 37.21S 179.24E 12km M=4.0
0.5 0.02 0.03 2
Rsd 0.1s 10ph/8stn Dmin 94km Az.gap 298°
Corr. -0.044 17M/15stn Msd 0.2

98/4976
APR 10 154613.4s 45.11S 167.58E 123km M=3.8
0.4 0.02 0.03 3
Rsd 0.2s 11ph/6stn Dmin 54km Az.gap 228°
Corr. 0.160 12M/7stn Msd 0.2 1↑

98/4998
APR 10 212339.3s 37.54S 177.93E 53km M=4.7
0.4 0.02 0.02 5
Rsd 0.1s 18ph/16stn Dmin 34km Az.gap 176°
Corr. 0.706 25M/19stn Msd 0.3 2↑ 3↓

98/5003
APR 10 234524.2s 38.89S 175.35E 121km M=3.8
0.4 0.01 0.03 3
Rsd 0.2s 25ph/22stn Dmin 18km Az.gap 148°
Corr. -0.348 20M/16stn Msd 0.2 2↑ 5↓

98/5013
APR 11 083106.8s 37.13S 177.05E 220km M=3.9
0.8 0.06 0.08 11
Rsd 0.2s 9ph/7stn Dmin 122km Az.gap 255°
Corr. -0.830 14M/13stn Msd 0.2

98/5022
APR 11 142654.5s 38.61S 175.98E 5km M=2.6
0.1 0.01 0.01 R
Rsd 0.3s 17ph/14stn Dmin 6km Az.gap 95°
Corr. -0.301 14M/14stn Msd 0.3 1↑ 2↓
Felt Acacia Bay (41) MM4.

98/5032
APR 11 220753.7s 38.45S 177.94E 69km M=4.3
0.3 0.01 0.02 2
Rsd 0.1s 25ph/22stn Dmin 50km Az.gap 177°
Corr. -0.483 26M/20stn Msd 0.3 1↑ 4↓

98/5033
APR 11 222025.0s 42.47S 172.95E 5km M=3.8
0.2 0.01 0.02 R
Rsd 0.3s 15ph/11stn Dmin 49km Az.gap 107°
Corr. -0.138 37M/31stn Msd 0.2 1↑ 7↓

98/5038
APR 12 015612.1s 37.79S 179.14E 20km M=4.4
0.3 0.01 0.02 1
Rsd 0.1s 19ph/16stn Dmin 77km Az.gap 291°
Corr. -0.646 50M/44stn Msd 0.2 1↑ 1↓

98/5047
APR 12 052402.9s 38.52S 175.67E 170km M=3.8
1.2 0.04 0.05 10
Rsd 0.3s 21ph/19stn Dmin 55km Az.gap 206°
Corr. -0.518 19M/16stn Msd 0.2

98/5050
APR 12 071645.2s 37.96S 179.25E 12km M=4.3
0.3 0.02 0.02 R
Rsd 0.2s 17ph/16stn Dmin 88km Az.gap 284°
Corr. 0.098 47M/41stn Msd 0.2 1↑ 1↓

98/5055
APR 12 090333.9s 37.80S 179.16E 12km M=4.0
0.4 0.02 0.03 R
Rsd 0.2s 11ph/10stn Dmin 79km Az.gap 290°
Corr. -0.044 32M/30stn Msd 0.2 1↓

98/5076
APR 12 212014.6s 37.22S 177.19E 5km M=3.8
0.7 0.05 0.02 R
Rsd 0.4s 10ph/7stn Dmin 34km Az.gap 229°
Corr. 0.048 14M/12stn Msd 0.2 1↓

98/5083
APR 13 004322.5s 39.90S 178.80E 12km M=3.8
0.8 0.02 0.07 R
Rsd 0.4s 27ph/24stn Dmin 210km Az.gap 282°
Corr. -0.528 32M/32stn Msd 0.2

98/5107
APR 13 132458.4s 37.76S 179.96E 12km M=4.3
0.6 0.03 0.04 R
Rsd 0.2s 14ph/11stn Dmin 147km Az.gap 306°
Corr. 0.217 41M/35stn Msd 0.3 1↓

98/5110
APR 13 144442.6s 41.58S 172.87E 97km M=4.4
0.4 0.04 0.01 4
Rsd 0.2s 23ph/18stn Dmin 21km Az.gap 121°
Corr. -0.336 14M/8stn Msd 0.3 10↑ 8↓

98/5134
APR 14 003113.8s 39.43S 175.77E 5km M=3.5
0.1 0.01 0.01 R
Rsd 0.3s 30ph/26stn Dmin 21km Az.gap 73°
Corr. 0.386 34M/31stn Msd 0.3 5↑ 3↓
Felt Moawhango (58) MM4.

98/5157
APR 14 171731.4s 38.20S 176.68E 226km M=3.6
1.1 0.17 0.25 13
Rsd 0.3s 11ph/9stn Dmin 80km Az.gap 218°
Corr. -0.984 6M/6stn Msd 0.2 1↑
Poor station coverage.

98/5162
APR 14 201640.5s 35.54S 179.24E 260km M=4.5
1.1 0.09 0.09 9
Rsd 0.3s 11ph/9stn Dmin 243km Az.gap 326°
Corr. 0.055 14M/13stn Msd 0.3

98/5193
APR 15 124003.5s 39.76S 177.36E 15km M=3.6
0.4 0.01 0.02 3
Rsd 0.2s 20ph/15stn Dmin 52km Az.gap 227°
Corr. -0.430 26M/24stn Msd 0.3 1↑

98/5200
APR 15 153318.3s 40.07S 173.79E 153km M=3.5
0.6 0.05 0.02 6
Rsd 0.2s 18ph/14stn Dmin 82km Az.gap 237°
Corr. -0.004 10M/10stn Msd 0.3 1↑

98/5213
APR 15 214408.6s 37.54S 176.59E 198km M=3.8
0.6 0.05 0.07 5
Rsd 0.2s 8ph/7stn Dmin 93km Az.gap 245°
Corr. -0.852 9M/8stn Msd 0.4 1↑

98/5215
APR 16 012234.0s 38.32S 175.99E 174km M=4.2
0.5 0.02 0.02 4
Rsd 0.2s 26ph/22stn Dmin 24km Az.gap 103°
Corr. -0.026 24M/18stn Msd 0.3 2↑ 2↓

98/5219
APR 16 021436.5s 36.73S 178.06E 178km M=3.6
1.1 0.13 0.14 10
Rsd 0.5s 7ph/5stn Dmin 98km Az.gap 318°
Corr. -0.732 4M/4stn Msd 0.1

98/5224
APR 16 051729.9s 36.77S 178.05E 141km M=4.0
0.3 0.02 0.02 4
Rsd 0.1s 15ph/13stn Dmin 95km Az.gap 285°
Corr. -0.047 22M/18stn Msd 0.2

98/5231
APR 16 090025.0s 47.54S 165.24E 12km M=3.7
0.9 0.08 0.07 R
Rsd 0.3s 6ph/3stn Dmin 277km Az.gap 340°
Corr. -0.415 5M/3stn Msd 0.2

98/5237
APR 16 133039.2s 39.23S 174.92E 233km M=3.8
0.7 0.02 0.04 6
Rsd 0.2s 28ph/26stn Dmin 55km Az.gap 183°
Corr. -0.447 16M/16stn Msd 0.2 1↓

98/5266
APR 17 044311.9s 38.11S 176.86E 126km M=3.9
0.4 0.02 0.02 3
Rsd 0.2s 24ph/21stn Dmin 11km Az.gap 116°
Corr. 0.067 23M/17stn Msd 0.2 1↑

98/5294
APR 17 202756.4s 37.41S 177.05E 5km M=3.6
0.9 0.05 0.03 R
Rsd 0.4s 6ph/3stn Dmin 95km Az.gap 284°
Corr. -0.629 5M/3stn Msd 0.2 1↑

98/5309
APR 18 102603.4s 37.51S 177.64E 104km M=3.6
0.2 0.01 0.01 2
Rsd 0.1s 16ph/14stn Dmin 59km Az.gap 201°
Corr. -0.466 13M/11stn Msd 0.2 1↓

98/5313
APR 18 135513.0s 38.28S 176.14E 147km M=3.5
0.4 0.02 0.02 4
Rsd 0.1s 10ph/9stn Dmin 62km Az.gap 159°
Corr. -0.573 12M/12stn Msd 0.3 1↑

98/5320
APR 18 173820.1s 39.84S 177.05E 48km M=3.5
0.2 0.01 0.02 4
Rsd 0.2s 32ph/26stn Dmin 39km Az.gap 189°
Corr. -0.523 22M/18stn Msd 0.2 5↑ 1↓

98/5333
APR 19 015402.8s 38.24S 176.28E 5km M=4.1
0.1 0.01 0.01 R
Rsd 0.3s 25ph/23stn Dmin 11km Az.gap 57°
Corr. -0.189 11M/7stn Msd 0.4 2↑ 2↓
Felt Ngakuru and Rotorua (33) MM4.

98/5377
APR 19 174719.0s 44.68S 171.53E 12km M=3.6
0.2 0.02 0.02 R
Rsd 0.2s 10ph/7stn Dmin 81km Az.gap 186°
Corr. -0.801 10M/7stn Msd 0.3 3↑ 1↓

98/5421
APR 20 233417.8s 39.01S 174.92E 234km M=6.8
0.4 0.02 0.01 3
Rsd 0.2s 46ph/43stn Dmin 41km Az.gap 95°
Corr. -0.462 13M/6stn Msd 0.5 27↑ 20↓
Felt Auckland (16) to Christchurch (110), maximum intensity MM5 at Twyford (60) and Levin (65).

98/5425
APR 21 031848.3s 38.44S 175.67E 184km M=3.8
0.5 0.03 0.03 3
Rsd 0.2s 16ph/14stn Dmin 49km Az.gap 232°
Corr. -0.625 15M/13stn Msd 0.3 1↑

98/5426
APR 21 031904.9s 37.35S 177.17E 149km M=4.0
0.5 0.06 0.04 7
Rsd 0.2s 15ph/11stn Dmin 101km Az.gap 228°
Corr. -0.763 14M/10stn Msd 0.1

98/5445
APR 21 122942.1s 36.20S 177.41E 12km M=4.3
1.1 0.08 0.04 R
Rsd 0.4s 6ph/5stn Dmin 175km Az.gap 292°
Corr. 0.540 7M/5stn Msd 0.4

98/5449
APR 21 142422.4s 36.19S 177.40E 12km M=4.5
0.7 0.05 0.03 R
Rsd 0.3s 8ph/6stn Dmin 176km Az.gap 260°
Corr. 0.611 11M/9stn Msd 0.4

98/5450
APR 21 143935.5s 38.61S 176.03E 10km M=2.7
0.1 0.01 0.01 1
Rsd 0.3s 8ph/7stn Dmin 7km Az.gap 88°
Corr. -0.190 5M/5stn Msd 0.3 2↑ 2↓
Felt Acacia Bay (41) MM4.

98/5461
APR 21 211321.6s 35.78S 178.82E 245km M=3.9
0.4 0.07 0.08 4
Rsd 0.1s 9ph/6stn Dmin 260km Az.gap 338°
Corr. -0.800 4M/3stn Msd 0.4
Poor station coverage.

98/5474
APR 22 021142.7s 37.04S 177.77E 136km M=3.7
0.0 0.00 0.00 0
Rsd 0.0s 4ph/3stn Dmin 78km Az.gap 258°
Corr. -0.078 2M/2stn Msd 0.0

98/5475
APR 22 021259.2s 39.33S 177.78E 48km M=5.1
0.2 0.01 0.02 6
Rsd 0.2s 32ph/28stn Dmin 82km Az.gap 200°
Corr. -0.717 8M/4stn Msd 0.4 5↑ 9↓
Felt Marumaru (43), Gisborne (45) and Patoka (52) MM4.

98/5505
APR 22 200439.9s 38.72S 175.83E 112km M=3.7
0.4 0.02 0.02 4
Rsd 0.2s 18ph/14stn Dmin 17km Az.gap 176°
Corr. -0.074 16M/12stn Msd 0.3 6↑ 1↓

98/5515
APR 23 064016.0s 38.47S 177.48E 244km M=3.6
1.8 0.31 0.34 17
Rsd 0.5s 7ph/6stn Dmin 51km Az.gap 250°
Corr. -0.969 4M/4stn Msd 0.2

98/5517
APR 23 100517.2s 37.08S 176.54E 336km M=3.6
0.5 0.19 0.10 22
Rsd 0.1s 9ph/6stn Dmin 407km Az.gap 346°
Corr. -0.819 5M/5stn Msd 0.3
Very poor station coverage.

98/5519
APR 23 123958.2s 38.25S 175.77E 200km M=4.2
0.5 0.01 0.02 5
Rsd 0.2s 22ph/20stn Dmin 48km Az.gap 93°
Corr. 0.180 23M/18stn Msd 0.2 1↓

98/5520
APR 23 124602.9s 38.18S 176.14E 135km M=3.7
1.7 0.08 0.06 19
Rsd 0.4s 10ph/10stn Dmin 109km Az.gap 234°
Corr. -0.769 13M/12stn Msd 0.3 1↑

98/5522
APR 23 153431.7s 39.30S 175.42E 14km M=3.7
0.1 0.00 0.00 1
Rsd 0.2s 34ph/27stn Dmin 12km Az.gap 53°
Corr. 0.043 35M/31stn Msd 0.3 4↑ 4↓

98/5531
APR 23 183621.3s 37.28S 177.67E 113km M=4.0
0.2 0.02 0.01 2
Rsd 0.1s 16ph/13stn Dmin 51km Az.gap 232°
Corr. 0.094 23M/19stn Msd 0.2 1↓

98/5534
APR 23 211404.3s 47.93S 165.43E 12km M=3.7
0.4 0.03 0.04 R
Rsd 0.1s 7ph/4stn Dmin 297km Az.gap 340°
Corr. -0.257 5M/4stn Msd 0.3

98/5546
APR 24 011323.1s 45.07S 167.58E 93km M=3.6
0.5 0.04 0.03 4
Rsd 0.3s 9ph/5stn Dmin 56km Az.gap 288°
Corr. -0.281 11M/5stn Msd 0.2 1↑

98/5549
APR 24 014806.7s 37.30S 177.50E 256km M=3.5
0.5 0.04 0.04 5
Rsd 0.1s 9ph/8stn Dmin 78km Az.gap 258°
Corr. -0.650 8M/7stn Msd 0.3

98/5571
APR 24 093913.4s 38.46S 178.88E 25km M=3.7
0.8 0.03 0.04 5
Rsd 0.2s 17ph/15stn Dmin 70km Az.gap 248°
Corr. -0.527 26M/23stn Msd 0.2 3↑ 1↓

98/5594
APR 25 002332.9s 35.97S 178.75E 119km M=4.3
0.5 0.04 0.03 9
Rsd 0.1s 15ph/14stn Dmin 186km Az.gap 317°
Corr. 0.106 16M/12stn Msd 0.3 1↓

98/5599
APR 25 055646.5s 38.18S 176.26E 202km M=3.8
0.4 0.03 0.03 4
Rsd 0.2s 15ph/11stn Dmin 103km Az.gap 254°
Corr. -0.667 14M/12stn Msd 0.2

98/5612
APR 25 144344.4s 35.41S 179.35E 297km M=3.8
1.6 0.16 0.18 9
Rsd 0.3s 11ph/10stn Dmin 260km Az.gap 340°
Corr. -0.203 8M/8stn Msd 0.2

98/5632
APR 26 071826.3s 39.15S 174.99E 202km M=3.7
0.6 0.02 0.03 5
Rsd 0.2s 23ph/21stn Dmin 49km Az.gap 200°
Corr. -0.139 17M/17stn Msd 0.2 3↑ 1↓

98/5637
APR 26 093303.8s 38.44S 175.75E 186km M=3.6
0.2 0.01 0.07 2
Rsd 0.1s 11ph/10stn Dmin 83km Az.gap 338°
Corr. -0.094 6M/6stn Msd 0.3

98/5667
APR 27 143539.5s 45.50S 167.31E 107km M=3.5
0.6 0.04 0.04 4
Rsd 0.3s 9ph/5stn Dmin 66km Az.gap 305°
Corr. -0.132 11M/5stn Msd 0.2 2↑ 1↓

98/5671
APR 27 181615.2s 39.31S 174.58E 208km M=3.5
0.9 0.07 0.04 11
Rsd 0.3s 14ph/12stn Dmin 172km Az.gap 285°
Corr. -0.066 10M/9stn Msd 0.1
Poor station coverage.

98/5677
APR 27 231923.7s 37.05S 176.81E 277km M=3.7
0.8 0.13 0.20 18
Rsd 0.2s 10ph/7stn Dmin 146km Az.gap 268°
Corr. -0.977 7M/7stn Msd 0.2

98/5678
APR 27 233826.5s 38.65S 176.09E 5km M=2.7
0.0 0.00 0.00 R
Rsd 0.1s 10ph/8stn Dmin 2km Az.gap 150°
Corr. -0.484 8M/8stn Msd 0.3 1↑
Felt Wairakei (41) MM4.

98/5680
APR 28 001242.7s 38.34S 175.87E 198km M=4.1
0.5 0.02 0.02 4
Rsd 0.1s 18ph/15stn Dmin 43km Az.gap 114°
Corr. 0.047 20M/18stn Msd 0.3 1↑ 1↓

98/5684
APR 28 031024.7s 36.40S 176.97E 171km M=3.8
0.3 0.03 0.05 9
Rsd 0.1s 9ph/7stn Dmin 178km Az.gap 294°
Corr. -0.918 8M/7stn Msd 0.4

98/5690
APR 28 084244.2s 37.02S 176.61E 192km M=3.7
2.0 0.23 0.38 50
Rsd 0.6s 11ph/8stn Dmin 163km Az.gap 269°
Corr. -0.711 5M/5stn Msd 0.2 1↑
Poor station coverage.

98/5691
APR 28 132705.5s 37.08S 176.95E 201km M=3.6
1.7 0.16 0.23 30
Rsd 0.4s 7ph/5stn Dmin 133km Az.gap 274°
Corr. -0.849 10M/9stn Msd 0.3

98/5694
APR 28 162919.2s 36.91S 177.51E 113km M=3.5
0.5 0.05 0.08 12
Rsd 0.2s 6ph/4stn Dmin 104km Az.gap 292°
Corr. -0.875 10M/8stn Msd 0.3

98/5697
APR 28 211831.2s 38.74S 175.71E 142km M=4.3
0.4 0.01 0.01 3
Rsd 0.3s 34ph/29stn Dmin 4km Az.gap 66°
Corr. -0.357 25M/19stn Msd 0.3 9↑ 5↓

98/5700
APR 29 010449.1s 44.45S 170.33E 5km M=4.0
0.1 0.01 0.01 R
Rsd 0.2s 14ph/11stn Dmin 36km Az.gap 92°
Corr. -0.071 15M/8stn Msd 0.2 6↑ 1↓

98/5702
APR 29 023912.6s 41.06S 174.86E 49km M=3.9
0.1 0.01 0.01 1
Rsd 0.1s 36ph/31stn Dmin 19km Az.gap 48°
Corr. -0.016 14M/11stn Msd 0.2 4↑ 4↓
Felt Paekakariki (65) and Gracefield (68), MM4.

98/5710
APR 29 093246.6s 38.53S 175.98E 142km M=4.3
0.5 0.02 0.02 4
Rsd 0.3s 27ph/24stn Dmin 15km Az.gap 67°
Corr. -0.008 22M/16stn Msd 0.3 5↑ 1↓

98/5724
APR 29 133611.8s 40.40S 174.81E 71km M=4.6
0.2 0.01 0.01 4
Rsd 0.3s 44ph/37stn Dmin 53km Az.gap 72°
Corr. 0.084 8M/4stn Msd 0.1 5↑ 6↓

98/5725
APR 29 135536.2s 41.86S 173.22E 57km M=3.7
0.2 0.02 0.02 4
Rsd 0.3s 21ph/16stn Dmin 28km Az.gap 118°
Corr. -0.593 11M/11stn Msd 0.3 1↓

98/5748
APR 30 030352.5s 37.59S 177.17E 140km M=3.7
0.5 0.04 0.02 5
Rsd 0.3s 9ph/7stn Dmin 74km Az.gap 221°
Corr. 0.255 11M/10stn Msd 0.2 1↑

98/5757
APR 30 074028.5s 38.24S 175.89E 183km M=3.7
0.3 0.02 0.02 3
Rsd 0.1s 12ph/10stn Dmin 54km Az.gap 222°
Corr. -0.569 15M/15stn Msd 0.2

98/5760
APR 30 112205.8s 40.28S 173.47E 169km M=3.5
0.5 0.02 0.02 4
Rsd 0.2s 21ph/19stn Dmin 70km Az.gap 177°
Corr. -0.263 12M/12stn Msd 0.3 2↑ 2↓

98/5761
APR 30 141617.1s 37.23S 177.49E 135km M=3.6
0.4 0.03 0.02 4
Rsd 0.3s 14ph/12stn Dmin 83km Az.gap 233°
Corr. -0.080 15M/14stn Msd 0.2 1↑ 3↓

98/5776
MAY 01 034030.3s 37.85S 176.52E 166km M=4.2
0.6 0.03 0.02 5
Rsd 0.2s 25ph/22stn Dmin 27km Az.gap 171°
Corr. 0.205 25M/19stn Msd 0.3 1↑

98/5777
MAY 01 043516.5s 38.52S 175.90E 152km M=3.6
1.5 0.06 0.06 13
Rsd 0.4s 10ph/9stn Dmin 78km Az.gap 231°
Corr. -0.581 9M/9stn Msd 0.2 1↑

98/5778
MAY 01 064459.6s 45.09S 167.58E 115km M=3.7
0.5 0.03 0.03 4
Rsd 0.2s 12ph/7stn Dmin 55km Az.gap 240°
Corr. -0.320 10M/5stn Msd 0.2 1↓

98/5781
MAY 01 103306.0s 35.19S 179.05E 189km M=5.9
0.6 0.06 0.04 11
Rsd 0.2s 24ph/21stn Dmin 276km Az.gap 309°
Corr. 0.681 20M/14stn Msd 0.3 2↑ 1↓
Felt Wellington (68).

98/5792
MAY 01 202653.5s 37.83S 176.07E 185km M=3.6
0.6 0.05 0.03 4
Rsd 0.2s 9ph/8stn Dmin 103km Az.gap 272°
Corr. -0.648 6M/6stn Msd 0.2 1↑

98/5797
MAY 01 235039.3s 38.42S 175.88E 171km M=4.0
1.1 0.05 0.03 9
Rsd 0.3s 17ph/16stn Dmin 34km Az.gap 215°
Corr. -0.515 17M/15stn Msd 0.2 8↑ 2↓

98/5810
MAY 02 114927.6s 38.43S 175.97E 138km M=3.6
0.4 0.02 0.01 3
Rsd 0.1s 12ph/11stn Dmin 38km Az.gap 213°
Corr. -0.716 15M/14stn Msd 0.3 1↓

98/5811
MAY 02 124143.5s 45.24S 166.81E 12km M=3.5
0.7 0.03 0.04 R
Rsd 0.3s 7ph/5stn Dmin 108km Az.gap 317°
Corr. -0.021 10M/5stn Msd 0.3 1↓

98/5816
MAY 02 180804.2s 37.31S 176.59E 189km M=3.7
0.6 0.06 0.06 4
Rsd 0.3s 10ph/7stn Dmin 115km Az.gap 269°
Corr. -0.704 5M/5stn Msd 0.6 1↑
Poor station coverage.

98/5818
MAY 02 190557.8s 36.81S 177.55E 152km M=3.6
0.4 0.04 0.03 5
Rsd 0.2s 6ph/4stn Dmin 110km Az.gap 309°
Corr. -0.496 4M/4stn Msd 0.3 1↑

98/5825
MAY 03 014919.1s 40.95S 174.78E 45km M=3.9
0.1 0.01 0.01 2
Rsd 0.2s 37ph/30stn Dmin 14km Az.gap 55°
Corr. 0.015 12M/9stn Msd 0.3 4↑ 4↓
Felt Kapiti Coast (65) to Wellington (68).

98/5842
MAY 03 132829.4s 36.99S 177.71E 58km M=3.7
0.5 0.04 0.03 11
Rsd 0.3s 8ph/4stn Dmin 86km Az.gap 293°
Corr. -0.520 7M/5stn Msd 0.3
Poor station coverage.

98/5859
MAY 04 014736.1s 37.48S 177.08E 5km M=4.0
0.3 0.02 0.01 R
Rsd 0.4s 18ph/16stn Dmin 11km Az.gap 166°
Corr. -0.205 25M/21stn Msd 0.3 2↑ 1↓

98/5860
MAY 04 031042.0s 41.26S 172.45E 5km M=3.7
0.3 0.01 0.02 R
Rsd 0.2s 10ph/7stn Dmin 49km Az.gap 161°
Corr. 0.303 21M/17stn Msd 0.2 1↑

98/5865
MAY 04 075324.0s 35.56S 177.71E 233km M=3.5
0.5 0.09 0.10 6
Rsd 0.1s 6ph/5stn Dmin 304km Az.gap 334°
Corr. -0.914 4M/4stn Msd 0.1
Poor station coverage.

98/5872
MAY 04 125446.6s 38.32S 175.98E 161km M=4.1
0.4 0.02 0.01 3
Rsd 0.2s 34ph/30stn Dmin 24km Az.gap 148°
Corr. -0.209 8M/4stn Msd 0.1 8↑ 1↓

98/5884
MAY 04 205146.9s 35.14S 178.34E 176km M=3.8
0.5 0.05 0.08 14
Rsd 0.1s 5ph/3stn Dmin 273km Az.gap 344°
Corr. -0.894 3M/3stn Msd 0.3

98/5901
MAY 05 063240.0s 37.74S 177.05E 129km M=3.6
0.5 0.04 0.04 3
Rsd 0.3s 13ph/9stn Dmin 58km Az.gap 235°
Corr. -0.723 9M/9stn Msd 0.2 1↑

98/5918
MAY 05 144210.6s 36.64S 177.46E 220km M=3.8
0.7 0.12 0.08 9
Rsd 0.3s 10ph/7stn Dmin 174km Az.gap 307°
Corr. -0.678 12M/12stn Msd 0.2

98/5926
MAY 05 233834.9s 41.32S 174.54E 34km M=3.6
0.1 0.01 0.01 1
Rsd 0.2s 22ph/19stn Dmin 17km Az.gap 101°
Corr. -0.305 9M/7stn Msd 0.3 8↑ 3↓
Felt Fighting Bay (78) MM4.

98/5927
MAY 06 000811.0s 41.25S 172.82E 154km M=3.6
0.5 0.03 0.02 4
Rsd 0.3s 18ph/14stn Dmin 53km Az.gap 112°
Corr. -0.262 10M/10stn Msd 0.2 1↑

98/5929
MAY 06 011358.7s 38.31S 176.02E 154km M=3.8
0.6 0.03 0.02 4
Rsd 0.2s 20ph/18stn Dmin 22km Az.gap 217°
Corr. -0.568 15M/15stn Msd 0.3 1↑ 1↓

98/5954
MAY 06 173148.7s 35.96S 178.84E 257km M=3.8
0.9 0.15 0.19 7
Rsd 0.4s 9ph/7stn Dmin 188km Az.gap 341°
Corr. -0.794 3M/3stn Msd 0.1

98/5955
MAY 06 222813.1s 38.81S 175.97E 99km M=3.7
0.3 0.01 0.01 3
Rsd 0.2s 20ph/16stn Dmin 14km Az.gap 119°
Corr. -0.353 16M/14stn Msd 0.3 4↑ 1↓

98/5958
MAY 06 234745.3s 36.00S 178.30E 192km M=4.6
0.8 0.07 0.04 10
Rsd 0.2s 13ph/11stn Dmin 178km Az.gap 311°
Corr. 0.133 25M/19stn Msd 0.2

98/5965
MAY 07 064036.3s 39.23S 177.49E 29km M=3.5
1.2 0.03 0.09 5
Rsd 0.6s 10ph/7stn Dmin 55km Az.gap 230°
Corr. -0.658 17M/15stn Msd 0.3 1↑

98/5972
MAY 07 121458.7s 37.14S 176.67E 304km M=3.8
1.0 0.13 0.15 7
Rsd 0.3s 10ph/9stn Dmin 130km Az.gap 281°
Corr. -0.864 8M/8stn Msd 0.2 1↑

98/5974
MAY 07 133504.9s 36.66S 177.35E 171km M=4.2
1.1 0.11 0.11 11
Rsd 0.4s 9ph/7stn Dmin 135km Az.gap 292°
Corr. -0.775 12M/11stn Msd 0.3 1↓

98/5977
MAY 07 145114.0s 38.54S 175.69E 156km M=3.7
0.3 0.02 0.02 3
Rsd 0.1s 14ph/12stn Dmin 63km Az.gap 221°
Corr. -0.659 13M/13stn Msd 0.2 2↑ 2↓

98/5980
MAY 07 172718.2s 36.30S 179.97W 12km M=3.8
0.2 0.03 0.02 R
Rsd 0.1s 5ph/3stn Dmin 211km Az.gap 349°
Corr. -0.702 4M/3stn Msd 0.3

98/5985
MAY 07 233604.7s 38.55S 176.71E 80km M=3.5
0.4 0.01 0.02 4
Rsd 0.3s 14ph/12stn Dmin 39km Az.gap 70°
Corr. 0.208 8M/6stn Msd 0.2 1↓

98/5988
MAY 08 022048.3s 41.32S 172.62E 195km M=3.6
0.4 0.02 0.03 3
Rsd 0.3s 18ph/13stn Dmin 55km Az.gap 134°
Corr. -0.298 9M/9stn Msd 0.2 5↑ 1↓

98/6005
MAY 08 180901.4s 39.07S 175.83E 84km M=3.8
0.3 0.01 0.02 2
Rsd 0.3s 33ph/26stn Dmin 16km Az.gap 43°
Corr. -0.295 22M/19stn Msd 0.2 5↑ 3↓

98/6027
MAY 09 024004.2s 41.32S 174.72E 30km M=4.1
0.1 0.01 0.01 1
Rsd 0.1s 27ph/23stn Dmin 5km Az.gap 83°
Corr. -0.360 10M/5stn Msd 0.1 4↑ 9↓
Felt Paraparaumu (65) to Wellington (68) MM4.

98/6033
MAY 09 034112.7s 38.19S 176.27E 155km M=3.7
0.5 0.03 0.02 4
Rsd 0.2s 13ph/12stn Dmin 74km Az.gap 212°
Corr. -0.622 18M/18stn Msd 0.4 1↑

98/6035
MAY 09 042001.3s 40.21S 173.61E 135km M=4.1
0.2 0.01 0.01 2
Rsd 0.2s 39ph/34stn Dmin 70km Az.gap 139°
Corr. -0.012 8M/4stn Msd 0.3 5↑ 2↓

98/6046
MAY 09 082931.4s 40.08S 172.93E 12km M=4.1
0.1 0.01 0.01 R
Rsd 0.1s 27ph/22stn Dmin 90km Az.gap 200°
Corr. -0.599 42M/37stn Msd 0.3 1↑

98/6059
MAY 09 192718.2s 44.15S 167.52E 33km M=4.0
0.7 0.03 0.05 R
Rsd 0.3s 11ph/6stn Dmin 143km Az.gap 277°
Corr. -0.568 8M/5stn Msd 0.2 1↓

98/6064
MAY 09 232729.8s 38.47S 179.42W 12km M=3.8
0.7 0.03 0.05 R
Rsd 0.3s 11ph/8stn Dmin 208km Az.gap 291°
Corr. 0.110 8M/6stn Msd 0.3

98/6069
MAY 10 054354.1s 36.64S 177.00E 278km M=3.8
0.8 0.09 0.09 8
Rsd 0.3s 14ph/10stn Dmin 157km Az.gap 287°
Corr. -0.622 8M/8stn Msd 0.2

98/6077
MAY 10 095658.4s 38.17S 176.12E 177km M=3.5
0.8 0.05 0.04 7
Rsd 0.3s 10ph/9stn Dmin 26km Az.gap 223°
Corr. -0.615 10M/8stn Msd 0.2 1↑

98/6091
MAY 10 223544.7s 37.71S 177.05E 137km M=3.6
0.5 0.06 0.03 6
Rsd 0.2s 5ph/3stn Dmin 62km Az.gap 269°
Corr. -0.654 5M/3stn Msd 0.3 1↑

98/6093
MAY 10 231824.7s 36.50S 178.11E 67km M=4.0
0.9 0.08 0.10 19
Rsd 0.2s 7ph/5stn Dmin 123km Az.gap 316°
Corr. -0.535 8M/4stn Msd 0.5

98/6099
MAY 11 050805.2s 41.22S 174.84E 0km M=2.0
0.1 R R R
Rsd 0.2s 6ph/6stn Dmin 9km Az.gap 106°
Corr. R 4M/4stn Msd 0.2
Felt Newlands (68). Quarry blast.

98/6103
MAY 11 064912.9s 39.21S 174.79E 20km M=3.5
0.0 0.01 0.00 1
Rsd 0.1s 28ph/24stn Dmin 36km Az.gap 145°
Corr. -0.373 29M/29stn Msd 0.3 1↑ 2↓

98/6105
MAY 11 073614.4s 40.47S 177.92E 12km M=4.6
0.4 0.02 0.03 R
Rsd 0.2s 19ph/16stn Dmin 140km Az.gap 219°
Corr. -0.685 20M/10stn Msd 0.3 1↑ 1↓

98/6128
MAY 11 142641.9s 37.41S 176.40E 193km M=3.8
0.5 0.04 0.04 3
Rsd 0.1s 9ph/7stn Dmin 113km Az.gap 253°
Corr. -0.815 16M/16stn Msd 0.3 1↓

98/6140
MAY 11 213230.8s 44.85S 167.31E 33km M=4.1
0.4 0.01 0.03 R
Rsd 0.2s 10ph/7stn Dmin 87km Az.gap 248°
Corr. -0.174 10M/5stn Msd 0.2

98/6147
MAY 11 223501.7s 38.58S 176.17E 111km M=3.5
0.7 0.03 0.02 6
Rsd 0.2s 16ph/14stn Dmin 21km Az.gap 178°
Corr. -0.644 14M/12stn Msd 0.2 1↑ 1↓

98/6152
MAY 12 013727.1s 37.94S 177.33E 72km M=3.7
0.3 0.02 0.01 3
Rsd 0.2s 14ph/12stn Dmin 41km Az.gap 105°
Corr. -0.028 9M/7stn Msd 0.3 1↓

98/6157
MAY 12 054638.4s 37.76S 176.18E 277km M=4.6
0.8 0.03 0.03 7
Rsd 0.2s 20ph/18stn Dmin 53km Az.gap 124°
Corr. 0.118 22M/18stn Msd 0.2 1↓

98/6158
MAY 12 072007.6s 38.34S 177.13E 53km M=4.2
0.1 0.01 0.01 2
Rsd 0.2s 32ph/29stn Dmin 9km Az.gap 112°
Corr. -0.015 24M/18stn Msd 0.2 5↑ 5↓
Felt Ruatuna Rd (35) MM4.

98/6168
MAY 12 122208.2s 41.63S 173.39E 70km M=3.8
0.3 0.02 0.01 3
Rsd 0.2s 25ph/20stn Dmin 41km Az.gap 91°
Corr. 0.130 13M/12stn Msd 0.4 2↑ 2↓

98/6169
MAY 12 130954.5s 45.14S 167.47E 114km M=3.8
0.6 0.03 0.03 5
Rsd 0.3s 10ph/6stn Dmin 59km Az.gap 275°
Corr. -0.302 13M/6stn Msd 0.2 3↑ 2↓

98/6203
MAY 13 095806.2s 36.05S 178.35E 192km M=4.5
0.6 0.04 0.03 7
Rsd 0.2s 20ph/17stn Dmin 172km Az.gap 290°
Corr. 0.307 22M/16stn Msd 0.2 2↑ 1↓

98/6214
MAY 13 183151.7s 40.28S 173.53E 201km M=3.7
0.5 0.04 0.02 4
Rsd 0.2s 15ph/11stn Dmin 67km Az.gap 228°
Corr. 0.053 9M/9stn Msd 0.3 3↑ 1↓

98/6228
MAY 14 092721.8s 38.50S 177.15E 46km M=5.1
0.1 0.01 0.01 2
Rsd 0.2s 36ph/32stn Dmin 27km Az.gap 127°
Corr. 0.081 14M/9stn Msd 0.5 5↑ 7↓
Felt Opotiki (35) to Patoka (52). MM4.

98/6270
MAY 15 144847.6s 38.96S 175.77E 5km M=3.8
0.1 0.01 0.01 R
Rsd 0.3s 19ph/15stn Dmin 6km Az.gap 64°
Corr. -0.339 35M/33stn Msd 0.2 5↑ 2↓

98/6288
MAY 16 002605.2s 37.24S 177.70E 12km M=3.8
0.1 0.01 0.01 R
Rsd 0.2s 8ph/5stn Dmin 66km Az.gap 192°
Corr. 0.655 10M/4stn Msd 0.4

98/6297
MAY 16 035443.3s 41.14S 172.95E 157km M=3.9
0.4 0.02 0.02 3
Rsd 0.2s 19ph/15stn Dmin 49km Az.gap 94°
Corr. -0.413 11M/11stn Msd 0.2 3↑ 2↓

98/6300
MAY 16 062311.6s 35.72S 178.20E 176km M=4.0
0.4 0.06 0.05 9
Rsd 0.2s 6ph/4stn Dmin 209km Az.gap 328°
Corr. -0.089 11M/11stn Msd 0.2

98/6305
MAY 16 083704.3s 45.11S 167.52E 84km M=3.7
0.5 0.03 0.03 5
Rsd 0.3s 11ph/6stn Dmin 58km Az.gap 273°
Corr. -0.433 9M/5stn Msd 0.2 1↑

98/6320
MAY 16 191615.7s 38.79S 175.38E 168km M=4.9
0.3 0.01 0.01 2
Rsd 0.1s 36ph/32stn Dmin 27km Az.gap 53°
Corr. -0.147 8M/4stn Msd 0.2 8↑ 6↓
Felt Moawhango (58) and Waitarere Beach (65). MM4.

98/6323
MAY 16 212645.9s 36.71S 174.98E 5km M=2.7
0.1 0.01 0.01 R
Rsd 0.2s 10ph/7stn Dmin 11km Az.gap 128°
Corr. -0.031 8M/7stn Msd 0.2 1↑
Felt Rakino Is (16) MM5 and Waiheke Is (17).

98/6337
MAY 17 071502.4s 38.46S 175.68E 278km M=3.6
0.9 0.06 0.06 8
Rsd 0.3s 14ph/12stn Dmin 83km Az.gap 203°
Corr. -0.734 11M/11stn Msd 0.2

98/6350
MAY 17 141803.4s 37.86S 179.11E 33km M=3.6
0.6 0.03 0.04 R
Rsd 0.3s 10ph/7stn Dmin 77km Az.gap 285°
Corr. 0.076 11M/9stn Msd 0.3 1↑

98/6352
MAY 17 144141.0s 40.68S 173.88E 87km M=3.7
0.2 0.01 0.01 3
Rsd 0.3s 32ph/26stn Dmin 14km Az.gap 98°
Corr. 0.096 15M/15stn Msd 0.3 5↑ 1↓

98/6367
MAY 17 210223.6s 38.95S 177.78E 33km M=3.6
0.2 0.02 0.02 R
Rsd 0.3s 15ph/12stn Dmin 44km Az.gap 183°
Corr. -0.730 27M/25stn Msd 0.2 1↑

98/6375
MAY 18 001104.7s 38.71S 175.71E 127km M=3.9
1.3 0.05 0.02 13
Rsd 0.4s 12ph/12stn Dmin 53km Az.gap 178°
Corr. -0.019 15M/15stn Msd 0.3 2↑ 2↓

98/6381
MAY 18 035635.9s 39.44S 174.30E 221km M=4.3
0.3 0.01 0.02 2
Rsd 0.1s 28ph/24stn Dmin 67km Az.gap 159°
Corr. -0.471 22M/18stn Msd 0.3 1↓

98/6385
MAY 18 065124.9s 41.47S 173.62E 68km M=4.7
0.3 0.01 0.01 4
Rsd 0.3s 26ph/18stn Dmin 18km Az.gap 67°
Corr. -0.080 8M/4stn Msd 0.3 5↑ 7↓
Felt Blenheim (77) and Picton (78).

98/6414
MAY 18 232044.6s 37.52S 176.99E 5km M=4.4
0.3 0.02 0.02 R
Rsd 0.2s 13ph/12stn Dmin 17km Az.gap 144°
Corr. -0.206 35M/28stn Msd 0.4 1↑
Felt Tauranga (26).

98/6416
MAY 18 233751.1s 37.58S 177.13E 5km M=3.7
0.2 0.02 0.02 R
Rsd 0.4s 12ph/8stn Dmin 8km Az.gap 170°
Corr. -0.516 19M/14stn Msd 0.4 1↑

98/6430
MAY 19 024709.0s 37.47S 176.99E 5km M=3.6
0.2 0.02 0.01 R
Rsd 0.3s 13ph/11stn Dmin 19km Az.gap 152°
Corr. 0.045 16M/12stn Msd 0.3 1↑

98/6465
MAY 19 161623.0s 36.43S 177.75E 185km M=4.4
0.5 0.03 0.02 5
Rsd 0.3s 20ph/17stn Dmin 138km Az.gap 260°
Corr. 0.494 21M/18stn Msd 0.2 1↑ 2↓

98/6479
MAY 19 204909.8s 39.24S 174.89E 205km M=4.0
0.4 0.01 0.02 4
Rsd 0.1s 20ph/18stn Dmin 57km Az.gap 193°
Corr. -0.098 17M/15stn Msd 0.4

98/6486
MAY 20 021020.3s 44.88S 167.73E 78km M=4.2
0.6 0.02 0.03 5
Rsd 0.3s 11ph/7stn Dmin 27km Az.gap 220°
Corr. 0.163 11M/6stn Msd 0.2 1↓
Felt Mt Aspiring (113) and Milford Sound (120).

98/6490
MAY 20 041019.7s 38.04S 176.35E 161km M=3.5
0.4 0.03 0.02 3
Rsd 0.1s 8ph/7stn Dmin 72km Az.gap 256°
Corr. -0.254 8M/8stn Msd 0.3

98/6498
MAY 20 113510.2s 37.32S 177.12E 5km M=3.9
0.3 0.03 0.02 R
Rsd 0.4s 15ph/12stn Dmin 24km Az.gap 166°
Corr. 0.083 24M/18stn Msd 0.3 1↓

98/6513
MAY 20 185704.5s 39.74S 174.14E 208km M=3.9
0.7 0.02 0.03 6
Rsd 0.3s 25ph/22stn Dmin 68km Az.gap 188°
Corr. -0.540 17M/17stn Msd 0.3 3↑ 1↓

98/6515
MAY 20 204411.0s 45.22S 167.24E 103km M=3.9
0.9 0.07 0.07 11
Rsd 0.5s 7ph/5stn Dmin 93km Az.gap 274°
Corr. -0.463 12M/5stn Msd 0.2 1↓

98/6517
MAY 20 220346.7s 41.17S 172.70E 212km M=4.0
0.3 0.02 0.02 2
Rsd 0.2s 18ph/13stn Dmin 41km Az.gap 122°
Corr. 0.103 12M/12stn Msd 0.3 4↑ 3↓

98/6518
MAY 20 233937.5s 41.57S 173.32E 81km M=4.0
0.5 0.02 0.02 5
Rsd 0.3s 24ph/21stn Dmin 41km Az.gap 84°
Corr. 0.453 14M/13stn Msd 0.3 1↑ 4↓

98/6531
MAY 21 093949.2s 36.20S 177.74E 230km M=3.6
1.4 0.19 0.18 14
Rsd 0.6s 8ph/5stn Dmin 163km Az.gap 320°
Corr. -0.734 4M/4stn Msd 0.2

98/6537
MAY 21 143342.5s 38.36S 175.36E 216km M=3.7
0.7 0.05 0.03 6
Rsd 0.2s 8ph/7stn Dmin 87km Az.gap 212°
Corr. -0.645 12M/12stn Msd 0.2 1↓

98/6549
MAY 21 212614.6s 37.84S 179.32E 33km M=3.8
1.1 0.06 0.08 R
Rsd 0.7s 11ph/8stn Dmin 94km Az.gap 293°
Corr. 0.114 13M/9stn Msd 0.3 1↓

98/6551
MAY 21 223006.5s 43.19S 170.73E 5km M=3.7
0.4 0.03 0.02 R
Rsd 0.4s 12ph/9stn Dmin 13km Az.gap 121°
Corr. -0.206 14M/9stn Msd 0.4 2↑ 1↓

98/6555
MAY 22 024202.4s 38.57S 175.68E 186km M=4.2
0.7 0.04 0.03 6
Rsd 0.5s 23ph/18stn Dmin 77km Az.gap 151°
Corr. -0.527 20M/20stn Msd 0.2 1↓

98/6557
MAY 22 030435.8s 37.00S 176.28E 394km M=3.8
0.7 0.14 0.21 9
Rsd 0.2s 10ph/8stn Dmin 158km Az.gap 275°
Corr. -0.960 7M/7stn Msd 0.2

98/6575
MAY 23 005850.7s 39.59S 174.43E 237km M=3.9
0.4 0.02 0.03 3
Rsd 0.2s 23ph/19stn Dmin 49km Az.gap 210°
Corr. -0.629 17M/17stn Msd 0.3 1↑

98/6581
MAY 23 060033.8s 38.31S 176.24E 5km M=2.9
0.1 0.01 0.01 R
Rsd 0.2s 14ph/10stn Dmin 8km Az.gap 94°
Corr. 0.132 14M/13stn Msd 0.4 1↑
Felt Ngakuru (33) MM4.

98/6597
MAY 23 095108.2s 39.19S 175.39E 131km M=4.2
0.3 0.01 0.01 3
Rsd 0.2s 41ph/37stn Dmin 14km Az.gap 63°
Corr. 0.166 27M/21stn Msd 0.3 6↑ 7↓

98/6613
MAY 23 183254.0s 37.12S 176.79E 189km M=3.7
1.1 0.09 0.08 11
Rsd 0.4s 8ph/7stn Dmin 130km Az.gap 265°
Corr. -0.551 9M/9stn Msd 0.3

98/6615
MAY 23 191123.0s 35.65S 178.76E 12km M=3.8
0.7 0.05 0.05 R
Rsd 0.2s 6ph/4stn Dmin 221km Az.gap 343°
Corr. -0.437 4M/3stn Msd 0.3

98/6616
MAY 23 193310.0s 37.01S 176.82E 236km M=4.0
0.4 0.03 0.03 4
Rsd 0.2s 10ph/8stn Dmin 102km Az.gap 190°
Corr. 0.269 16M/14stn Msd 0.2 1↑

98/6646
MAY 24 125145.1s 35.97S 179.54E 5km M=3.6
0.7 0.04 0.05 R
Rsd 0.2s 6ph/4stn Dmin 212km Az.gap 328°
Corr. 0.062 4M/4stn Msd 0.5

98/6650
MAY 24 134716.8s 39.44S 175.87E 69km M=4.1
0.2 0.01 0.01 2
Rsd 0.3s 39ph/34stn Dmin 26km Az.gap 42°
Corr. -0.332 8M/4stn Msd 0.2 12↑ 2↓

98/6651
MAY 24 141653.5s 38.68S 175.72E 115km M=3.5
0.4 0.01 0.02 4
Rsd 0.3s 19ph/14stn Dmin 4km Az.gap 77°
Corr. -0.021 13M/13stn Msd 0.2 1↓

98/6652
MAY 24 172835.0s 39.61S 173.69E 5km M=3.7
0.2 0.01 0.02 R
Rsd 0.2s 24ph/22stn Dmin 37km Az.gap 166°
Corr. -0.212 32M/30stn Msd 0.4 2↑ 1↓

98/6666
MAY 24 225032.7s 38.56S 175.91E 146km M=3.9
0.4 0.02 0.02 4
Rsd 0.2s 20ph/17stn Dmin 36km Az.gap 128°
Corr. -0.083 21M/19stn Msd 0.3 1↑

98/6670
MAY 25 013613.3s 37.34S 177.03E 5km M=3.6
0.4 0.03 0.02 R
Rsd 0.3s 11ph/9stn Dmin 79km Az.gap 163°
Corr. -0.553 12M/10stn Msd 0.3

98/6671
MAY 25 025111.6s 38.30S 176.06E 131km M=3.8
0.7 0.04 0.02 5
Rsd 0.2s 12ph/10stn Dmin 90km Az.gap 219°
Corr. -0.366 19M/19stn Msd 0.2 1↑

98/6677
MAY 25 064951.4s 37.17S 177.13E 5km M=3.5
0.8 0.05 0.03 R
Rsd 0.5s 7ph/5stn Dmin 114km Az.gap 234°
Corr. -0.313 7M/5stn Msd 0.3

98/6683
MAY 25 112312.7s 37.29S 177.35E 150km M=4.6
0.4 0.04 0.02 3
Rsd 0.2s 21ph/18stn Dmin 91km Az.gap 225°
Corr. 0.151 26M/20stn Msd 0.3 1↑

98/6685
MAY 25 114827.5s 45.27S 167.30E 74km M=3.5
0.5 0.04 0.03 7
Rsd 0.2s 10ph/6stn Dmin 86km Az.gap 259°
Corr. -0.157 10M/7stn Msd 0.2 1↓

98/6690
MAY 25 162629.3s 36.95S 177.15E 248km M=3.6
1.4 0.14 0.12 10
Rsd 0.4s 7ph/5stn Dmin 146km Az.gap 301°
Corr. -0.612 3M/3stn Msd 0.1

98/6693
MAY 25 165553.0s 37.10S 176.84E 244km M=3.8
0.6 0.07 0.07 6
Rsd 0.3s 11ph/9stn Dmin 131km Az.gap 266°
Corr. -0.713 15M/15stn Msd 0.3

98/6695
MAY 25 172632.9s 37.33S 177.07E 5km M=3.6
0.4 0.03 0.02 R
Rsd 0.4s 11ph/9stn Dmin 81km Az.gap 220°
Corr. -0.164 14M/10stn Msd 0.2

98/6698
MAY 25 183013.9s 37.29S 177.01E 5km M=3.6
1.2 0.07 0.05 R
Rsd 0.2s 5ph/4stn Dmin 108km Az.gap 291°
Corr. -0.899 7M/5stn Msd 0.3

98/6715
MAY 25 232342.7s 38.32S 176.12E 5km M=2.3
0.3 0.02 0.01 R
Rsd 0.4s 9ph/6stn Dmin 14km Az.gap 197°
Corr. 0.439 6M/6stn Msd 0.2 1↑
Felt Ngakuru (33) MM4.

98/6722
MAY 26 012556.9s 36.73S 177.77E 12km M=4.0
0.9 0.06 0.03 R
Rsd 0.2s 6ph/4stn Dmin 107km Az.gap 315°
Corr. 0.027 13M/9stn Msd 0.2 1↓

98/6729
MAY 26 032502.3s 44.56S 168.84E 12km M=2.7
0.5 0.03 0.02 R
Rsd 0.2s 8ph/4stn Dmin 88km Az.gap 260°
Corr. -0.452 4M/3stn Msd 0.5
Felt Mt Aspiring (113) MM3.

98/6734
MAY 26 084106.1s 44.59S 168.90E 5km M=2.5
0.2 0.02 0.01 R
Rsd 0.1s 8ph/5stn Dmin 83km Az.gap 257°
Corr. -0.305 5M/5stn Msd 0.3
Felt Mt Aspiring (113) MM4.

98/6748
MAY 26 144431.3s 43.84S 168.96E 9km M=4.4
0.1 0.01 0.01 1
Rsd 0.1s 12ph/10stn Dmin 29km Az.gap 180°
Corr. -0.676 12M/6stn Msd 0.2 1↓
Felt Haast (103), Mahitahi (104) and Queenstown (132). No MSZ seismograms.

98/6762
MAY 27 035420.9s 36.24S 177.09E 294km M=3.8
0.6 0.08 0.07 8
Rsd 0.2s 5ph/4stn Dmin 185km Az.gap 325°
Corr. -0.451 8M/8stn Msd 0.2

98/6766
MAY 27 063838.0s 39.82S 174.71E 21km M=3.6
0.1 0.01 0.01 2
Rsd 0.3s 25ph/21stn Dmin 19km Az.gap 99°
Corr. -0.037 22M/22stn Msd 0.4 2↑ 1↓

98/6775
MAY 27 133330.5s 37.34S 176.42E 204km M=4.1
0.6 0.07 0.03 5
Rsd 0.2s 11ph/9stn Dmin 84km Az.gap 268°
Corr. 0.076 12M/11stn Msd 0.2 1↓

98/6797
MAY 27 184458.2s 39.07S 174.64E 22km M=3.6
0.1 0.01 0.01 2
Rsd 0.2s 25ph/22stn Dmin 33km Az.gap 116°
Corr. -0.323 30M/28stn Msd 0.2 1↑ 2↓

98/6817
MAY 28 045358.9s 38.26S 177.05E 57km M=3.8
0.2 0.01 0.01 2
Rsd 0.2s 24ph/21stn Dmin 6km Az.gap 67°
Corr. -0.198 18M/14stn Msd 0.1 1↑

98/6818
MAY 28 065129.5s 40.53S 174.61E 58km M=3.5
0.2 0.01 0.02 4
Rsd 0.3s 27ph/24stn Dmin 45km Az.gap 76°
Corr. 0.077 15M/14stn Msd 0.2 1↑

98/6820
MAY 28 075204.2s 37.26S 177.86E 67km M=3.5
0.7 0.04 0.03 11
Rsd 0.5s 9ph/5stn Dmin 54km Az.gap 243°
Corr. -0.156 8M/4stn Msd 0.0

98/6827
MAY 28 115842.3s 35.83S 179.06E 5km M=4.1
1.0 0.06 0.08 R
Rsd 0.4s 10ph/8stn Dmin 208km Az.gap 323°
Corr. 0.267 19M/19stn Msd 0.2 1↓

98/6829
MAY 28 133501.8s 38.70S 176.05E 91km M=3.8
0.2 0.01 0.01 2
Rsd 0.2s 25ph/20stn Dmin 9km Az.gap 82°
Corr. -0.283 19M/18stn Msd 0.3 7↑ 6↓

98/6835
MAY 28 204349.6s 37.81S 179.87E 12km M=4.2
1.0 0.07 0.06 R
Rsd 0.4s 10ph/6stn Dmin 140km Az.gap 302°
Corr. 0.106 25M/20stn Msd 0.3

98/6848
MAY 28 215655.0s 38.31S 176.22E 5km M=3.9
0.1 0.01 0.01 R
Rsd 0.2s 27ph/22stn Dmin 15km Az.gap 55°
Corr. -0.459 47M/42stn Msd 0.3 4↑ 2↓
Felt Ngakuru and Rotorua (33).

98/6851
MAY 28 215958.2s 38.35S 176.21E 5km M=2.9
0.1 0.01 0.01 R
Rsd 0.2s 8ph/6stn Dmin 6km Az.gap 187°
Corr. 0.406 5M/5stn Msd 0.2
Felt Ngakuru (33).

98/6855
MAY 28 220443.4s 38.33S 176.19E 5km M=2.4
0.1 0.01 0.01 R
Rsd 0.2s 9ph/5stn Dmin 8km Az.gap 183°
Corr. 0.339 7M/7stn Msd 0.2 1↑
Felt Ngakuru (33).

98/6875
MAY 29 064348.9s 37.24S 177.80E 101km M=3.5
0.4 0.04 0.03 5
Rsd 0.2s 9ph/7stn Dmin 60km Az.gap 269°
Corr. -0.450 11M/8stn Msd 0.2 1↓

98/6897
MAY 29 213818.7s 36.89S 176.61E 256km M=3.9
1.3 0.14 0.12 10
Rsd 0.4s 8ph/7stn Dmin 158km Az.gap 288°
Corr. -0.743 6M/4stn Msd 0.3 1↓

98/6906
MAY 30 025440.4s 34.12S 179.59W 33km M=4.1
1.0 0.11 0.17 R
Rsd 0.4s 6ph/4stn Dmin 430km Az.gap 350°
Corr. -0.758 4M/4stn Msd 0.2

98/6913
MAY 30 121914.8s 37.90S 176.29E 185km M=4.7
0.4 0.02 0.01 3
Rsd 0.2s 33ph/30stn Dmin 15km Az.gap 119°
Corr. -0.034 8M/4stn Msd 0.2 3↑ 2↓

98/6922
MAY 30 190034.1s 38.27S 176.12E 5km M=3.4
0.1 0.01 0.00 R
Rsd 0.2s 17ph/13stn Dmin 12km Az.gap 75°
Corr. -0.218 20M/19stn Msd 0.3
Felt Ngakuru (33) MM5.

98/6930
MAY 30 194141.5s 38.30S 176.13E 5km M=3.1
0.1 0.01 0.01 R
Rsd 0.3s 15ph/10stn Dmin 14km Az.gap 76°
Corr. -0.247 15M/14stn Msd 0.3 1↑
Felt Ngakuru (33) MM4.

98/6957
MAY 31 113333.5s 38.28S 176.09E 155km M=4.0
0.7 0.03 0.02 5
Rsd 0.2s 13ph/11stn Dmin 57km Az.gap 111°
Corr. -0.260 19M/18stn Msd 0.3

98/6965
MAY 31 152116.6s 38.49S 175.86E 193km M=3.5
0.4 0.06 0.11 6
Rsd 0.1s 11ph/8stn Dmin 112km Az.gap 230°
Corr. -0.955 3M/3stn Msd 0.4
Poor station coverage.

98/6972
MAY 31 214254.3s 40.23S 173.40E 199km M=3.6
0.5 0.04 0.02 5
Rsd 0.2s 15ph/12stn Dmin 78km Az.gap 235°
Corr. 0.218 9M/9stn Msd 0.2 1↑

98/6981
JUN 01 055513.6s 36.54S 177.47E 162km M=3.8
0.8 0.14 0.06 15
Rsd 0.3s 9ph/7stn Dmin 184km Az.gap 309°
Corr. -0.532 9M/9stn Msd 0.1

98/6989
JUN 01 090620.5s 37.63S 179.67W 12km M=3.7
1.5 0.09 0.10 R
Rsd 0.6s 8ph/6stn Dmin 179km Az.gap 314°
Corr. 0.276 8M/6stn Msd 0.2

98/6998
JUN 01 175646.3s 38.60S 175.84E 150km M=3.9
0.5 0.03 0.02 4
Rsd 0.3s 26ph/22stn Dmin 13km Az.gap 148°
Corr. -0.409 20M/17stn Msd 0.2

98/6999
JUN 01 200632.7s 36.91S 177.67E 83km M=3.9
0.8 0.08 0.07 14
Rsd 0.4s 9ph/7stn Dmin 95km Az.gap 287°
Corr. -0.539 9M/6stn Msd 0.3

98/7007
JUN 02 115411.7s 38.72S 177.14E 47km M=3.7
0.1 0.01 0.01 2
Rsd 0.1s 20ph/18stn Dmin 17km Az.gap 114°
Corr. -0.196 17M/13stn Msd 0.3 1↑

98/7008
JUN 02 125544.3s 38.78S 179.55E 12km M=3.5
0.3 0.02 0.02 R
Rsd 0.1s 7ph/3stn Dmin 133km Az.gap 332°
Corr. 0.400 4M/4stn Msd 0.1

98/7020
JUN 02 230705.3s 41.41S 174.74E 53km M=3.6
0.1 0.01 0.01 1
Rsd 0.2s 26ph/20stn Dmin 11km Az.gap 123°
Corr. -0.417 12M/9stn Msd 0.4 5↑ 6↓

98/7021
JUN 03 003601.1s 35.36S 178.81E 242km M=4.0
1.3 0.21 0.18 30
Rsd 0.4s 6ph/4stn Dmin 252km Az.gap 344°
Corr. -0.613 5M/4stn Msd 0.3

98/7037
JUN 03 181718.9s 37.58S 176.31E 220km M=3.9
0.7 0.03 0.04 7
Rsd 0.3s 10ph/8stn Dmin 103km Az.gap 135°
Corr. 0.405 15M/15stn Msd 0.2 1↓

98/7043
JUN 04 061253.5s 39.41S 175.47E 81km M=3.5
0.3 0.01 0.02 3
Rsd 0.2s 22ph/17stn Dmin 17km Az.gap 93°
Corr. -0.395 16M/14stn Msd 0.3 1↑ 1↓

98/7048
JUN 04 083037.7s 39.73S 174.11E 153km M=3.6
0.4 0.02 0.03 3
Rsd 0.1s 18ph/14stn Dmin 71km Az.gap 230°
Corr. -0.660 9M/9stn Msd 0.2 1↑

98/7051
JUN 04 093533.8s 45.00S 167.60E 113km M=3.5
0.6 0.03 0.04 6
Rsd 0.4s 11ph/6stn Dmin 59km Az.gap 239°
Corr. -0.169 8M/5stn Msd 0.3 1↑

98/7056
JUN 04 153741.3s 39.10S 175.56E 239km M=3.7
0.3 0.03 0.04 2
Rsd 0.1s 13ph/9stn Dmin 12km Az.gap 184°
Corr. -0.933 11M/11stn Msd 0.3

98/7062
JUN 04 225737.8s 44.94S 167.61E 74km M=3.5
0.3 0.02 0.03 4
Rsd 0.2s 11ph/7stn Dmin 64km Az.gap 239°
Corr. -0.349 12M/7stn Msd 0.2 1↓

98/7069
JUN 05 051911.6s 42.97S 171.48E 5km M=3.7
0.1 0.01 0.01 R
Rsd 0.2s 13ph/11stn Dmin 61km Az.gap 122°
Corr. -0.470 27M/21stn Msd 0.2 3↑ 1↓

98/7087
JUN 05 152449.7s 38.80S 175.96E 5km M=2.9
0.1 0.01 0.01 R
Rsd 0.2s 14ph/12stn Dmin 15km Az.gap 73°
Corr. -0.504 16M/16stn Msd 0.3 1↑
Felt Acacia Bay (41) MM4.

98/7103
JUN 06 011656.0s 37.58S 177.00E 292km M=3.8
0.5 0.05 0.05 4
Rsd 0.1s 12ph/10stn Dmin 76km Az.gap 237°
Corr. -0.842 5M/5stn Msd 0.2

98/7124
JUN 06 142737.4s 38.49S 177.65E 55km M=3.8
0.1 0.02 0.01 3
Rsd 0.1s 17ph/15stn Dmin 53km Az.gap 157°
Corr. -0.576 20M/16stn Msd 0.2

98/7126
JUN 06 161002.9s 38.64S 177.81E 20km M=4.5
0.4 0.02 0.02 3
Rsd 0.3s 20ph/18stn Dmin 70km Az.gap 178°
Corr. -0.536 51M/44stn Msd 0.3 2↑ 2↓
Felt Otoko (36) and Gisborne (45).

98/7130
JUN 06 164734.3s 38.56S 177.82E 28km M=3.8
0.6 0.03 0.02 5
Rsd 0.3s 14ph/12stn Dmin 66km Az.gap 174°
Corr. -0.670 25M/21stn Msd 0.2 1↑ 1↓
Felt Gisborne (45).

98/7140
JUN 07 020405.4s 37.60S 176.38E 194km M=3.6
1.2 0.10 0.09 7
Rsd 0.4s 14ph/12stn Dmin 98km Az.gap 282°
Corr. -0.663 9M/9stn Msd 0.2 1↓
Poor station coverage.

98/7162
JUN 07 152539.0s 38.16S 176.50E 128km M=4.1
0.4 0.03 0.02 3
Rsd 0.2s 19ph/16stn Dmin 8km Az.gap 103°
Corr. -0.397 26M/21stn Msd 0.2 2↑ 3↓

98/7168
JUN 08 020120.2s 37.48S 177.36E 92km M=4.1
0.4 0.03 0.01 4
Rsd 0.1s 14ph/12stn Dmin 84km Az.gap 231°
Corr. 0.021 23M/21stn Msd 0.2

98/7169
JUN 08 020520.0s 38.90S 178.16E 18km M=3.6
1.0 0.06 0.05 4
Rsd 0.3s 12ph/10stn Dmin 33km Az.gap 256°
Corr. -0.800 16M/14stn Msd 0.3 1↓

98/7188
JUN 08 173253.4s 39.61S 174.41E 222km M=3.7
0.9 0.05 0.09 7
Rsd 0.3s 15ph/12stn Dmin 49km Az.gap 228°
Corr. -0.834 11M/11stn Msd 0.3

98/7207
JUN 09 080439.1s 38.16S 176.14E 170km M=3.9
0.3 0.01 0.01 3
Rsd 0.1s 16ph/15stn Dmin 27km Az.gap 135°
Corr. 0.062 19M/19stn Msd 0.3 1↓

98/7213
JUN 09 120803.2s 36.76S 177.29E 5km M=3.7
0.6 0.05 0.03 R
Rsd 0.4s 7ph/4stn Dmin 86km Az.gap 226°
Corr. 0.735 5M/3stn Msd 0.4

98/7223
JUN 10 041747.2s 45.16S 167.45E 127km M=3.9
0.4 0.03 0.03 4
Rsd 0.2s 11ph/7stn Dmin 60km Az.gap 248°
Corr. -0.377 14M/7stn Msd 0.2 1↑ 4↓

98/7228
JUN 10 065428.4s 36.45S 177.81E 174km M=3.7
0.7 0.07 0.06 6
Rsd 0.2s 5ph/3stn Dmin 135km Az.gap 324°
Corr. -0.751 3M/3stn Msd 0.4

98/7229
JUN 10 072744.3s 37.16S 177.48E 152km M=4.5
0.4 0.04 0.02 4
Rsd 0.2s 15ph/13stn Dmin 88km Az.gap 239°
Corr. -0.031 24M/20stn Msd 0.2 3↑ 5↓

98/7246
JUN 10 181559.2s 37.05S 176.81E 240km M=3.7
1.0 0.08 0.10 9
Rsd 0.4s 11ph/8stn Dmin 137km Az.gap 302°
Corr. -0.384 5M/5stn Msd 0.4

98/7247
JUN 10 181652.6s 36.69S 177.69E 177km M=4.1
0.7 0.05 0.03 8
Rsd 0.3s 10ph/9stn Dmin 115km Az.gap 277°
Corr. -0.028 16M/15stn Msd 0.2

98/7248
JUN 10 200627.9s 36.85S 176.99E 275km M=4.7
0.6 0.06 0.03 5
Rsd 0.2s 16ph/13stn Dmin 78km Az.gap 186°
Corr. 0.342 23M/17stn Msd 0.2 4↑ 1↓

98/7249
JUN 10 213501.3s 45.50S 167.07E 90km M=4.1
0.4 0.03 0.04 3
Rsd 0.2s 10ph/7stn Dmin 81km Az.gap 292°
Corr. -0.398 14M/7stn Msd 0.2 1↓

98/7250
JUN 10 224957.6s 36.10S 177.91E 191km M=3.6
0.0 0.00 0.00 0
Rsd 0.0s 4ph/3stn Dmin 170km Az.gap 332°
Corr. -0.641 3M/3stn Msd 0.4

98/7256
JUN 11 030131.6s 37.13S 177.42E 131km M=3.6
0.2 0.02 0.02 3
Rsd 0.1s 6ph/4stn Dmin 93km Az.gap 292°
Corr. -0.531 5M/5stn Msd 0.2 1↑

98/7262
JUN 11 064301.6s 44.17S 167.89E 5km M=3.8
0.4 0.02 0.03 R
Rsd 0.3s 12ph/7stn Dmin 121km Az.gap 228°
Corr. -0.733 16M/9stn Msd 0.3

98/7281
JUN 11 155634.3s 38.32S 176.22E 5km M=3.9
0.1 0.01 0.01 R
Rsd 0.3s 33ph/28stn Dmin 8km Az.gap 53°
Corr. -0.445 47M/41stn Msd 0.3 1↑

98/7311
JUN 12 092735.7s 35.98S 178.20E 218km M=3.8
0.9 0.24 0.10 28
Rsd 0.3s 5ph/3stn Dmin 233km Az.gap 338°
Corr. -0.190 3M/3stn Msd 0.2

98/7317
JUN 12 172637.3s 37.90S 179.30E 12km M=4.0
0.6 0.02 0.04 R
Rsd 0.2s 13ph/9stn Dmin 94km Az.gap 281°
Corr. 0.388 32M/28stn Msd 0.2 1↑ 1↓

98/7318
JUN 12 183537.8s 38.59S 175.79E 158km M=3.8
0.8 0.02 0.02 7
Rsd 0.3s 15ph/12stn Dmin 31km Az.gap 72°
Corr. -0.246 22M/20stn Msd 0.3 2↑ 1↓

98/7319
JUN 12 184306.5s 37.85S 179.17E 24km M=3.5
1.1 0.05 0.06 6
Rsd 0.5s 8ph/6stn Dmin 81km Az.gap 294°
Corr. -0.098 6M/4stn Msd 0.2 1↑

98/7335
JUN 13 091238.4s 40.60S 173.35E 139km M=3.7
0.4 0.02 0.01 3
Rsd 0.2s 21ph/18stn Dmin 54km Az.gap 168°
Corr. -0.226 14M/14stn Msd 0.2 1↑

98/7338
JUN 13 132455.1s 38.59S 175.78E 143km M=3.9
0.7 0.04 0.03 5
Rsd 0.3s 15ph/13stn Dmin 14km Az.gap 221°
Corr. -0.600 19M/19stn Msd 0.1

98/7344
JUN 13 183916.0s 39.04S 176.31E 62km M=4.6
0.2 0.01 0.01 3
Rsd 0.2s 36ph/31stn Dmin 25km Az.gap 68°
Corr. -0.444 9M/5stn Msd 0.4 2↑ 1↓
Felt Taupo (41).

98/7352
JUN 14 014451.8s 38.69S 177.64E 57km M=4.0
0.2 0.01 0.01 3
Rsd 0.2s 19ph/17stn Dmin 35km Az.gap 132°
Corr. -0.134 27M/21stn Msd 0.2 1↑ 1↓

98/7355
JUN 14 043018.9s 45.00S 167.58E 69km M=3.6
0.4 0.03 0.03 5
Rsd 0.3s 11ph/8stn Dmin 61km Az.gap 240°
Corr. -0.492 15M/8stn Msd 0.3 1↑

98/7356
JUN 14 052831.0s 35.74S 179.80E 12km M=4.5
1.6 0.09 0.13 R
Rsd 0.5s 8ph/6stn Dmin 293km Az.gap 329°
Corr. -0.147 11M/8stn Msd 0.3

98/7363
JUN 14 094144.9s 39.83S 175.17E 67km M=3.6
0.2 0.01 0.01 4
Rsd 0.2s 25ph/24stn Dmin 21km Az.gap 87°
Corr. -0.290 17M/17stn Msd 0.2 1↑

98/7366
JUN 14 120054.5s 34.75S 179.00E 202km M=5.0
1.1 0.10 0.08 25
Rsd 0.4s 19ph/17stn Dmin 322km Az.gap 299°
Corr. 0.717 25M/20stn Msd 0.3 1↑ 1↓

98/7372
JUN 14 190333.2s 38.00S 176.28E 181km M=4.0
0.7 0.03 0.03 6
Rsd 0.2s 14ph/13stn Dmin 63km Az.gap 186°
Corr. 0.231 18M/17stn Msd 0.2 1↑

98/7379
JUN 15 003058.0s 37.37S 176.45E 216km M=4.0
0.5 0.06 0.06 4
Rsd 0.2s 8ph/7stn Dmin 114km Az.gap 253°
Corr. -0.749 14M/12stn Msd 0.1

98/7380
JUN 15 005309.6s 37.90S 176.53E 147km M=4.1
0.4 0.02 0.01 3
Rsd 0.2s 24ph/22stn Dmin 21km Az.gap 108°
Corr. -0.044 25M/20stn Msd 0.2 1↑ 1↓

98/7402
JUN 15 150409.2s 39.18S 179.49E 12km M=3.7
0.3 0.02 0.02 R
Rsd 0.1s 10ph/7stn Dmin 140km Az.gap 257°
Corr. -0.217 14M/14stn Msd 0.2

98/7413
JUN 15 221106.4s 36.63S 177.56E 174km M=4.3
0.5 0.04 0.02 6
Rsd 0.2s 19ph/17stn Dmin 126km Az.gap 277°
Corr. -0.086 20M/18stn Msd 0.2

98/7414
JUN 15 221502.1s 36.23S 177.71E 269km M=4.0
0.8 0.09 0.08 4
Rsd 0.2s 10ph/9stn Dmin 232km Az.gap 325°
Corr. -0.553 8M/6stn Msd 0.6

98/7417
JUN 16 035811.1s 45.00S 167.64E 121km M=4.0
0.7 0.03 0.04 5
Rsd 0.3s 10ph/7stn Dmin 57km Az.gap 270°
Corr. 0.250 8M/4stn Msd 0.1 1↓

98/7422
JUN 16 103610.8s 44.30S 169.36E 12km M=3.6
0.2 0.01 0.02 R
Rsd 0.3s 11ph/8stn Dmin 49km Az.gap 136°
Corr. 0.221 8M/5stn Msd 0.2 1↑ 2↓

98/7428
JUN 16 144335.5s 36.63S 177.01E 244km M=3.6
0.3 0.03 0.04 3
Rsd 0.1s 5ph/3stn Dmin 157km Az.gap 316°
Corr. -0.319 5M/5stn Msd 0.2

98/7436
JUN 16 202325.9s 40.03S 179.01E 12km M=3.7
1.1 0.05 0.07 R
Rsd 0.4s 12ph/8stn Dmin 178km Az.gap 258°
Corr. -0.526 6M/5stn Msd 0.4

98/7437
JUN 16 204701.6s 39.24S 175.23E 18km M=4.0
0.1 0.01 0.01 2
Rsd 0.2s 32ph/29stn Dmin 27km Az.gap 63°
Corr. -0.127 31M/29stn Msd 0.4 2↑ 2↓
Felt Ohakune and Raetahi (49) MM4.

98/7449
JUN 17 090404.3s 40.24S 173.57E 180km M=3.9
0.4 0.02 0.02 4
Rsd 0.3s 25ph/20stn Dmin 69km Az.gap 183°
Corr. -0.138 14M/14stn Msd 0.3 1↑ 4↓

98/7454
JUN 17 112736.4s 40.81S 174.76E 49km M=3.6
0.1 0.01 0.01 3
Rsd 0.2s 35ph/30stn Dmin 15km Az.gap 66°
Corr. 0.106 11M/9stn Msd 0.2 1↑
Felt Raumati South (65) MM4.

98/7460
JUN 17 173659.6s 38.53S 175.80E 143km M=3.8
0.6 0.03 0.02 5
Rsd 0.2s 19ph/15stn Dmin 21km Az.gap 199°
Corr. -0.576 21M/21stn Msd 0.2 1↑

98/7463
JUN 17 204028.6s 37.58S 179.32E 12km M=4.0
0.2 0.01 0.01 R
Rsd 0.1s 13ph/11stn Dmin 90km Az.gap 292°
Corr. 0.024 21M/17stn Msd 0.3

98/7464
JUN 17 213057.7s 36.30S 177.38E 241km M=3.9
0.4 0.04 0.05 3
Rsd 0.1s 12ph/9stn Dmin 219km Az.gap 320°
Corr. -0.608 5M/5stn Msd 0.2

98/7496
JUN 19 014500.9s 39.58S 173.67E 12km M=4.1
0.2 0.01 0.02 R
Rsd 0.2s 33ph/28stn Dmin 35km Az.gap 171°
Corr. -0.247 34M/31stn Msd 0.4 3↑ 1↓

98/7500
JUN 19 034237.5s 45.03S 167.46E 59km M=4.0
0.3 0.02 0.02 3
Rsd 0.1s 11ph/8stn Dmin 55km Az.gap 237°
Corr. -0.700 11M/6stn Msd 0.3 2↑ 2↓

98/7518
JUN 19 103311.2s 37.90S 179.49E 12km M=4.0
1.2 0.05 0.07 R
Rsd 0.7s 10ph/7stn Dmin 110km Az.gap 290°
Corr. 0.230 13M/9stn Msd 0.2 1↑ 1↓

98/7550
JUN 20 050701.3s 46.55S 166.55E 12km M=4.1
0.6 0.02 0.04 R
Rsd 0.3s 12ph/6stn Dmin 126km Az.gap 281°
Corr. 0.297 13M/7stn Msd 0.3 1↑ 5↓

98/7559
JUN 20 095013.5s 36.23S 177.51E 229km M=3.8
1.1 0.11 0.12 8
Rsd 0.3s 11ph/10stn Dmin 167km Az.gap 307°
Corr. -0.770 5M/5stn Msd 0.1

98/7600
JUN 21 155500.8s 38.94S 174.96E 207km M=4.6
0.4 0.02 0.01 3
Rsd 0.2s 32ph/30stn Dmin 50km Az.gap 93°
Corr. -0.324 8M/4stn Msd 0.2 7↑ 1↓

98/7609
JUN 22 024517.6s 38.88S 178.07E 37km M=3.6
0.7 0.05 0.03 5
Rsd 0.4s 8ph/5stn Dmin 29km Az.gap 250°
Corr. -0.434 4M/4stn Msd 0.3 1↓

98/7610
JUN 22 025344.6s 40.25S 173.43E 169km M=3.8
0.5 0.01 0.02 4
Rsd 0.2s 24ph/20stn Dmin 74km Az.gap 149°
Corr. -0.031 12M/12stn Msd 0.3 4↑ 1↓

98/7614
JUN 22 040851.7s 45.29S 166.81E 5km M=3.5
0.8 0.04 0.04 R
Rsd 0.4s 8ph/5stn Dmin 107km Az.gap 263°
Corr. -0.577 13M/7stn Msd 0.2

98/7631
JUN 22 151951.7s 39.35S 173.58E 11km M=5.2
0.4 0.01 0.02 1
Rsd 0.2s 37ph/33stn Dmin 31km Az.gap 179°
Corr. -0.475 16M/9stn Msd 1.1 3↑ 4↓
Felt northern Taranaki (46,47) and Marton (61).

98/7641
JUN 23 023413.7s 41.70S 174.24E 8km M=3.7
0.1 0.01 0.01 2
Rsd 0.3s 25ph/20stn Dmin 6km Az.gap 127°
Corr. -0.464 25M/21stn Msd 0.4 6↑ 2↓

98/7659
JUN 23 101111.1s 38.32S 176.19E 169km M=3.6
0.8 0.04 0.03 6
Rsd 0.2s 11ph/9stn Dmin 81km Az.gap 233°
Corr. -0.432 7M/7stn Msd 0.2

98/7674
JUN 24 005526.2s 37.27S 176.93E 144km M=3.6
0.6 0.07 0.04 7
Rsd 0.3s 9ph/6stn Dmin 111km Az.gap 258°
Corr. -0.671 5M/5stn Msd 0.2

98/7675
JUN 24 013856.5s 45.16S 166.83E 5km M=4.6
0.2 0.01 0.01 R
Rsd 0.1s 11ph/7stn Dmin 103km Az.gap 266°
Corr. -0.255 8M/4stn Msd 0.2 1↑

98/7682
JUN 24 053526.6s 38.86S 175.41E 117km M=3.6
0.4 0.02 0.02 4
Rsd 0.3s 21ph/17stn Dmin 19km Az.gap 108°
Corr. -0.021 15M/15stn Msd 0.2 1↑ 2↓

98/7685
JUN 24 093236.5s 38.11S 176.63E 135km M=3.7
0.4 0.02 0.01 3
Rsd 0.2s 26ph/23stn Dmin 9km Az.gap 143°
Corr. 0.036 19M/17stn Msd 0.2 1↑

98/7694
JUN 24 214826.1s 37.96S 176.61E 138km M=3.8
0.3 0.02 0.01 3
Rsd 0.2s 18ph/17stn Dmin 31km Az.gap 157°
Corr. -0.452 21M/19stn Msd 0.2 1↑

98/7702
JUN 25 025730.2s 38.88S 177.00E 46km M=3.6
0.1 0.01 0.01 2
Rsd 0.2s 25ph/21stn Dmin 5km Az.gap 132°
Corr. -0.413 9M/7stn Msd 0.3 1↑

98/7705
JUN 25 053413.1s 41.67S 177.27E 12km M=3.6
0.5 0.02 0.03 R
Rsd 0.1s 10ph/8stn Dmin 132km Az.gap 227°
Corr. -0.308 10M/9stn Msd 0.5

98/7710
JUN 25 110743.4s 41.04S 174.67E 32km M=3.6
0.1 0.01 0.00 1
Rsd 0.1s 11ph/8stn Dmin 22km Az.gap 166°
Corr. -0.473 7M/7stn Msd 1.1 1↑ 1↓

98/7723
JUN 26 025716.0s 39.04S 175.67E 214km M=3.7
0.9 0.07 0.06 7
Rsd 0.2s 13ph/12stn Dmin 7km Az.gap 127°
Corr. -0.850 3M/3stn Msd 0.2

98/7724
JUN 26 035256.2s 40.45S 173.68E 136km M=3.5
0.3 0.01 0.01 3
Rsd 0.2s 21ph/17stn Dmin 44km Az.gap 164°
Corr. -0.076 9M/9stn Msd 0.3 2↑ 1↓

98/7735
JUN 26 092135.2s 37.01S 176.90E 226km M=3.9
1.6 0.14 0.14 15
Rsd 0.6s 8ph/6stn Dmin 140km Az.gap 271°
Corr. -0.661 6M/4stn Msd 0.2

98/7739
JUN 26 112832.6s 38.85S 175.81E 5km M=4.3
0.1 0.01 0.01 R
Rsd 0.3s 32ph/28stn Dmin 17km Az.gap 43°
Corr. -0.122 43M/37stn Msd 0.3 5↑ 1↓
Felt central North Island, maximum intensity MM4.

98/7748
JUN 26 174028.8s 42.63S 173.78E 26km M=3.6
0.3 0.01 0.01 3
Rsd 0.2s 15ph/11stn Dmin 103km Az.gap 175°
Corr. -0.589 15M/10stn Msd 0.2

98/7750
JUN 26 181815.7s 43.57S 175.33E 33km M=4.2
0.5 0.03 0.03 R
Rsd 0.5s 28ph/21stn Dmin 217km Az.gap 211°
Corr. -0.787 34M/30stn Msd 0.2 1↑

98/7756
JUN 26 221648.2s 43.63S 173.90E 12km M=3.5
0.5 0.04 0.02 R
Rsd 0.4s 17ph/12stn Dmin 101km Az.gap 212°
Corr. -0.698 13M/10stn Msd 0.3

98/7771
JUN 27 201954.7s 42.55S 173.78E 35km M=3.5
0.2 0.01 0.02 8
Rsd 0.1s 18ph/15stn Dmin 94km Az.gap 168°
Corr. 0.103 10M/10stn Msd 0.3 1↑ 2↓

98/7776
JUN 27 215910.1s 36.33S 177.85E 186km M=4.0
1.3 0.11 0.14 15
Rsd 0.6s 9ph/7stn Dmin 147km Az.gap 320°
Corr. -0.629 8M/6stn Msd 0.2

98/7785
JUN 28 040054.5s 40.98S 175.81E 42km M=3.7
0.2 0.02 0.02 4
Rsd 0.3s 25ph/21stn Dmin 33km Az.gap 139°
Corr. -0.754 14M/11stn Msd 0.3 4↑ 3↓

98/7788
JUN 28 070745.8s 37.34S 176.89E 197km M=3.9
0.9 0.06 0.06 6
Rsd 0.3s 13ph/10stn Dmin 104km Az.gap 255°
Corr. -0.629 14M/14stn Msd 0.3

98/7790
JUN 28 073136.5s 37.16S 177.15E 286km M=3.7
0.6 0.07 0.08 5
Rsd 0.2s 11ph/8stn Dmin 113km Az.gap 266°
Corr. -0.761 10M/10stn Msd 0.2

98/7809
JUN 28 163837.5s 38.62S 175.84E 147km M=4.3
0.6 0.03 0.02 5
Rsd 0.3s 24ph/20stn Dmin 12km Az.gap 136°
Corr. -0.233 24M/21stn Msd 0.2 5↑ 2↓

98/7822
JUN 29 073832.9s 40.13S 176.72E 30km M=4.1
0.3 0.01 0.02 3
Rsd 0.2s 34ph/31stn Dmin 57km Az.gap 177°
Corr. -0.334 46M/40stn Msd 0.2 3↑ 3↓

98/7836
JUN 29 195422.1s 47.66S 165.52E 12km M=4.2
1.1 0.08 0.08 R
Rsd 0.5s 10ph/6stn Dmin 216km Az.gap 332°
Corr. -0.224 10M/5stn Msd 0.2

98/7840
JUN 29 220209.6s 35.54S 179.52E 278km M=4.1
0.3 0.03 0.04 3
Rsd 0.1s 8ph/6stn Dmin 303km Az.gap 347°
Corr. -0.326 7M/5stn Msd 0.7

98/7849
JUN 30 042816.9s 36.64S 177.65E 239km M=4.2
0.7 0.09 0.08 5
Rsd 0.2s 12ph/10stn Dmin 168km Az.gap 310°
Corr. -0.704 17M/13stn Msd 0.3

98/7857
JUN 30 095552.3s 40.53S 173.53E 166km M=3.6
0.3 0.03 0.02 2
Rsd 0.1s 16ph/12stn Dmin 45km Az.gap 264°
Corr. -0.173 9M/9stn Msd 0.4 1↓

98/7867
JUN 30 192053.8s 37.38S 177.50E 123km M=3.7
0.4 0.05 0.02 3
Rsd 0.2s 7ph/5stn Dmin 75km Az.gap 270°
Corr. -0.309 6M/4stn Msd 0.1

98/7869
JUN 30 201013.0s 38.53S 175.80E 189km M=3.6
0.5 0.03 0.07 7
Rsd 0.2s 15ph/12stn Dmin 116km Az.gap 262°
Corr. -0.606 10M/10stn Msd 0.2
Poor station coverage.

98/7874
JUL 01 013302.6s 38.74S 175.59E 186km M=3.5
0.1 0.01 0.01 1
Rsd 0.0s 12ph/10stn Dmin 51km Az.gap 302°
Corr. -0.007 7M/7stn Msd 0.2 1↑

98/7875
JUL 01 033916.4s 38.69S 175.87E 190km M=3.8
0.7 0.04 0.05 6
Rsd 0.3s 21ph/16stn Dmin 104km Az.gap 246°
Corr. -0.441 15M/15stn Msd 0.2 1↑

98/7886
JUL 01 175257.5s 38.78S 175.14E 198km M=4.1
0.9 0.05 0.05 9
Rsd 0.3s 21ph/17stn Dmin 59km Az.gap 224°
Corr. -0.563 19M/17stn Msd 0.2

98/7888
JUL 01 192033.5s 45.38S 167.01E 5km M=3.9
0.5 0.07 0.03 R
Rsd 0.2s 6ph/4stn Dmin 91km Az.gap 340°
Corr. 0.442 10M/4stn Msd 0.1 1↓

98/7891
JUL 02 004136.0s 39.33S 174.94E 154km M=3.7
0.3 0.02 0.02 4
Rsd 0.1s 15ph/14stn Dmin 52km Az.gap 205°
Corr. -0.641 14M/12stn Msd 0.3 1↑

98/7892
JUL 02 043446.8s 39.87S 173.88E 147km M=4.1
0.5 0.02 0.02 6
Rsd 0.2s 26ph/24stn Dmin 90km Az.gap 185°
Corr. -0.464 24M/19stn Msd 0.3 1↑

98/7903
JUL 03 003529.3s 36.91S 177.64E 189km M=4.2
0.9 0.07 0.08 8
Rsd 0.3s 11ph/8stn Dmin 141km Az.gap 301°
Corr. -0.435 22M/17stn Msd 0.2

98/7913
JUL 03 070113.3s 40.31S 178.83E 33km M=3.7
0.7 0.03 0.05 R
Rsd 0.3s 8ph/7stn Dmin 200km Az.gap 252°
Corr. -0.788 8M/8stn Msd 0.6

98/7927
JUL 03 172758.3s 39.05S 174.85E 224km M=4.6
0.5 0.02 0.01 4
Rsd 0.2s 27ph/26stn Dmin 47km Az.gap 94°
Corr. -0.197 8M/4stn Msd 0.2 10↑ 5↓

98/7944
JUL 04 053105.5s 45.83S 166.15E 12km M=4.1
0.9 0.05 0.06 R
Rsd 0.3s 9ph/7stn Dmin 140km Az.gap 311°
Corr. 0.530 8M/4stn Msd 0.3 1↓

98/7949
JUL 04 074747.3s 39.14S 174.48E 602km M=5.3
0.4 0.05 0.04 4
Rsd 0.2s 35ph/32stn Dmin 18km Az.gap 96°
Corr. -0.235 8M/4stn Msd 0.2 1↓

98/7951
JUL 04 090641.5s 37.28S 177.17E 5km M=4.7
0.2 0.01 0.01 R
Rsd 0.2s 20ph/16stn Dmin 28km Az.gap 199°
Corr. 0.617 9M/5stn Msd 0.3 1↓

98/7963
JUL 04 171543.3s 39.67S 174.41E 214km M=3.7
0.4 0.02 0.04 3
Rsd 0.1s 17ph/14stn Dmin 47km Az.gap 219°
Corr. -0.685 13M/13stn Msd 0.3

98/7966
JUL 04 190849.6s 40.09S 174.94E 12km M=3.5
0.1 0.01 0.01 R
Rsd 0.3s 31ph/27stn Dmin 33km Az.gap 93°
Corr. -0.340 32M/32stn Msd 0.3 1↓
Felt Marton (61) MM3.

98/7977
JUL 04 231741.6s 37.58S 178.41E 41km M=3.7
0.1 0.00 0.00 1
Rsd 0.0s 11ph/8stn Dmin 10km Az.gap 264°
Corr. 0.584 8M/4stn Msd 0.2 1↑

98/7998
JUL 05 151831.9s 45.06S 167.59E 98km M=3.8
0.7 0.06 0.05 8
Rsd 0.4s 9ph/5stn Dmin 56km Az.gap 270°
Corr. -0.570 11M/5stn Msd 0.2 1↑ 2↓

98/8002
JUL 05 161509.3s 45.12S 167.45E 60km M=3.6
0.8 0.06 0.06 12
Rsd 0.5s 9ph/5stn Dmin 62km Az.gap 276°
Corr. -0.668 10M/5stn Msd 0.2 1↓

98/8013
JUL 06 040355.4s 37.76S 178.26E 49km M=4.2
0.2 0.01 0.01 2
Rsd 0.1s 17ph/13stn Dmin 18km Az.gap 170°
Corr. 0.214 23M/18stn Msd 0.3 2↑ 1↓

98/8017
JUL 06 060201.9s 38.61S 175.55E 178km M=4.3
0.3 0.01 0.01 2
Rsd 0.2s 42ph/33stn Dmin 19km Az.gap 82°
Corr. -0.318 10M/5stn Msd 0.2 1↓

98/8034
JUL 06 164536.6s 42.06S 174.89E 35km M=3.9
0.2 0.02 0.01 5
Rsd 0.1s 22ph/19stn Dmin 66km Az.gap 183°
Corr. -0.448 17M/13stn Msd 0.3 1↑

98/8047
JUL 06 213325.3s 38.49S 176.12E 143km M=3.7
1.1 0.05 0.04 8
Rsd 0.5s 19ph/15stn Dmin 76km Az.gap 213°
Corr. -0.384 15M/15stn Msd 0.3 3↑ 1↓

98/8069
JUL 07 175802.3s 42.48S 172.96E 5km M=4.8
0.1 0.01 0.01 R
Rsd 0.2s 22ph/18stn Dmin 67km Az.gap 128°
Corr. -0.452 25M/14stn Msd 0.2 4↑ 1↓
FeltFerniehurst (96) MM4.

98/8085
JUL 08 073426.8s 39.57S 175.05E 101km M=3.6
0.3 0.01 0.02 4
Rsd 0.3s 33ph/25stn Dmin 27km Az.gap 114°
Corr. 0.076 21M/19stn Msd 0.2 1↑ 2↓

98/8088
JUL 08 103224.1s 35.57S 178.94E 211km M=3.7
0.0 0.00 0.00 0
Rsd 0.0s 4ph/3stn Dmin 232km Az.gap 345°
Corr. 0.210 3M/3stn Msd 0.1

98/8098
JUL 08 213424.1s 39.20S 175.76E 85km M=3.7
0.2 0.01 0.01 2
Rsd 0.2s 31ph/24stn Dmin 12km Az.gap 65°
Corr. -0.184 20M/17stn Msd 0.2 1↑

98/8099
JUL 09 004330.7s 41.30S 172.54E 215km M=3.9
0.4 0.02 0.02 3
Rsd 0.2s 17ph/14stn Dmin 53km Az.gap 159°
Corr. -0.307 14M/14stn Msd 0.3

98/8107
JUL 09 113146.2s 37.42S 177.90E 68km M=3.5
0.6 0.03 0.08 10
Rsd 0.2s 6ph/4stn Dmin 41km Az.gap 278°
Corr. -0.609 10M/8stn Msd 0.2

98/8112
JUL 09 135950.0s 43.60S 169.16E 12km M=3.7
0.5 0.04 0.03 R
Rsd 0.4s 10ph/8stn Dmin 119km Az.gap 203°
Corr. -0.416 18M/11stn Msd 0.2

98/8114
JUL 09 144537.1s 32.13S 175.77W 331km M=7.1
1.0 0.31 0.27 61
Rsd 0.2s 15ph/12stn Dmin 813km Az.gap 346°
Corr. -0.946 10M/5stn Msd 0.2
Felt Otoko (36) MM4 and Waikanae (65).

98/8117
JUL 09 193825.8s 37.79S 176.19E 229km M=4.5
0.7 0.06 0.04 5
Rsd 0.3s 13ph/11stn Dmin 53km Az.gap 216°
Corr. 0.355 21M/18stn Msd 0.2

98/8118
JUL 09 203341.7s 38.20S 176.22E 157km M=3.5
1.5 0.11 0.13 8
Rsd 0.4s 10ph/7stn Dmin 78km Az.gap 254°
Corr. -0.867 15M/15stn Msd 0.3
Poor station coverage.

98/8123
JUL 10 055210.4s 37.92S 176.80E 205km M=3.7
1.5 0.16 0.20 18
Rsd 0.4s 6ph/6stn Dmin 129km Az.gap 246°
Corr. -0.876 12M/10stn Msd 0.3

98/8127
JUL 10 070014.7s 40.30S 175.75E 45km M=3.5
0.1 0.00 0.01 2
Rsd 0.1s 32ph/28stn Dmin 43km Az.gap 97°
Corr. -0.306 21M/17stn Msd 0.2 1↑ 3↓

98/8129
JUL 10 084954.4s 38.54S 175.80E 164km M=3.7
0.5 0.03 0.02 5
Rsd 0.2s 16ph/12stn Dmin 56km Az.gap 217°
Corr. -0.156 21M/19stn Msd 0.3

98/8133
JUL 10 114103.7s 45.16S 167.56E 124km M=3.8
0.5 0.05 0.04 4
Rsd 0.3s 10ph/6stn Dmin 52km Az.gap 228°
Corr. -0.624 14M/7stn Msd 0.2 1↑ 1↓

98/8134
JUL 10 122216.2s 36.70S 177.49E 170km M=3.9
0.3 0.04 0.03 4
Rsd 0.2s 7ph/4stn Dmin 123km Az.gap 313°
Corr. -0.381 5M/4stn Msd 0.1

98/8137
JUL 10 131237.7s 36.38S 177.88E 221km M=3.7
2.2 0.23 0.25 17
Rsd 0.7s 7ph/5stn Dmin 141km Az.gap 314°
Corr. -0.817 3M/3stn Msd 0.2

98/8157
JUL 11 064812.5s 38.23S 178.53E 5km M=3.6
1.0 0.03 0.06 R
Rsd 0.7s 6ph/4stn Dmin 29km Az.gap 241°
Corr. -0.052 9M/5stn Msd 0.2 1↑

98/8165
JUL 11 115245.7s 37.35S 176.38E 249km M=4.4
0.3 0.04 0.02 3
Rsd 0.1s 13ph/10stn Dmin 119km Az.gap 249°
Corr. -0.309 25M/20stn Msd 0.2 1↑

98/8175
JUL 11 164422.6s 38.58S 175.70E 167km M=4.3
0.6 0.02 0.02 5
Rsd 0.2s 20ph/16stn Dmin 25km Az.gap 78°
Corr. -0.113 27M/21stn Msd 0.3 5↑ 5↓

98/8176
JUL 11 170757.1s 36.27S 178.15E 201km M=5.1
0.4 0.03 0.02 4
Rsd 0.1s 15ph/13stn Dmin 148km Az.gap 303°
Corr. 0.230 10M/5stn Msd 0.2 1↑

98/8206
JUL 12 083935.5s 38.09S 176.16E 171km M=3.9
0.8 0.05 0.03 6
Rsd 0.3s 13ph/12stn Dmin 33km Az.gap 185°
Corr. -0.431 22M/18stn Msd 0.2 1↑

98/8208
JUL 12 105255.3s 41.35S 173.13E 106km M=3.7
0.4 0.02 0.01 4
Rsd 0.3s 26ph/19stn Dmin 60km Az.gap 102°
Corr. 0.027 15M/13stn Msd 0.2 6↑ 4↓

98/8212
JUL 12 141739.2s 38.11S 178.82E 20km M=3.8
0.6 0.03 0.03 3
Rsd 0.3s 13ph/11stn Dmin 49km Az.gap 256°
Corr. -0.397 20M/16stn Msd 0.2 1↓

98/8217
JUL 12 152913.3s 39.35S 176.95E 28km M=3.6
0.1 0.01 0.01 1
Rsd 0.2s 33ph/28stn Dmin 24km Az.gap 153°
Corr. -0.423 32M/30stn Msd 0.3 1↑ 1↓
Felt north of Napier (52).

98/8230
JUL 13 003136.4s 45.01S 167.61E 91km M=4.9
0.6 0.04 0.04 4
Rsd 0.3s 10ph/6stn Dmin 45km Az.gap 229°
Corr. -0.585 14M/7stn Msd 0.3 2↑ 3↓

98/8236
JUL 13 064032.9s 37.85S 176.85E 145km M=3.7
0.9 0.07 0.05 6
Rsd 0.3s 11ph/10stn Dmin 51km Az.gap 263°
Corr. 0.077 17M/17stn Msd 0.2 1↑

98/8267
JUL 14 013236.0s 41.20S 174.53E 58km M=4.2
0.1 0.01 0.01 1
Rsd 0.2s 37ph/31stn Dmin 16km Az.gap 74°
Corr. 0.082 13M/8stn Msd 0.3 7↑ 5↓
Felt Wellington (68) MM4 and Blenheim (77).

98/8272
JUL 14 054549.7s 37.33S 177.15E 5km M=3.5
0.6 0.05 0.03 R
Rsd 0.5s 7ph/6stn Dmin 23km Az.gap 220°
Corr. -0.092 7M/5stn Msd 0.2

98/8279
JUL 14 102316.5s 38.05S 176.38E 144km M=3.6
0.7 0.05 0.03 4
Rsd 0.3s 10ph/8stn Dmin 68km Az.gap 261°
Corr. -0.663 7M/7stn Msd 0.1 1↑

98/8281
JUL 14 115641.6s 37.66S 176.09E 214km M=3.6
1.0 0.14 0.18 29
Rsd 0.3s 10ph/9stn Dmin 201km Az.gap 279°
Corr. -0.953 5M/5stn Msd 0.3
Poor station coverage.

98/8285
JUL 14 142335.1s 38.48S 175.93E 170km M=3.5
0.8 0.04 0.07 8
Rsd 0.4s 16ph/12stn Dmin 106km Az.gap 227°
Corr. -0.606 12M/12stn Msd 0.2

98/8289
JUL 14 183817.9s 42.73S 172.94E 33km M=3.5
0.1 0.00 0.01 R
Rsd 0.1s 13ph/10stn Dmin 55km Az.gap 141°
Corr. -0.448 24M/17stn Msd 0.4 1↑

98/8302
JUL 15 035430.0s 38.39S 175.92E 167km M=3.7
0.5 0.02 0.02 4
Rsd 0.2s 11ph/9stn Dmin 55km Az.gap 231°
Corr. -0.130 13M/12stn Msd 0.1 1↑

98/8305
JUL 15 045547.9s 36.81S 177.47E 172km M=4.1
0.9 0.07 0.08 9
Rsd 0.4s 8ph/6stn Dmin 114km Az.gap 290°
Corr. -0.688 15M/12stn Msd 0.2 1↑

98/8311
JUL 15 133148.8s 37.63S 176.14E 181km M=3.7
0.8 0.06 0.07 6
Rsd 0.2s 9ph/6stn Dmin 110km Az.gap 280°
Corr. -0.662 18M/17stn Msd 0.2
Poor station coverage.

98/8312
JUL 15 141230.5s 37.37S 176.75E 198km M=4.4
0.5 0.03 0.02 5
Rsd 0.3s 16ph/14stn Dmin 103km Az.gap 218°
Corr. -0.273 28M/22stn Msd 0.2

98/8318
JUL 15 174326.2s 37.16S 177.06E 220km M=3.7
0.9 0.08 0.07 7
Rsd 0.3s 9ph/7stn Dmin 120km Az.gap 265°
Corr. -0.712 16M/16stn Msd 0.3 1↑

98/8319
JUL 15 182001.6s 36.81S 177.01E 210km M=4.0
0.7 0.06 0.05 7
Rsd 0.2s 11ph/8stn Dmin 144km Az.gap 281°
Corr. -0.541 21M/19stn Msd 0.2

98/8323
JUL 15 213643.9s 37.31S 179.28E 12km M=3.6
1.2 0.08 0.08 R
Rsd 0.4s 5ph/3stn Dmin 93km Az.gap 337°
Corr. -0.408 5M/3stn Msd 0.4

98/8326
JUL 15 224932.3s 40.11S 173.53E 199km M=3.7
0.6 0.03 0.03 5
Rsd 0.3s 21ph/18stn Dmin 84km Az.gap 192°
Corr. -0.195 15M/14stn Msd 0.3 2↑ 2↓

98/8351
JUL 16 153358.3s 36.70S 178.27E 12km M=4.0
0.6 0.04 0.03 R
Rsd 0.3s 13ph/10stn Dmin 100km Az.gap 297°
Corr. 0.534 19M/14stn Msd 0.3

98/8352
JUL 16 153426.3s 40.26S 173.47E 169km M=3.8
0.4 0.04 0.02 4
Rsd 0.2s 22ph/15stn Dmin 72km Az.gap 189°
Corr. 0.010 15M/13stn Msd 0.3 1↑ 1↓

98/8356
JUL 16 205625.9s 38.20S 175.92E 177km M=4.0
1.0 0.05 0.03 7
Rsd 0.3s 14ph/13stn Dmin 76km Az.gap 183°
Corr. 0.228 21M/18stn Msd 0.2 1↑

98/8358
JUL 16 214935.2s 47.29S 165.84E 12km M=3.6
0.7 0.04 0.05 R
Rsd 0.3s 6ph/4stn Dmin 181km Az.gap 325°
Corr. -0.233 5M/5stn Msd 0.2

98/8359
JUL 16 231750.0s 37.00S 176.92E 250km M=4.1
0.9 0.07 0.06 8
Rsd 0.3s 12ph/10stn Dmin 140km Az.gap 271°
Corr. -0.642 15M/13stn Msd 0.4

98/8365
JUL 17 065640.0s 37.46S 176.37E 262km M=3.9
1.1 0.11 0.07 8
Rsd 0.3s 11ph/10stn Dmin 110km Az.gap 253°
Corr. -0.503 16M/16stn Msd 0.2

98/8369
JUL 17 112324.3s 35.76S 178.89E 33km M=3.7
0.9 0.07 0.08 R
Rsd 0.3s 6ph/4stn Dmin 211km Az.gap 343°
Corr. -0.488 5M/4stn Msd 0.4

98/8374
JUL 17 163638.6s 37.94S 176.40E 256km M=3.5
0.2 0.03 0.05 2
Rsd 0.1s 11ph/10stn Dmin 71km Az.gap 267°
Corr. -0.854 10M/10stn Msd 0.2
Poor station coverage.

98/8391
JUL 18 073155.1s 38.33S 176.27E 159km M=3.5
0.6 0.04 0.04 5
Rsd 0.3s 14ph/11stn Dmin 73km Az.gap 206°
Corr. -0.746 15M/15stn Msd 0.2

98/8409
JUL 18 175751.6s 44.67S 168.63E 12km M=3.0
0.5 0.04 0.02 R
Rsd 0.3s 6ph/5stn Dmin 56km Az.gap 197°
Corr. -0.687 7M/5stn Msd 0.4 1↑
Felt Mt Aspiring Hstd (113) MM4.

98/8419
JUL 19 011404.3s 38.16S 176.13E 168km M=4.3
0.6 0.03 0.02 5
Rsd 0.3s 20ph/17stn Dmin 27km Az.gap 129°
Corr. -0.132 25M/20stn Msd 0.3 1↓

98/8442
JUL 19 153132.0s 40.49S 174.50E 89km M=3.9
0.3 0.01 0.01 4
Rsd 0.3s 35ph/28stn Dmin 54km Az.gap 81°
Corr. 0.002 20M/15stn Msd 0.2 7↑ 3↓
Felt Kapiti Coast (65).

98/8449
JUL 19 191259.9s 45.10S 167.63E 131km M=3.5
0.5 0.05 0.04 4
Rsd 0.3s 10ph/7stn Dmin 51km Az.gap 218°
Corr. -0.817 7M/7stn Msd 0.3 1↓

98/8457
JUL 20 011944.2s 44.78S 167.53E 12km M=4.1
0.4 0.02 0.02 R
Rsd 0.2s 10ph/7stn Dmin 33km Az.gap 236°
Corr. -0.342 8M/4stn Msd 0.4 1↑ 6↓

98/8461
JUL 20 024040.5s 39.96S 173.62E 207km M=3.5
0.5 0.03 0.03 5
Rsd 0.3s 22ph/18stn Dmin 97km Az.gap 195°
Corr. -0.318 11M/11stn Msd 0.3 1↑

98/8463
JUL 20 030550.1s 35.86S 179.00E 113km M=4.1
0.7 0.09 0.04 14
Rsd 0.2s 8ph/6stn Dmin 246km Az.gap 334°
Corr. -0.469 5M/3stn Msd 0.2

98/8501
JUL 21 000628.0s 37.97S 179.36E 12km M=3.9
1.6 0.11 0.08 R
Rsd 0.6s 10ph/7stn Dmin 98km Az.gap 316°
Corr. 0.590 15M/12stn Msd 0.5 1↑

98/8506
JUL 21 034741.8s 37.13S 177.51E 168km M=3.9
0.7 0.07 0.03 6
Rsd 0.2s 13ph/11stn Dmin 124km Az.gap 271°
Corr. -0.165 17M/16stn Msd 0.2

98/8512
JUL 21 112515.0s 38.85S 175.46E 127km M=4.0
0.5 0.02 0.02 4
Rsd 0.1s 24ph/18stn Dmin 18km Az.gap 114°
Corr. -0.315 24M/21stn Msd 0.2 1↑

98/8532
JUL 22 120028.9s 36.91S 177.18E 284km M=4.3
1.1 0.11 0.07 9
Rsd 0.4s 13ph/11stn Dmin 138km Az.gap 295°
Corr. -0.289 21M/19stn Msd 0.2 1↑

98/8542
JUL 22 142733.0s 41.85S 174.42E 24km M=3.6
0.2 0.02 0.01 2
Rsd 0.3s 22ph/17stn Dmin 20km Az.gap 227°
Corr. -0.097 21M/16stn Msd 0.2 2↑ 3↓

98/8544
JUL 22 162829.9s 38.98S 176.33E 59km M=4.4
0.2 0.01 0.01 3
Rsd 0.2s 34ph/27stn Dmin 23km Az.gap 67°
Corr. -0.441 26M/20stn Msd 0.2 3↑ 2↓

98/8563
JUL 23 155639.3s 37.89S 177.64E 85km M=3.7
0.3 0.02 0.01 2
Rsd 0.2s 19ph/15stn Dmin 58km Az.gap 218°
Corr. -0.176 11M/9stn Msd 0.3

98/8567
JUL 23 195643.4s 46.88S 165.87E 12km M=3.6
0.5 0.03 0.04 R
Rsd 0.2s 5ph/3stn Dmin 173km Az.gap 325°
Corr. -0.166 5M/3stn Msd 0.4

98/8580
JUL 24 054238.2s 36.74S 179.66E 12km M=3.9
0.4 0.05 0.04 R
Rsd 0.2s 9ph/7stn Dmin 153km Az.gap 342°
Corr. -0.654 12M/10stn Msd 0.2

98/8587
JUL 24 133215.4s 37.31S 176.57E 273km M=3.9
1.3 0.11 0.11 11
Rsd 0.4s 12ph/10stn Dmin 116km Az.gap 274°
Corr. -0.752 9M/8stn Msd 0.2

98/8590
JUL 24 150913.0s 37.00S 176.94E 202km M=4.1
0.6 0.08 0.05 5
Rsd 0.3s 11ph/8stn Dmin 140km Az.gap 286°
Corr. -0.582 21M/19stn Msd 0.2

98/8598
JUL 24 221548.8s 37.47S 177.17E 5km M=3.5
0.6 0.04 0.02 R
Rsd 0.3s 10ph/7stn Dmin 7km Az.gap 266°
Corr. -0.202 12M/8stn Msd 0.4 1↑

98/8601
JUL 24 232838.7s 36.35S 178.66E 12km M=4.0
0.4 0.02 0.03 R
Rsd 0.2s 8ph/5stn Dmin 142km Az.gap 326°
Corr. -0.210 7M/4stn Msd 0.4

98/8611
JUL 25 051100.7s 39.22S 174.78E 5km M=3.7
0.1 0.01 0.01 R
Rsd 0.2s 27ph/23stn Dmin 65km Az.gap 102°
Corr. -0.191 32M/31stn Msd 0.3 1↑ 1↓

98/8613
JUL 25 061504.3s 35.75S 179.20E 12km M=4.2
1.1 0.08 0.13 R
Rsd 0.4s 9ph/6stn Dmin 271km Az.gap 345°
Corr. -0.421 18M/16stn Msd 0.2

98/8632
JUL 26 070828.6s 38.08S 176.67E 124km M=3.9
0.7 0.05 0.03 5
Rsd 0.3s 10ph/8stn Dmin 43km Az.gap 249°
Corr. -0.171 13M/11stn Msd 0.3 1↑

98/8633
JUL 26 103323.6s 45.48S 167.25E 108km M=4.0
0.4 0.03 0.03 3
Rsd 0.2s 12ph/8stn Dmin 72km Az.gap 234°
Corr. -0.678 9M/5stn Msd 0.3 5↑ 3↓

98/8642
JUL 26 202735.9s 38.87S 175.24E 192km M=4.0
0.6 0.03 0.04 6
Rsd 0.2s 18ph/14stn Dmin 55km Az.gap 111°
Corr. -0.637 14M/13stn Msd 0.2 1↑ 1↓

98/8657
JUL 27 084920.1s 41.05S 175.29E 11km M=3.5
0.1 0.01 0.01 1
Rsd 0.2s 19ph/15stn Dmin 20km Az.gap 95°
Corr. -0.265 22M/17stn Msd 0.3 2↑ 3↓
Felt Greytown (69) MM4.

98/8662
JUL 27 204603.3s 45.16S 167.56E 99km M=3.6
0.5 0.05 0.04 5
Rsd 0.3s 10ph/6stn Dmin 53km Az.gap 281°
Corr. -0.682 7M/7stn Msd 0.9 1↓

98/8667
JUL 28 010017.6s 36.30S 177.53E 220km M=3.8
1.2 0.19 0.08 15
Rsd 0.3s 7ph/5stn Dmin 221km Az.gap 323°
Corr. -0.343 6M/6stn Msd 0.3

98/8676
JUL 28 070750.6s 38.88S 175.40E 167km M=3.9
0.6 0.02 0.03 5
Rsd 0.3s 23ph/16stn Dmin 32km Az.gap 140°
Corr. -0.210 20M/19stn Msd 0.2 4↑ 1↓

98/8677
JUL 28 072308.9s 37.24S 176.87E 248km M=4.8
0.7 0.07 0.04 4
Rsd 0.3s 28ph/25stn Dmin 85km Az.gap 170°
Corr. 0.685 8M/4stn Msd 0.4 1↑

98/8680
JUL 28 111349.1s 37.57S 176.45E 282km M=4.5
0.8 0.11 0.05 6
Rsd 0.3s 11ph/8stn Dmin 82km Az.gap 222°
Corr. 0.396 10M/5stn Msd 0.2 9↑ 1↓

98/8683
JUL 28 120458.8s 37.00S 176.69E 261km M=3.8
0.5 0.04 0.05 5
Rsd 0.2s 13ph/11stn Dmin 145km Az.gap 285°
Corr. -0.660 14M/13stn Msd 0.2

98/8684
JUL 28 131346.4s 40.69S 174.65E 44km M=3.6
0.1 0.01 0.01 2
Rsd 0.2s 23ph/18stn Dmin 29km Az.gap 74°
Corr. -0.021 15M/12stn Msd 0.3 3↑ 1↓

98/8685
JUL 28 132303.1s 38.56S 175.83E 163km M=3.7
1.1 0.03 0.04 9
Rsd 0.4s 19ph/15stn Dmin 71km Az.gap 138°
Corr. -0.221 20M/17stn Msd 0.2

98/8687
JUL 28 144923.5s 38.49S 175.81E 159km M=3.9
1.1 0.04 0.04 10
Rsd 0.4s 20ph/15stn Dmin 74km Az.gap 119°
Corr. 0.094 20M/18stn Msd 0.2 1↑

98/8696
JUL 28 214049.9s 38.27S 176.01E 187km M=4.2
0.8 0.03 0.03 7
Rsd 0.2s 17ph/15stn Dmin 54km Az.gap 93°
Corr. 0.232 25M/20stn Msd 0.1 1↓

98/8699
JUL 29 025156.5s 42.91S 175.22E 33km M=3.8
0.2 0.02 0.02 R
Rsd 0.2s 11ph/7stn Dmin 227km Az.gap 212°
Corr. -0.831 11M/11stn Msd 0.5

98/8702
JUL 29 073344.9s 38.29S 175.44E 141km M=3.6
0.8 0.06 0.09 14
Rsd 0.4s 15ph/11stn Dmin 146km Az.gap 244°
Corr. -0.801 11M/9stn Msd 0.3
Poor station coverage.

98/8703
JUL 29 082159.9s 35.05S 179.02E 133km M=3.7
0.4 0.09 0.02 29
Rsd 0.1s 7ph/3stn Dmin 343km Az.gap 346°
Corr. -0.245 4M/4stn Msd 0.2

98/8704
JUL 29 105247.2s 36.27S 177.92E 189km M=4.6
0.4 0.03 0.02 4
Rsd 0.2s 20ph/16stn Dmin 154km Az.gap 278°
Corr. 0.680 25M/19stn Msd 0.3 1↑

98/8709
JUL 29 171558.1s 44.45S 168.28E 12km M=3.5
0.4 0.02 0.03 R
Rsd 0.3s 9ph/8stn Dmin 37km Az.gap 173°
Corr. -0.540 9M/5stn Msd 0.1 1↑

98/8710
JUL 29 174726.8s 36.56S 179.89W 33km M=3.7
0.3 0.03 0.03 R
Rsd 0.1s 5ph/3stn Dmin 235km Az.gap 344°
Corr. -0.680 5M/3stn Msd 0.4

98/8716
JUL 29 215625.3s 37.89S 177.65E 61km M=3.6
0.1 0.01 0.00 1
Rsd 0.0s 5ph/3stn Dmin 57km Az.gap 241°
Corr. -0.424 8M/4stn Msd 0.1 1↑

98/8732
JUL 30 161945.5s 41.18S 174.12E 48km M=3.5
0.1 0.01 0.01 2
Rsd 0.2s 19ph/16stn Dmin 39km Az.gap 66°
Corr. -0.245 15M/12stn Msd 0.2 1↑ 2↓

98/8733
JUL 30 164736.1s 41.87S 174.09E 12km M=4.0
0.2 0.02 0.01 R
Rsd 0.3s 21ph/18stn Dmin 17km Az.gap 144°
Corr. -0.255 12M/7stn Msd 0.2 1↑
Felt Blind River and Ward (84) MM4.

98/8745
JUL 30 192418.5s 41.90S 174.08E 5km M=4.4
0.2 0.02 0.01 R
Rsd 0.3s 19ph/17stn Dmin 20km Az.gap 170°
Corr. -0.063 15M/8stn Msd 0.3 1↑
Felt Ward (84) MM5 and Blind River (84) and followed by 3 minor aftershocks felt at Blind River.

98/8748
JUL 30 200421.3s 36.88S 177.20E 191km M=3.8
0.5 0.06 0.04 5
Rsd 0.2s 7ph/5stn Dmin 153km Az.gap 296°
Corr. -0.466 16M/16stn Msd 0.2

98/8749
JUL 30 202007.1s 41.32S 172.63E 176km M=4.2
0.5 0.03 0.02 3
Rsd 0.2s 29ph/22stn Dmin 55km Az.gap 116°
Corr. -0.574 17M/14stn Msd 0.2 1↑

98/8765
JUL 31 071457.5s 38.49S 175.61E 258km M=4.0
0.6 0.05 0.03 5
Rsd 0.2s 12ph/11stn Dmin 27km Az.gap 171°
Corr. -0.376 15M/14stn Msd 0.3

98/8768
JUL 31 101950.1s 37.22S 176.80E 216km M=4.9
0.5 0.03 0.03 4
Rsd 0.2s 23ph/20stn Dmin 48km Az.gap 189°
Corr. 0.670 27M/21stn Msd 0.2 2↑ 2↓

98/8787
JUL 31 234234.2s 36.94S 176.85E 224km M=3.7
0.4 0.04 0.03 3
Rsd 0.1s 14ph/11stn Dmin 149km Az.gap 289°
Corr. -0.529 9M/9stn Msd 0.2

98/8808
AUG 01 140027.1s 35.59S 178.45E 205km M=4.0
0.5 0.22 0.06 33
Rsd 0.2s 6ph/4stn Dmin 223km Az.gap 341°
Corr. 0.183 5M/4stn Msd 0.3

98/8833
AUG 02 101539.9s 37.17S 177.13E 178km M=4.4
0.6 0.05 0.04 4
Rsd 0.2s 17ph/14stn Dmin 114km Az.gap 185°
Corr. 0.726 23M/19stn Msd 0.3 2↑ 1↓

98/8878
AUG 03 085944.4s 37.15S 177.05E 233km M=3.8
1.2 0.14 0.09 11
Rsd 0.4s 10ph/8stn Dmin 123km Az.gap 272°
Corr. -0.734 11M/11stn Msd 0.2

98/8882
AUG 03 111010.9s 38.22S 175.94E 174km M=4.0
0.7 0.04 0.03 5
Rsd 0.2s 18ph/16stn Dmin 57km Az.gap 208°
Corr. -0.608 16M/16stn Msd 0.2 1↑

98/8889
AUG 03 133349.2s 46.54S 165.52E 33km M=4.4
0.7 0.04 0.04 R
Rsd 0.3s 10ph/5stn Dmin 200km Az.gap 311°
Corr. -0.118 17M/10stn Msd 0.2

98/8927
AUG 04 213729.1s 38.00S 176.38E 183km M=3.9
0.5 0.04 0.03 4
Rsd 0.2s 14ph/12stn Dmin 28km Az.gap 220°
Corr. -0.554 15M/14stn Msd 0.3

98/8933
AUG 05 032909.4s 46.39S 169.73E 5km M=3.2
0.5 0.03 0.03 R
Rsd 0.5s 7ph/4stn Dmin 49km Az.gap 219°
Corr. -0.567 8M/4stn Msd 0.3
Felt Kaka Point (152).

98/8937
AUG 05 055435.0s 38.24S 176.24E 161km M=4.2
0.3 0.02 0.01 3
Rsd 0.2s 28ph/23stn Dmin 16km Az.gap 71°
Corr. -0.106 25M/20stn Msd 0.3 3↑ 1↓

98/8949
AUG 05 141438.1s 41.19S 174.62E 42km M=3.6
0.1 0.01 0.00 1
Rsd 0.1s 29ph/24stn Dmin 8km Az.gap 69°
Corr. -0.115 14M/11stn Msd 0.2 5↑ 3↓
Felt Wellington (68).

98/8955
AUG 05 170938.3s 38.20S 176.16E 146km M=3.7
0.9 0.04 0.03 8
Rsd 0.4s 10ph/8stn Dmin 64km Az.gap 147°
Corr. 0.178 12M/11stn Msd 0.3 3↑ 2↓

98/8962
AUG 05 212404.8s 40.54S 173.67E 130km M=4.1
0.3 0.01 0.01 3
Rsd 0.3s 39ph/33stn Dmin 37km Az.gap 116°
Corr. 0.225 18M/15stn Msd 0.3 6↑ 2↓

98/9007
AUG 07 084823.8s 40.74S 172.82E 5km M=3.7
0.2 0.02 0.01 R
Rsd 0.3s 21ph/17stn Dmin 26km Az.gap 140°
Corr. -0.276 21M/19stn Msd 0.4 1↑
Felt Bainham (72) MM4.

98/9009
AUG 07 093552.2s 36.49S 177.13E 278km M=3.9
0.5 0.07 0.06 6
Rsd 0.2s 10ph/8stn Dmin 162km Az.gap 294°
Corr. -0.499 8M/8stn Msd 0.1

98/9016
AUG 07 134051.7s 37.71S 179.97E 12km M=3.6
1.6 0.12 0.10 R
Rsd 0.5s 7ph/5stn Dmin 148km Az.gap 314°
Corr. 0.170 9M/7stn Msd 0.2

98/9017
AUG 07 134744.4s 39.26S 174.81E 225km M=3.7
0.4 0.01 0.03 3
Rsd 0.1s 23ph/19stn Dmin 64km Az.gap 186°
Corr. -0.519 12M/12stn Msd 0.2 1↓

98/9051
AUG 08 120155.1s 35.65S 177.91E 12km M=4.0
1.0 0.06 0.07 R
Rsd 0.3s 7ph/3stn Dmin 219km Az.gap 337°
Corr. -0.599 4M/3stn Msd 0.5

98/9058
AUG 08 172643.9s 40.49S 177.02E 33km M=3.8
0.6 0.02 0.05 R
Rsd 0.3s 20ph/16stn Dmin 69km Az.gap 238°
Corr. -0.579 25M/21stn Msd 0.2 2↑ 1↓

98/9059
AUG 08 181000.4s 36.74S 176.92E 244km M=3.9
0.7 0.05 0.06 7
Rsd 0.2s 10ph/8stn Dmin 155km Az.gap 282°
Corr. -0.782 6M/6stn Msd 0.2

98/9080
AUG 09 163832.6s 38.88S 175.27E 208km M=3.7
0.9 0.03 0.04 8
Rsd 0.3s 17ph/13stn Dmin 44km Az.gap 108°
Corr. -0.372 14M/13stn Msd 0.2

98/9081
AUG 09 172251.8s 37.14S 177.75E 68km M=3.9
0.5 0.03 0.02 8
Rsd 0.3s 13ph/11stn Dmin 71km Az.gap 213°
Corr. 0.279 13M/9stn Msd 0.2

98/9088
AUG 10 035716.4s 44.83S 167.28E 5km M=4.4
0.4 0.02 0.03 R
Rsd 0.2s 9ph/6stn Dmin 129km Az.gap 242°
Corr. -0.322 10M/5stn Msd 0.2 2↑ 1↓

98/9092
AUG 10 060625.3s 38.48S 176.04E 158km M=3.6
0.8 0.04 0.04 7
Rsd 0.3s 15ph/12stn Dmin 73km Az.gap 220°
Corr. -0.536 15M/14stn Msd 0.2 1↑

98/9100
AUG 10 142834.0s 40.05S 174.56E 87km M=4.1
0.3 0.00 0.01 4
Rsd 0.2s 39ph/35stn Dmin 42km Az.gap 82°
Corr. -0.049 10M/5stn Msd 0.3 1↑

98/9102
AUG 10 165458.8s 38.68S 175.26E 241km M=3.8
0.7 0.03 0.06 5
Rsd 0.2s 18ph/15stn Dmin 45km Az.gap 222°
Corr. 0.666 11M/11stn Msd 0.2 2↑ 1↓

98/9109
AUG 11 055435.1s 36.76S 177.56E 185km M=4.3
0.7 0.06 0.06 6
Rsd 0.3s 12ph/8stn Dmin 158km Az.gap 294°
Corr. -0.571 21M/16stn Msd 0.3 1↑

98/9111
AUG 11 061927.2s 37.20S 176.86E 237km M=4.0
0.5 0.06 0.05 4
Rsd 0.2s 11ph/9stn Dmin 120km Az.gap 281°
Corr. -0.618 10M/8stn Msd 0.3

98/9124
AUG 11 184218.5s 38.58S 175.45E 137km M=3.5
0.6 0.02 0.02 6
Rsd 0.2s 13ph/11stn Dmin 57km Az.gap 160°
Corr. -0.331 9M/9stn Msd 0.2
Poor station coverage

98/9140
AUG 12 094112.4s 47.58S 165.60E 12km M=3.7
0.7 0.05 0.05 R
Rsd 0.3s 7ph/4stn Dmin 207km Az.gap 336°
Corr. -0.293 7M/4stn Msd 0.5 1↓

98/9142
AUG 12 124612.5s 38.57S 177.77E 55km M=3.7
0.2 0.01 0.01 3
Rsd 0.2s 19ph/17stn Dmin 23km Az.gap 107°
Corr. -0.254 21M/17stn Msd 0.3 2↑ 1↓

98/9154
AUG 13 043600.8s 45.10S 167.54E 91km M=3.7
0.4 0.03 0.03 6
Rsd 0.3s 8ph/5stn Dmin 93km Az.gap 265°
Corr. -0.582 9M/5stn Msd 0.2 1↓

98/9158
AUG 13 095435.7s 38.25S 176.32E 151km M=4.1
0.3 0.02 0.01 3
Rsd 0.2s 27ph/25stn Dmin 14km Az.gap 75°
Corr. -0.444 9M/5stn Msd 0.2 1↑

98/9180
AUG 14 030703.1s 36.77S 177.36E 187km M=4.0
0.9 0.09 0.09 11
Rsd 0.5s 10ph/7stn Dmin 124km Az.gap 289°
Corr. -0.567 11M/9stn Msd 0.4 1↑

98/9203
AUG 14 224230.1s 36.68S 177.37E 33km M=3.9
0.8 0.05 0.04 R
Rsd 0.6s 10ph/5stn Dmin 95km Az.gap 234°
Corr. 0.607 10M/6stn Msd 0.2

98/9220
AUG 15 104059.5s 36.17S 177.92E 222km M=5.0
0.5 0.04 0.03 5
Rsd 0.2s 22ph/19stn Dmin 163km Az.gap 277°
Corr. 0.584 9M/5stn Msd 0.2 1↓

98/9221
AUG 15 104908.6s 38.49S 177.91E 69km M=3.7
0.5 0.03 0.03 6
Rsd 0.5s 8ph/5stn Dmin 18km Az.gap 110°
Corr. -0.397 9M/5stn Msd 0.3 1↑

98/9228
AUG 15 160806.6s 38.23S 176.18E 156km M=3.8
0.5 0.06 0.03 4
Rsd 0.2s 10ph/9stn Dmin 66km Az.gap 214°
Corr. -0.862 9M/9stn Msd 0.3

98/9238
AUG 16 034857.1s 37.65S 175.82E 232km M=4.1
0.4 0.05 0.03 4
Rsd 0.1s 11ph/9stn Dmin 133km Az.gap 231°
Corr. -0.786 17M/15stn Msd 0.2 1↑

98/9245
AUG 16 092804.7s 38.38S 175.95E 137km M=3.9
0.5 0.03 0.02 5
Rsd 0.2s 18ph/16stn Dmin 27km Az.gap 166°
Corr. -0.469 21M/17stn Msd 0.2 4↑ 2↓

98/9247
AUG 16 110102.8s 36.07S 177.49E 225km M=3.8
2.4 0.28 0.27 21
Rsd 0.7s 5ph/4stn Dmin 184km Az.gap 319°
Corr. -0.791 3M/3stn Msd 0.2

98/9258
AUG 16 190432.3s 40.28S 176.94E 65km M=3.5
0.3 0.01 0.03 4
Rsd 0.2s 21ph/16stn Dmin 74km Az.gap 217°
Corr. -0.425 17M/11stn Msd 0.3

98/9274
AUG 17 054715.9s 38.76S 177.96E 41km M=3.5
0.2 0.01 0.01 2
Rsd 0.1s 6ph/3stn Dmin 17km Az.gap 281°
Corr. -0.586 7M/3stn Msd 0.2 1↑

98/9283
AUG 17 094648.7s 45.19S 167.64E 117km M=4.0
0.6 0.05 0.05 6
Rsd 0.3s 10ph/6stn Dmin 82km Az.gap 232°
Corr. -0.742 8M/4stn Msd 0.1 1↑ 1↓

98/9290
AUG 17 141744.3s 41.34S 174.80E 29km M=3.4
0.1 0.01 0.01 1
Rsd 0.3s 21ph/16stn Dmin 6km Az.gap 81°
Corr. -0.298 18M/15stn Msd 0.3 2↑ 4↓
Felt Wellington (68).

98/9305
AUG 17 214825.7s 38.56S 175.91E 173km M=3.7
1.1 0.05 0.05 9
Rsd 0.3s 16ph/14stn Dmin 58km Az.gap 220°
Corr. -0.289 14M/14stn Msd 0.2

98/9306
AUG 17 223501.8s 45.09S 167.72E 126km M=3.6
0.7 0.06 0.07 10
Rsd 0.4s 7ph/4stn Dmin 128km Az.gap 279°
Corr. -0.763 3M/3stn Msd 0.3

98/9310
AUG 18 000108.9s 39.53S 174.33E 200km M=3.8
0.8 0.02 0.03 7
Rsd 0.3s 24ph/21stn Dmin 30km Az.gap 93°
Corr. -0.215 16M/16stn Msd 0.2

98/9323
AUG 18 133730.1s 39.47S 173.72E 12km M=3.9
0.4 0.01 0.02 2
Rsd 0.2s 29ph/26stn Dmin 24km Az.gap 178°
Corr. -0.122 35M/30stn Msd 0.4 1↑

98/9332
AUG 18 204613.4s 39.75S 174.06E 146km M=3.6
0.6 0.03 0.02 5
Rsd 0.2s 18ph/15stn Dmin 75km Az.gap 227°
Corr. -0.104 11M/11stn Msd 0.2 1↑

98/9333
AUG 18 214500.4s 34.95S 177.79E 193km M=4.3
1.0 0.08 0.35 32
Rsd 0.3s 10ph/8stn Dmin 298km Az.gap 328°
Corr. -0.750 5M/4stn Msd 0.6

98/9340
AUG 19 042523.4s 38.30S 176.05E 188km M=3.8
0.6 0.03 0.02 6
Rsd 0.2s 18ph/17stn Dmin 90km Az.gap 219°
Corr. -0.702 15M/14stn Msd 0.2

98/9362
AUG 19 200405.4s 45.10S 167.63E 116km M=3.7
0.6 0.04 0.06 8
Rsd 0.4s 10ph/7stn Dmin 53km Az.gap 218°
Corr. -0.652 9M/8stn Msd 0.3 2↑ 1↓

98/9365
AUG 19 214845.8s 38.22S 175.91E 248km M=4.0
0.2 0.02 0.02 2
Rsd 0.0s 11ph/8stn Dmin 113km Az.gap 336°
Corr. -0.184 11M/11stn Msd 0.5

98/9371
AUG 20 030847.0s 38.39S 176.07E 175km M=4.4
0.4 0.02 0.01 3
Rsd 0.2s 31ph/26stn Dmin 17km Az.gap 76°
Corr. -0.036 23M/18stn Msd 0.4 5↑ 2↓

98/9376
AUG 20 062529.1s 37.73S 178.07E 57km M=3.6
0.5 0.02 0.03 6
Rsd 0.2s 8ph/7stn Dmin 25km Az.gap 165°
Corr. 0.055 9M/9stn Msd 0.3 1↓

98/9387
AUG 20 150150.5s 39.83S 174.37E 103km M=4.1
0.4 0.01 0.01 5
Rsd 0.3s 37ph/32stn Dmin 48km Az.gap 91°
Corr. -0.196 18M/14stn Msd 0.5 4↑ 1↓

98/9388
AUG 20 151950.4s 40.69S 176.41E 27km M=3.6
0.3 0.01 0.02 2
Rsd 0.2s 16ph/14stn Dmin 14km Az.gap 242°
Corr. -0.192 22M/18stn Msd 0.1 1↑

98/9421
AUG 21 183949.7s 41.10S 173.30E 103km M=3.5
0.6 0.03 0.02 6
Rsd 0.3s 19ph/16stn Dmin 62km Az.gap 79°
Corr. -0.057 10M/10stn Msd 0.2 1↓

98/9423
AUG 21 200241.4s 38.63S 175.67E 165km M=3.5
0.4 0.02 0.01 3
Rsd 0.1s 11ph/10stn Dmin 11km Az.gap 244°
Corr. 0.279 8M/8stn Msd 0.1

98/9428
AUG 21 221039.2s 39.29S 175.01E 224km M=3.7
0.4 0.08 0.03 7
Rsd 0.1s 14ph/11stn Dmin 160km Az.gap 292°
Corr. -0.357 12M/12stn Msd 0.2
Poor station coverage.

98/9430
AUG 21 232134.3s 39.23S 177.48E 65km M=3.9
0.4 0.02 0.01 8
Rsd 0.1s 21ph/19stn Dmin 83km Az.gap 176°
Corr. -0.706 18M/14stn Msd 0.2
No Hawkes Bay net data.

98/9446
AUG 22 044430.9s 38.47S 175.77E 168km M=3.7
0.4 0.02 0.02 3
Rsd 0.1s 12ph/10stn Dmin 63km Az.gap 221°
Corr. -0.107 15M/15stn Msd 0.2

98/9449
AUG 22 073500.4s 38.06S 176.26E 179km M=3.8
0.7 0.02 0.02 6
Rsd 0.2s 12ph/11stn Dmin 35km Az.gap 142°
Corr. -0.219 15M/15stn Msd 0.2

98/9463
AUG 22 151459.9s 38.13S 176.06E 198km M=3.9
0.5 0.02 0.03 4
Rsd 0.2s 11ph/10stn Dmin 33km Az.gap 86°
Corr. -0.118 10M/10stn Msd 0.2 1↑ 1↓

98/9478
AUG 22 215359.9s 36.89S 177.70E 137km M=3.9
0.8 0.05 0.03 8
Rsd 0.4s 8ph/5stn Dmin 95km Az.gap 231°
Corr. 0.671 3M/3stn Msd 0.3

98/9486
AUG 23 050251.5s 42.52S 173.21E 12km M=3.8
0.1 0.01 0.01 R
Rsd 0.2s 21ph/16stn Dmin 105km Az.gap 141°
Corr. -0.453 22M/17stn Msd 0.2 1↓

98/9492
AUG 23 104553.2s 38.19S 176.03E 225km M=3.6
1.2 0.05 0.05 11
Rsd 0.2s 15ph/13stn Dmin 116km Az.gap 228°
Corr. -0.880 7M/6stn Msd 0.2

98/9528
AUG 24 113415.9s 38.23S 176.39E 140km M=3.7
0.8 0.03 0.02 7
Rsd 0.1s 16ph/15stn Dmin 11km Az.gap 105°
Corr. -0.477 13M/13stn Msd 0.3

98/9550
AUG 24 170208.4s 39.54S 174.51E 136km M=3.6
0.4 0.01 0.02 4
Rsd 0.3s 29ph/23stn Dmin 30km Az.gap 75°
Corr. -0.205 12M/12stn Msd 0.3 5↑ 1↓

98/9553
AUG 24 193957.0s 36.80S 177.26E 271km M=3.9
1.6 0.20 0.29 26
Rsd 0.5s 11ph/9stn Dmin 128km Az.gap 285°
Corr. -0.893 10M/10stn Msd 0.2

98/9554
AUG 24 195908.3s 41.73S 172.18E 101km M=3.5
0.3 0.02 0.01 3
Rsd 0.2s 16ph/10stn Dmin 32km Az.gap 110°
Corr. -0.641 8M/8stn Msd 0.2 1↑ 1↓

98/9556
AUG 24 215613.2s 38.67S 175.76E 195km M=3.5
0.5 0.11 0.04 11
Rsd 0.1s 7ph/6stn Dmin 222km Az.gap 348°
Corr. -0.047 5M/4stn Msd 0.2
Very poor station coverage.

98/9576
AUG 25 062401.7s 39.03S 177.97E 32km M=4.0
0.3 0.02 0.02 2
Rsd 0.2s 14ph/12stn Dmin 46km Az.gap 203°
Corr. -0.764 28M/28stn Msd 0.2 2↑ 1↓

98/9607
AUG 26 080916.1s 34.85S 179.45W 12km M=4.1
1.4 0.07 0.11 R
Rsd 0.3s 5ph/4stn Dmin 366km Az.gap 336°
Corr. 0.229 4M/4stn Msd 0.4

98/9609
AUG 26 112445.7s 39.56S 174.89E 251km M=3.5
1.3 0.20 0.10 20
Rsd 0.4s 11ph/10stn Dmin 145km Az.gap 309°
Corr. -0.170 3M/3stn Msd 0.2
Poor station coverage.

98/9611
AUG 26 123141.7s 41.86S 174.05E 5km M=2.8
0.1 0.01 0.01 R
Rsd 0.3s 16ph/13stn Dmin 18km Az.gap 156°
Corr. -0.219 9M/8stn Msd 0.3 1↑
Felt Ward (84).

98/9619
AUG 26 215022.4s 37.97S 176.41E 208km M=3.6
0.8 0.05 0.04 9
Rsd 0.2s 13ph/10stn Dmin 114km Az.gap 228°
Corr. -0.653 11M/11stn Msd 0.2

98/9620
AUG 26 215148.7s 41.18S 172.92E 141km M=3.8
0.4 0.02 0.02 4
Rsd 0.2s 22ph/18stn Dmin 51km Az.gap 86°
Corr. -0.340 13M/11stn Msd 0.3 3↑ 1↓

98/9628
AUG 27 062210.5s 36.54S 177.24E 257km M=3.8
0.5 0.07 0.05 5
Rsd 0.1s 12ph/9stn Dmin 191km Az.gap 305°
Corr. -0.315 12M/12stn Msd 0.2

98/9649
AUG 27 180424.9s 38.50S 178.48E 28km M=3.7
0.7 0.04 0.04 4
Rsd 0.2s 11ph/9stn Dmin 41km Az.gap 227°
Corr. -0.688 22M/19stn Msd 0.6 1↑

98/9661
AUG 28 064014.4s 41.82S 173.55E 47km M=4.6
0.1 0.01 0.01 4
Rsd 0.2s 26ph/22stn Dmin 30km Az.gap 98°
Corr. -0.353 10M/5stn Msd 0.4 3↑ 5↓
Felt Wellington (68).

98/9675
AUG 28 181752.4s 40.45S 174.41E 66km M=3.5
0.2 0.01 0.01 4
Rsd 0.3s 31ph/24stn Dmin 57km Az.gap 85°
Corr. 0.051 14M/13stn Msd 0.3

98/9682
AUG 28 201853.4s 43.44S 172.46E 18km M=3.7
0.0 0.00 0.00 1
Rsd 0.0s 15ph/10stn Dmin 34km Az.gap 106°
Corr. 0.032 8M/4stn Msd 0.1 1↑ 2↓
Felt Christchurch (110).

98/9684
AUG 28 205923.6s 43.44S 172.45E 12km M=3.4
0.1 0.01 0.01 R
Rsd 0.2s 12ph/8stn Dmin 34km Az.gap 109°
Corr. 0.295 15M/9stn Msd 0.2 1↑ 1↓
Felt Christchurch (110).

98/9686
AUG 28 211621.3s 35.58S 178.28E 33km M=4.1
0.7 0.04 0.07 R
Rsd 0.2s 6ph/3stn Dmin 277km Az.gap 341°
Corr. 0.039 5M/3stn Msd 0.3

98/9691
AUG 29 004645.6s 37.82S 175.37E 247km M=3.8
0.4 0.05 0.05 4
Rsd 0.2s 14ph/10stn Dmin 152km Az.gap 268°
Corr. -0.772 12M/12stn Msd 0.2

98/9693
AUG 29 021609.6s 39.41S 173.50E 17km M=4.7
0.2 0.01 0.02 1
Rsd 0.2s 35ph/31stn Dmin 35km Az.gap 162°
Corr. -0.751 18M/11stn Msd 0.2 5↑ 4↓
Felt Okato (46) MM4 and New Plymouth (47).

98/9694
AUG 29 030953.8s 41.13S 173.08E 120km M=4.0
0.5 0.02 0.02 4
Rsd 0.3s 26ph/20stn Dmin 57km Az.gap 81°
Corr. -0.145 20M/15stn Msd 0.2 1↑ 3↓

98/9722
AUG 29 212929.1s 38.67S 176.05E 166km M=3.8
1.3 0.08 0.06 10
Rsd 0.3s 17ph/14stn Dmin 25km Az.gap 163°
Corr. -0.616 12M/11stn Msd 0.3

98/9725
AUG 30 001615.2s 39.85S 178.71E 33km M=3.9
0.9 0.03 0.08 R
Rsd 0.4s 10ph/8stn Dmin 149km Az.gap 236°
Corr. -0.428 10M/9stn Msd 0.8

98/9726
AUG 30 002112.8s 41.20S 176.47E 28km M=3.6
0.3 0.01 0.02 2
Rsd 0.1s 17ph/15stn Dmin 60km Az.gap 243°
Corr. -0.765 19M/17stn Msd 0.2 1↑
Felt Upper Hutt (69).

98/9727
AUG 30 010325.5s 36.60S 177.52E 186km M=3.6
0.3 0.03 0.03 4
Rsd 0.1s 6ph/4stn Dmin 131km Az.gap 317°
Corr. -0.410 5M/4stn Msd 0.3

98/9734
AUG 30 050043.0s 38.04S 176.34E 140km M=3.6
0.4 0.04 0.02 2
Rsd 0.1s 10ph/8stn Dmin 72km Az.gap 257°
Corr. -0.805 11M/11stn Msd 0.3 1↑

98/9744
AUG 30 194442.3s 41.84S 173.55E 49km M=3.7
0.1 0.01 0.01 3
Rsd 0.2s 21ph/18stn Dmin 31km Az.gap 101°
Corr. -0.360 15M/13stn Msd 0.2 5↑ 5↓

98/9750
AUG 30 231622.5s 37.16S 177.00E 245km M=4.1
0.8 0.07 0.06 6
Rsd 0.4s 16ph/13stn Dmin 122km Az.gap 202°
Corr. 0.625 15M/15stn Msd 0.1 1↑

98/9755
AUG 31 005838.8s 39.72S 174.26E 183km M=3.5
0.6 0.01 0.02 5
Rsd 0.2s 24ph/21stn Dmin 45km Az.gap 142°
Corr. -0.112 9M/9stn Msd 0.2 1↓

98/9759
AUG 31 032849.1s 44.55S 174.76W 33km M=4.6
0.4 0.10 0.04 R
Rsd 0.1s 12ph/10stn Dmin 853km Az.gap 325°
Corr. 0.728 15M/14stn Msd 0.4

98/9761
AUG 31 063527.2s 37.44S 177.74E 75km M=4.4
0.3 0.02 0.01 2
Rsd 0.1s 22ph/17stn Dmin 49km Az.gap 214°
Corr. 0.679 19M/13stn Msd 0.2 2↑ 2↓

98/9766
AUG 31 092702.8s 38.65S 177.58E 56km M=3.8
0.2 0.01 0.01 3
Rsd 0.1s 17ph/12stn Dmin 40km Az.gap 121°
Corr. -0.304 15M/11stn Msd 0.2 2↑ 2↓

98/9769
AUG 31 102929.9s 38.47S 176.05E 149km M=3.7
0.6 0.02 0.02 5
Rsd 0.2s 13ph/11stn Dmin 21km Az.gap 104°
Corr. -0.279 12M/10stn Msd 0.2

98/9773
AUG 31 124633.1s 37.80S 176.31E 187km M=3.7
0.5 0.06 0.04 4
Rsd 0.2s 12ph/9stn Dmin 87km Az.gap 236°
Corr. -0.656 11M/11stn Msd 0.2

98/9781
AUG 31 175034.9s 38.67S 175.87E 135km M=3.7
0.6 0.03 0.02 5
Rsd 0.2s 21ph/16stn Dmin 8km Az.gap 94°
Corr. -0.719 15M/13stn Msd 0.2 1↑

98/9792
SEP 01 044247.1s 40.30S 174.21E 92km M=3.6
0.2 0.01 0.01 3
Rsd 0.2s 31ph/26stn Dmin 61km Az.gap 141°
Corr. 0.253 12M/12stn Msd 0.2 1↓

98/9793
SEP 01 052432.3s 37.89S 175.76E 210km M=3.5
1.2 0.07 0.10 22
Rsd 0.2s 10ph/9stn Dmin 215km Az.gap 241°
Corr. -0.925 3M/3stn Msd 0.1
Poor station coverage.

98/9797
SEP 01 065514.4s 38.06S 176.42E 141km M=3.6
0.3 0.03 0.02 3
Rsd 0.1s 11ph/10stn Dmin 38km Az.gap 213°
Corr. -0.855 9M/9stn Msd 0.2

98/9799
SEP 01 104238.5s 40.74S 173.93E 101km M=3.6
0.2 0.01 0.01 2
Rsd 0.2s 30ph/24stn Dmin 7km Az.gap 161°
Corr. 0.205 13M/12stn Msd 0.3 1↑

98/9822
SEP 02 061028.8s 38.64S 175.93E 179km M=3.8
0.5 0.03 0.03 3
Rsd 0.2s 17ph/14stn Dmin 52km Az.gap 204°
Corr. -0.670 14M/13stn Msd 0.3 3↑ 1↓

98/9823
SEP 02 065440.7s 37.15S 177.39E 138km M=5.6
0.3 0.02 0.02 3
Rsd 0.2s 24ph/21stn Dmin 45km Az.gap 187°
Corr. 0.277 10M/5stn Msd 0.3 5↑ 7↓
Felt Opotiki (35), Otoko (36) and Gisborne (45).

98/9833
SEP 02 130225.2s 38.58S 176.00E 169km M=3.5
0.4 0.02 0.01 3
Rsd 0.1s 13ph/12stn Dmin 62km Az.gap 231°
Corr. -0.816 10M/10stn Msd 0.3

98/9868
SEP 03 094824.9s 39.29S 175.04E 27km M=3.6
0.0 0.00 0.00 1
Rsd 0.1s 27ph/23stn Dmin 45km Az.gap 71°
Corr. -0.214 29M/26stn Msd 0.2 1↑

98/9875
SEP 03 103708.4s 38.83S 175.95E 5km M=4.4
0.1 0.01 0.01 R
Rsd 0.2s 29ph/27stn Dmin 14km Az.gap 53°
Corr. -0.755 12M/7stn Msd 0.2 3↑ 1↓
Felt Taupo (41) MM4.

98/9891
SEP 03 141940.8s 38.86S 176.02E 5km M=2.5
0.1 0.01 0.01 R
Rsd 0.2s 12ph/10stn Dmin 7km Az.gap 94°
Corr. 0.144 8M/8stn Msd 0.3
Felt Taupo (41).

98/9907
SEP 04 003843.3s 36.45S 177.59E 200km M=3.9
0.6 0.03 0.35 17
Rsd 0.1s 6ph/3stn Dmin 143km Az.gap 343°
Corr. -0.713 7M/7stn Msd 0.3 1↑

98/9914
SEP 04 030905.6s 39.19S 174.81E 209km M=4.0
0.3 0.01 0.01 3
Rsd 0.1s 21ph/17stn Dmin 62km Az.gap 159°
Corr. 0.195 19M/17stn Msd 0.2

98/9925
SEP 04 113815.0s 40.75S 173.95E 95km M=3.8
0.2 0.01 0.01 3
Rsd 0.2s 36ph/32stn Dmin 7km Az.gap 120°
Corr. 0.340 13M/7stn Msd 0.2 4↑ 1↓

98/9928
SEP 04 141733.8s 35.53S 177.68E 190km M=3.5
1.2 0.08 0.33 35
Rsd 0.2s 10ph/8stn Dmin 236km Az.gap 325°
Corr. -0.796 8M/8stn Msd 0.2

98/9938
SEP 04 215328.6s 38.16S 176.13E 167km M=4.0
0.3 0.02 0.01 4
Rsd 0.2s 15ph/14stn Dmin 70km Az.gap 182°
Corr. -0.106 20M/20stn Msd 0.3 1↑

98/9946
SEP 05 040808.9s 40.41S 178.95E 33km M=4.3
0.8 0.03 0.06 R
Rsd 0.5s 31ph/26stn Dmin 205km Az.gap 241°
Corr. -0.647 42M/38stn Msd 0.3

98/9953
SEP 05 091647.3s 38.56S 175.86E 229km M=3.7
0.4 0.06 0.03 10
Rsd 0.1s 13ph/11stn Dmin 269km Az.gap 323°
Corr. -0.344 8M/8stn Msd 0.2
Very poor station coverage.

98/9976
SEP 06 053029.7s 38.39S 175.94E 138km M=4.1
0.4 0.01 0.01 4
Rsd 0.2s 20ph/18stn Dmin 40km Az.gap 74°
Corr. 0.172 20M/17stn Msd 0.2 1↓

98/9988
SEP 06 123112.7s 45.98S 170.31E 5km M=3.3
0.4 0.02 0.02 R
Rsd 0.3s 10ph/6stn Dmin 52km Az.gap 224°
Corr. -0.645 13M/6stn Msd 0.2 1↓
Felt Taieri Mouth (153).

98/9998
SEP 06 174644.5s 38.57S 175.76E 189km M=3.7
0.3 0.01 0.02 3
Rsd 0.1s 22ph/17stn Dmin 51km Az.gap 208°
Corr. -0.251 10M/9stn Msd 0.4

98/10007
SEP 07 013338.1s 38.76S 176.89E 52km M=4.0
0.1 0.01 0.01 2
Rsd 0.2s 29ph/26stn Dmin 18km Az.gap 55°
Corr. -0.278 21M/15stn Msd 0.2 1↓

98/10008
SEP 07 013912.0s 38.47S 176.16E 299km M=3.6
0.7 0.07 0.07 7
Rsd 0.2s 9ph/8stn Dmin 165km Az.gap 246°
Corr. -0.931 7M/7stn Msd 0.2
Very poor station coverage.

98/10011
SEP 07 080936.7s 39.62S 174.35E 199km M=3.6
0.4 0.02 0.03 4
Rsd 0.1s 13ph/12stn Dmin 113km Az.gap 219°
Corr. -0.402 12M/11stn Msd 0.3

98/10019
SEP 07 181029.7s 40.29S 176.29E 67km M=4.2
0.2 0.01 0.02 3
Rsd 0.2s 43ph/37stn Dmin 43km Az.gap 146°
Corr. -0.496 10M/5stn Msd 0.2 6↑ 1↓
Felt Moawhango (58) MM4.

98/10021
SEP 07 202936.9s 35.75S 178.25E 200km M=4.3
0.6 0.06 0.16 12
Rsd 0.2s 8ph/7stn Dmin 206km Az.gap 330°
Corr. -0.732 16M/13stn Msd 0.2

98/10028
SEP 08 084347.1s 37.23S 177.50E 94km M=3.9
0.3 0.02 0.01 3
Rsd 0.1s 11ph/9stn Dmin 43km Az.gap 232°
Corr. 0.241 13M/10stn Msd 0.2

98/10033
SEP 08 155155.4s 40.14S 174.17E 154km M=3.7
0.3 0.01 0.02 3
Rsd 0.2s 27ph/21stn Dmin 76km Az.gap 182°
Corr. -0.472 15M/13stn Msd 0.2 1↑

98/10042
SEP 09 031209.6s 39.60S 173.68E 5km M=3.6
0.2 0.01 0.02 R
Rsd 0.2s 24ph/20stn Dmin 37km Az.gap 189°
Corr. -0.229 27M/25stn Msd 0.4 1↑ 1↓

98/10045
SEP 09 045956.7s 39.58S 173.66E 12km M=4.0
0.2 0.01 0.02 R
Rsd 0.2s 32ph/29stn Dmin 36km Az.gap 177°
Corr. -0.314 34M/31stn Msd 0.3 1↑

98/10060
SEP 09 121358.1s 37.85S 176.22E 322km M=4.3
0.4 0.03 0.03 4
Rsd 0.1s 19ph/16stn Dmin 157km Az.gap 225°
Corr. -0.774 12M/12stn Msd 0.2 1↓

98/10063
SEP 09 130119.4s 38.88S 175.02E 235km M=4.3
1.2 0.02 0.02 10
Rsd 0.2s 26ph/26stn Dmin 46km Az.gap 87°
Corr. -0.217 19M/16stn Msd 0.3 8↑ 3↓

98/10081
SEP 09 224323.0s 40.95S 175.53E 24km M=3.6
0.1 0.01 0.01 1
Rsd 0.3s 23ph/19stn Dmin 24km Az.gap 91°
Corr. -0.385 19M/15stn Msd 0.2 2↑ 1↓

98/10100
SEP 10 015351.5s 37.91S 179.23E 16km M=4.2
0.4 0.02 0.02 3
Rsd 0.1s 14ph/12stn Dmin 87km Az.gap 282°
Corr. -0.423 33M/30stn Msd 0.2 1↓

98/10110
SEP 10 075415.4s 37.88S 176.57E 150km M=4.3
0.3 0.01 0.01 3
Rsd 0.2s 22ph/20stn Dmin 25km Az.gap 110°
Corr. -0.004 21M/16stn Msd 0.2 3↑ 2↓

98/10116
SEP 10 121524.5s 38.32S 176.03E 153km M=4.1
0.5 0.02 0.01 4
Rsd 0.2s 20ph/15stn Dmin 21km Az.gap 79°
Corr. -0.355 8M/4stn Msd 0.2 1↑

98/10121
SEP 10 192419.1s 37.72S 176.55E 146km M=4.0
0.5 0.01 0.01 6
Rsd 0.2s 16ph/15stn Dmin 42km Az.gap 121°
Corr. 0.061 21M/17stn Msd 0.2

98/10122
SEP 10 195624.9s 41.12S 173.11E 124km M=3.6
0.3 0.02 0.01 3
Rsd 0.2s 13ph/12stn Dmin 59km Az.gap 119°
Corr. -0.173 13M/13stn Msd 0.2 2↑ 1↓

98/10135
SEP 11 080225.4s 36.91S 178.19E 27km M=3.6
0.5 0.03 0.03 3
Rsd 0.2s 13ph/11stn Dmin 77km Az.gap 258°
Corr. 0.904 16M/14stn Msd 0.3

98/10156
SEP 11 165434.8s 37.19S 178.42E 51km M=4.0
0.5 0.03 0.03 4
Rsd 0.2s 12ph/8stn Dmin 47km Az.gap 267°
Corr. 0.667 14M/12stn Msd 0.2 1↓

98/10160
SEP 11 181557.9s 37.74S 179.15E 25km M=4.0
0.5 0.02 0.03 2
Rsd 0.2s 14ph/11stn Dmin 77km Az.gap 281°
Corr. -0.329 29M/25stn Msd 0.3 1↑ 1↓

98/10179
SEP 12 012958.4s 37.41S 178.12E 180km M=3.5
0.4 0.05 0.32 7
Rsd 0.1s 6ph/3stn Dmin 26km Az.gap 319°
Corr. -0.927 3M/3stn Msd 0.1 1↑

98/10199
SEP 12 135503.9s 36.65S 177.13E 252km M=4.3
0.5 0.02 0.02 4
Rsd 0.1s 11ph/10stn Dmin 97km Az.gap 230°
Corr. 0.556 19M/15stn Msd 0.2 1↓

98/10207
SEP 12 190244.5s 37.87S 176.72E 176km M=4.2
0.4 0.02 0.02 4
Rsd 0.2s 19ph/16stn Dmin 27km Az.gap 114°
Corr. 0.268 20M/19stn Msd 0.2 1↑

98/10222
SEP 13 003233.0s 37.41S 178.03E 69km M=3.6
0.3 0.01 0.02 3
Rsd 0.1s 6ph/4stn Dmin 32km Az.gap 202°
Corr. 0.776 5M/3stn Msd 0.2 1↓

98/10226
SEP 13 031537.7s 37.40S 176.98E 126km M=3.7
0.7 0.05 0.05 12
Rsd 0.2s 6ph/4stn Dmin 119km Az.gap 250°
Corr. -0.614 3M/3stn Msd 0.1

98/10234
SEP 13 085558.4s 46.11S 166.94E 111km M=4.0
0.3 0.01 0.03 3
Rsd 0.1s 10ph/6stn Dmin 82km Az.gap 253°
Corr. -0.011 10M/5stn Msd 0.2 3↑ 1↓

98/10263
SEP 14 000513.0s 45.14S 167.48E 121km M=3.6
0.3 0.01 0.02 2
Rsd 0.1s 13ph/7stn Dmin 59km Az.gap 229°
Corr. 0.047 9M/7stn Msd 0.3 1↑

98/10269
SEP 14 015050.8s 36.48S 177.61E 239km M=4.2
0.4 0.02 0.02 4
Rsd 0.1s 12ph/10stn Dmin 172km Az.gap 263°
Corr. 0.513 11M/11stn Msd 0.2

98/10273
SEP 14 054721.6s 46.15S 166.05E 12km M=4.3
0.5 0.03 0.03 R
Rsd 0.2s 11ph/7stn Dmin 150km Az.gap 286°
Corr. 0.114 8M/4stn Msd 0.4 1↓

98/10274
SEP 14 084330.7s 37.98S 176.41E 176km M=4.3
0.5 0.02 0.01 4
Rsd 0.2s 26ph/22stn Dmin 14km Az.gap 78°
Corr. -0.307 10M/6stn Msd 0.3 2↑ 1↓

98/10277
SEP 14 121825.3s 37.86S 176.55E 203km M=4.0
1.6 0.05 0.03 14
Rsd 0.2s 11ph/9stn Dmin 42km Az.gap 169°
Corr. -0.585 13M/13stn Msd 0.2

98/10290
SEP 14 224826.5s 38.23S 175.91E 159km M=4.1
0.7 0.02 0.02 7
Rsd 0.2s 17ph/16stn Dmin 56km Az.gap 144°
Corr. -0.096 19M/16stn Msd 0.3 2↑ 1↓

98/10309
SEP 15 115821.6s 38.89S 179.55E 33km M=3.7
0.6 0.03 0.04 R
Rsd 0.2s 5ph/3stn Dmin 135km Az.gap 321°
Corr. -0.203 10M/10stn Msd 0.3

98/10325
SEP 16 072255.3s 39.50S 175.66E 84km M=3.7
0.2 0.01 0.01 2
Rsd 0.2s 23ph/19stn Dmin 25km Az.gap 155°
Corr. 0.331 15M/13stn Msd 0.3 1↓

98/10326
SEP 16 084824.7s 38.04S 176.43E 165km M=4.2
0.9 0.03 0.02 8
Rsd 0.2s 12ph/10stn Dmin 77km Az.gap 147°
Corr. -0.081 21M/17stn Msd 0.2 1↑

98/10337
SEP 16 192243.5s 36.99S 176.95E 123km M=3.7
0.6 0.07 0.13 23
Rsd 0.2s 13ph/10stn Dmin 137km Az.gap 272°
Corr. -0.896 9M/8stn Msd 0.2
Poor station coverage.

98/10339
SEP 16 195520.9s 37.41S 177.29E 164km M=4.0
0.9 0.04 0.04 9
Rsd 0.4s 10ph/8stn Dmin 92km Az.gap 211°
Corr. -0.134 13M/10stn Msd 0.2

98/10347
SEP 17 011944.3s 38.22S 178.40E 12km M=3.5
0.5 0.02 0.05 R
Rsd 0.4s 7ph/6stn Dmin 20km Az.gap 224°
Corr. -0.396 10M/8stn Msd 0.2 1↑ 1↓

98/10352
SEP 17 031901.1s 45.03S 167.55E 85km M=3.6
0.6 0.03 0.05 5
Rsd 0.4s 9ph/7stn Dmin 50km Az.gap 229°
Corr. -0.359 13M/7stn Msd 0.3 1↑ 2↓

98/10363
SEP 17 142442.7s 38.40S 176.15E 190km M=3.7
0.6 0.03 0.03 5
Rsd 0.2s 19ph/14stn Dmin 98km Az.gap 248°
Corr. -0.534 11M/10stn Msd 0.3 1↑

98/10380
SEP 18 025706.6s 37.49S 177.40E 122km M=3.9
1.1 0.06 0.04 11
Rsd 0.4s 9ph/6stn Dmin 99km Az.gap 235°
Corr. 0.447 11M/10stn Msd 0.3

98/10382
SEP 18 050118.8s 38.04S 176.02E 194km M=3.9
0.8 0.04 0.03 8
Rsd 0.2s 12ph/9stn Dmin 115km Az.gap 231°
Corr. -0.613 21M/17stn Msd 0.1

98/10388
SEP 18 064727.4s 35.43S 179.00E 250km M=4.4
1.1 0.08 0.12 9
Rsd 0.2s 10ph/7stn Dmin 248km Az.gap 337°
Corr. -0.404 14M/12stn Msd 0.2

98/10411
SEP 18 205543.9s 45.06S 167.53E 73km M=4.0
0.3 0.01 0.02 3
Rsd 0.2s 13ph/8stn Dmin 53km Az.gap 230°
Corr. 0.221 9M/5stn Msd 0.4 1↓

98/10413
SEP 18 212541.4s 37.93S 176.57E 154km M=3.7
0.5 0.02 0.01 4
Rsd 0.2s 12ph/11stn Dmin 57km Az.gap 161°
Corr. -0.428 15M/15stn Msd 0.2

98/10414
SEP 18 220728.3s 38.06S 176.65E 263km M=4.1
0.3 0.06 0.08 5
Rsd 0.1s 18ph/15stn Dmin 96km Az.gap 203°
Corr. -0.971 17M/16stn Msd 0.3

98/10420
SEP 19 013411.4s 38.26S 176.13E 218km M=3.6
0.2 0.02 0.02 2
Rsd 0.0s 12ph/11stn Dmin 105km Az.gap 256°
Corr. -0.922 11M/11stn Msd 0.2 1↓

98/10435
SEP 19 152611.5s 39.30S 175.41E 12km M=3.8
0.1 0.01 0.01 1
Rsd 0.2s 39ph/31stn Dmin 13km Az.gap 74°
Corr. -0.138 32M/29stn Msd 0.3 2↑ 1↓

98/10436
SEP 19 154641.9s 39.12S 175.04E 202km M=4.0
0.6 0.02 0.03 5
Rsd 0.2s 30ph/26stn Dmin 45km Az.gap 121°
Corr. -0.132 16M/15stn Msd 0.2 6↑ 2↓

98/10443
SEP 19 215927.6s 38.24S 176.50E 171km M=3.5
0.8 0.04 0.11 8
Rsd 0.2s 15ph/12stn Dmin 94km Az.gap 323°
Corr. 0.361 9M/9stn Msd 0.3 1↑

98/10456
SEP 20 075401.4s 47.38S 164.80E 33km M=3.5
0.5 0.04 0.03 R
Rsd 0.2s 7ph/4stn Dmin 259km Az.gap 331°
Corr. -0.142 5M/4stn Msd 0.5

98/10458
SEP 20 092613.7s 37.73S 176.83E 172km M=3.8
0.5 0.02 0.01 4
Rsd 0.2s 16ph/14stn Dmin 50km Az.gap 127°
Corr. 0.208 12M/11stn Msd 0.1 1↑

98/10462
SEP 20 121632.1s 39.85S 175.09E 91km M=3.7
0.4 0.01 0.01 6
Rsd 0.2s 29ph/28stn Dmin 15km Az.gap 96°
Corr. 0.269 17M/15stn Msd 0.3 1↑ 1↓

98/10464
SEP 20 131317.0s 38.50S 175.92E 155km M=3.6
1.0 0.04 0.03 8
Rsd 0.3s 11ph/10stn Dmin 43km Az.gap 186°
Corr. -0.543 10M/10stn Msd 0.2

98/10469
SEP 20 173744.6s 39.63S 177.37E 12km M=3.5
0.4 0.11 0.03 R
Rsd 0.1s 7ph/4stn Dmin 48km Az.gap 354°
Corr. 0.666 3M/3stn Msd 0.2

98/10471
SEP 20 203226.0s 39.02S 178.31E 12km M=3.9
0.9 0.05 0.06 R
Rsd 0.3s 13ph/11stn Dmin 51km Az.gap 230°
Corr. -0.821 23M/19stn Msd 0.3 1↑

98/10480
SEP 21 081803.1s 38.91S 175.12E 208km M=4.7
0.5 0.02 0.02 4
Rsd 0.2s 35ph/33stn Dmin 38km Az.gap 76°
Corr. -0.577 21M/15stn Msd 0.3 1↑

98/10503
SEP 22 064825.7s 39.05S 178.44E 12km M=3.7
0.7 0.03 0.05 R
Rsd 0.3s 13ph/11stn Dmin 60km Az.gap 225°
Corr. -0.773 22M/20stn Msd 0.2 1↑

98/10507
SEP 22 083431.8s 37.12S 177.42E 5km M=4.3
0.4 0.04 0.03 R
Rsd 0.4s 11ph/9stn Dmin 50km Az.gap 189°
Corr. 0.771 42M/37stn Msd 0.3 1↑

98/10508
SEP 22 084626.8s 41.43S 175.00E 25km M=3.4
0.1 0.01 0.01 1
Rsd 0.3s 27ph/21stn Dmin 11km Az.gap 137°
Corr. -0.342 18M/15stn Msd 0.2 1↑ 3↓
Felt Eastbourne and Khandallah (68).

98/10519
SEP 22 130814.7s 36.08S 176.94E 156km M=3.6
0.9 0.08 0.16 27
Rsd 0.3s 9ph/7stn Dmin 208km Az.gap 308°
Corr. -0.518 7M/7stn Msd 0.3

98/10523
SEP 22 154029.4s 38.05S 176.29E 172km M=4.0
0.6 0.02 0.02 5
Rsd 0.2s 15ph/14stn Dmin 17km Az.gap 95°
Corr. -0.217 12M/11stn Msd 0.3

98/10539
SEP 22 231604.3s 36.93S 177.22E 12km M=3.8
0.8 0.08 0.04 R
Rsd 0.7s 8ph/5stn Dmin 121km Az.gap 210°
Corr. 0.712 7M/5stn Msd 0.3

98/10552
SEP 23 101915.5s 37.76S 176.65E 162km M=3.5
0.6 0.03 0.02 5
Rsd 0.1s 10ph/9stn Dmin 77km Az.gap 227°
Corr. -0.760 10M/10stn Msd 0.2

98/10553
SEP 23 103224.6s 45.04S 167.61E 114km M=3.8
0.5 0.02 0.03 4
Rsd 0.2s 15ph/9stn Dmin 47km Az.gap 223°
Corr. 0.140 8M/5stn Msd 0.2 3↑ 2↓

98/10573
SEP 24 043233.4s 39.71S 175.55E 12km M=3.8
0.1 0.01 0.01 R
Rsd 0.3s 39ph/33stn Dmin 48km Az.gap 62°
Corr. 0.014 43M/38stn Msd 0.3 3↑ 5↓

98/10580
SEP 24 122414.4s 38.78S 175.93E 168km M=3.5
0.5 0.02 0.03 5
Rsd 0.1s 13ph/10stn Dmin 57km Az.gap 215°
Corr. -0.759 11M/11stn Msd 0.2

98/10585
SEP 24 160946.2s 39.09S 175.26E 152km M=4.2
0.5 0.02 0.02 4
Rsd 0.3s 31ph/27stn Dmin 26km Az.gap 77°
Corr. 0.149 18M/15stn Msd 0.3 5↑ 4↓

98/10595
SEP 24 220408.2s 38.74S 175.85E 111km M=3.5
0.2 0.03 0.03 3
Rsd 0.1s 7ph/5stn Dmin 40km Az.gap 295°
Corr. 0.929 1M/1stn Msd 0.0

98/10623
SEP 25 094530.3s 40.44S 174.65E 89km M=3.6
0.2 0.01 0.01 2
Rsd 0.2s 39ph/29stn Dmin 53km Az.gap 76°
Corr. 0.031 17M/15stn Msd 0.2 1↓

98/10687
SEP 26 181753.7s 37.51S 179.37E 12km M=3.8
0.4 0.02 0.02 R
Rsd 0.2s 5ph/3stn Dmin 95km Az.gap 319°
Corr. -0.100 7M/5stn Msd 0.3 1↓

98/10707
SEP 27 130423.7s 45.07S 167.54E 83km M=3.6
0.5 0.02 0.04 4
Rsd 0.4s 10ph/8stn Dmin 54km Az.gap 228°
Corr. -0.332 12M/8stn Msd 0.3 2↑ 1↓

98/10713
SEP 27 171039.4s 36.64S 177.05E 273km M=4.1
1.2 0.09 0.14 13
Rsd 0.2s 16ph/14stn Dmin 154km Az.gap 284°
Corr. -0.870 14M/13stn Msd 0.3

98/10714
SEP 27 181223.1s 36.80S 178.13E 12km M=3.8
0.7 0.05 0.04 R
Rsd 0.2s 10ph/8stn Dmin 90km Az.gap 245°
Corr. 0.905 13M/11stn Msd 0.3 1↓

98/10719
SEP 27 191658.0s 44.61S 168.21E 78km M=3.5
0.3 0.01 0.02 4
Rsd 0.2s 16ph/11stn Dmin 24km Az.gap 148°
Corr. -0.301 9M/5stn Msd 0.2 1↑

98/10722
SEP 27 225433.9s 40.63S 175.39E 42km M=3.9
0.1 0.01 0.01 2
Rsd 0.2s 37ph/33stn Dmin 17km Az.gap 56°
Corr. -0.235 15M/10stn Msd 0.3 3↑ 2↓
Felt Levin (65) MM3.

98/10727
SEP 28 025429.0s 39.54S 175.60E 12km M=3.7
0.1 0.01 0.01 R
Rsd 0.3s 35ph/31stn Dmin 29km Az.gap 74°
Corr. -0.176 34M/29stn Msd 0.3 3↑ 8↓

98/10732
SEP 28 041128.9s 38.38S 175.90E 193km M=3.9
0.2 0.02 0.02 2
Rsd 0.1s 15ph/10stn Dmin 55km Az.gap 217°
Corr. 0.571 17M/15stn Msd 0.3 1↑

98/10750
SEP 28 194608.0s 35.94S 176.76E 12km M=4.9
0.8 0.05 0.05 R
Rsd 0.2s 12ph/10stn Dmin 230km Az.gap 298°
Corr. -0.223 18M/18stn Msd 0.4

98/10752
SEP 28 200423.8s 38.39S 175.99E 181km M=3.7
0.4 0.01 0.02 3
Rsd 0.1s 19ph/17stn Dmin 78km Az.gap 249°
Corr. -0.032 17M/17stn Msd 0.2 1↑

98/10753
SEP 28 200856.9s 37.08S 177.20E 98km M=4.0
0.7 0.04 0.05 15
Rsd 0.2s 9ph/7stn Dmin 113km Az.gap 270°
Corr. -0.400 12M/11stn Msd 0.2

98/10754
SEP 28 200913.9s 37.75S 179.29E 12km M=3.6
0.3 0.01 0.01 R
Rsd 0.1s 4ph/3stn Dmin 89km Az.gap 307°
Corr. 0.196 7M/4stn Msd 0.3 1↓

98/10769
SEP 29 144512.6s 39.08S 175.18E 189km M=3.5
0.6 0.02 0.02 5
Rsd 0.1s 16ph/14stn Dmin 32km Az.gap 178°
Corr. 0.128 5M/5stn Msd 0.2 2↑ 2↓

98/10778
SEP 29 222728.4s 37.32S 178.42E 32km M=3.8
0.4 0.02 0.03 1
Rsd 0.1s 8ph/6stn Dmin 33km Az.gap 320°
Corr. 0.560 6M/4stn Msd 0.3 1↑

98/10788
SEP 30 070833.5s 37.66S 175.92E 189km M=3.8
0.9 0.08 0.13 26
Rsd 0.2s 14ph/11stn Dmin 214km Az.gap 279°
Corr. -0.934 8M/8stn Msd 0.2
Poor station coverage.

98/10790
SEP 30 080403.5s 36.83S 176.29E 106km M=3.7
0.6 0.06 0.10 35
Rsd 0.2s 10ph/8stn Dmin 198km Az.gap 277°
Corr. -0.718 9M/9stn Msd 0.2

98/10793
SEP 30 110034.1s 38.56S 177.65E 55km M=3.6
0.2 0.01 0.01 4
Rsd 0.1s 11ph/9stn Dmin 34km Az.gap 106°
Corr. -0.258 14M/12stn Msd 0.3 1↑

98/10795
SEP 30 112441.6s 40.97S 172.95E 199km M=4.1
0.3 0.02 0.02 3
Rsd 0.2s 21ph/17stn Dmin 39km Az.gap 91°
Corr. -0.086 13M/13stn Msd 0.3 4↑ 2↓

98/10797
SEP 30 130238.9s 42.14S 173.70E 34km M=3.5
0.1 0.01 0.02 3
Rsd 0.2s 20ph/16stn Dmin 34km Az.gap 141°
Corr. 0.056 13M/11stn Msd 0.2 1↑

98/10808
OCT 01 032550.6s 40.50S 173.68E 158km M=3.5
0.3 0.02 0.02 2
Rsd 0.1s 20ph/15stn Dmin 39km Az.gap 251°
Corr. -0.275 9M/9stn Msd 0.3 1↑

98/10818
OCT 01 113451.8s 38.83S 175.90E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.3s 18ph/15stn Dmin 12km Az.gap 92°
Corr. -0.358 22M/21stn Msd 0.3 1↓

98/10837
OCT 01 190124.3s 35.70S 178.31E 238km M=4.3
1.1 0.07 0.07 8
Rsd 0.3s 14ph/11stn Dmin 210km Az.gap 297°
Corr. 0.711 6M/6stn Msd 0.1

98/10839
OCT 01 215146.0s 38.18S 175.95E 174km M=4.4
0.4 0.01 0.01 4
Rsd 0.2s 23ph/17stn Dmin 21km Az.gap 103°
Corr. 0.189 20M/17stn Msd 0.2 1↑

98/10840
OCT 01 215350.0s 36.11S 177.75E 12km M=4.0
0.1 0.01 0.02 R
Rsd 0.0s 4ph/3stn Dmin 172km Az.gap 348°
Corr. 0.436 4M/3stn Msd 0.3

98/10842
OCT 01 230625.7s 36.49S 178.14E 235km M=4.2
2.0 0.10 0.13 16
Rsd 0.4s 12ph/11stn Dmin 124km Az.gap 302°
Corr. -0.013 13M/13stn Msd 0.1

98/10850
OCT 02 075909.3s 42.14S 172.80E 33km M=3.7
0.2 0.01 0.01 R
Rsd 0.2s 15ph/11stn Dmin 68km Az.gap 113°
Corr. 0.144 20M/19stn Msd 0.3

98/10854
OCT 02 110316.9s 38.58S 176.28E 237km M=3.6
1.0 0.07 0.08 11
Rsd 0.3s 16ph/11stn Dmin 89km Az.gap 198°
Corr. -0.828 8M/8stn Msd 0.2

98/10861
OCT 02 133258.5s 45.18S 167.48E 128km M=3.8
0.4 0.02 0.02 3
Rsd 0.2s 10ph/6stn Dmin 58km Az.gap 228°
Corr. -0.220 9M/6stn Msd 0.2 1↑

98/10887
OCT 03 062617.6s 40.05S 175.63E 57km M=4.4
0.1 0.00 0.01 3
Rsd 0.2s 43ph/39stn Dmin 66km Az.gap 91°
Corr. 0.341 13M/7stn Msd 0.3 10↑ 1↓
Felt Marton, Sanson (61), MM4 and Palmerston North (62).

98/10890
OCT 03 102436.5s 40.20S 173.47E 170km M=4.5
0.3 0.01 0.01 2
Rsd 0.2s 38ph/34stn Dmin 77km Az.gap 149°
Corr. 0.026 16M/12stn Msd 0.4 8↑ 5↓

98/10915
OCT 04 013614.8s 42.00S 173.93E 12km M=3.7
0.1 0.00 0.01 R
Rsd 0.1s 9ph/5stn Dmin 32km Az.gap 173°
Corr. -0.544 8M/8stn Msd 0.7 1↓

98/10921
OCT 04 073903.8s 38.20S 178.31E 12km M=3.6
0.6 0.02 0.09 R
Rsd 0.4s 5ph/3stn Dmin 14km Az.gap 207°
Corr. -0.714 6M/4stn Msd 0.1 2↑ 1↓

98/10923
OCT 04 141206.3s 38.68S 175.50E 123km M=3.7
0.6 0.04 0.05 17
Rsd 0.2s 16ph/12stn Dmin 231km Az.gap 231°
Corr. -0.782 8M/8stn Msd 0.2
Poor station coverage.

98/10926
OCT 04 150534.4s 38.15S 175.75E 164km M=3.9
1.2 0.08 0.12 29
Rsd 0.4s 12ph/10stn Dmin 206km Az.gap 231°
Corr. -0.865 6M/6stn Msd 0.2
Poor station coverage.

98/10927
OCT 04 151915.0s 44.07S 168.74E 5km M=3.7
0.2 0.02 0.02 R
Rsd 0.4s 10ph/6stn Dmin 57km Az.gap 184°
Corr. -0.660 15M/8stn Msd 0.2 1↑

98/10928
OCT 04 160319.0s 40.20S 176.59E 68km M=3.8
0.3 0.01 0.03 4
Rsd 0.2s 26ph/22stn Dmin 61km Az.gap 172°
Corr. -0.274 14M/12stn Msd 0.2 1↑ 1↓

98/10929
OCT 04 162645.5s 45.20S 167.44E 85km M=3.7
0.3 0.01 0.02 3
Rsd 0.2s 11ph/6stn Dmin 60km Az.gap 230°
Corr. -0.228 11M/6stn Msd 0.1 1↓

98/10932
OCT 04 190555.8s 37.59S 178.90E 42km M=4.6
1.0 0.06 0.07 15
Rsd 0.3s 17ph/15stn Dmin 53km Az.gap 279°
Corr. 0.338 23M/19stn Msd 0.2 1↓

98/10933
OCT 04 212205.9s 35.27S 179.08E 219km M=4.5
0.5 0.06 0.05 10
Rsd 0.1s 11ph/8stn Dmin 267km Az.gap 328°
Corr. 0.437 12M/10stn Msd 0.2

98/10937
OCT 04 231535.6s 39.29S 175.30E 127km M=4.1
0.3 0.01 0.01 3
Rsd 0.2s 31ph/27stn Dmin 24km Az.gap 116°
Corr. 0.176 19M/17stn Msd 0.2 3↑ 5↓

98/10938
OCT 04 234704.5s 39.11S 174.85E 248km M=4.0
0.5 0.02 0.03 5
Rsd 0.1s 17ph/16stn Dmin 61km Az.gap 241°
Corr. 0.004 14M/14stn Msd 0.3 1↑

98/10946
OCT 05 063503.5s 44.94S 167.56E 122km M=4.0
0.6 0.02 0.04 5
Rsd 0.4s 10ph/7stn Dmin 42km Az.gap 236°
Corr. -0.234 12M/7stn Msd 0.4 1↑

98/10969
OCT 06 085256.1s 39.02S 175.31E 174km M=3.6
0.5 0.02 0.02 5
Rsd 0.2s 25ph/21stn Dmin 28km Az.gap 152°
Corr. -0.396 14M/14stn Msd 0.2 1↓

98/10982
OCT 06 141116.4s 39.13S 175.60E 103km M=4.0
0.2 0.01 0.01 2
Rsd 0.2s 43ph/34stn Dmin 5km Az.gap 88°
Corr. -0.332 19M/16stn Msd 0.3 8↑ 11↓

98/10983
OCT 06 163945.7s 39.26S 174.80E 210km M=3.6
0.2 0.01 0.01 2
Rsd 0.1s 20ph/17stn Dmin 60km Az.gap 152°
Corr. 0.119 14M/14stn Msd 0.1

98/10984
OCT 06 165443.0s 38.60S 175.82E 151km M=3.5
0.8 0.05 0.05 7
Rsd 0.3s 13ph/11stn Dmin 67km Az.gap 216°
Corr. -0.841 12M/12stn Msd 0.2 1↑

98/10985
OCT 06 171518.5s 41.51S 172.39E 5km M=4.1
0.2 0.01 0.01 R
Rsd 0.2s 19ph/13stn Dmin 52km Az.gap 144°
Corr. 0.019 14M/8stn Msd 0.3 1↓
Felt Westport (79) MM3.

98/10989
OCT 06 222417.1s 38.07S 176.57E 162km M=4.0
0.5 0.02 0.03 3
Rsd 0.2s 13ph/10stn Dmin 44km Az.gap 141°
Corr. 0.189 12M/11stn Msd 0.2 2↑ 4↓

98/10992
OCT 07 010838.7s 39.39S 174.70E 221km M=3.7
0.3 0.01 0.02 2
Rsd 0.1s 14ph/12stn Dmin 50km Az.gap 283°
Corr. 0.194 10M/10stn Msd 0.2 1↓

98/11002
OCT 07 091213.2s 35.93S 179.73W 125km M=3.9
0.8 0.06 0.07 14
Rsd 0.2s 11ph/9stn Dmin 255km Az.gap 316°
Corr. 0.037 8M/8stn Msd 0.3

98/11005
OCT 07 114540.0s 39.52S 174.99E 31km M=3.7
0.1 0.00 0.00 1
Rsd 0.2s 35ph/28stn Dmin 32km Az.gap 89°
Corr. -0.256 33M/32stn Msd 0.3 4↑ 4↓

98/11022
OCT 07 205434.8s 36.47S 179.84W 12km M=3.8
0.9 0.11 0.11 R
Rsd 0.3s 6ph/4stn Dmin 208km Az.gap 345°
Corr. -0.771 4M/4stn Msd 0.2

98/11028
OCT 08 012104.3s 40.17S 174.56E 22km M=3.5
0.1 0.01 0.01 2
Rsd 0.2s 26ph/21stn Dmin 52km Az.gap 84°
Corr. 0.161 28M/26stn Msd 0.2 1↑

98/11031
OCT 08 052300.9s 38.63S 176.01E 159km M=4.0
0.4 0.03 0.02 3
Rsd 0.2s 15ph/11stn Dmin 34km Az.gap 211°
Corr. -0.666 17M/14stn Msd 0.2

98/11037
OCT 08 103207.6s 42.84S 172.44E 5km M=3.8
0.1 0.01 0.01 R
Rsd 0.1s 15ph/11stn Dmin 16km Az.gap 147°
Corr. -0.411 8M/4stn Msd 0.2 1↓

98/11042
OCT 08 154252.4s 38.52S 175.77E 145km M=4.1
0.6 0.06 0.04 4
Rsd 0.2s 14ph/12stn Dmin 39km Az.gap 215°
Corr. -0.925 19M/18stn Msd 0.3 1↑

98/11049
OCT 08 220742.6s 45.86S 167.15E 84km M=3.5
0.3 0.01 0.02 3
Rsd 0.2s 11ph/6stn Dmin 62km Az.gap 269°
Corr. -0.410 9M/6stn Msd 0.2 1↓

98/11081
OCT 09 211636.3s 38.18S 176.40E 142km M=3.5
0.8 0.05 0.04 7
Rsd 0.4s 11ph/10stn Dmin 11km Az.gap 218°
Corr. -0.605 14M/14stn Msd 0.2 1↑

98/11083
OCT 10 003121.1s 45.65S 166.57E 12km M=3.5
0.5 0.02 0.03 R
Rsd 0.3s 8ph/6stn Dmin 111km Az.gap 278°
Corr. -0.317 12M/8stn Msd 0.3 1↓

98/11092
OCT 10 113456.6s 38.89S 175.49E 125km M=3.7
0.2 0.01 0.01 2
Rsd 0.2s 34ph/26stn Dmin 13km Az.gap 59°
Corr. -0.316 17M/15stn Msd 0.2 1↑ 1↓

98/11106
OCT 10 185942.2s 45.22S 169.31E 11km M=2.9
0.1 0.01 0.01 1
Rsd 0.2s 10ph/6stn Dmin 5km Az.gap 130°
Corr. -0.200 12M/7stn Msd 0.3 1↓
Felt Clyde (133).

98/11107
OCT 10 190459.0s 35.25S 179.16E 230km M=4.4
0.6 0.11 0.05 14
Rsd 0.1s 10ph/8stn Dmin 272km Az.gap 339°
Corr. -0.212 14M/12stn Msd 0.3

98/11111
OCT 10 205350.0s 38.00S 175.94E 181km M=3.7
1.4 0.12 0.16 8
Rsd 0.4s 8ph/7stn Dmin 106km Az.gap 234°
Corr. -0.897 13M/13stn Msd 0.3

98/11112
OCT 10 214019.1s 41.31S 174.58E 61km M=3.9
0.1 0.01 0.01 1
Rsd 0.1s 33ph/30stn Dmin 13km Az.gap 96°
Corr. -0.485 18M/12stn Msd 0.3 6↑ 9↓

98/11115
OCT 10 232808.3s 36.74S 177.52E 144km M=4.3
0.7 0.03 0.02 8
Rsd 0.2s 14ph/12stn Dmin 118km Az.gap 235°
Corr. 0.499 25M/21stn Msd 0.2

98/11116
OCT 10 234731.1s 38.33S 176.19E 153km M=4.0
1.0 0.04 0.03 8
Rsd 0.4s 13ph/8stn Dmin 76km Az.gap 128°
Corr. 0.256 14M/14stn Msd 0.2 1↑

98/11118
OCT 11 023849.9s 38.57S 176.05E 181km M=3.5
0.9 0.06 0.10 10
Rsd 0.3s 14ph/12stn Dmin 93km Az.gap 260°
Corr. -0.641 9M/9stn Msd 0.3 1↑ 1↓
Poor station coverage.

98/11124
OCT 11 090053.2s 44.52S 168.66E 5km M=3.1
0.2 0.01 0.02 R
Rsd 0.3s 11ph/7stn Dmin 97km Az.gap 187°
Corr. -0.402 10M/8stn Msd 0.2 1↑
Felt Mt Aspiring (114) MM4.

98/11138
OCT 11 230815.1s 38.31S 175.76E 160km M=4.2
0.6 0.02 0.03 6
Rsd 0.3s 18ph/15stn Dmin 45km Az.gap 149°
Corr. -0.112 22M/20stn Msd 0.3 1↑ 2↓

98/11139
OCT 11 234922.1s 39.87S 174.27E 116km M=4.1
0.4 0.01 0.02 4
Rsd 0.3s 33ph/27stn Dmin 57km Az.gap 115°
Corr. -0.328 18M/16stn Msd 0.3 5↑ 6↓

98/11143
OCT 12 041806.4s 37.77S 179.28E 23km M=4.0
1.2 0.07 0.07 9
Rsd 0.5s 7ph/5stn Dmin 89km Az.gap 295°
Corr. 0.092 10M/8stn Msd 0.2

98/11145
OCT 12 063930.7s 38.66S 176.02E 122km M=3.9
1.0 0.03 0.04 11
Rsd 0.5s 15ph/13stn Dmin 67km Az.gap 126°
Corr. -0.384 16M/12stn Msd 0.2

98/11148
OCT 12 100641.7s 38.36S 175.93E 137km M=3.9
0.3 0.02 0.03 3
Rsd 0.1s 15ph/12stn Dmin 104km Az.gap 237°
Corr. -0.738 11M/11stn Msd 0.4
Poor station coverage.

98/11149
OCT 12 123346.8s 45.22S 167.03E 12km M=3.8
0.2 0.01 0.02 R
Rsd 0.2s 12ph/9stn Dmin 91km Az.gap 252°
Corr. -0.150 8M/4stn Msd 0.2 1↓

98/11150
OCT 12 140701.6s 39.68S 174.40E 204km M=3.7
0.3 0.02 0.04 3
Rsd 0.1s 12ph/9stn Dmin 48km Az.gap 219°
Corr. -0.052 9M/9stn Msd 0.2

98/11154
OCT 12 200608.4s 37.53S 177.02E 5km M=3.6
0.3 0.02 0.01 R
Rsd 0.4s 12ph/7stn Dmin 15km Az.gap 141°
Corr. 0.052 17M/13stn Msd 0.2 1↑ 1↓

98/11159
OCT 13 104127.9s 36.19S 177.40E 229km M=4.2
1.2 0.11 0.12 13
Rsd 0.4s 10ph/8stn Dmin 176km Az.gap 311°
Corr. -0.568 7M/6stn Msd 0.3 1↓

98/11164
OCT 13 133102.2s 37.98S 175.97E 156km M=3.7
0.7 0.06 0.07 6
Rsd 0.3s 11ph/9stn Dmin 105km Az.gap 234°
Corr. -0.855 6M/6stn Msd 0.2
Poor station coverage.

98/11168
OCT 13 213334.5s 40.41S 173.62E 157km M=3.6
0.5 0.04 0.02 4
Rsd 0.3s 17ph/14stn Dmin 51km Az.gap 216°
Corr. 0.163 8M/8stn Msd 0.3 1↑

98/11169
OCT 13 214256.2s 46.98S 166.17E 33km M=4.0
0.6 0.03 0.04 R
Rsd 0.3s 11ph/7stn Dmin 150km Az.gap 313°
Corr. 0.240 17M/10stn Msd 0.3 1↑

98/11177
OCT 14 021300.2s 38.58S 175.74E 145km M=3.6
0.7 0.04 0.03 5
Rsd 0.3s 12ph/10stn Dmin 32km Az.gap 219°
Corr. -0.697 15M/15stn Msd 0.1 1↑

98/11183
OCT 14 040355.0s 37.62S 176.94E 5km M=3.5
0.2 0.01 0.01 R
Rsd 0.3s 13ph/9stn Dmin 24km Az.gap 115°
Corr. -0.422 17M/14stn Msd 0.3 1↑

98/11190
OCT 14 094114.6s 40.55S 175.99E 28km M=3.7
0.1 0.01 0.01 1
Rsd 0.2s 23ph/20stn Dmin 26km Az.gap 134°
Corr. -0.309 32M/27stn Msd 0.3 4↑ 1↓
Felt Dannevirke (63).

98/11206
OCT 14 194056.3s 40.03S 174.64E 83km M=3.8
0.2 0.01 0.01 2
Rsd 0.2s 39ph/31stn Dmin 36km Az.gap 78°
Corr. 0.293 17M/15stn Msd 0.3

98/11207
OCT 14 234758.0s 37.31S 176.34E 294km M=4.0
0.3 0.08 0.15 8
Rsd 0.1s 11ph/9stn Dmin 183km Az.gap 301°
Corr. -0.986 9M/9stn Msd 0.2

98/11209
OCT 15 014158.5s 38.48S 175.78E 199km M=3.5
0.3 0.03 0.04 5
Rsd 0.1s 11ph/10stn Dmin 149km Az.gap 292°
Corr. -0.768 3M/3stn Msd 0.1
Poor station coverage.

98/11212
OCT 15 033727.7s 37.81S 176.91E 5km M=3.6
0.2 0.02 0.01 R
Rsd 0.3s 9ph/6stn Dmin 40km Az.gap 135°
Corr. 0.412 7M/5stn Msd 0.2

98/11214
OCT 15 045717.0s 38.39S 176.14E 145km M=4.4
0.3 0.01 0.01 2
Rsd 0.1s 34ph/30stn Dmin 28km Az.gap 78°
Corr. 0.037 9M/5stn Msd 0.2 1↑

98/11222
OCT 15 100849.0s 41.24S 175.31E 28km M=3.7
0.1 0.01 0.01 1
Rsd 0.2s 20ph/16stn Dmin 18km Az.gap 57°
Corr. -0.215 21M/16stn Msd 0.2 2↑ 4↓
Felt Greytown (69).

98/11257
OCT 15 180046.4s 45.82S 166.61E 12km M=4.4
1.2 0.06 0.07 R
Rsd 0.6s 13ph/8stn Dmin 104km Az.gap 264°
Corr. -0.334 10M/5stn Msd 0.2 1↓

98/11292
OCT 16 202549.5s 38.31S 179.18E 68km M=3.9
0.9 0.07 0.11 20
Rsd 0.3s 10ph/8stn Dmin 85km Az.gap 265°
Corr. -0.824 16M/14stn Msd 0.3

98/11294
OCT 16 203127.6s 38.37S 179.20E 24km M=4.1
0.3 0.01 0.01 3
Rsd 0.1s 12ph/9stn Dmin 89km Az.gap 264°
Corr. -0.391 24M/20stn Msd 0.3 1↑ 1↓

98/11295
OCT 16 204705.1s 38.47S 179.26E 12km M=3.8
0.4 0.01 0.02 R
Rsd 0.2s 11ph/9stn Dmin 98km Az.gap 265°
Corr. -0.103 12M/10stn Msd 0.3

98/11296
OCT 16 211524.0s 38.43S 179.33E 12km M=3.6
1.4 0.05 0.09 R
Rsd 0.8s 5ph/4stn Dmin 102km Az.gap 276°
Corr. 0.325 13M/11stn Msd 0.4 1↑

98/11305
OCT 17 050935.3s 37.29S 177.21E 242km M=3.7
1.6 0.16 0.11 14
Rsd 0.4s 11ph/10stn Dmin 127km Az.gap 280°
Corr. -0.693 9M/9stn Msd 0.2

98/11309
OCT 17 073800.3s 38.05S 176.09E 190km M=4.5
0.9 0.04 0.03 7
Rsd 0.3s 19ph/16stn Dmin 50km Az.gap 89°
Corr. -0.013 21M/15stn Msd 0.3 4↑ 1↓

98/11312
OCT 17 113529.2s 37.93S 176.56E 204km M=3.6
1.4 0.06 0.07 15
Rsd 0.3s 11ph/10stn Dmin 150km Az.gap 225°
Corr. -0.771 9M/9stn Msd 0.2

98/11313
OCT 17 113843.3s 45.12S 167.64E 119km M=3.6
0.3 0.03 0.02 2
Rsd 0.2s 14ph/9stn Dmin 49km Az.gap 159°
Corr. -0.462 8M/4stn Msd 0.2 3↑ 1↓

98/11331
OCT 18 015441.2s 40.43S 176.01E 38km M=3.6
0.2 0.01 0.02 3
Rsd 0.2s 20ph/16stn Dmin 35km Az.gap 125°
Corr. -0.118 18M/14stn Msd 0.2 1↑

98/11348
OCT 18 101415.5s 45.01S 167.53E 89km M=3.7
0.3 0.02 0.02 2
Rsd 0.2s 14ph/9stn Dmin 49km Az.gap 190°
Corr. -0.505 8M/4stn Msd 0.2 3↑ 2↓

98/11351
OCT 18 122044.3s 41.96S 172.76E 84km M=4.3
0.2 0.01 0.01 3
Rsd 0.2s 26ph/18stn Dmin 82km Az.gap 118°
Corr. -0.299 8M/4stn Msd 0.2 8↑ 7↓
Felt Nelson (76) and Howard Valley (81), MM4.

98/11366
OCT 19 093301.5s 38.77S 175.71E 127km M=4.1
0.4 0.01 0.01 3
Rsd 0.1s 16ph/14stn Dmin 7km Az.gap 79°
Corr. 0.054 5M/5stn Msd 0.2 2↑ 2↓

98/11372
OCT 19 170611.5s 38.46S 176.11E 164km M=3.7
0.6 0.02 0.01 6
Rsd 0.1s 11ph/9stn Dmin 82km Az.gap 116°
Corr. 0.231 5M/5stn Msd 0.2
Poor staion coverage.

98/11380
OCT 20 044453.4s 38.48S 175.93E 215km M=3.9
0.8 0.04 0.05 8
Rsd 0.3s 19ph/15stn Dmin 106km Az.gap 225°
Corr. -0.781 15M/15stn Msd 0.3 1↑

98/11386
OCT 20 082555.4s 40.23S 174.35E 12km M=3.5
0.1 0.01 0.01 R
Rsd 0.4s 28ph/21stn Dmin 69km Az.gap 94°
Corr. 0.237 23M/20stn Msd 0.3 1↑

98/11391
OCT 20 104846.6s 40.36S 175.81E 46km M=4.2
0.1 0.00 0.01 2
Rsd 0.1s 35ph/33stn Dmin 38km Az.gap 89°
Corr. -0.206 14M/9stn Msd 0.4 6↑ 3↓
Felt Marton (61) and Palmerston North (62).

98/11398
OCT 20 200300.7s 43.83S 169.56E 12km M=5.8
0.4 0.01 0.03 R
Rsd 0.2s 15ph/10stn Dmin 27km Az.gap 98°
Corr. -0.553 30M/16stn Msd 0.3 1↓
Felt Greymouth (85) to Dunedin (145), maximum intensity MM5.

98/11399
OCT 20 201100.6s 35.19S 178.90E 312km M=5.1
2.9 0.23 0.12 10
Rsd 0.2s 16ph/15stn Dmin 378km Az.gap 327°
Corr. 0.846 20M/16stn Msd 0.3

98/11401
OCT 20 201613.1s 43.83S 169.55E 12km M=3.2
0.3 0.01 0.02 R
Rsd 0.3s 11ph/7stn Dmin 25km Az.gap 112°
Corr. -0.570 9M/9stn Msd 0.3 1↑ 3↓
Felt Mahitahi (104).

98/11405
OCT 20 215258.4s 41.57S 172.81E 101km M=4.0
0.4 0.01 0.02 5
Rsd 0.3s 26ph/18stn Dmin 86km Az.gap 119°
Corr. -0.391 19M/13stn Msd 0.4 4↑ 4↓

98/11411
OCT 21 044638.4s 39.80S 174.08E 139km M=4.1
0.4 0.01 0.02 4
Rsd 0.3s 37ph/30stn Dmin 52km Az.gap 113°
Corr. -0.120 20M/15stn Msd 0.3 1↑ 1↓

98/11422
OCT 21 120039.5s 38.14S 176.00E 203km M=5.5
0.4 0.02 0.02 3
Rsd 0.1s 36ph/34stn Dmin 17km Az.gap 64°
Corr. -0.357 10M/5stn Msd 0.3 6↑ 8↓
Felt Ruatuna Rd (35) MM4.

98/11433
OCT 21 223541.2s 40.26S 173.54E 195km M=4.0
0.6 0.03 0.02 4
Rsd 0.2s 11ph/8stn Dmin 106km Az.gap 183°
Corr. -0.267 6M/4stn Msd 0.2

98/11437
OCT 22 062539.8s 41.55S 173.76E 46km M=3.7
0.1 0.01 0.01 3
Rsd 0.3s 20ph/17stn Dmin 12km Az.gap 80°
Corr. -0.201 9M/8stn Msd 0.3 2↑ 4↓

98/11453
OCT 23 000035.7s 38.69S 176.54E 260km M=3.5
0.3 0.07 0.06 6
Rsd 0.1s 9ph/7stn Dmin 234km Az.gap 344°
Corr. -0.908 3M/3stn Msd 0.3 1↓
Very poor station coverage.

98/11454
OCT 23 023907.2s 38.63S 175.84E 198km M=3.5
0.9 0.11 0.19 15
Rsd 0.3s 10ph/7stn Dmin 64km Az.gap 256°
Corr. -0.962 5M/5stn Msd 0.3

98/11459
OCT 23 065952.1s 43.99S 169.70E 12km M=3.7
0.2 0.01 0.02 R
Rsd 0.2s 13ph/10stn Dmin 46km Az.gap 89°
Corr. -0.343 19M/14stn Msd 0.3
Felt Mahitahi (104) and Lake Ohau (115). MM4.

98/11463
OCT 23 105235.7s 39.15S 175.67E 95km M=4.0
0.2 0.01 0.01 2
Rsd 0.2s 31ph/26stn Dmin 6km Az.gap 108°
Corr. -0.350 11M/11stn Msd 0.3 6↑ 1↓

98/11481
OCT 23 224934.5s 37.65S 178.07E 216km M=3.6
0.6 0.08 0.12 4
Rsd 0.1s 10ph/9stn Dmin 50km Az.gap 301°
Corr. -0.779 10M/10stn Msd 0.3

98/11485
OCT 24 044425.8s 38.58S 175.77E 168km M=4.1
0.7 0.02 0.02 6
Rsd 0.2s 17ph/15stn Dmin 15km Az.gap 191°
Corr. 0.247 16M/15stn Msd 0.2 2↑ 3↓

98/11498
OCT 24 110907.8s 38.50S 175.81E 164km M=4.0
0.4 0.01 0.02 4
Rsd 0.1s 18ph/15stn Dmin 25km Az.gap 93°
Corr. -0.139 11M/10stn Msd 0.2 3↑ 3↓

98/11502
OCT 24 121323.7s 38.16S 176.56E 185km M=3.7
1.0 0.05 0.18 10
Rsd 0.2s 12ph/11stn Dmin 105km Az.gap 328°
Corr. -0.302 7M/7stn Msd 0.2 1↑

98/11522
OCT 24 224659.0s 38.49S 175.99E 126km M=3.7
0.5 0.02 0.02 5
Rsd 0.2s 15ph/12stn Dmin 32km Az.gap 214°
Corr. -0.202 10M/10stn Msd 0.2 1↑ 2↓

98/11528
OCT 25 063212.4s 35.40S 179.25E 268km M=4.0
0.3 0.06 0.09 5
Rsd 0.1s 6ph/5stn Dmin 310km Az.gap 343°
Corr. -0.909 4M/3stn Msd 0.3

98/11539
OCT 25 141515.6s 39.23S 174.90E 214km M=3.6
0.5 0.02 0.05 4
Rsd 0.2s 18ph/13stn Dmin 57km Az.gap 197°
Corr. -0.390 8M/8stn Msd 0.1 2↑ 2↓

98/11541
OCT 25 161628.5s 38.67S 175.96E 162km M=3.6
0.8 0.04 0.04 8
Rsd 0.3s 13ph/10stn Dmin 64km Az.gap 210°
Corr. -0.818 9M/9stn Msd 0.2

98/11555
OCT 26 082652.0s 39.14S 175.16E 150km M=4.1
0.3 0.01 0.01 3
Rsd 0.2s 37ph/32stn Dmin 34km Az.gap 70°
Corr. -0.334 13M/13stn Msd 0.2 4↑ 2↓

98/11565
OCT 26 163803.7s 35.84S 179.97E 33km M=4.5
0.4 0.02 0.02 R
Rsd 0.1s 12ph/9stn Dmin 246km Az.gap 302°
Corr. 0.258 20M/18stn Msd 0.3

98/11566
OCT 26 164202.9s 35.62S 177.11E 33km M=4.0
0.3 0.03 0.07 R
Rsd 0.1s 4ph/3stn Dmin 244km Az.gap 349°
Corr. 0.772 2M/2stn Msd 0.4

98/11577
OCT 27 061817.4s 38.18S 179.16E 12km M=3.8
0.1 0.00 0.01 R
Rsd 0.1s 5ph/3stn Dmin 80km Az.gap 293°
Corr. -0.036 5M/3stn Msd 0.3 1↑

98/11580
OCT 27 065613.8s 37.38S 177.10E 5km M=3.5
0.2 0.02 0.01 R
Rsd 0.3s 9ph/7stn Dmin 18km Az.gap 163°
Corr. 0.536 10M/8stn Msd 0.2 1↓

98/11585
OCT 27 091849.0s 40.92S 175.52E 20km M=3.7
0.1 0.01 0.01 2
Rsd 0.2s 23ph/20stn Dmin 27km Az.gap 144°
Corr. -0.042 21M/18stn Msd 0.2 4↑ 1↓
Felt Masterton (66).

98/11592
OCT 27 132757.5s 37.37S 179.54W 12km M=3.7
1.6 0.16 0.12 R
Rsd 0.6s 4ph/3stn Dmin 193km Az.gap 334°
Corr. -0.306 3M/3stn Msd 0.4

98/11593
OCT 27 155935.4s 39.21S 176.24E 60km M=4.2
0.2 0.01 0.01 3
Rsd 0.2s 34ph/27stn Dmin 38km Az.gap 122°
Corr. -0.528 18M/14stn Msd 0.3 2↑ 7↓
Felt Moawhango (58) MM4.

98/11599
OCT 27 183736.7s 37.86S 176.67E 160km M=4.0
0.5 0.02 0.01 4
Rsd 0.1s 17ph/17stn Dmin 28km Az.gap 113°
Corr. -0.081 15M/15stn Msd 0.2 1↑ 1↓

98/11604
OCT 27 224040.1s 36.69S 178.18E 12km M=3.7
0.3 0.02 0.02 R
Rsd 0.1s 5ph/3stn Dmin 102km Az.gap 266°
Corr. 0.889 5M/3stn Msd 0.3

98/11620
OCT 28 220121.3s 38.57S 177.41E 62km M=3.7
0.2 0.01 0.01 3
Rsd 0.2s 16ph/13stn Dmin 43km Az.gap 117°
Corr. -0.330 13M/9stn Msd 0.3 1↓

98/11623
OCT 29 015715.5s 40.03S 172.81E 12km M=4.1
0.3 0.01 0.03 R
Rsd 0.2s 23ph/19stn Dmin 92km Az.gap 213°
Corr. -0.789 30M/28stn Msd 0.4

98/11626
OCT 29 101226.0s 36.56S 178.51E 99km M=4.2
0.7 0.05 0.04 15
Rsd 0.4s 10ph/7stn Dmin 117km Az.gap 284°
Corr. 0.649 8M/4stn Msd 0.3 1↑ 1↓

98/11627
OCT 29 104746.7s 37.00S 176.94E 195km M=3.7
0.3 0.03 0.03 3
Rsd 0.1s 7ph/5stn Dmin 138km Az.gap 272°
Corr. -0.293 6M/6stn Msd 0.2

98/11639
OCT 30 051509.8s 46.18S 166.92E 107km M=3.8
0.4 0.02 0.03 3
Rsd 0.2s 12ph/8stn Dmin 81km Az.gap 243°
Corr. -0.092 12M/6stn Msd 0.2 1↑

98/11651
OCT 30 145317.0s 38.28S 176.98E 58km M=4.2
0.1 0.01 0.01 2
Rsd 0.2s 31ph/26stn Dmin 12km Az.gap 85°
Corr. -0.375 19M/15stn Msd 0.2 2↑ 2↓
Felt Ruatuna Rd (35) MM4.

98/11669
OCT 31 000943.9s 40.05S 176.78E 57km M=4.6
0.2 0.01 0.01 3
Rsd 0.2s 44ph/39stn Dmin 53km Az.gap 176°
Corr. -0.471 10M/5stn Msd 0.2 6↑ 5↓
Felt Hawkes Bay (52,60) and Moawhango (58). MM4.

98/11690
OCT 31 095119.4s 37.58S 177.38E 90km M=3.9
0.2 0.01 0.01 2
Rsd 0.1s 21ph/18stn Dmin 17km Az.gap 150°
Corr. 0.107 15M/12stn Msd 0.3 1↑

98/11729
NOV 01 212456.6s 45.26S 167.29E 99km M=3.8
0.4 0.02 0.03 2
Rsd 0.2s 11ph/8stn Dmin 70km Az.gap 238°
Corr. -0.658 12M/8stn Msd 0.2 3↑ 1↓

98/11733
NOV 01 225420.4s 37.75S 175.64E 276km M=3.8
0.9 0.11 0.12 11
Rsd 0.4s 16ph/11stn Dmin 141km Az.gap 247°
Corr. -0.777 11M/11stn Msd 0.2
Poor station coverage.

98/11749
NOV 02 080731.6s 39.13S 175.29E 159km M=3.8
0.5 0.02 0.02 5
Rsd 0.2s 25ph/22stn Dmin 24km Az.gap 105°
Corr. -0.236 13M/13stn Msd 0.3 2↑ 2↓

98/11809
NOV 03 104631.2s 40.43S 175.31E 12km M=3.4
0.2 0.01 0.02 R
Rsd 0.6s 29ph/25stn Dmin 34km Az.gap 126°
Corr. 0.086 25M/23stn Msd 0.4 5↑ 1↓
Felt Rongotea (61).

98/11814
NOV 03 142737.9s 40.28S 173.48E 174km M=3.8
0.3 0.02 0.02 3
Rsd 0.2s 29ph/23stn Dmin 69km Az.gap 154°
Corr. -0.079 14M/14stn Msd 0.3 1↑

98/11818
NOV 03 160020.4s 37.84S 178.01E 33km M=3.6
0.2 0.02 0.02 R
Rsd 0.3s 7ph/4stn Dmin 34km Az.gap 165°
Corr. -0.224 8M/4stn Msd 0.4 1↑

98/11820
NOV 03 162253.5s 36.28S 177.18E 266km M=3.9
0.3 0.03 0.03 3
Rsd 0.1s 12ph/9stn Dmin 177km Az.gap 300°
Corr. -0.554 7M/7stn Msd 0.2

98/11821
NOV 03 163401.9s 35.91S 178.19E 164km M=3.5
0.3 0.04 0.03 4
Rsd 0.1s 5ph/3stn Dmin 188km Az.gap 337°
Corr. -0.602 2M/2stn Msd 0.2

98/11822
NOV 03 180116.5s 37.05S 177.36E 206km M=3.9
0.4 0.04 0.03 2
Rsd 0.1s 11ph/10stn Dmin 136km Az.gap 310°
Corr. -0.552 6M/6stn Msd 0.1 1↑

98/11825
NOV 03 194820.1s 37.86S 176.34E 206km M=4.3
0.6 0.04 0.02 4
Rsd 0.3s 29ph/25stn Dmin 29km Az.gap 186°
Corr. 0.162 22M/18stn Msd 0.2 3↑ 1↓

98/11826
NOV 03 200301.3s 39.75S 175.05E 27km M=3.7
0.1 0.01 0.01 2
Rsd 0.3s 37ph/33stn Dmin 12km Az.gap 68°
Corr. -0.080 41M/37stn Msd 0.3 1↑

98/11836
NOV 04 013048.5s 36.02S 179.81W 33km M=3.7
0.5 0.07 0.06 R
Rsd 0.2s 6ph/3stn Dmin 243km Az.gap 349°
Corr. -0.797 3M/3stn Msd 0.3

98/11841
NOV 04 055752.8s 38.25S 176.10E 168km M=4.3
0.5 0.02 0.02 4
Rsd 0.3s 28ph/24stn Dmin 11km Az.gap 60°
Corr. -0.086 25M/19stn Msd 0.2 2↑ 1↓

98/11846
NOV 04 123455.2s 45.21S 167.52E 120km M=3.7
0.4 0.03 0.03 3
Rsd 0.2s 13ph/8stn Dmin 53km Az.gap 235°
Corr. -0.543 12M/10stn Msd 0.4

98/11854
NOV 04 194855.7s 36.85S 177.56E 152km M=3.5
1.5 0.13 0.14 13
Rsd 0.8s 7ph/4stn Dmin 106km Az.gap 300°
Corr. -0.582 3M/3stn Msd 0.3 1↑

98/11863
NOV 05 010006.6s 40.21S 174.45E 82km M=3.6
0.3 0.01 0.01 4
Rsd 0.2s 32ph/29stn Dmin 61km Az.gap 88°
Corr. -0.017 14M/14stn Msd 0.3

98/11902
NOV 06 032309.9s 38.26S 175.95E 243km M=3.6
1.4 0.33 0.44 34
Rsd 0.4s 10ph/8stn Dmin 161km Az.gap 218°
Corr. -0.990 8M/8stn Msd 0.2
Poor station coverage.

98/11932
NOV 06 171217.8s 38.49S 175.73E 150km M=3.7
0.5 0.05 0.03 3
Rsd 0.2s 12ph/10stn Dmin 24km Az.gap 221°
Corr. -0.831 12M/12stn Msd 0.1 1↑

98/11943
NOV 06 201911.3s 38.87S 175.74E 103km M=4.0
0.2 0.01 0.01 2
Rsd 0.2s 41ph/33stn Dmin 3km Az.gap 55°
Corr. -0.418 25M/19stn Msd 0.2 1↓

98/11944
NOV 06 202205.5s 41.26S 172.74E 174km M=3.6
0.5 0.02 0.02 4
Rsd 0.3s 22ph/16stn Dmin 51km Az.gap 104°
Corr. -0.278 10M/10stn Msd 0.1 1↑

98/11951
NOV 07 012441.7s 37.92S 177.61E 78km M=3.9
0.2 0.01 0.01 2
Rsd 0.1s 15ph/13stn Dmin 58km Az.gap 161°
Corr. -0.390 10M/7stn Msd 0.3 1↑

98/11970
NOV 07 124436.4s 36.58S 177.48E 202km M=3.7
0.3 0.05 0.02 4
Rsd 0.1s 8ph/6stn Dmin 179km Az.gap 308°
Corr. -0.543 7M/7stn Msd 0.2

98/11997
NOV 08 025357.0s 37.38S 179.31E 12km M=3.7
0.3 0.01 0.02 R
Rsd 0.1s 9ph/6stn Dmin 92km Az.gap 296°
Corr. -0.182 13M/10stn Msd 0.2

98/11998
NOV 08 031731.4s 36.89S 177.06E 275km M=3.9
1.1 0.11 0.09 8
Rsd 0.2s 11ph/9stn Dmin 152km Az.gap 295°
Corr. -0.534 12M/12stn Msd 0.2

98/12004
NOV 08 060004.2s 36.07S 179.53E 12km M=3.8
0.3 0.02 0.02 R
Rsd 0.1s 5ph/3stn Dmin 249km Az.gap 327°
Corr. -0.133 3M/3stn Msd 0.3

98/12024
NOV 08 153744.9s 38.52S 177.55E 45km M=3.6
0.3 0.02 0.01 5
Rsd 0.3s 20ph/17stn Dmin 44km Az.gap 100°
Corr. -0.002 17M/13stn Msd 0.2 1↑

98/12038
NOV 09 061035.6s 39.06S 179.71E 33km M=4.3
0.8 0.03 0.06 R
Rsd 0.4s 22ph/20stn Dmin 154km Az.gap 265°
Corr. 0.069 40M/35stn Msd 0.2

98/12044
NOV 09 122207.6s 37.83S 175.64E 269km M=3.6
0.3 0.03 0.04 2
Rsd 0.1s 12ph/8stn Dmin 138km Az.gap 238°
Corr. -0.809 5M/5stn Msd 0.3
Poor station coverage.

98/12055
NOV 09 220604.5s 37.15S 177.40E 126km M=3.7
0.2 0.02 0.01 3
Rsd 0.1s 7ph/4stn Dmin 94km Az.gap 290°
Corr. -0.438 5M/4stn Msd 0.2 1↑

98/12059
NOV 09 235906.9s 37.92S 176.04E 255km M=4.3
0.7 0.03 0.04 6
Rsd 0.3s 24ph/20stn Dmin 32km Az.gap 93°
Corr. -0.007 17M/14stn Msd 0.2

98/12062
NOV 10 033016.0s 39.40S 175.46E 101km M=3.6
0.3 0.01 0.01 4
Rsd 0.2s 26ph/22stn Dmin 22km Az.gap 90°
Corr. 0.284 15M/13stn Msd 0.2 1↑ 1↓

98/12079
NOV 10 180105.0s 36.92S 176.72E 297km M=4.0
0.6 0.07 0.07 6
Rsd 0.2s 12ph/10stn Dmin 153km Az.gap 260°
Corr. -0.693 13M/13stn Msd 0.2

98/12085
NOV 10 210722.5s 38.56S 176.17E 108km M=3.8
0.4 0.02 0.01 4
Rsd 0.2s 19ph/16stn Dmin 22km Az.gap 175°
Corr. -0.713 18M/16stn Msd 0.2 1↑

98/12087
NOV 10 213612.6s 37.86S 175.67E 259km M=3.7
1.4 0.14 0.14 13
Rsd 0.5s 11ph/9stn Dmin 134km Az.gap 249°
Corr. -0.843 9M/9stn Msd 0.2
Poor station coverage.

98/12095
NOV 11 090113.3s 36.39S 177.04E 259km M=3.6
0.9 0.16 0.11 12
Rsd 0.3s 5ph/3stn Dmin 176km Az.gap 322°
Corr. -0.518 3M/3stn Msd 0.2

98/12096
NOV 11 101823.1s 35.25S 178.84E 190km M=4.6
1.2 0.09 0.07 20
Rsd 0.3s 13ph/11stn Dmin 265km Az.gap 310°
Corr. 0.733 13M/9stn Msd 0.2

98/12101
NOV 11 153906.6s 37.05S 179.61E 5km M=4.1
0.9 0.06 0.05 R
Rsd 0.3s 13ph/10stn Dmin 131km Az.gap 320°
Corr. 0.251 20M/16stn Msd 0.2

98/12103
NOV 11 164841.0s 36.81S 178.95E 12km M=4.1
0.6 0.03 0.03 R
Rsd 0.2s 12ph/9stn Dmin 104km Az.gap 292°
Corr. 0.757 24M/20stn Msd 0.2

98/12109
NOV 11 235709.0s 40.01S 173.79E 237km M=3.7
0.5 0.07 0.03 5
Rsd 0.2s 16ph/12stn Dmin 89km Az.gap 263°
Corr. 0.151 8M/8stn Msd 0.3

98/12136
NOV 12 151631.4s 38.39S 176.30E 107km M=3.9
0.2 0.01 0.01 2
Rsd 0.1s 33ph/27stn Dmin 4km Az.gap 88°
Corr. -0.121 16M/13stn Msd 0.2 2↑ 1↓

98/12139
NOV 12 161129.3s 41.62S 174.24E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.2s 24ph/21stn Dmin 15km Az.gap 111°
Corr. -0.509 9M/5stn Msd 0.2 7↑ 3↓

98/12142
NOV 12 164744.7s 38.80S 175.97E 126km M=4.0
0.3 0.02 0.02 3
Rsd 0.2s 18ph/14stn Dmin 19km Az.gap 115°
Corr. -0.449 13M/13stn Msd 0.3 3↑ 2↓

98/12144
NOV 12 192022.0s 37.30S 176.72E 182km M=4.1
0.7 0.06 0.04 8
Rsd 0.3s 12ph/10stn Dmin 112km Az.gap 243°
Corr. -0.610 17M/17stn Msd 0.3 1↑

98/12153
NOV 13 024343.8s 37.81S 176.53E 179km M=3.6
0.5 0.03 0.04 4
Rsd 0.1s 11ph/9stn Dmin 71km Az.gap 276°
Corr. -0.152 8M/8stn Msd 0.2
Poor station coverage.

98/12156
NOV 13 054811.6s 37.46S 177.41E 90km M=3.6
0.4 0.03 0.03 5
Rsd 0.2s 12ph/10stn Dmin 80km Az.gap 165°
Corr. 0.770 9M/9stn Msd 0.2 1↑

98/12167
NOV 13 160817.0s 38.92S 175.38E 223km M=3.5
0.3 0.02 0.02 3
Rsd 0.1s 13ph/11stn Dmin 35km Az.gap 230°
Corr. -0.596 11M/11stn Msd 0.2

98/12171
NOV 13 172834.8s 38.46S 175.94E 198km M=3.7
1.0 0.04 0.04 10
Rsd 0.3s 16ph/14stn Dmin 88km Az.gap 216°
Corr. -0.736 13M/13stn Msd 0.1

98/12178
NOV 14 003201.5s 42.04S 172.91E 67km M=3.5
0.2 0.01 0.01 2
Rsd 0.2s 26ph/19stn Dmin 31km Az.gap 58°
Corr. -0.139 11M/11stn Msd 0.2 1↓

98/12183
NOV 14 032734.1s 45.48S 167.14E 72km M=3.6
0.3 0.02 0.02 3
Rsd 0.1s 10ph/6stn Dmin 78km Az.gap 241°
Corr. -0.500 8M/4stn Msd 0.1 1↓

98/12197
NOV 14 130135.5s 40.72S 176.33E 27km M=3.8
0.2 0.01 0.02 1
Rsd 0.2s 25ph/21stn Dmin 9km Az.gap 183°
Corr. -0.343 34M/30stn Msd 0.3 1↑

98/12206
NOV 14 162344.3s 37.82S 178.80E 5km M=3.8
0.3 0.01 0.02 R
Rsd 0.2s 5ph/3stn Dmin 50km Az.gap 277°
Corr. 0.418 5M/3stn Msd 0.2

98/12209
NOV 14 164720.8s 37.98S 179.75E 12km M=3.8
1.6 0.07 0.09 R
Rsd 0.7s 10ph/8stn Dmin 132km Az.gap 293°
Corr. -0.014 14M/14stn Msd 0.4

98/12215
NOV 14 221817.7s 41.04S 178.23E 12km M=3.8
1.0 0.06 0.06 R
Rsd 0.5s 23ph/20stn Dmin 172km Az.gap 234°
Corr. -0.705 22M/22stn Msd 0.2

98/12233
NOV 15 095503.5s 41.23S 172.63E 211km M=3.7
0.3 0.02 0.02 2
Rsd 0.2s 22ph/16stn Dmin 45km Az.gap 119°
Corr. 0.003 10M/10stn Msd 0.3 3↑ 1↓

98/12243
NOV 15 135651.0s 44.87S 167.67E 76km M=4.2
0.4 0.03 0.02 3
Rsd 0.2s 14ph/10stn Dmin 30km Az.gap 191°
Corr. -0.612 16M/9stn Msd 0.2 2↑ 4↓

98/12255
NOV 16 003307.3s 38.95S 175.53E 132km M=4.2
0.3 0.01 0.01 3
Rsd 0.2s 30ph/26stn Dmin 6km Az.gap 54°
Corr. 0.041 21M/17stn Msd 0.2 4↑ 1↓

98/12266
NOV 16 092830.9s 44.40S 168.03E 5km M=3.6
0.3 0.01 0.02 R
Rsd 0.1s 14ph/11stn Dmin 32km Az.gap 195°
Corr. -0.601 18M/13stn Msd 0.3 1↓

98/12272
NOV 16 124207.3s 38.35S 176.02E 162km M=4.4
0.2 0.01 0.01 2
Rsd 0.1s 31ph/28stn Dmin 21km Az.gap 74°
Corr. 0.076 8M/4stn Msd 0.2 5↑ 4↓

98/12292
NOV 17 040618.5s 36.32S 177.65E 217km M=3.8
2.3 0.20 0.23 22
Rsd 0.4s 9ph/8stn Dmin 153km Az.gap 309°
Corr. -0.569 9M/9stn Msd 0.3

98/12296
NOV 17 051943.8s 44.55S 167.15E 12km M=3.6
0.3 0.02 0.02 R
Rsd 0.2s 12ph/8stn Dmin 63km Az.gap 229°
Corr. -0.020 14M/9stn Msd 0.3 1↑

98/12324
NOV 18 082450.3s 38.74S 176.07E 104km M=4.0
0.2 0.01 0.01 2
Rsd 0.2s 26ph/23stn Dmin 13km Az.gap 87°
Corr. -0.512 19M/17stn Msd 0.3 6↑ 1↓

98/12325
NOV 18 083354.1s 39.24S 174.77E 22km M=3.8
0.0 0.00 0.00 1
Rsd 0.1s 37ph/31stn Dmin 33km Az.gap 88°
Corr. -0.227 39M/37stn Msd 0.3 1↓
Felt Whangamomona (48) MM4.

98/12335
NOV 18 121048.8s 41.42S 173.12E 107km M=3.7
0.3 0.02 0.01 4
Rsd 0.3s 28ph/22stn Dmin 42km Az.gap 72°
Corr. -0.207 12M/12stn Msd 0.3 6↑ 5↓

98/12341
NOV 18 192834.9s 37.96S 177.19E 66km M=3.6
0.2 0.01 0.01 3
Rsd 0.2s 22ph/20stn Dmin 43km Az.gap 149°
Corr. -0.160 12M/10stn Msd 0.2

98/12358
NOV 19 152816.3s 43.96S 168.96E 12km M=3.7
0.6 0.03 0.05 R
Rsd 0.4s 12ph/9stn Dmin 37km Az.gap 175°
Corr. -0.682 8M/5stn Msd 0.1

98/12363
NOV 19 214343.2s 41.37S 172.33E 5km M=3.7
0.2 0.01 0.01 R
Rsd 0.4s 14ph/10stn Dmin 60km Az.gap 148°
Corr. -0.125 20M/17stn Msd 0.2

98/12370
NOV 20 043750.8s 37.73S 177.58E 53km M=4.1
0.2 0.01 0.01 3
Rsd 0.2s 24ph/21stn Dmin 41km Az.gap 134°
Corr. 0.291 19M/15stn Msd 0.2 3↑ 1↓

98/12399
NOV 21 132720.1s 39.07S 174.98E 222km M=4.3
0.4 0.02 0.02 4
Rsd 0.2s 38ph/31stn Dmin 36km Az.gap 122°
Corr. -0.487 19M/15stn Msd 0.3 4↑ 3↓

98/12400
NOV 21 140124.1s 38.65S 175.42E 215km M=3.9
1.0 0.06 0.04 8
Rsd 0.4s 16ph/13stn Dmin 28km Az.gap 140°
Corr. -0.560 12M/12stn Msd 0.2 2↑ 1↓

98/12404
NOV 21 172953.7s 38.03S 176.05E 197km M=4.5
0.4 0.02 0.02 3
Rsd 0.3s 34ph/29stn Dmin 21km Az.gap 89°
Corr. 0.165 8M/4stn Msd 0.1 8↑ 1↓

98/12411
NOV 21 235914.6s 40.16S 173.58E 176km M=4.0
0.3 0.01 0.02 3
Rsd 0.2s 38ph/30stn Dmin 77km Az.gap 148°
Corr. 0.024 18M/15stn Msd 0.3 6↑ 1↓

98/12418
NOV 22 030021.9s 39.66S 174.88E 130km M=3.5
0.5 0.02 0.01 5
Rsd 0.3s 20ph/16stn Dmin 17km Az.gap 79°
Corr. 0.119 10M/10stn Msd 0.3 1↑

98/12419
NOV 22 030923.0s 37.55S 177.17E 12km M=3.7
0.1 0.01 0.01 R
Rsd 0.2s 15ph/11stn Dmin 3km Az.gap 98°
Corr. 0.249 17M/13stn Msd 0.2 1↑ 1↓

98/12420
NOV 22 040146.7s 37.53S 177.19E 11km M=3.8
0.2 0.02 0.01 2
Rsd 0.3s 13ph/11stn Dmin 1km Az.gap 123°
Corr. -0.071 19M/14stn Msd 0.3 1↓

98/12423
NOV 22 060906.0s 37.79S 179.32E 12km M=3.6
1.2 0.07 0.07 R
Rsd 0.6s 7ph/5stn Dmin 92km Az.gap 301°
Corr. -0.094 9M/7stn Msd 0.2

98/12429
NOV 22 092408.1s 35.67S 178.41E 222km M=4.1
0.4 0.10 0.05 13
Rsd 0.2s 12ph/9stn Dmin 215km Az.gap 333°
Corr. -0.304 13M/13stn Msd 0.5

98/12453
NOV 23 012515.5s 38.96S 178.16E 49km M=3.6
0.2 0.01 0.01 3
Rsd 0.1s 12ph/10stn Dmin 39km Az.gap 214°
Corr. -0.561 14M/12stn Msd 0.2 1↑

98/12467
NOV 23 125719.4s 37.51S 177.05E 12km M=3.7
0.3 0.02 0.01 R
Rsd 0.3s 10ph/7stn Dmin 13km Az.gap 150°
Corr. 0.134 10M/6stn Msd 0.3 1↑

98/12491
NOV 24 080617.5s 37.70S 179.97E 33km M=3.9
0.7 0.04 0.05 R
Rsd 0.3s 9ph/7stn Dmin 148km Az.gap 297°
Corr. -0.187 11M/11stn Msd 0.3

98/12499
NOV 24 144159.1s 36.94S 177.09E 202km M=4.3
0.7 0.04 0.03 6
Rsd 0.3s 15ph/13stn Dmin 124km Az.gap 206°
Corr. 0.377 15M/12stn Msd 0.2 1↑

98/12503
NOV 24 183322.9s 44.64S 168.26E 82km M=3.5
0.4 0.03 0.02 5
Rsd 0.2s 9ph/8stn Dmin 27km Az.gap 140°
Corr. -0.647 19M/12stn Msd 0.3 5↑ 1↓

98/12522
NOV 25 075955.9s 39.55S 174.78E 220km M=3.7
1.2 0.06 0.20 9
Rsd 0.3s 13ph/10stn Dmin 30km Az.gap 169°
Corr. -0.883 8M/8stn Msd 0.2

98/12537
NOV 25 171851.8s 36.93S 176.93E 273km M=4.4
0.6 0.04 0.04 4
Rsd 0.3s 14ph/11stn Dmin 110km Az.gap 202°
Corr. 0.498 15M/11stn Msd 0.2 1↑

98/12541
NOV 25 193224.3s 40.53S 176.02E 62km M=3.8
0.2 0.01 0.02 3
Rsd 0.2s 30ph/24stn Dmin 25km Az.gap 110°
Corr. -0.647 15M/12stn Msd 0.2 1↓

98/12547
NOV 26 001725.4s 46.29S 166.62E 12km M=3.7
0.8 0.03 0.06 R
Rsd 0.4s 11ph/7stn Dmin 100km Az.gap 265°
Corr. -0.353 14M/7stn Msd 0.1 1↓

98/12556
NOV 26 044050.4s 38.93S 178.06E 48km M=3.6
0.4 0.03 0.02 6
Rsd 0.2s 10ph/8stn Dmin 35km Az.gap 209°
Corr. -0.546 10M/8stn Msd 0.3 1↓

98/12563
NOV 26 073056.5s 37.14S 179.21W 84km M=4.0
0.2 0.01 0.01 6
Rsd 0.0s 5ph/4stn Dmin 226km Az.gap 321°
Corr. -0.066 6M/6stn Msd 0.1

98/12568
NOV 26 095732.2s 38.80S 176.18E 85km M=3.8
0.2 0.01 0.01 2
Rsd 0.2s 21ph/18stn Dmin 13km Az.gap 112°
Corr. -0.534 16M/14stn Msd 0.2 1↓

98/12582
NOV 27 013152.2s 38.57S 177.92E 29km M=3.9
0.2 0.02 0.01 2
Rsd 0.2s 14ph/11stn Dmin 11km Az.gap 97°
Corr. -0.484 25M/21stn Msd 0.2 1↑ 2↓

98/12600
NOV 27 150759.8s 39.90S 174.43E 111km M=3.7
0.3 0.01 0.02 4
Rsd 0.3s 34ph/27stn Dmin 45km Az.gap 88°
Corr. -0.123 14M/14stn Msd 0.2 7↑ 1↓

98/12608
NOV 27 212718.8s 38.26S 175.80E 214km M=3.7
0.5 0.08 0.09 14
Rsd 0.1s 12ph/8stn Dmin 199km Az.gap 257°
Corr. -0.988 5M/5stn Msd 0.2

98/12615
NOV 28 060325.4s 39.26S 173.84E 15km M=2.9
0.2 0.01 0.01 1
Rsd 0.2s 18ph/12stn Dmin 2km Az.gap 269°
Corr. -0.021 9M/9stn Msd 0.2 1↑ 1↓
Felt Paora Rd (46) MM4.

98/12624
NOV 28 094708.2s 40.09S 175.11E 18km M=3.9
0.2 0.01 0.01 3
Rsd 0.3s 37ph/31stn Dmin 35km Az.gap 127°
Corr. -0.223 28M/27stn Msd 0.4
Felt Marton (61) MM4.

98/12636
NOV 28 164629.3s 37.36S 176.59E 228km M=3.9
0.8 0.13 0.06 5
Rsd 0.2s 9ph/6stn Dmin 110km Az.gap 260°
Corr. -0.429 7M/7stn Msd 0.2

98/12650
NOV 29 123042.7s 40.61S 176.04E 54km M=3.6
0.1 0.01 0.02 6
Rsd 0.1s 26ph/21stn Dmin 97km Az.gap 189°
Corr. -0.655 13M/12stn Msd 0.3 2↑ 1↓

98/12652
NOV 29 155459.8s 37.65S 177.06E 144km M=4.5
0.4 0.02 0.02 3
Rsd 0.2s 27ph/23stn Dmin 51km Az.gap 137°
Corr. 0.269 20M/16stn Msd 0.2 3↑ 3↓

98/12675
NOV 30 085349.4s 35.75S 178.81E 244km M=3.6
0.5 0.06 0.08 2
Rsd 0.0s 7ph/5stn Dmin 317km Az.gap 354°
Corr. -0.628 4M/4stn Msd 0.3
Poor station coverage.

98/12685
NOV 30 150822.1s 38.61S 175.97E 175km M=3.7
1.2 0.06 0.05 8
Rsd 0.3s 12ph/10stn Dmin 70km Az.gap 153°
Corr. -0.067 9M/9stn Msd 0.2 1↑

98/12691
NOV 30 215128.8s 38.35S 177.16E 266km M=3.8
0.3 0.13 0.13 5
Rsd 0.1s 11ph/8stn Dmin 82km Az.gap 252°
Corr. -0.987 10M/10stn Msd 0.2

98/12718
DEC 01 202312.5s 41.33S 178.55E 12km M=4.1
1.6 0.09 0.10 R
Rsd 0.5s 9ph/8stn Dmin 260km Az.gap 279°
Corr. -0.877 14M/14stn Msd 1.0

98/12766
DEC 02 182304.5s 40.85S 173.78E 83km M=4.4
0.3 0.01 0.01 4
Rsd 0.2s 36ph/29stn Dmin 13km Az.gap 91°
Corr. -0.005 14M/9stn Msd 0.2 6↑ 6↓
Felt Crail Bay (77) MM4.

98/12772
DEC 02 234357.6s 38.47S 175.95E 158km M=4.2
0.6 0.02 0.02 5
Rsd 0.3s 25ph/21stn Dmin 22km Az.gap 90°
Corr. -0.312 25M/19stn Msd 0.3 1↑

98/12773
DEC 03 020424.2s 39.07S 175.56E 225km M=3.7
0.5 0.03 0.06 4
Rsd 0.2s 15ph/11stn Dmin 12km Az.gap 185°
Corr. -0.675 10M/10stn Msd 0.3 1↓

98/12779
DEC 03 042446.5s 35.65S 179.30E 177km M=4.4
0.5 0.12 0.06 21
Rsd 0.1s 5ph/3stn Dmin 285km Az.gap 345°
Corr. 0.666 3M/3stn Msd 0.1

98/12786
DEC 03 083441.2s 35.89S 179.63E 153km M=4.4
0.8 0.11 0.04 18
Rsd 0.2s 10ph/6stn Dmin 271km Az.gap 327°
Corr. 0.476 12M/7stn Msd 0.3

98/12803
DEC 03 205750.9s 39.19S 174.78E 152km M=3.9
0.5 0.02 0.03 4
Rsd 0.2s 25ph/21stn Dmin 55km Az.gap 135°
Corr. -0.020 18M/17stn Msd 0.2 5↑ 2↓

98/12804
DEC 03 211021.4s 40.50S 176.85E 12km M=3.6
0.2 0.01 0.01 R
Rsd 0.1s 19ph/15stn Dmin 98km Az.gap 249°
Corr. -0.324 23M/21stn Msd 0.3 1↑

98/12805
DEC 03 225126.2s 39.04S 175.06E 204km M=3.8
0.8 0.02 0.02 7
Rsd 0.1s 23ph/21stn Dmin 42km Az.gap 173°
Corr. 0.046 13M/13stn Msd 0.4

98/12806
DEC 03 234601.7s 37.03S 176.92E 214km M=4.1
1.2 0.10 0.06 9
Rsd 0.3s 10ph/8stn Dmin 137km Az.gap 267°
Corr. -0.233 17M/16stn Msd 0.3

98/12829
DEC 04 164035.2s 37.08S 179.41E 33km M=3.9
0.6 0.03 0.04 R
Rsd 0.2s 12ph/9stn Dmin 150km Az.gap 299°
Corr. 0.154 18M/15stn Msd 0.3

98/12838
DEC 04 212541.2s 40.33S 174.15E 84km M=3.7
0.2 0.01 0.01 3
Rsd 0.2s 39ph/32stn Dmin 56km Az.gap 101°
Corr. -0.002 17M/15stn Msd 0.4 1↑

98/12841
DEC 04 224555.0s 45.23S 166.87E 5km M=3.6
0.5 0.03 0.02 R
Rsd 0.3s 12ph/9stn Dmin 35km Az.gap 262°
Corr. -0.042 16M/9stn Msd 0.2 1↓

98/12845
DEC 05 032505.8s 37.62S 175.85E 260km M=3.6
1.4 0.28 0.13 55
Rsd 0.1s 12ph/8stn Dmin 369km Az.gap 342°
Corr. -0.959 3M/3stn Msd 0.1
Very poor station coverage.

98/12867
DEC 05 131442.5s 37.03S 177.53E 119km M=4.5
0.4 0.02 0.02 4
Rsd 0.2s 20ph/16stn Dmin 63km Az.gap 231°
Corr. 0.492 20M/14stn Msd 0.2 2↑ 1↓

98/12872
DEC 05 155728.0s 36.79S 177.30E 210km M=3.6
0.5 0.14 0.06 9
Rsd 0.1s 5ph/3stn Dmin 164km Az.gap 323°
Corr. 0.655 3M/3stn Msd 0.2

98/12880
DEC 06 014427.7s 40.29S 174.33E 78km M=3.9
0.2 0.01 0.01 3
Rsd 0.2s 40ph/33stn Dmin 67km Az.gap 94°
Corr. -0.334 15M/12stn Msd 0.4 1↑ 4↓

98/12888
DEC 06 051352.1s 40.95S 172.92E 213km M=3.7
0.4 0.03 0.02 3
Rsd 0.2s 20ph/17stn Dmin 36km Az.gap 118°
Corr. -0.151 12M/12stn Msd 0.3 1↑

98/12897
DEC 06 133448.1s 36.73S 179.83W 12km M=4.2
0.4 0.02 0.03 R
Rsd 0.2s 10ph/7stn Dmin 193km Az.gap 313°
Corr. 0.025 10M/7stn Msd 0.3

98/12898
DEC 06 134300.9s 36.85S 179.79E 12km M=3.6
1.1 0.05 0.08 R
Rsd 0.4s 7ph/5stn Dmin 156km Az.gap 307°
Corr. 0.367 4M/4stn Msd 0.4

98/12899
DEC 06 151607.1s 36.77S 179.97W 12km M=4.0
0.7 0.03 0.05 R
Rsd 0.2s 10ph/7stn Dmin 179km Az.gap 311°
Corr. 0.357 9M/7stn Msd 0.3

98/12918
DEC 07 174649.3s 38.67S 175.96E 111km M=3.8
0.4 0.02 0.01 3
Rsd 0.2s 20ph/17stn Dmin 20km Az.gap 125°
Corr. -0.687 18M/17stn Msd 0.2 1↑

98/12920
DEC 07 181219.5s 37.82S 176.95E 129km M=3.9
0.5 0.05 0.02 5
Rsd 0.3s 9ph/5stn Dmin 51km Az.gap 170°
Corr. 0.203 11M/9stn Msd 0.3 2↑ 2↓

98/12926
DEC 07 213152.2s 39.00S 178.38E 30km M=3.8
0.6 0.03 0.03 4
Rsd 0.2s 10ph/7stn Dmin 52km Az.gap 223°
Corr. -0.527 28M/23stn Msd 0.2 1↑

98/12936
DEC 08 051837.3s 37.33S 177.26E 150km M=3.7
1.3 0.12 0.10 8
Rsd 0.5s 10ph/9stn Dmin 97km Az.gap 256°
Corr. -0.721 10M/8stn Msd 0.2 1↑

98/12942
DEC 08 173838.1s 47.85S 165.98E 12km M=4.4
1.0 0.06 0.12 R
Rsd 0.4s 10ph/8stn Dmin 264km Az.gap 328°
Corr. -0.518 8M/4stn Msd 0.2 1↓

98/12949
DEC 09 014527.1s 38.34S 176.40E 184km M=3.7
0.7 0.03 0.04 6
Rsd 0.2s 15ph/13stn Dmin 81km Az.gap 279°
Corr. -0.217 12M/12stn Msd 0.2

98/12957
DEC 09 070451.9s 38.13S 176.25E 5km M=3.0
0.0 0.00 0.00 R
Rsd 0.1s 16ph/11stn Dmin 8km Az.gap 99°
Corr. -0.263 13M/13stn Msd 0.3 1↑ 4↓
Felt Rotorua (33) MM4.

98/12961
DEC 09 080940.0s 38.12S 176.24E 5km M=2.9
0.1 0.01 0.01 R
Rsd 0.2s 9ph/7stn Dmin 8km Az.gap 103°
Corr. -0.576 7M/7stn Msd 0.4
Felt Rotorua (33) MM4.

98/12967
DEC 09 144026.0s 38.95S 175.52E 209km M=4.0
0.6 0.04 0.05 5
Rsd 0.3s 17ph/14stn Dmin 5km Az.gap 189°
Corr. -0.615 15M/15stn Msd 0.3

98/12976
DEC 09 232411.3s 38.56S 177.87E 36km M=4.0
0.3 0.02 0.02 6
Rsd 0.2s 14ph/10stn Dmin 16km Az.gap 100°
Corr. -0.526 18M/14stn Msd 0.4 1↑

98/12979
DEC 10 012624.6s 40.31S 174.33E 94km M=3.7
0.2 0.01 0.01 3
Rsd 0.2s 36ph/26stn Dmin 65km Az.gap 92°
Corr. -0.012 17M/14stn Msd 0.4 1↑

98/12980
DEC 10 033753.3s 40.55S 175.00E 5km M=4.0
0.1 0.01 0.01 R
Rsd 0.3s 38ph/32stn Dmin 36km Az.gap 69°
Corr. 0.005 11M/6stn Msd 0.3 3↑ 1↓
Felt Waitarere Beach (65).

98/12983
DEC 10 070949.6s 44.33S 168.68E 5km M=3.7
0.5 0.03 0.03 R
Rsd 0.3s 10ph/8stn Dmin 83km Az.gap 172°
Corr. -0.719 15M/9stn Msd 0.2 1↑

98/12985
DEC 10 073648.5s 38.33S 176.92E 162km M=3.8
1.7 0.09 0.13 16
Rsd 0.1s 13ph/11stn Dmin 117km Az.gap 321°
Corr. -0.153 10M/10stn Msd 0.3 1↑

98/13030
DEC 12 070716.5s 38.08S 179.17E 12km M=4.3
0.3 0.02 0.02 R
Rsd 0.2s 12ph/11stn Dmin 80km Az.gap 274°
Corr. -0.071 39M/36stn Msd 0.2 2↑ 1↓

98/13040
DEC 12 175817.3s 39.81S 174.38E 115km M=3.7
0.4 0.01 0.01 4
Rsd 0.3s 36ph/30stn Dmin 48km Az.gap 89°
Corr. -0.200 17M/15stn Msd 0.3 4↑ 2↓

98/13048
DEC 13 022329.3s 38.84S 176.47E 189km M=3.8
1.4 0.20 0.22 11
Rsd 0.5s 12ph/9stn Dmin 51km Az.gap 198°
Corr. -0.964 15M/15stn Msd 0.3 1↑

98/13052
DEC 13 053227.5s 38.59S 175.70E 162km M=3.6
0.5 0.03 0.02 5
Rsd 0.2s 14ph/12stn Dmin 32km Az.gap 231°
Corr. -0.127 15M/15stn Msd 0.2 1↑

98/13055
DEC 13 102455.1s 38.60S 175.79E 159km M=4.5
0.3 0.01 0.01 2
Rsd 0.2s 27ph/25stn Dmin 13km Az.gap 57°
Corr. -0.247 14M/12stn Msd 0.2 1↑

98/13066
DEC 13 181252.6s 39.20S 175.07E 136km M=3.7
0.3 0.01 0.02 3
Rsd 0.1s 22ph/18stn Dmin 33km Az.gap 113°
Corr. 0.492 10M/10stn Msd 0.3 1↓

98/13099
DEC 14 163654.1s 37.89S 176.22E 297km M=3.8
0.3 0.02 0.05 4
Rsd 0.1s 10ph/8stn Dmin 153km Az.gap 327°
Corr. -0.543 7M/7stn Msd 0.2

98/13101
DEC 14 201046.8s 38.51S 175.74E 181km M=4.2
0.4 0.02 0.02 3
Rsd 0.2s 22ph/18stn Dmin 22km Az.gap 157°
Corr. 0.052 19M/19stn Msd 0.2 1↓

98/13109
DEC 14 222639.5s 38.38S 175.76E 194km M=3.7
0.6 0.03 0.04 5
Rsd 0.2s 10ph/7stn Dmin 80km Az.gap 225°
Corr. -0.607 9M/9stn Msd 0.2

98/13122
DEC 15 120220.0s 38.72S 175.71E 151km M=3.7
0.3 0.03 0.01 3
Rsd 0.2s 22ph/19stn Dmin 2km Az.gap 166°
Corr. -0.290 13M/13stn Msd 0.2 1↑

98/13137
DEC 15 220240.3s 45.09S 167.55E 122km M=4.0
0.5 0.04 0.04 3
Rsd 0.3s 12ph/8stn Dmin 52km Az.gap 177°
Corr. -0.654 18M/12stn Msd 0.4 1↑

98/13145
DEC 16 011554.4s 40.88S 174.71E 52km M=3.6
0.1 0.01 0.01 1
Rsd 0.1s 34ph/29stn Dmin 17km Az.gap 64°
Corr. -0.120 11M/10stn Msd 0.3 4↑ 2↓

98/13149
DEC 16 025832.9s 38.80S 178.02E 43km M=3.5
0.6 0.04 0.03 3
Rsd 0.2s 11ph/9stn Dmin 20km Az.gap 211°
Corr. -0.778 6M/4stn Msd 0.4 1↓

98/13152
DEC 16 042826.8s 38.25S 176.03E 161km M=4.2
0.3 0.02 0.01 3
Rsd 0.2s 22ph/20stn Dmin 25km Az.gap 176°
Corr. -0.488 17M/15stn Msd 0.3 5↑ 1↓

98/13168
DEC 16 194315.0s 38.26S 175.95E 237km M=3.7
0.7 0.03 0.02 6
Rsd 0.1s 16ph/15stn Dmin 90km Az.gap 238°
Corr. -0.440 11M/11stn Msd 0.3

98/13170
DEC 16 205005.9s 38.41S 175.93E 173km M=4.0
0.2 0.02 0.01 2
Rsd 0.1s 16ph/13stn Dmin 29km Az.gap 163°
Corr. -0.450 14M/14stn Msd 0.3 1↑ 1↓

98/13183
DEC 17 032023.7s 46.84S 166.26E 33km M=3.9
0.5 0.04 0.05 R
Rsd 0.2s 9ph/6stn Dmin 167km Az.gap 324°
Corr. -0.624 8M/4stn Msd 0.2

98/13201
DEC 17 143456.5s 38.14S 178.19E 12km M=3.6
0.5 0.05 0.11 R
Rsd 0.8s 5ph/3stn Dmin 10km Az.gap 175°
Corr. -0.794 5M/3stn Msd 0.1 2↑ 1↓

98/13203
DEC 17 151100.5s 37.17S 177.83E 108km M=4.6
0.4 0.03 0.01 3
Rsd 0.1s 19ph/16stn Dmin 64km Az.gap 221°
Corr. 0.568 22M/17stn Msd 0.2 4↑ 1↓

98/13204
DEC 17 154329.7s 39.88S 177.12E 12km M=3.5
0.3 0.02 0.02 R
Rsd 0.3s 15ph/12stn Dmin 141km Az.gap 190°
Corr. -0.382 11M/11stn Msd 0.4

98/13212
DEC 17 215542.2s 38.85S 175.74E 199km M=3.5
0.4 0.08 0.07 10
Rsd 0.1s 11ph/9stn Dmin 202km Az.gap 335°
Corr. -0.665 8M/8stn Msd 0.3
Very poor station coverage.

98/13218
DEC 18 044322.1s 39.11S 177.75E 73km M=3.7
0.3 0.02 0.02 3
Rsd 0.1s 14ph/10stn Dmin 60km Az.gap 193°
Corr. -0.546 10M/9stn Msd 0.3

98/13220
DEC 18 070518.2s 37.88S 176.24E 201km M=4.7
0.5 0.01 0.01 5
Rsd 0.2s 24ph/22stn Dmin 33km Az.gap 126°
Corr. 0.190 8M/4stn Msd 0.2 4↑ 2↓

98/13228
DEC 18 144306.9s 41.62S 174.26E 5km M=3.8
0.1 0.01 0.01 R
Rsd 0.2s 26ph/21stn Dmin 15km Az.gap 120°
Corr. -0.607 11M/6stn Msd 0.2 5↑ 2↓

98/13236
DEC 18 193523.8s 40.15S 173.67E 172km M=3.9
0.4 0.02 0.02 4
Rsd 0.3s 30ph/25stn Dmin 76km Az.gap 177°
Corr. -0.370 15M/15stn Msd 0.3 1↓

98/13238
DEC 18 203835.0s 40.42S 174.02E 113km M=3.9
0.2 0.01 0.01 2
Rsd 0.2s 34ph/28stn Dmin 43km Az.gap 104°
Corr. 0.119 14M/11stn Msd 0.3 1↓

98/13267
DEC 19 110724.6s 39.06S 176.09E 93km M=3.7
0.3 0.01 0.01 2
Rsd 0.2s 29ph/23stn Dmin 19km Az.gap 117°
Corr. -0.185 16M/16stn Msd 0.2 9↑ 5↓

98/13290
DEC 19 151533.7s 39.16S 177.40E 12km M=3.6
0.3 0.03 0.02 R
Rsd 0.3s 15ph/12stn Dmin 82km Az.gap 174°
Corr. -0.779 13M/13stn Msd 0.2 1↓

98/13294
DEC 19 163918.8s 38.36S 176.14E 5km M=3.6
0.1 0.01 0.01 R
Rsd 0.2s 28ph/23stn Dmin 10km Az.gap 83°
Corr. -0.412 24M/22stn Msd 0.3 3↑ 4↓

98/13311
DEC 19 220244.8s 37.26S 179.49E 12km M=3.6
0.7 0.05 0.04 R
Rsd 0.3s 4ph/3stn Dmin 112km Az.gap 330°
Corr. -0.146 5M/3stn Msd 0.2 1↓

98/13321
DEC 20 073815.2s 39.08S 175.30E 220km M=3.6
0.1 0.01 0.03 1
Rsd 0.0s 12ph/10stn Dmin 25km Az.gap 267°
Corr. -0.336 6M/6stn Msd 0.2

98/13345
DEC 20 231733.6s 37.96S 176.06E 192km M=4.5
0.5 0.03 0.02 5
Rsd 0.1s 17ph/15stn Dmin 88km Az.gap 198°
Corr. -0.317 21M/16stn Msd 0.2

98/13355
DEC 21 040419.3s 40.46S 174.81E 75km M=4.8
0.2 0.01 0.01 3
Rsd 0.2s 45ph/38stn Dmin 45km Az.gap 71°
Corr. -0.017 11M/6stn Msd 0.2 10↑ 7↓
Felt Wanganui (57) to Wellington (68), MM4.

98/13359
DEC 21 063541.5s 37.45S 176.57E 204km M=4.5
0.7 0.02 0.01 6
Rsd 0.2s 22ph/21stn Dmin 60km Az.gap 161°
Corr. 0.488 21M/17stn Msd 0.3

98/13389
DEC 21 203044.8s 36.86S 178.80E 156km M=4.1
0.2 0.02 0.04 1
Rsd 0.0s 6ph/5stn Dmin 93km Az.gap 346°
Corr. -0.809 9M/7stn Msd 0.3

98/13414
DEC 22 120642.1s 37.73S 179.33E 12km M=3.9
0.7 0.03 0.04 R
Rsd 0.3s 4ph/3stn Dmin 92km Az.gap 310°
Corr. 0.105 5M/3stn Msd 0.4 1↓

98/13426
DEC 22 175056.5s 42.98S 171.34E 5km M=3.9
0.2 0.01 0.01 R
Rsd 0.2s 15ph/10stn Dmin 50km Az.gap 118°
Corr. -0.378 8M/4stn Msd 0.2 2↑ 1↓

98/13427
DEC 22 181012.1s 36.73S 178.07E 120km M=3.6
0.2 0.01 0.02 2
Rsd 0.1s 8ph/6stn Dmin 99km Az.gap 310°
Corr. -0.244 3M/3stn Msd 0.1

98/13446
DEC 23 095344.3s 42.62S 173.58E 38km M=4.1
0.1 0.01 0.01 2
Rsd 0.2s 30ph/22stn Dmin 22km Az.gap 163°
Corr. -0.622 19M/15stn Msd 0.2 3↑ 4↓

98/13461
DEC 23 224745.6s 38.90S 175.94E 114km M=3.7
0.5 0.03 0.03 4
Rsd 0.2s 17ph/14stn Dmin 42km Az.gap 193°
Corr. -0.651 14M/14stn Msd 0.2

98/13467
DEC 24 051219.4s 40.35S 176.51E 24km M=3.6
0.3 0.01 0.02 2
Rsd 0.2s 27ph/22stn Dmin 73km Az.gap 202°
Corr. -0.429 30M/28stn Msd 0.3 2↑ 4↓

98/13477
DEC 24 104421.8s 37.55S 175.98E 274km M=3.9
0.9 0.08 0.10 8
Rsd 0.3s 15ph/11stn Dmin 126km Az.gap 266°
Corr. -0.716 12M/12stn Msd 0.2

98/13482
DEC 24 205508.4s 40.48S 176.72E 12km M=3.7
0.6 0.03 0.03 R
Rsd 0.4s 13ph/9stn Dmin 92km Az.gap 213°
Corr. -0.828 14M/12stn Msd 0.2 1↑

98/13486
DEC 24 233057.3s 40.49S 176.80E 12km M=4.0
0.4 0.03 0.02 R
Rsd 0.3s 22ph/18stn Dmin 96km Az.gap 195°
Corr. -0.844 26M/22stn Msd 0.2 1↑ 2↓

98/13493
DEC 25 094052.4s 40.95S 172.84E 209km M=3.6
0.5 0.05 0.13 4
Rsd 0.3s 11ph/5stn Dmin 29km Az.gap 145°
Corr. 0.770 2M/2stn Msd 0.4 1↑

98/13512
DEC 25 210743.2s 37.02S 176.84E 206km M=3.8
0.8 0.08 0.07 9
Rsd 0.4s 10ph/8stn Dmin 140km Az.gap 265°
Corr. -0.692 9M/8stn Msd 0.2

98/13523
DEC 26 035135.6s 37.44S 176.60E 190km M=4.4
0.3 0.02 0.01 3
Rsd 0.2s 25ph/23stn Dmin 61km Az.gap 162°
Corr. 0.533 24M/19stn Msd 0.3 7↑ 1↓

98/13543
DEC 26 142016.4s 39.51S 174.21E 218km M=4.0
0.7 0.02 0.03 6
Rsd 0.3s 32ph/30stn Dmin 22km Az.gap 85°
Corr. -0.181 18M/17stn Msd 0.3 1↑ 1↓

98/13546
DEC 26 150641.6s 35.45S 178.74E 201km M=3.8
0.5 0.13 0.07 22
Rsd 0.2s 5ph/3stn Dmin 241km Az.gap 343°
Corr. 0.029 3M/3stn Msd 0.3

98/13547
DEC 26 153927.8s 35.19S 178.33E 33km M=4.0
0.8 0.05 0.08 R
Rsd 0.3s 8ph/4stn Dmin 268km Az.gap 344°
Corr. -0.459 4M/4stn Msd 0.3

98/13592
DEC 27 194152.2s 42.06S 178.12E 12km M=3.5
0.8 0.05 0.05 R
Rsd 0.5s 22ph/17stn Dmin 240km Az.gap 247°
Corr. -0.673 18M/18stn Msd 0.5 1↑

98/13595
DEC 27 231239.0s 40.55S 173.45E 150km M=3.7
0.4 0.03 0.02 3
Rsd 0.3s 28ph/21stn Dmin 49km Az.gap 140°
Corr. -0.299 13M/13stn Msd 0.3 7↑ 1↓

98/13612
DEC 28 135141.8s 38.69S 175.50E 178km M=3.5
0.3 0.03 0.05 5
Rsd 0.1s 12ph/10stn Dmin 148km Az.gap 228°
Corr. -0.880 10M/10stn Msd 0.2
Poor station coverage.

98/13613
DEC 28 142645.2s 39.90S 176.87E 60km M=3.7
0.2 0.01 0.02 9
Rsd 0.2s 32ph/25stn Dmin 126km Az.gap 182°
Corr. -0.507 16M/15stn Msd 0.3 1↓

98/13615
DEC 28 142907.3s 36.07S 179.41E 243km M=4.1
1.2 0.18 0.13 10
Rsd 0.3s 9ph/7stn Dmin 245km Az.gap 340°
Corr. -0.552 7M/7stn Msd 0.3

98/13620
DEC 28 192432.8s 37.74S 178.24E 48km M=3.6
0.3 0.01 0.02 3
Rsd 0.2s 6ph/4stn Dmin 16km Az.gap 159°
Corr. 0.101 8M/4stn Msd 0.2 1↑

98/13637
DEC 29 014344.1s 40.43S 173.72E 122km M=4.5
0.2 0.01 0.01 2
Rsd 0.2s 40ph/31stn Dmin 45km Az.gap 119°
Corr. 0.131 19M/15stn Msd 0.3 8↑ 8↓

98/13656
DEC 29 134523.9s 38.22S 176.28E 162km M=5.7
0.2 0.01 0.01 2
Rsd 0.2s 41ph/34stn Dmin 9km Az.gap 79°
Corr. -0.127 8M/4stn Msd 0.1 16↑ 10↓
Felt Opotiki (35) to Wellington (68).

98/13657

DEC 29 142522.4s 38.20S 176.27E 161km M=4.2

0.4 0.01 0.01 3

Rsd 0.2s 32ph/28stn Dmin 7km Az.gap 95°

Corr. -0.177 18M/16stn Msd 0.3 1↑

98/13663

DEC 29 190102.7s 37.88S 176.73E 145km M=4.3

0.4 0.02 0.01 3

Rsd 0.2s 26ph/23stn Dmin 13km Az.gap 191°

Corr. -0.187 21M/17stn Msd 0.3 1↑

98/13674

DEC 30 075314.7s 45.43S 167.24E 100km M=3.7

0.5 0.04 0.04 3

Rsd 0.2s 8ph/5stn Dmin 8km Az.gap 155°

Corr. -0.610 11M/5stn Msd 0.2 1↑

98/13712

DEC 31 191445.4s 36.64S 178.11E 100km M=3.8

0.1 0.01 0.01 1

Rsd 0.0s 8ph/4stn Dmin 108km Az.gap 325°

Corr. -0.527 8M/5stn Msd 0.2 1↓

LISTS OF ORIGINS AND MAGNITUDE DETERMINATIONS

HIGHER MAGNITUDE EARTHQUAKES

A chronological list of 1998 New Zealand earthquakes of $M_L \geq 5.0$ follows. A reference number at the beginning of each entry identifies the origin with the instrumental data summary, and also with the listing of non-instrumental data (if there is any) that appears in a later section.

The letter "R" following a depth indicates that the depth was restricted to some likely value because the data did not provide sufficient constraint for the depth to be determined by calculation. Choice of the depth of restriction is usually made on the basis of the crustal phases observed or the predominant depth of shallow earthquakes in the epicentral area.

(For sub-crustal earthquakes, depth restriction is seldom necessary.) The letter "G" after a depth shows that the depth was restricted on the basis of information that could not be used by the location program, such as macroseismic information, overseas PKP observations etc.

The letter "F" following a magnitude indicates that at least one report of the earthquake being felt has been received by the Observatory.

In the following table, Rsd is as defined on page 30 and NP phases from NS recording stations have been used to determine the origins.

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
161	JAN 06	0239 47.7	47.67S	165.40E	12R	5.2	0.2	10	6
167	JAN 06	0501 25.4	47.65S	165.46E	12R	5.2	0.3	10	6
210	JAN 07	1207 19.4	47.59S	165.58E	12R	5.5	0.3	10	6
827	JAN 26	2305 57.5	47.63S	165.28E	12R	5.9F	0.1	11	6
830	JAN 26	2312 5.6	47.67S	165.41E	12R	5.0	0.2	11	8
837	JAN 26	2325 6.6	47.59S	165.22E	12R	5.1	0.2	12	9
853	JAN 26	2357 27.9	47.71S	165.21E	12R	5.2	0.2	11	6
945	JAN 27	2346 6.6	47.69S	165.27E	12R	5.1	0.2	10	7
971	JAN 28	1340 59.3	47.65S	165.49E	12R	5.0	0.2	11	6
1375	FEB 08	1826 6.3	45.07S	170.39E	5R	5.1F	0.4	14	10
1922	FEB 24	1717 50.7	41.92S	174.24E	12R	5.2F	0.2	16	13
2274	MAR 08	1117 28.3	37.14S	177.52E	134	5.0	0.2	16	13
5421	APR 20	2334 17.8	39.01S	174.92E	234	6.8F	0.2	46	43
5475	APR 22	0212 59.2	39.33S	177.78E	48	5.1F	0.2	32	28
5781	MAY 01	1033 6.0	35.19S	179.05E	189	5.9F	0.2	24	21
6228	MAY 14	0927 21.8	38.50S	177.15E	46	5.1F	0.2	36	32
7366	JUN 14	1200 54.5	34.75S	179.00E	202	5.0	0.4	19	17
7631	JUN 22	1519 51.7	39.35S	173.58E	11	5.2F	0.2	37	33
7949	JUL 04	0747 47.3	39.14S	174.48E	602	5.3	0.2	35	32
8114	JUL 09	1445 37.1	32.13S	175.77W	331	7.1F	0.2	15	12
8176	JUL 11	1707 57.1	36.27S	178.15E	201	5.1	0.1	15	13
9220	AUG 15	1040 59.5	36.17S	177.92E	222	5.0	0.2	22	19
9823	SEP 02	0654 40.7	37.15S	177.39E	138	5.6F	0.2	24	21
11398	OCT 20	2003 0.7	43.83S	169.56E	12R	5.8F	0.2	15	10
11399	OCT 20	2011 0.6	35.19S	178.90E	312	5.1	0.2	16	15
11422	OCT 21	1200 39.5	38.14S	176.00E	203	5.5F	0.1	36	34
13656	DEC 29	1345 23.9	38.22S	176.28E	162	5.7F	0.2	41	34

WELLINGTON AREA SEISMICITY

Because of its close station spacing and the relative ease with which stations can be reached when repairs or adjustments are necessary, the Wellington Network can be relied on to furnish enough data for determination of earthquake origins in its neighbourhood from smaller events than those needed to achieve the same accuracy in other parts of the country. The following list includes all earthquakes of magnitude (M_L) 2.0 or more in the area surrounding Wellington, and includes the earthquakes of magnitude 3.5 or more within the area, which were listed on earlier pages.

The location of earthquakes in the neighbourhood of Wellington is no longer performed separately from the location of regional earthquakes as was done in the past. The old practice sometimes resulted in earthquakes having two listed origins, one arrived at from use of National Network data and a regional velocity model, and the other from Wellington Network data and a local model. In current practice the local model is merged into the regional model. A map of these epicentres and a cross-section showing their distribution in depth appears in the final section of this Report.

In the following table, Rsd is as defined on page 30 and NP phases from NS recording stations have been used to determine the origins.

The regional velocity model and its boundaries are listed in the table on page 25.

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
006	JAN 01	0644 1.8	41.26S	175.24E	25	2.0	0.1	9	7
007	JAN 01	0745 0.3	41.57S	174.62E	34	3.5	0.2	22	15
026	JAN 01	2042 54.2	40.98S	175.61E	27	2.4	0.1	11	8
029	JAN 01	2337 42.8	40.79S	174.11E	69	2.6	0.2	10	7
032	JAN 02	0140 48.1	41.18S	174.79E	28	2.0	0.2	11	9
033	JAN 02	0141 27.3	41.06S	174.96E	30	2.7	0.2	15	11
037	JAN 02	0543 58.8	40.61S	175.05E	5R	2.3	0.1	10	6
040	JAN 02	0752 50.2	41.15S	174.98E	29	2.7	0.1	14	11
041	JAN 02	0805 57.5	41.63S	174.80E	23	2.2	0.2	9	8
042	JAN 02	0829 55.3	41.62S	174.80E	27	2.5	0.2	12	10
043	JAN 02	0832 49.0	41.63S	174.80E	24	2.0	0.2	9	8
048	JAN 02	1241 10.7	41.08S	174.74E	32	2.5	0.1	14	11
052	JAN 02	1412 41.7	41.23S	174.59E	33	2.1	0.2	11	9
055	JAN 02	1515 25.1	41.84S	174.83E	42	3.1	0.2	23	15
059	JAN 02	1635 28.1	41.62S	174.68E	28	2.2	0.2	10	8
062	JAN 02	1808 33.1	40.87S	175.78E	31	2.2	0.2	7	5
063	JAN 02	1826 10.5	40.61S	174.30E	60	2.5	0.3	11	7
080	JAN 03	1250 28.3	40.90S	174.55E	49	2.2	0.1	9	7
084	JAN 03	1905 59.3	40.58S	173.63E	132	2.9	0.2	12	9
096	JAN 04	0604 55.7	40.88S	173.50E	113	2.5	0.2	7	5
100	JAN 04	0758 23.4	41.55S	173.83E	39	2.6	0.3	15	11
111	JAN 04	1501 50.4	41.00S	174.73E	58	2.3	0.1	9	7
114	JAN 04	1710 12.7	41.65S	174.29E	13	2.0	0.2	12	9
119	JAN 04	2001 37.3	40.59S	174.63E	26	2.0	0.1	7	5
125	JAN 05	0155 46.9	40.71S	173.56E	147	3.0	0.1	11	8
143	JAN 05	1740 6.6	41.57S	174.67E	31	2.1	0.1	8	6
144	JAN 05	1856 17.1	41.25S	175.13E	25	2.2	0.1	7	6
145	JAN 05	1913 12.4	40.54S	174.48E	33R	2.0	0.3	7	5
150	JAN 05	2014 51.7	41.57S	173.92E	19	2.7	0.3	12	9
151	JAN 05	2040 57.1	40.67S	174.30E	33	2.2	0.3	8	5

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
158	JAN 06	0143 18.8	41.43S	174.75E	26	2.1	0.2	11	9
166	JAN 06	0409 40.8	41.77S	174.24E	46	2.1	0.1	9	5
168	JAN 06	0548 51.2	40.87S	173.69E	85	2.8	0.3	8	5
176	JAN 06	0906 50.7	40.86S	175.21E	31	3.2	0.2	22	16
179	JAN 06	1106 3.4	40.75S	173.91E	101	2.4	0.2	10	7
181	JAN 06	1320 58.9	41.09S	175.37E	23	2.3	0.1	7	6
190	JAN 06	1857 39.2	41.27S	175.09E	19	2.0	0.1	7	5
191	JAN 06	1906 0.9	41.39S	173.51E	109	3.0	0.2	13	9
203	JAN 07	0625 58.6	41.18S	175.76E	25	2.2	0.2	9	7
205	JAN 07	1034 46.8	41.66S	174.23E	5R	2.0	0.3	11	8
207	JAN 07	1050 57.0	41.65S	174.22E	5R	2.1	0.3	12	9
209	JAN 07	1132 54.5	41.28S	173.57E	97	2.4	0.1	10	8
216	JAN 07	1311 18.8	41.64S	174.63E	33	2.0	0.1	9	8
217	JAN 07	1320 16.3	41.24S	174.61E	34	2.4	0.3	13	11
237	JAN 08	0130 21.1	41.58S	174.32E	26	2.9	0.2	15	12
249	JAN 08	1411 51.9	40.91S	173.61E	129	2.7	0.2	7	6
251	JAN 08	1651 50.2	41.08S	174.80E	27	2.1	0.1	6	5
257	JAN 09	0715 40.9	41.20S	174.49E	37	2.8	0.1	12	9
260	JAN 09	1129 52.1	40.59S	174.11E	86	2.8	0.2	10	6
262	JAN 09	1229 40.6	41.21S	173.81E	55	3.4	0.3	14	11
264	JAN 09	1849 8.0	41.07S	175.37E	24	2.7	0.2	8	6
269	JAN 10	0151 15.3	41.70S	174.16E	13	2.6	0.2	13	9
280	JAN 10	1512 3.3	40.97S	175.67E	30	2.0	0.0	5	3
288	JAN 10	1755 32.7	40.98S	175.16E	30	2.0	0.2	9	6
306	JAN 11	1158 11.9	40.83S	175.75E	29	2.6	0.2	8	6
311	JAN 11	1532 34.0	41.37S	174.90E	13	2.1	0.1	12	9
312	JAN 11	1725 50.0	40.92S	175.71E	22	2.9	0.2	12	9
313	JAN 11	1920 0.2	41.69S	174.25E	15	2.6	0.1	10	7
326	JAN 12	1440 14.4	41.11S	174.63E	32	2.0	0.2	9	6
331	JAN 12	1934 22.5	41.71S	173.87E	15	2.9	0.3	13	10
333	JAN 12	2244 28.4	40.57S	174.69E	25	2.0	0.2	8	6
339	JAN 13	0507 43.6	40.75S	174.53E	22	2.2	0.3	7	5
342	JAN 13	0621 26.4	40.98S	174.76E	27	2.9	0.2	17	14
359	JAN 13	1741 2.4	40.55S	175.06E	31	2.0	0.3	9	6
362	JAN 13	2214 59.8	41.58S	174.31E	28	2.5	0.2	13	11
369	JAN 14	0153 15.0	41.00S	174.50E	12	2.0	0.1	6	3
385	JAN 14	0949 57.9	41.94S	174.03E	12R	2.4	0.3	10	8
392	JAN 14	1608 25.9	41.08S	175.68E	42	2.2	0.2	10	6
398	JAN 14	1920 6.9	41.50S	174.46E	18	2.5	0.2	12	9
408	JAN 15	1737 24.5	41.38S	174.18E	35	2.9	0.2	12	9
410	JAN 16	0110 55.0	41.03S	174.82E	35	2.0	0.1	7	5
411	JAN 16	0149 27.6	40.61S	175.21E	33	2.0	0.2	6	4
413	JAN 16	0759 50.1	40.97S	176.00E	30	3.0	0.2	12	9
417	JAN 16	1213 25.9	40.52S	174.71E	64	3.5F	0.3	21	16
424	JAN 16	2126 40.3	40.99S	174.77E	32	2.6	0.1	13	10

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427	JAN 16	2211 6.8	41.92S	174.03E	14	2.6	0.3	11	8
429	JAN 16	2231 57.9	41.86S	174.09E	12R	2.6	0.4	13	10
431	JAN 17	0001 2.5	41.70S	174.26E	16	2.3	0.2	12	9
440	JAN 17	1347 19.2	41.17S	175.18E	20	2.3	0.1	11	8
462	JAN 18	0710 35.7	41.63S	174.45E	12R	2.6	0.2	10	8
465	JAN 18	0841 14.7	40.94S	175.62E	19	2.4	0.3	10	7
475	JAN 18	1814 57.2	41.02S	174.85E	52	2.0	0.0	8	5
491	JAN 19	0759 35.3	40.76S	174.07E	60	2.3	0.2	11	7
492	JAN 19	0825 26.3	41.22S	174.50E	35	2.1	0.2	10	8
493	JAN 19	0845 14.6	41.00S	175.27E	22	2.0	0.1	7	5
501	JAN 19	1422 2.8	40.82S	175.04E	57	2.6	0.1	12	10
502	JAN 19	1422 11.8	40.61S	175.54E	12R	2.2	0.3	6	4
507	JAN 19	1854 20.2	41.39S	174.96E	28	2.4	0.1	9	7
514	JAN 20	0030 35.6	40.60S	174.66E	27	2.0	0.1	7	5
515	JAN 20	0031 50.2	41.67S	174.40E	13	2.4	0.2	9	7
518	JAN 20	0416 25.7	40.66S	174.52E	25	2.0	0.2	8	4
520	JAN 20	0657 3.3	40.68S	174.11E	66	3.2	0.3	20	14
525	JAN 20	1245 59.2	41.24S	174.55E	20	2.1	0.3	15	9
527	JAN 20	1437 54.7	40.73S	174.50E	66	2.1	0.2	8	5
532	JAN 20	1603 39.7	41.19S	173.82E	58	2.2	0.1	7	5
533	JAN 20	1603 59.1	41.23S	173.81E	65	2.6	0.2	8	7
539	JAN 20	1945 41.9	41.47S	173.58E	42	2.3	0.2	7	6
547	JAN 21	0020 14.8	41.28S	175.24E	26	2.2	0.2	12	9
550	JAN 21	0030 40.9	40.51S	173.69E	125	3.5	0.2	21	19
551	JAN 21	0100 1.1	40.64S	175.50E	31	2.0	0.0	6	5
554	JAN 21	0244 43.1	41.02S	174.56E	61	2.3	0.1	8	7
563	JAN 21	0724 27.6	41.68S	174.25E	15	2.0	0.1	12	9
564	JAN 21	0728 59.9	41.67S	174.40E	12R	2.0	0.2	12	9
579	JAN 21	1822 39.2	41.30S	175.27E	27	2.7	0.2	15	11
580	JAN 21	1855 36.0	41.60S	175.33E	18	2.2	0.2	10	7
599	JAN 22	0417 0.2	41.21S	174.63E	31	2.5	0.2	14	12
600	JAN 22	0419 46.3	41.21S	175.20E	17	2.0	0.1	11	8
606	JAN 22	0801 27.6	41.66S	174.39E	13	2.0	0.2	11	8
607	JAN 22	0920 29.8	41.04S	174.83E	28	3.1	0.1	17	15
608	JAN 22	0921 46.9	41.04S	174.83E	29	2.2	0.1	13	11
609	JAN 22	0922 41.5	41.04S	174.82E	29	2.8	0.1	15	12
612	JAN 22	1026 25.8	41.86S	174.42E	12R	3.0	0.2	18	15
614	JAN 22	1047 1.4	41.95S	174.41E	13	2.2	0.3	11	9
624	JAN 22	1522 1.1	40.62S	175.79E	31	2.1	0.2	9	7
625	JAN 22	1708 42.1	41.90S	174.47E	5R	3.2	0.3	20	16
626	JAN 22	1745 9.5	41.64S	174.64E	30	2.2	0.2	12	10
629	JAN 22	1839 15.5	41.64S	174.40E	5R	2.4	0.3	18	13
636	JAN 22	2146 24.2	41.30S	175.27E	29	2.2	0.1	10	8
639	JAN 22	2306 19.5	40.72S	174.47E	57	2.6	0.2	11	9
648	JAN 23	0458 12.5	41.07S	174.26E	48	2.0	0.1	9	6

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654	JAN 23	0712 26.6	41.00S	174.77E	33	2.1	0.1	12	10
695	JAN 24	0406 51.7	41.27S	175.19E	27	3.4	0.3	18	14
696	JAN 24	0408 42.6	41.27S	175.19E	27	3.2	0.3	21	14
697	JAN 24	0411 53.0	41.15S	174.47E	36	2.6	0.1	15	12
705	JAN 24	0742 2.6	41.27S	175.18E	26	2.6	0.2	17	13
706	JAN 24	0750 42.1	41.25S	175.18E	24	2.9	0.2	17	12
709	JAN 24	0816 45.2	41.26S	175.18E	23	2.0	0.1	12	9
712	JAN 24	0908 49.1	40.94S	175.64E	28	2.2	0.2	14	11
715	JAN 24	1015 37.3	41.26S	175.18E	23	2.0	0.1	11	9
716	JAN 24	1018 53.5	40.88S	174.83E	46	2.1	0.1	10	8
727	JAN 24	1628 2.7	41.25S	175.18E	23	2.3	0.1	14	10
729	JAN 24	1641 31.8	41.37S	173.59E	67	2.9	0.3	21	15
732	JAN 24	1722 56.9	41.25S	175.17E	23	2.1	0.1	8	6
736	JAN 24	1837 1.2	41.25S	175.18E	24	2.0	0.1	9	6
755	JAN 25	0850 48.2	41.68S	174.63E	30	2.6	0.2	15	11
756	JAN 25	0855 56.2	41.20S	175.25E	30	2.0	0.1	10	6
757	JAN 25	0958 14.2	41.67S	174.62E	31	2.1	0.3	14	12
769	JAN 25	1527 25.8	40.59S	174.64E	68	2.4	0.2	13	9
773	JAN 25	1759 55.3	41.30S	175.34E	24	2.2	0.1	9	7
775	JAN 25	1908 28.6	40.87S	173.81E	68	2.5	0.1	10	8
782	JAN 25	2146 6.0	41.17S	174.41E	62	2.1	0.1	8	7
816	JAN 26	1557 1.0	40.68S	174.41E	76	2.4	0.2	13	9
823	JAN 26	1848 36.4	40.86S	174.75E	17	2.3	0.3	11	9
825	JAN 26	2119 58.6	41.72S	173.75E	17	2.4	0.2	15	11
957	JAN 28	0517 54.6	41.50S	175.47E	16	2.0	0.1	8	6
963	JAN 28	0923 30.8	40.86S	174.73E	16	2.3	0.1	7	5
964	JAN 28	0935 24.8	41.30S	174.80E	48	2.2	0.1	11	9
967	JAN 28	1029 32.5	41.77S	173.93E	42	2.8	0.2	11	8
975	JAN 28	1420 41.3	41.09S	175.39E	28	3.0	0.2	17	12
978	JAN 28	1530 53.1	41.23S	175.20E	17	2.1	0.1	11	8
995	JAN 28	2123 2.3	40.83S	175.35E	26	3.5	0.3	24	20
996	JAN 28	2228 22.6	40.70S	174.57E	58	3.4	0.3	25	19
1006	JAN 29	0321 16.0	41.41S	173.67E	62	3.2	0.2	17	13
1016	JAN 29	1210 28.5	41.57S	173.71E	82	2.4	0.1	9	7
1028	JAN 30	0616 52.6	41.15S	173.93E	60	2.5	0.2	12	8
1029	JAN 30	0744 15.8	41.13S	174.63E	31	2.7	0.3	14	10
1036	JAN 30	2243 37.3	40.66S	174.68E	42	2.7	0.1	11	8
1039	JAN 31	0038 26.0	40.63S	175.99E	28	3.0	0.2	14	10
1041	JAN 31	0229 17.8	41.60S	174.61E	48	2.7	0.2	12	9
1048	JAN 31	0500 2.9	41.59S	174.32E	25	3.2	0.2	18	15
1052	JAN 31	0800 37.7	40.75S	174.99E	33	2.6	0.2	12	9
1055	JAN 31	1112 42.5	40.70S	175.54E	30	2.3	0.2	9	6
1057	JAN 31	1236 16.3	40.98S	174.50E	40	2.3	0.1	9	8
1060	JAN 31	1508 59.2	40.65S	173.64E	103	2.2	0.3	10	8
1069	FEB 01	0141 10.8	40.61S	174.59E	76	2.3	0.1	8	5

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1075	FEB 01	0532 32.8	40.85S	174.80E	64	2.2	0.1	12	8
1076	FEB 01	0600 47.4	41.04S	175.62E	27	2.4	0.1	9	7
1086	FEB 01	1240 34.4	40.88S	175.77E	28	2.1	0.1	7	5
1098	FEB 01	2045 16.3	40.67S	175.79E	29	2.4	0.2	8	5
1103	FEB 01	2344 13.8	40.67S	173.50E	134	3.5	0.2	23	16
1105	FEB 02	0049 50.5	41.19S	174.64E	32	2.1	0.1	9	7
1121	FEB 02	1445 23.5	40.94S	174.78E	52	2.1	0.1	9	7
1130	FEB 02	1749 25.1	41.71S	174.21E	14	2.1	0.3	11	8
1134	FEB 02	2013 18.7	41.32S	174.31E	37	2.3	0.1	9	7
1158	FEB 03	0537 14.0	41.63S	174.02E	12	2.2	0.3	10	8
1159	FEB 03	0549 42.6	41.25S	174.16E	41	2.1	0.2	10	8
1169	FEB 03	1105 54.9	41.11S	174.64E	32	2.4	0.2	10	9
1174	FEB 03	1447 18.0	40.54S	173.79E	77	2.4	0.4	10	8
1176	FEB 03	1549 54.2	41.40S	174.55E	27	2.1	0.1	10	8
1179	FEB 03	1814 20.4	40.94S	174.00E	56	2.2	0.2	8	6
1190	FEB 04	0437 32.8	40.57S	174.84E	30	2.2	0.1	9	6
1193	FEB 04	1103 32.2	40.66S	175.57E	26	2.7	0.2	13	9
1199	FEB 04	1556 21.0	41.38S	174.28E	36	2.0	0.3	11	8
1201	FEB 04	1818 12.9	40.97S	175.44E	19	2.2	0.1	8	6
1207	FEB 04	2307 29.7	41.25S	175.19E	21	2.2	0.1	9	6
1209	FEB 05	0019 58.8	41.32S	173.78E	64	2.2	0.2	10	7
1210	FEB 05	0132 10.3	40.91S	174.77E	59	2.1	0.1	9	6
1211	FEB 05	0140 59.0	41.11S	173.95E	55	2.2	0.2	10	7
1212	FEB 05	0222 9.4	41.45S	173.54E	99	2.5	0.2	10	7
1219	FEB 05	0508 54.5	41.02S	174.99E	40	2.2	0.1	11	8
1226	FEB 05	0857 8.6	41.83S	174.28E	12	2.0	0.2	11	8
1232	FEB 05	1212 45.6	40.90S	175.77E	19	2.3	0.1	10	8
1238	FEB 05	1418 53.8	41.21S	174.90E	19	2.4	0.1	15	11
1266	FEB 06	0036 35.0	41.01S	175.29E	25	2.0	0.1	7	5
1280	FEB 06	1230 16.8	40.71S	175.44E	26	2.4	0.1	11	8
1282	FEB 06	1348 49.6	41.54S	174.51E	15	2.1	0.1	8	7
1285	FEB 06	1630 32.9	41.80S	174.28E	12	2.3	0.2	15	11
1298	FEB 07	0406 43.1	40.51S	174.56E	78	2.4	0.1	9	7
1300	FEB 07	0529 57.9	40.53S	173.64E	123	2.7	0.3	14	9
1302	FEB 07	0642 8.5	41.03S	174.18E	45	3.6	0.2	35	27
1308	FEB 07	0848 20.6	41.09S	175.38E	23	2.3	0.1	12	8
1333	FEB 07	2202 10.6	41.05S	175.87E	16	2.5	0.3	11	8
1334	FEB 07	2206 55.2	41.02S	175.85E	21	2.9	0.3	14	10
1336	FEB 07	2212 39.5	41.02S	175.88E	26	2.6	0.2	7	5
1357	FEB 08	0810 48.5	41.33S	174.79E	30	2.5	0.1	11	8
1358	FEB 08	0811 0.3	41.30S	174.77E	30	2.4	0.2	9	6
1371	FEB 08	1737 42.6	41.42S	174.65E	22	2.5	0.2	12	9
1395	FEB 09	0052 8.1	40.67S	174.38E	47	2.2	0.1	9	6
1410	FEB 09	0835 49.4	41.79S	174.31E	5R	2.7	0.4	13	10
1433	FEB 09	2054 51.7	40.59S	174.38E	57	2.6	0.4	12	10

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1434	FEB	09	2208	0.1	40.58S	175.74E	29	2.4	0.3	10	8
1437	FEB	10	0205	25.9	41.12S	173.93E	58	2.1	0.2	10	7
1442	FEB	10	0730	43.2	40.81S	175.24E	37	2.1	0.2	8	5
1445	FEB	10	0939	59.0	41.40S	174.21E	31	2.9	0.3	16	13
1448	FEB	10	1011	54.3	41.05S	175.41E	41	2.3	0.0	8	5
1457	FEB	10	1522	7.4	40.52S	175.85E	29	2.4	0.2	12	8
1467	FEB	11	0002	30.6	41.50S	173.88E	47	2.9	0.2	14	11
1470	FEB	11	0158	33.6	41.27S	175.24E	22	3.1	0.2	16	12
1475	FEB	11	0405	29.5	41.27S	175.23E	26	2.0	0.1	6	4
1479	FEB	11	0731	17.0	40.91S	174.51E	38	2.4	0.2	10	8
1491	FEB	11	1612	52.4	41.14S	175.12E	25	2.5	0.2	9	7
1507	FEB	12	0329	21.9	40.51S	174.61E	80	2.6	0.1	7	5
1510	FEB	12	0753	16.0	41.20S	173.69E	86	2.6	0.2	12	9
1530	FEB	12	1511	54.4	40.56S	174.22E	53	2.2	0.3	9	6
1540	FEB	12	1927	28.6	41.34S	175.69E	21	2.3	0.1	8	6
1543	FEB	12	2112	22.6	41.73S	174.17E	40	2.9	0.1	11	9
1554	FEB	13	0200	49.1	41.15S	175.67E	23	2.4	0.1	10	7
1564	FEB	13	0550	55.2	41.84S	174.27E	10	2.6	0.3	12	9
1571	FEB	13	1004	43.1	41.20S	174.28E	41	2.1	0.1	8	6
1573	FEB	13	1041	7.0	41.32S	175.67E	20	2.9	0.2	10	8
1574	FEB	13	1041	22.7	41.33S	175.66E	12R	2.3	0.3	8	5
1575	FEB	13	1052	1.4	41.31S	175.64E	23	2.8	0.1	9	7
1578	FEB	13	1253	18.2	41.32S	175.68E	20	2.3	0.2	9	7
1579	FEB	13	1319	18.8	41.32S	175.67E	12R	2.8	0.2	9	7
1582	FEB	13	1636	18.0	41.71S	174.51E	28	2.6	0.2	11	9
1627	FEB	15	1626	56.1	40.95S	174.31E	80	4.1F	0.1	28	22
1646	FEB	16	0725	18.3	41.21S	175.40E	33R	2.3	0.4	5	3
1661	FEB	16	1217	56.7	41.43S	175.01E	27	2.8	0.1	11	7
1665	FEB	16	1309	28.3	41.43S	175.01E	26	2.5	0.1	12	7
1666	FEB	16	1345	27.9	41.43S	175.01E	26	2.7	0.1	11	7
1673	FEB	16	1914	26.8	41.26S	174.15E	51	2.3	0.0	5	4
1675	FEB	16	1922	55.6	40.93S	173.53E	202	3.1	0.1	6	5
1677	FEB	16	2022	4.8	41.01S	173.96E	80	3.8	0.3	36	27
1722	FEB	18	0118	30.6	41.54S	174.92E	24	2.2	0.3	8	5
1739	FEB	18	1440	9.8	40.60S	174.41E	73	3.2	0.2	9	7
1746	FEB	18	1916	9.0	41.15S	174.47E	37	2.6	0.2	10	7
1751	FEB	18	2244	31.5	41.71S	174.42E	32	2.6	0.1	9	6
1757	FEB	19	0132	9.6	41.26S	175.18E	28	4.2F	0.1	13	10
1758	FEB	19	0149	39.5	41.26S	175.18E	20	2.5	0.1	5	3
1759	FEB	19	0249	41.7	41.26S	175.16E	27	2.0	0.2	5	3
1762	FEB	19	0343	58.7	41.26S	175.19E	23	2.1	0.1	7	4
1767	FEB	19	0616	52.1	41.23S	175.15E	27	2.5	0.2	9	5
1791	FEB	19	1720	33.5	41.26S	175.17E	21	2.0	0.0	6	3
1794	FEB	19	2138	8.8	40.88S	175.42E	27	3.1	0.3	12	9
1795	FEB	20	0014	12.2	40.81S	175.36E	30	2.7	0.2	8	5

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
1797	FEB 20	0245 25.8	41.26S	175.18E	23	2.5	0.1	10	6
1800	FEB 20	0628 19.5	40.69S	173.96E	68	3.2	0.3	16	14
1832	FEB 21	1129 1.3	41.30S	173.54E	67	3.0	0.2	12	9
1835	FEB 21	1421 35.4	40.94S	174.78E	19	2.4	0.2	9	5
1836	FEB 21	1446 38.6	41.45S	174.33E	5R	3.2	0.2	18	14
1837	FEB 21	1447 13.9	41.43S	174.32E	5R	3.1	0.3	13	10
1841	FEB 21	1548 29.6	40.79S	174.55E	5R	2.9	0.3	16	13
1850	FEB 21	2021 57.2	41.26S	175.17E	26	2.0	0.1	10	6
1864	FEB 22	0744 14.6	41.46S	174.34E	5R	3.2	0.3	14	11
1878	FEB 22	1850 43.4	40.99S	174.87E	33R	2.2	0.1	5	3
1879	FEB 22	1945 21.2	41.51S	174.39E	12R	2.3	0.1	7	5
1883	FEB 23	0015 59.1	41.82S	174.06E	12R	2.8	0.3	11	9
1884	FEB 23	0022 49.0	41.77S	173.58E	62	2.3	0.2	7	6
1887	FEB 23	0143 1.9	41.44S	175.00E	23	2.4	0.1	7	4
1889	FEB 23	0935 34.9	41.06S	174.81E	30	2.1	0.1	6	4
1894	FEB 23	1309 48.0	41.62S	174.61E	31	2.2	0.1	7	5
1908	FEB 24	0537 7.5	41.07S	175.54E	27	3.0	0.2	12	8
1915	FEB 24	1222 22.2	41.73S	174.37E	5R	3.2	0.3	11	9
1918	FEB 24	1339 44.9	41.76S	174.48E	31	2.8	0.2	11	8
1919	FEB 24	1354 40.7	41.23S	175.24E	33R	2.2	0.3	6	4
1922	FEB 24	1717 50.7	41.92S	174.24E	12R	5.2F	0.2	16	13
1923	FEB 24	1803 18.8	41.93S	174.21E	23	2.0	0.1	6	5
1925	FEB 24	1828 53.7	41.51S	175.51E	26	2.2	0.0	5	4
1927	FEB 24	1841 7.1	41.91S	174.27E	19	4.0	0.3	20	14
1928	FEB 24	1912 24.0	41.95S	174.27E	16	3.5	0.3	18	13
1929	FEB 24	1920 2.4	41.94S	174.22E	12R	2.6	0.1	8	6
1930	FEB 24	1927 24.5	41.95S	174.19E	12R	3.1	0.3	13	11
1938	FEB 25	0006 48.3	41.92S	174.24E	12R	4.1	0.3	19	14
1939	FEB 25	0356 20.3	41.86S	174.24E	12R	3.0	0.3	15	12
1941	FEB 25	0458 8.2	41.88S	174.27E	12R	3.0	0.3	16	13
1943	FEB 25	0647 40.4	41.82S	174.46E	5R	3.2	0.3	14	10
1950	FEB 25	1348 23.2	41.86S	174.25E	14	3.7	0.3	17	13
1957	FEB 25	2151 40.1	41.85S	174.21E	12R	2.6	0.4	9	7
1967	FEB 26	0501 30.6	41.10S	175.02E	26	2.3	0.2	10	7
1970	FEB 26	0844 58.2	41.92S	174.22E	15	2.4	0.3	11	9
1971	FEB 26	0900 36.1	41.69S	174.51E	29	2.4	0.2	12	10
1980	FEB 26	1848 18.9	40.52S	175.79E	36	2.3	0.1	8	5
1981	FEB 26	1922 14.0	41.84S	174.23E	17	2.9	0.4	17	13
1982	FEB 26	2154 6.7	41.90S	174.32E	33R	4.2	0.3	18	14
1984	FEB 26	2307 53.7	41.95S	174.21E	12R	2.3	0.3	13	10
1990	FEB 27	0117 39.9	41.21S	175.07E	28	2.7	0.2	14	10
1993	FEB 27	0217 35.1	41.86S	174.26E	12R	2.7	0.3	16	13
1997	FEB 27	0343 0.3	41.76S	174.36E	20	2.4	0.3	11	8
2001	FEB 27	0722 33.7	40.93S	175.66E	20	2.4	0.2	11	8
2009	FEB 27	1405 45.2	41.84S	174.23E	21	3.1	0.3	16	15

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
2012	FEB 27	1532 2.4	41.81S	174.24E	12R	2.5	0.3	11	10
2017	FEB 27	2012 33.5	41.36S	174.31E	61	3.1	0.1	12	9
2019	FEB 27	2052 48.1	40.96S	175.16E	25	2.7	0.2	10	8
2024	FEB 28	0309 12.1	40.54S	174.83E	31	3.5	0.2	26	21
2028	FEB 28	0737 19.6	40.80S	175.07E	33R	2.3	0.1	4	3
2032	FEB 28	1030 49.5	40.60S	174.22E	87	2.2	0.1	8	6
2043	FEB 28	2212 12.4	41.87S	174.25E	12R	4.1	0.3	19	15
2047	MAR 01	0019 45.0	41.84S	174.56E	25	3.1	0.2	19	13
2048	MAR 01	0039 0.6	41.97S	174.23E	12R	2.2	0.2	10	7
2053	MAR 01	0501 29.2	41.83S	174.24E	14	2.4	0.4	10	9
2077	MAR 01	1912 19.2	41.45S	174.11E	35	2.0	0.1	7	5
2079	MAR 01	2156 47.4	41.92S	174.30E	12R	2.8	0.4	18	16
2081	MAR 01	2250 24.8	41.08S	174.80E	28	3.2	0.2	25	22
2106	MAR 02	0902 31.3	40.80S	175.05E	34	2.5	0.2	10	8
2117	MAR 02	1419 29.3	42.00S	174.63E	12R	2.1	0.4	7	5
2118	MAR 02	1503 19.5	40.84S	175.16E	31	2.6	0.2	10	9
2120	MAR 02	1518 28.3	41.84S	174.52E	26	2.8	0.1	16	14
2122	MAR 02	1826 45.7	40.92S	175.02E	59	3.0	0.1	19	16
2126	MAR 02	2047 8.4	41.85S	173.94E	35	2.9	0.3	12	11
2129	MAR 02	2116 15.8	41.10S	175.70E	14	2.2	0.1	7	5
2132	MAR 02	2220 17.3	41.15S	174.70E	32	2.0	0.2	7	5
2137	MAR 03	0205 3.4	41.92S	174.24E	11	2.1	0.1	11	9
2140	MAR 03	0549 14.2	40.57S	175.60E	31	2.7	0.1	13	9
2150	MAR 03	1454 23.4	40.97S	175.65E	25	3.2	0.2	21	15
2151	MAR 03	1546 21.6	41.49S	173.55E	89	2.9	0.3	14	10
2152	MAR 03	1555 11.3	41.54S	174.18E	32	2.3	0.3	13	10
2154	MAR 03	1608 39.7	41.26S	175.18E	25	2.2	0.2	17	12
2162	MAR 03	2008 7.0	41.24S	174.92E	23	2.2	0.1	7	6
2174	MAR 04	0239 9.2	41.86S	174.23E	13	2.3	0.4	12	9
2178	MAR 04	0756 0.8	41.21S	174.52E	61	2.7	0.1	15	12
2185	MAR 04	1400 44.4	40.53S	174.65E	28	2.3	0.3	10	8
2199	MAR 04	2023 39.8	41.10S	173.94E	57	2.4	0.2	8	5
2204	MAR 05	0049 39.1	40.90S	174.65E	41	2.3	0.1	11	9
2215	MAR 05	1334 50.8	41.48S	174.40E	16	2.4	0.2	10	8
2216	MAR 05	1434 17.8	41.54S	174.23E	18	2.1	0.2	11	8
2219	MAR 05	1734 55.1	41.65S	174.37E	12R	2.2	0.3	10	7
2225	MAR 05	2328 25.3	41.51S	174.42E	5R	2.1	0.1	10	7
2228	MAR 06	0200 10.0	41.87S	174.96E	29	2.6	0.2	12	8
2239	MAR 06	1356 11.5	40.95S	175.95E	12R	2.1	0.2	9	7
2240	MAR 06	1449 2.5	40.93S	174.93E	39	2.0	0.1	7	5
2245	MAR 07	0330 33.7	41.82S	174.51E	12R	3.0	0.2	9	6
2257	MAR 07	1733 42.0	41.26S	175.25E	24	2.4	0.1	11	9
2258	MAR 07	1821 54.7	40.61S	174.67E	51	3.1	0.2	23	17
2260	MAR 07	1940 6.2	40.88S	175.03E	35	2.3	0.1	10	8
2270	MAR 08	0752 9.9	40.90S	175.18E	37	2.2	0.3	10	6

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
2287	MAR 08	2003 35.7	40.61S	174.26E	5R	3.0	0.2	18	12
2295	MAR 09	0310 16.1	40.57S	175.79E	31	2.4	0.1	8	5
2296	MAR 09	0319 53.0	41.09S	174.39E	66	2.3	0.0	10	7
2297	MAR 09	0339 32.4	41.41S	175.01E	26	2.4	0.1	11	7
2300	MAR 09	0439 23.4	41.33S	174.81E	29	2.5	0.2	15	11
2302	MAR 09	0642 7.0	40.57S	175.98E	29	2.6	0.2	10	7
2303	MAR 09	0644 41.5	41.36S	174.97E	24	2.2	0.0	7	6
2305	MAR 09	0821 10.5	40.88S	175.79E	28	2.7	0.2	11	7
2320	MAR 09	1819 5.0	40.52S	173.63E	108	2.7	0.2	11	8
2332	MAR 10	0452 32.2	41.40S	175.01E	28	2.4	0.1	8	7
2337	MAR 10	0831 3.2	41.65S	174.41E	5R	2.5	0.3	16	11
2338	MAR 10	1024 14.5	40.81S	174.78E	17	2.9	0.3	16	12
2340	MAR 10	1057 49.5	41.14S	174.68E	30	2.0	0.1	7	5
2343	MAR 10	1308 35.0	41.64S	174.64E	27	2.2	0.1	7	6
2348	MAR 10	2048 31.0	41.65S	174.29E	12R	2.0	0.3	12	8
2350	MAR 10	2142 34.3	40.86S	174.58E	42	2.2	0.2	12	8
2358	MAR 11	0600 59.9	40.69S	175.88E	30	2.5	0.2	8	6
2360	MAR 11	0612 15.5	41.25S	175.18E	23	2.5	0.1	14	10
2368	MAR 11	1224 59.5	41.02S	173.97E	54	2.4	0.1	10	8
2376	MAR 11	1857 50.8	40.89S	174.21E	51	3.0	0.2	14	12
2383	MAR 11	2153 17.6	41.28S	174.54E	55	2.3	0.1	7	5
2385	MAR 12	0016 14.0	41.89S	174.10E	18	2.5	0.3	13	10
2395	MAR 12	0452 10.5	41.32S	174.18E	40	2.6	0.3	14	11
2399	MAR 12	0829 27.7	41.92S	174.22E	15	2.4	0.3	14	11
2402	MAR 12	0930 52.8	41.89S	174.14E	12R	2.3	0.3	9	8
2407	MAR 12	1304 54.3	41.83S	174.06E	12R	2.4	0.1	10	8
2410	MAR 12	1655 1.9	40.53S	175.99E	26	2.5	0.3	11	9
2433	MAR 13	1438 40.2	41.74S	174.53E	28	2.6	0.2	15	12
2450	MAR 14	0142 14.8	41.68S	174.33E	19	2.5	0.1	8	5
2457	MAR 14	0757 40.9	41.76S	174.50E	35	2.2	0.3	11	8
2460	MAR 14	1004 22.8	41.72S	174.49E	33	2.2	0.1	10	7
2468	MAR 14	1533 8.5	40.63S	174.19E	73	2.7	0.2	10	7
2482	MAR 15	0917 29.5	40.88S	174.20E	53	2.4	0.1	11	9
2488	MAR 15	1320 50.7	41.59S	173.52E	62	2.7	0.2	11	8
2491	MAR 15	1610 49.0	40.68S	174.96E	12R	2.5	0.3	11	8
2492	MAR 15	1614 49.3	40.72S	175.01E	20	2.1	0.2	8	6
2493	MAR 15	1616 38.9	40.75S	174.94E	15	2.0	0.3	7	5
2496	MAR 15	1735 34.3	40.92S	175.48E	31	2.4	0.2	9	7
2502	MAR 16	0124 39.6	41.27S	175.25E	27	2.2	0.1	10	7
2503	MAR 16	0207 46.5	40.82S	173.89E	88	3.4	0.3	23	21
2504	MAR 16	0215 1.9	40.64S	174.40E	51	2.9	0.3	18	14
2510	MAR 16	0605 14.5	41.95S	174.38E	30	3.2	0.2	17	14
2521	MAR 16	1122 17.9	41.05S	174.37E	62	2.2	0.1	11	8
2522	MAR 16	1130 40.5	41.68S	173.93E	43	2.1	0.1	9	6
2524	MAR 16	1234 28.8	40.97S	175.30E	28	2.8	0.3	17	13

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
2525	MAR 16	1454 41.7	40.53S	175.99E	12R	2.6	0.1	7	4
2528	MAR 16	1704 39.6	41.05S	174.79E	59	2.5	0.2	15	11
2530	MAR 16	1719 21.3	41.57S	175.26E	23	2.0	0.4	9	7
2532	MAR 16	1819 36.9	41.68S	175.26E	5R	2.1	0.5	12	8
2534	MAR 16	1950 37.0	40.76S	174.49E	60	2.1	0.4	8	6
2542	MAR 16	2244 26.8	40.95S	175.17E	24	2.5	0.2	11	7
2544	MAR 17	0158 17.1	41.26S	175.25E	23	2.1	0.1	8	6
2546	MAR 17	0626 24.8	40.96S	175.02E	29	2.0	0.2	8	6
2549	MAR 17	0955 42.6	41.75S	173.90E	12R	2.3	0.2	10	8
2550	MAR 17	1002 13.2	41.55S	174.12E	53	2.6	0.1	13	10
2562	MAR 17	1537 7.2	41.13S	174.75E	30	3.1	0.2	17	14
2565	MAR 17	1658 57.1	40.57S	175.68E	30	2.0	0.2	8	5
2568	MAR 17	1749 54.5	41.00S	174.13E	65	2.2	0.1	8	6
2573	MAR 17	2103 29.7	41.34S	175.00E	27	2.8	0.2	16	13
2574	MAR 17	2111 24.6	41.34S	175.00E	24	2.1	0.1	7	5
2581	MAR 18	0119 43.2	40.87S	175.15E	33	2.7	0.2	14	12
2592	MAR 18	0442 27.2	40.59S	174.62E	27	2.1	0.2	6	4
2608	MAR 18	0857 5.5	41.92S	174.21E	17	2.0	0.3	10	7
2609	MAR 18	0932 10.0	40.54S	174.50E	39	2.2	0.2	11	8
2610	MAR 18	0944 57.6	41.36S	175.01E	24	2.1	0.1	9	7
2626	MAR 18	1820 50.3	41.29S	175.27E	25	2.0	0.1	8	6
2628	MAR 18	2148 50.6	41.17S	174.49E	60	2.5	0.1	8	6
2629	MAR 18	2328 5.7	41.08S	175.05E	27	2.1	0.1	10	7
2637	MAR 19	0709 32.4	40.87S	173.60E	84	2.6	0.2	11	8
2639	MAR 19	1028 57.3	40.83S	173.85E	101	3.9	0.3	35	29
2649	MAR 19	1532 3.3	40.59S	173.77E	115	3.3	0.3	15	12
2650	MAR 19	1634 18.9	40.75S	174.43E	49	2.6	0.1	15	11
2656	MAR 19	2050 27.8	41.56S	174.68E	32	2.4	0.0	7	5
2659	MAR 19	2115 29.4	40.68S	174.36E	75	3.3	0.2	19	14
2664	MAR 20	0708 46.2	41.14S	175.72E	26	2.0	0.0	9	7
2666	MAR 20	0832 0.8	41.09S	175.50E	22	2.0	0.2	8	6
2668	MAR 20	0933 37.2	40.73S	174.60E	58	2.6	0.1	9	7
2669	MAR 20	1225 21.8	40.85S	174.68E	49	2.4	0.1	11	8
2673	MAR 20	1520 59.7	40.91S	174.76E	5R	2.1	0.1	8	6
2686	MAR 20	2338 18.2	40.63S	175.45E	31	2.3	0.1	9	6
2692	MAR 21	0310 58.5	41.73S	174.36E	8	3.0	0.3	17	15
2693	MAR 21	0311 42.8	41.72S	174.36E	5R	2.9	0.3	18	15
2694	MAR 21	0312 32.1	41.76S	174.37E	5R	2.2	0.3	7	5
2697	MAR 21	0735 37.9	40.77S	174.90E	13	2.7	0.2	12	9
2699	MAR 21	0802 39.2	41.10S	174.50E	32	2.0	0.1	8	5
2705	MAR 21	1353 59.0	41.75S	174.37E	5R	2.7	0.3	12	10
2737	MAR 22	0752 5.5	40.91S	174.78E	42	2.1	0.1	7	6
2749	MAR 22	1402 20.5	40.55S	174.42E	86	2.5	0.2	8	7
2754	MAR 22	1634 59.1	41.36S	174.67E	20	3.4F	0.3	21	18
2755	MAR 22	1658 0.3	41.19S	173.59E	60	2.9	0.3	17	12

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
2759	MAR 22	2041 47.5	41.01S	174.86E	29	2.1	0.1	7	6
2761	MAR 22	2143 8.2	40.52S	175.94E	18	2.5	0.4	11	7
2768	MAR 23	1048 34.0	40.58S	175.27E	31	2.7	0.2	14	12
2775	MAR 23	1320 24.0	41.59S	173.90E	42	3.2	0.3	24	18
2778	MAR 23	1503 24.5	41.06S	174.19E	56	2.5	0.2	10	9
2783	MAR 23	1855 45.5	41.92S	174.02E	12	2.6	0.4	19	18
2784	MAR 23	1904 2.9	40.59S	174.34E	12R	2.0	0.2	7	6
2786	MAR 23	2021 24.6	40.63S	174.31E	59	2.7	0.1	10	8
2790	MAR 23	2251 29.3	41.15S	174.67E	31	3.0	0.3	19	16
2791	MAR 23	2318 52.3	41.15S	174.65E	33	2.1	0.1	10	9
2793	MAR 24	0418 17.5	41.21S	173.97E	48	3.0	0.2	16	13
2794	MAR 24	0449 40.7	41.20S	173.98E	47	2.8	0.2	13	10
2799	MAR 24	0732 34.8	40.66S	174.78E	21	2.2	0.2	11	8
2801	MAR 24	0804 24.9	41.26S	175.25E	26	2.8	0.1	17	13
3368	MAR 25	1036 58.9	40.62S	175.00E	34	2.4	0.2	9	7
3448	MAR 25	1343 17.3	41.45S	174.97E	28	2.7	0.2	17	13
3520	MAR 25	1724 40.1	40.55S	175.95E	31	2.0	0.2	8	6
3542	MAR 25	1949 21.6	40.83S	175.93E	31	2.2	0.2	9	6
3591	MAR 26	0012 18.0	40.64S	174.43E	52	2.0	0.3	8	6
3637	MAR 26	0344 5.8	41.19S	174.03E	60	2.6	0.2	10	7
3711	MAR 26	1147 37.2	40.98S	175.61E	26	2.1	0.1	12	8
3724	MAR 26	1413 42.0	41.23S	173.61E	51	2.4	0.3	8	5
3851	MAR 27	0033 18.5	40.95S	173.82E	70	2.3	0.1	10	7
3865	MAR 27	0310 48.1	40.63S	174.25E	91	2.8	0.3	14	10
3902	MAR 27	0703 56.0	41.99S	173.55E	41	2.3	0.1	8	6
3940	MAR 27	1335 48.9	40.94S	175.46E	24	2.3	0.1	7	6
3954	MAR 27	1507 50.4	41.77S	174.54E	30	2.4	0.3	14	10
3975	MAR 27	1622 2.0	41.89S	174.54E	28	2.0	0.1	7	6
3988	MAR 27	1725 22.3	41.89S	174.29E	11	2.0	0.2	8	6
4005	MAR 27	2026 7.5	41.90S	174.31E	12R	2.4	0.3	10	8
4034	MAR 28	0323 15.5	40.52S	174.64E	26	2.5	0.2	13	10
4040	MAR 28	0412 18.7	41.21S	174.57E	18	2.3	0.2	12	8
4044	MAR 28	0514 51.5	41.10S	174.96E	27	2.1	0.2	9	8
4064	MAR 28	0922 8.9	40.76S	175.85E	29	2.3	0.1	6	5
4092	MAR 28	1729 17.2	41.76S	174.56E	32	2.9	0.2	12	10
4093	MAR 28	1806 55.8	41.04S	175.59E	33	2.6	0.1	8	6
4095	MAR 28	1850 32.1	41.79S	174.33E	15	2.8	0.0	6	5
4096	MAR 28	1917 16.3	40.99S	175.50E	25	2.2	0.3	9	7
4129	MAR 29	0510 33.3	41.02S	175.63E	24	2.3	0.0	7	4
4172	MAR 30	0544 4.5	41.09S	175.48E	27	2.0	0.2	8	5
4176	MAR 30	0751 5.7	40.58S	174.40E	73	2.4	0.1	11	7
4177	MAR 30	0841 3.3	41.18S	174.49E	34	2.8	0.2	13	11
4210	MAR 30	1858 43.2	40.76S	175.32E	36	2.0	0.1	8	6
4223	MAR 30	2237 0.6	40.62S	175.46E	29	2.2	0.1	7	6
4238	MAR 31	0321 49.6	41.49S	174.00E	38	2.5	0.1	8	6

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
4242	MAR 31	0358 12.4	41.42S	173.70E	51	2.6	0.1	5	3
4245	MAR 31	0602 44.1	41.06S	174.51E	52	2.7	0.1	11	8
4256	MAR 31	0829 47.2	41.07S	174.47E	60	3.0	0.2	18	14
4259	MAR 31	0926 49.9	41.01S	174.61E	45	2.3	0.1	11	9
4291	MAR 31	1756 16.6	41.41S	175.89E	12R	2.0	0.1	7	5
4295	MAR 31	2027 33.0	40.50S	174.85E	34	2.0	0.1	10	6
4297	MAR 31	2136 48.3	41.38S	175.02E	24	2.3	0.1	12	8
4309	APR 01	0707 34.1	41.59S	174.32E	17	2.3	0.2	14	11
4316	APR 01	1358 16.7	41.23S	173.76E	61	3.0	0.3	13	9
4320	APR 01	1553 40.6	41.68S	174.51E	31	2.2	0.2	12	8
4321	APR 01	1607 11.8	40.83S	174.69E	48	2.3	0.2	11	8
4326	APR 01	1938 49.3	40.59S	174.97E	5R	3.6	0.3	35	33
4328	APR 01	2238 33.6	40.59S	174.85E	28	2.1	0.1	11	7
4409	APR 02	0728 1.4	40.53S	174.14E	88	3.0	0.3	12	9
4495	APR 02	1038 30.0	40.80S	175.00E	44	2.1	0.2	8	6
4534	APR 02	1304 18.5	41.33S	174.90E	28	2.2	0.2	16	9
4571	APR 02	1744 41.3	41.05S	173.95E	60	2.3	0.3	12	9
4572	APR 02	1754 51.1	40.89S	175.53E	29	2.0	0.2	8	6
4585	APR 02	1940 23.0	40.70S	175.73E	27	2.7	0.3	16	11
4621	APR 03	0112 59.8	41.26S	174.46E	56	2.8	0.1	14	11
4628	APR 03	0327 29.3	41.45S	173.78E	5R	2.2	0.2	7	6
4634	APR 03	0530 19.1	40.92S	175.35E	24	2.4	0.2	16	11
4690	APR 04	1300 6.9	41.37S	175.01E	25	2.4	0.1	15	11
4691	APR 04	1316 3.6	41.05S	173.62E	86	2.6	0.3	13	9
4696	APR 04	1444 46.6	41.13S	174.52E	40	2.6	0.2	15	11
4706	APR 04	1933 32.8	41.92S	174.17E	12R	2.7	0.3	18	14
4715	APR 04	2249 50.2	40.56S	175.06E	5R	2.4	0.3	9	6
4716	APR 04	2306 37.6	41.14S	173.61E	57	2.1	0.3	10	7
4722	APR 05	0240 37.5	41.48S	174.92E	29	2.7	0.2	16	13
4743	APR 05	1139 17.6	40.72S	174.36E	82	2.5	0.1	9	7
4758	APR 05	2150 7.8	40.51S	174.50E	68	3.6	0.2	35	26
4760	APR 05	2334 27.9	41.12S	173.65E	52	2.1	0.2	8	5
4761	APR 06	0005 9.2	41.83S	174.03E	16	2.6	0.3	14	11
4766	APR 06	0445 28.6	41.18S	174.89E	18	2.6	0.2	16	12
4774	APR 06	0712 46.6	41.24S	174.60E	57	2.0	0.2	10	7
4781	APR 06	1228 14.3	41.71S	174.35E	5R	2.3	0.4	18	14
4784	APR 06	1307 8.0	41.22S	174.24E	42	4.1F	0.2	28	23
4785	APR 06	1336 56.2	40.52S	174.96E	36	3.1	0.3	18	14
4798	APR 06	1926 33.3	41.22S	174.22E	41	2.3	0.2	10	7
4806	APR 06	2254 14.2	41.22S	174.22E	42	2.1	0.2	7	5
4809	APR 07	0037 16.3	41.93S	174.24E	12R	2.3	0.2	11	9
4813	APR 07	0251 26.7	40.59S	175.73E	29	2.6	0.2	12	10
4815	APR 07	0437 36.8	41.51S	174.26E	12R	3.1	0.3	19	16
4816	APR 07	0451 34.7	40.81S	174.79E	18	2.0	0.1	7	5
4817	APR 07	0458 31.4	41.61S	173.63E	53	2.6	0.3	13	9

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
4830	APR 07	1336 2.0	40.67S	174.17E	5R	2.6	0.4	13	9
4833	APR 07	1359 47.5	40.65S	174.13E	12R	2.8	0.4	14	12
4835	APR 07	1402 44.5	40.68S	174.17E	5R	2.7	0.4	12	9
4842	APR 07	1758 27.4	40.73S	173.89E	79	2.3	0.2	7	5
4856	APR 08	0244 6.7	40.63S	174.17E	5R	3.4	0.2	33	27
4857	APR 08	0326 45.0	40.52S	174.11E	12R	2.2	0.3	8	6
4859	APR 08	0450 47.4	40.72S	175.49E	29	3.7	0.3	26	22
4860	APR 08	0500 35.9	40.64S	174.15E	5R	3.3	0.3	26	21
4861	APR 08	0551 59.7	40.51S	174.09E	12R	2.1	0.2	7	5
4862	APR 08	0613 1.8	40.64S	175.44E	34	2.6	0.2	16	12
4863	APR 08	0615 36.2	41.38S	174.89E	26	2.0	0.1	9	7
4864	APR 08	0625 1.7	41.10S	173.96E	54	2.1	0.1	10	7
4866	APR 08	0831 47.2	41.74S	174.47E	26	2.1	0.2	11	9
4890	APR 08	2126 51.0	41.14S	175.73E	28	2.3	0.1	8	6
4896	APR 09	0036 25.4	41.32S	175.65E	20	2.4	0.1	13	9
4903	APR 09	0319 29.9	40.54S	174.10E	12R	2.2	0.2	10	7
4922	APR 09	0516 23.3	40.58S	174.11E	12R	2.2	0.6	8	7
4941	APR 09	1016 35.2	41.01S	174.51E	19	2.1	0.2	11	9
4945	APR 09	1727 58.3	40.61S	174.13E	12R	2.4	0.2	11	7
4949	APR 09	2028 12.3	41.90S	174.02E	12R	2.0	0.3	8	6
4952	APR 09	2148 46.8	41.16S	175.54E	15	2.5	0.1	14	10
4953	APR 09	2203 11.3	41.17S	175.54E	16	2.1	0.1	12	9
4954	APR 09	2313 27.4	41.76S	174.51E	33	2.0	0.1	7	6
4955	APR 10	0131 23.7	41.50S	174.79E	26	3.0	0.2	18	15
4967	APR 10	0753 0.4	41.17S	174.54E	58	2.1	0.1	9	7
4969	APR 10	0925 34.0	41.17S	175.54E	17	2.5	0.1	12	9
4974	APR 10	1304 29.1	40.57S	174.37E	30	2.2	0.2	9	7
4978	APR 10	1556 48.6	41.18S	173.81E	86	2.5	0.2	10	6
5002	APR 10	2314 30.1	41.26S	174.43E	38	2.1	0.1	10	9
5006	APR 11	0355 39.7	41.40S	173.91E	43	2.2	0.3	9	7
5025	APR 11	1644 50.1	41.00S	175.60E	25	2.2	0.1	13	8
5031	APR 11	2137 0.0	40.73S	174.52E	70	2.6	0.1	11	9
5069	APR 12	1634 24.6	41.61S	173.95E	20	2.1	0.3	11	9
5073	APR 12	2023 31.8	41.50S	175.65E	32	3.5	0.2	22	20
5074	APR 12	2041 42.2	40.93S	175.52E	29	2.3	0.1	11	9
5077	APR 12	2135 39.1	41.16S	173.59E	85	2.5	0.3	10	9
5082	APR 13	0022 48.4	41.70S	175.22E	25	2.4	0.2	13	10
5084	APR 13	0103 4.0	41.23S	174.85E	49	2.6	0.1	14	12
5089	APR 13	0158 39.8	41.13S	175.67E	28	2.0	0.2	12	9
5092	APR 13	0353 3.9	41.33S	174.84E	28	2.4	0.2	15	12
5094	APR 13	0636 12.1	41.01S	174.53E	60	3.3	0.1	17	15
5109	APR 13	1341 44.9	41.33S	174.77E	29	2.2	0.2	14	9
5132	APR 13	2312 51.9	41.23S	174.21E	40	2.1	0.2	11	6
5140	APR 14	0431 51.7	41.37S	174.42E	14	2.1	0.3	9	8
5148	APR 14	1058 41.7	41.73S	173.96E	38	2.0	0.1	9	7

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
5154	APR 14	1509 44.0	41.41S	175.47E	18	2.0	0.2	10	7
5170	APR 15	0443 14.0	41.65S	174.17E	5R	2.2	0.2	8	6
5175	APR 15	0646 9.2	41.25S	175.33E	28	2.2	0.1	11	8
5187	APR 15	1026 19.7	41.31S	173.75E	58	2.6	0.2	11	8
5210	APR 15	2037 23.3	40.96S	174.53E	56	2.2	0.1	7	5
5217	APR 16	0207 31.3	41.08S	174.51E	58	3.0	0.1	16	12
5220	APR 16	0312 40.6	40.57S	174.15E	93	2.5	0.2	12	8
5222	APR 16	0504 24.1	41.67S	174.36E	5R	2.9	0.3	20	15
5226	APR 16	0618 3.2	41.65S	174.35E	7	3.0	0.3	18	15
5242	APR 16	1556 9.2	41.28S	175.16E	25	2.0	0.1	12	8
5251	APR 16	1813 9.0	40.61S	173.76E	86	2.7	0.3	14	10
5265	APR 17	0330 44.3	41.09S	175.45E	26	2.6	0.1	14	11
5274	APR 17	0722 11.9	40.52S	175.88E	27	2.4	0.4	9	7
5280	APR 17	1229 48.7	41.73S	174.21E	5R	2.0	0.1	5	3
5286	APR 17	1740 22.1	41.12S	173.60E	67	3.3	0.3	23	16
5291	APR 17	1849 41.0	41.05S	174.28E	66	2.4	0.1	10	7
5308	APR 18	1013 54.0	40.91S	174.63E	52	2.1	0.1	8	6
5310	APR 18	1039 11.5	41.01S	175.31E	5R	3.0	0.3	18	12
5312	APR 18	1343 43.8	41.77S	173.72E	13	2.2	0.2	7	5
5315	APR 18	1526 49.6	40.89S	175.69E	28	2.3	0.2	9	8
5316	APR 18	1527 10.7	41.73S	174.17E	16	2.4	0.2	13	9
5321	APR 18	1856 36.7	40.78S	174.56E	42	2.5	0.2	13	10
5362	APR 19	0432 16.8	41.04S	174.60E	32	2.7	0.3	16	14
5375	APR 19	1603 0.6	41.34S	175.11E	24	2.4	0.2	16	12
5379	APR 19	1907 34.7	40.85S	175.68E	28	2.7	0.1	11	8
5381	APR 19	1949 16.1	41.47S	173.61E	91	2.2	0.1	10	7
5392	APR 20	0345 6.0	41.88S	173.68E	37	3.0	0.3	22	13
5400	APR 20	1206 25.6	41.74S	173.58E	47	3.2	0.2	18	13
5410	APR 20	1830 59.9	41.92S	174.33E	5R	2.3	0.3	10	8
5412	APR 20	1841 44.7	41.71S	174.21E	11	2.1	0.3	7	5
5413	APR 20	2013 36.8	40.91S	175.00E	36	2.0	0.2	9	5
5417	APR 20	2148 22.8	41.84S	174.27E	12R	2.7	0.2	12	10
5419	APR 20	2157 55.3	41.69S	173.97E	13	3.0	0.3	22	16
5428	APR 21	0408 6.8	40.90S	175.74E	30	2.1	0.1	9	7
5432	APR 21	0617 18.2	41.09S	175.26E	13	2.4	0.2	17	11
5433	APR 21	0634 19.7	40.93S	175.37E	30	2.1	0.1	12	8
5438	APR 21	0808 15.6	41.03S	174.60E	61	3.3	0.2	33	26
5457	APR 21	1843 11.9	41.26S	175.18E	24	2.3	0.1	13	9
5458	APR 21	1844 5.7	41.26S	175.17E	26	2.0	0.1	9	6
5459	APR 21	2005 35.4	41.52S	175.70E	28	2.5	0.1	10	8
5470	APR 21	2306 15.5	41.72S	174.53E	30	3.2	0.2	20	15
5476	APR 22	0332 13.2	40.87S	175.99E	30	2.0	0.2	8	6
5478	APR 22	0355 55.9	40.63S	174.25E	68	3.0	0.3	16	12
5484	APR 22	0633 24.9	41.43S	175.01E	21	2.1	0.2	13	9
5490	APR 22	1259 37.4	41.11S	174.77E	54	2.3	0.2	11	9

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
5491	APR 22	1410 50.4	41.16S	173.58E	88	2.4	0.3	16	11
5493	APR 22	1530 27.5	40.93S	175.02E	52	2.6	0.2	13	9
5503	APR 22	1949 6.2	41.39S	173.59E	75	3.0	0.2	20	14
5511	APR 23	0109 49.1	41.15S	174.49E	37	3.4	0.3	19	17
5523	APR 23	1543 19.8	41.33S	175.58E	15	2.0	0.1	13	9
5563	APR 24	0831 3.1	41.47S	174.30E	60	2.3	0.2	9	7
5576	APR 24	1316 36.0	41.11S	174.49E	36	2.2	0.2	9	6
5581	APR 24	1813 9.3	41.00S	174.87E	30	2.0	0.1	8	6
5598	APR 25	0453 22.3	41.54S	173.54E	67	3.3	0.3	20	16
5603	APR 25	0626 39.3	40.93S	173.74E	73	2.8	0.2	13	11
5611	APR 25	1410 57.8	40.75S	175.32E	36	2.0	0.2	8	6
5629	APR 26	0459 7.2	41.66S	174.93E	29	3.2	0.2	24	18
5639	APR 26	1351 57.5	41.79S	174.25E	12	2.1	0.2	10	7
5640	APR 26	1426 55.8	40.97S	174.64E	61	2.1	0.1	11	7
5641	APR 26	1451 2.7	41.70S	174.28E	12R	2.4	0.2	12	8
5649	APR 26	2045 39.4	40.97S	175.56E	25	2.5	0.1	10	7
5665	APR 27	1304 5.2	41.08S	175.44E	20	2.1	0.2	10	8
5679	APR 27	2339 4.8	40.99S	174.75E	34	2.0	0.1	10	8
5687	APR 28	0511 27.6	41.62S	174.25E	12	2.0	0.1	6	3
5702	APR 29	0239 12.6	41.06S	174.86E	49	3.9F	0.1	36	31
5704	APR 29	0406 43.6	40.77S	174.31E	45	2.0	0.1	6	5
5706	APR 29	0633 15.6	41.08S	175.45E	25	2.1	0.1	11	8
5713	APR 29	0940 8.2	41.69S	174.60E	30	2.1	0.1	6	5
5733	APR 29	1717 57.6	41.04S	173.91E	56	2.2	0.3	8	7
5738	APR 29	1945 56.9	40.87S	174.89E	34	2.4	0.1	12	10
5741	APR 29	2224 0.5	40.50S	173.97E	80	2.6	0.3	9	7
5743	APR 29	2253 19.7	41.22S	173.65E	76	2.7	0.2	10	8
5747	APR 30	0229 27.2	40.99S	173.99E	54	2.3	0.4	9	8
5771	APR 30	1943 35.4	40.95S	174.89E	47	2.0	0.0	6	4
5772	APR 30	2224 12.0	40.97S	175.10E	32	2.2	0.1	7	5
5788	MAY 01	1625 15.9	41.44S	174.98E	22	2.0	0.2	7	6
5791	MAY 01	1858 19.6	41.25S	173.50E	97	3.1	0.3	20	14
5793	MAY 01	2115 58.7	40.71S	175.86E	27	2.3	0.3	9	7
5803	MAY 02	0549 35.6	41.25S	175.32E	28	2.5	0.1	13	10
5808	MAY 02	1007 1.4	41.05S	174.96E	48	2.1	0.0	7	5
5820	MAY 02	2303 23.1	41.44S	174.20E	12R	2.2	0.2	12	9
5824	MAY 03	0055 15.9	41.54S	174.45E	14	2.3	0.2	17	13
5825	MAY 03	0149 19.1	40.95S	174.78E	45	3.9F	0.2	37	30
5832	MAY 03	0834 57.4	41.63S	174.66E	29	3.1	0.3	20	15
5846	MAY 03	1445 11.2	41.15S	174.72E	32	2.3	0.2	10	8
5853	MAY 03	1720 41.1	40.69S	173.56E	156	2.8	0.1	9	7
5858	MAY 04	0138 18.7	41.20S	173.61E	97	2.3	0.1	6	5
5861	MAY 04	0321 35.9	40.93S	174.32E	58	2.5	0.2	8	6
5862	MAY 04	0327 33.8	40.93S	175.53E	24	2.0	0.2	9	8
5869	MAY 04	0949 29.8	40.90S	175.66E	23	2.7	0.3	13	10

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
5895	MAY 05	0322 13.1	40.77S	175.86E	30	2.5	0.2	10	8
5904	MAY 05	1025 45.1	40.93S	175.46E	24	2.2	0.1	10	7
5907	MAY 05	1243 57.9	41.73S	173.87E	18	2.4	0.3	10	8
5919	MAY 05	1519 3.5	40.91S	175.31E	28	2.1	0.1	7	6
5922	MAY 05	1852 24.7	41.26S	175.24E	21	2.3	0.1	10	9
5926	MAY 05	2338 34.9	41.32S	174.54E	34	3.6F	0.2	22	19
5934	MAY 06	0322 46.8	40.55S	174.34E	65	2.7	0.3	15	11
5951	MAY 06	1133 49.9	41.69S	174.27E	32	2.3	0.2	13	9
5960	MAY 07	0143 25.7	41.36S	173.59E	75	2.5	0.2	8	6
5962	MAY 07	0423 38.5	40.74S	174.01E	81	2.4	0.2	8	7
5963	MAY 07	0556 34.7	41.31S	175.15E	25	2.5	0.1	11	8
5964	MAY 07	0608 10.2	40.94S	174.83E	32	2.3	0.1	11	8
5966	MAY 07	0709 33.8	41.05S	174.54E	36	2.0	0.2	10	6
5976	MAY 07	1430 14.5	41.74S	174.01E	34	2.7	0.3	14	11
5978	MAY 07	1603 13.0	40.61S	174.50E	23	2.2	0.1	8	7
5979	MAY 07	1629 1.9	40.51S	174.66E	83	2.7	0.2	8	7
5981	MAY 07	1736 4.0	40.66S	175.44E	32	2.4	0.1	8	6
5982	MAY 07	1850 41.6	41.92S	175.15E	33	2.4	0.1	8	7
5989	MAY 08	0314 10.8	41.86S	174.44E	23	2.1	0.3	9	6
6001	MAY 08	1624 11.1	41.15S	174.68E	31	2.5	0.1	12	10
6002	MAY 08	1631 22.0	40.65S	173.62E	139	3.0	0.0	9	7
6008	MAY 08	2043 36.7	41.58S	173.52E	89	2.8	0.1	8	6
6027	MAY 09	0240 4.2	41.32S	174.72E	30	4.1F	0.1	27	23
6052	MAY 09	1224 24.6	40.62S	174.35E	33R	2.0	0.2	8	6
6057	MAY 09	1914 24.8	41.25S	175.32E	24	2.7	0.1	13	10
6058	MAY 09	1919 45.1	41.26S	175.32E	28	2.7	0.2	14	10
6062	MAY 09	2233 3.4	40.58S	173.84E	81	2.6	0.2	10	7
6070	MAY 10	0717 37.1	41.12S	174.48E	36	2.4	0.1	13	9
6076	MAY 10	0941 33.2	41.44S	174.20E	26	2.2	0.1	8	6
6083	MAY 10	1610 51.0	40.88S	173.59E	115	3.0	0.2	13	10
6085	MAY 10	1855 42.6	41.28S	175.28E	28	2.0	0.1	9	6
6086	MAY 10	1906 18.9	41.28S	174.48E	34	2.8	0.2	16	13
6087	MAY 10	2004 33.5	40.54S	174.85E	26	2.8	0.2	16	13
6089	MAY 10	2137 42.1	41.83S	174.12E	30	2.5	0.2	9	7
6095	MAY 11	0113 20.9	41.70S	174.38E	12R	2.1	0.2	8	7
6096	MAY 11	0316 1.0	41.31S	174.72E	28	2.1	0.2	11	8
6122	MAY 11	1158 58.9	40.55S	175.95E	18	2.8	0.3	15	12
6130	MAY 11	1613 58.2	41.42S	175.02E	23	2.6	0.1	18	14
6131	MAY 11	1621 31.8	41.05S	174.62E	36	3.1	0.2	28	25
6143	MAY 11	2159 5.5	41.62S	174.68E	31	3.3	0.2	21	17
6150	MAY 12	0013 48.5	41.43S	174.21E	5R	2.2	0.2	12	10
6153	MAY 12	0137 31.9	41.32S	174.72E	30	3.0	0.2	14	11
6154	MAY 12	0207 38.0	40.59S	175.30E	34	2.2	0.1	10	7
6156	MAY 12	0317 3.3	40.62S	175.30E	31	2.4	0.2	10	8
6160	MAY 12	0747 29.9	41.68S	173.68E	54	2.5	0.2	13	10

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
6174	MAY 12	1513 59.1	40.98S	175.42E	32	2.2	0.3	8	6
6179	MAY 12	1658 38.6	41.28S	174.45E	34	2.4	0.2	13	12
6183	MAY 12	2125 30.3	40.69S	174.36E	56	3.1	0.3	16	12
6190	MAY 13	0024 29.1	40.79S	174.62E	62	2.2	0.1	7	6
6202	MAY 13	0925 27.7	41.32S	174.72E	30	2.1	0.2	10	8
6207	MAY 13	1111 18.5	41.44S	173.64E	99	2.5	0.2	9	7
6210	MAY 13	1243 19.9	40.76S	174.47E	74	2.3	0.2	7	5
6211	MAY 13	1450 32.2	41.91S	174.05E	32	2.9	0.3	14	11
6215	MAY 13	1911 32.1	41.36S	175.19E	28	3.3	0.2	16	12
6217	MAY 13	2111 37.5	40.94S	175.50E	12R	2.1	0.2	8	6
6219	MAY 14	0056 53.2	40.72S	175.30E	40	2.4	0.2	8	5
6220	MAY 14	0209 2.6	41.62S	174.68E	30	2.7	0.2	12	10
6229	MAY 14	1021 54.3	41.09S	175.19E	25	2.8	0.2	14	11
6230	MAY 14	1048 2.5	40.97S	174.03E	63	2.1	0.2	7	6
6233	MAY 14	1229 48.3	40.74S	174.59E	40	2.7	0.2	10	9
6237	MAY 14	1859 27.1	41.64S	174.62E	21	2.0	0.1	10	9
6238	MAY 14	1948 3.9	41.12S	173.51E	78	2.1	0.2	9	7
6245	MAY 15	0326 12.9	41.07S	175.20E	23	2.3	0.2	11	9
6249	MAY 15	0355 34.7	40.83S	175.65E	21	2.4	0.2	11	8
6250	MAY 15	0356 56.6	41.31S	174.63E	54	2.2	0.0	8	6
6251	MAY 15	0434 47.7	40.58S	174.73E	27	2.0	0.2	10	7
6255	MAY 15	0651 12.5	41.79S	174.33E	31	2.0	0.2	9	6
6258	MAY 15	0928 56.0	41.06S	175.53E	24	2.1	0.1	11	8
6261	MAY 15	1047 6.6	41.30S	175.27E	28	2.1	0.1	11	9
6262	MAY 15	1123 43.4	41.32S	174.72E	29	2.8	0.1	16	12
6264	MAY 15	1130 3.1	41.98S	173.98E	36	2.3	0.1	10	8
6272	MAY 15	1515 32.2	41.09S	174.57E	56	3.2	0.2	19	16
6281	MAY 15	1844 11.2	41.10S	174.64E	30	2.0	0.1	10	6
6283	MAY 15	1953 47.4	40.62S	174.66E	28	2.0	0.2	7	5
6286	MAY 15	2316 8.8	41.45S	174.25E	12R	2.3	0.1	8	5
6294	MAY 16	0306 31.6	41.64S	174.76E	25	2.8	0.2	13	9
6298	MAY 16	0421 31.2	41.30S	175.26E	27	2.3	0.1	11	8
6301	MAY 16	0713 20.6	41.18S	174.76E	28	2.3	0.2	11	8
6316	MAY 16	1750 15.6	40.84S	175.82E	30	2.0	0.2	8	6
6322	MAY 16	2059 19.4	40.97S	175.58E	25	2.0	0.1	8	6
6325	MAY 16	2147 31.0	40.99S	173.87E	77	2.5	0.3	7	5
6336	MAY 17	0517 4.2	40.92S	174.36E	12R	2.0	0.1	7	5
6347	MAY 17	1229 58.4	41.06S	175.01E	41	2.8	0.2	16	13
6352	MAY 17	1441 41.0	40.68S	173.88E	87	3.7	0.3	32	26
6373	MAY 17	2225 30.8	41.31S	174.47E	38	2.7	0.2	13	10
6378	MAY 18	0310 45.6	41.25S	175.13E	23	2.4	0.2	12	8
6385	MAY 18	0651 24.9	41.47S	173.62E	68	4.7F	0.3	26	18
6399	MAY 18	1413 52.9	40.83S	174.04E	68	2.6	0.2	9	7
6403	MAY 18	1720 37.3	41.97S	173.99E	12R	2.1	0.1	6	4
6406	MAY 18	1929 54.9	40.71S	175.99E	41	2.8	0.2	14	11

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6407	MAY 18	2000 58.0	40.86S	174.43E	71	2.3	0.0	8	6
6409	MAY 18	2029 31.2	40.60S	174.41E	41	2.4	0.1	7	5
6410	MAY 18	2105 32.9	41.31S	174.38E	35	2.1	0.2	12	9
6411	MAY 18	2123 23.8	41.03S	174.14E	54	2.0	0.1	7	5
6413	MAY 18	2214 14.7	40.79S	174.87E	17	2.4	0.2	14	11
6433	MAY 19	0415 45.8	41.67S	174.50E	33R	2.0	0.1	8	6
6440	MAY 19	0557 52.7	40.72S	174.29E	30	2.2	0.1	9	6
6454	MAY 19	1301 23.8	41.85S	174.12E	5R	2.2	0.3	11	9
6455	MAY 19	1305 33.2	41.04S	175.39E	20	2.0	0.1	9	7
6458	MAY 19	1435 22.4	40.72S	173.57E	12R	3.5	0.2	29	27
6478	MAY 19	2020 53.4	40.59S	176.00E	42	2.2	0.1	8	6
6493	MAY 20	0505 35.1	40.97S	173.61E	76	2.7	0.3	11	8
6495	MAY 20	0835 37.2	41.30S	175.30E	27	2.2	0.2	12	9
6502	MAY 20	1301 28.9	40.92S	175.50E	30	2.7	0.2	11	7
6504	MAY 20	1344 15.3	41.00S	174.56E	39	2.2	0.1	8	7
6505	MAY 20	1412 51.0	40.93S	174.59E	58	2.0	0.1	8	6
6507	MAY 20	1449 28.4	41.73S	174.49E	41	2.5	0.1	9	7
6512	MAY 20	1742 32.8	40.93S	175.51E	29	2.1	0.1	8	6
6522	MAY 21	0403 2.6	41.00S	175.58E	23	2.1	0.2	11	7
6528	MAY 21	0846 22.3	41.56S	174.64E	33	2.0	0.1	6	5
6550	MAY 21	2150 47.0	40.73S	174.77E	37	2.2	0.2	8	6
6554	MAY 21	2319 29.5	41.91S	174.13E	12R	2.2	0.3	7	5
6558	MAY 22	0346 20.4	41.49S	175.61E	29	2.1	0.1	9	7
6562	MAY 22	1231 34.8	41.04S	175.40E	28	2.2	0.1	11	8
6569	MAY 22	1927 26.9	41.00S	174.74E	57	2.2	0.2	9	8
6573	MAY 22	2226 36.3	40.79S	174.90E	34	3.0	0.3	18	16
6583	MAY 23	0608 36.2	41.03S	175.40E	27	2.3	0.1	12	9
6596	MAY 23	0944 47.6	40.60S	173.70E	138	2.8	0.1	9	7
6614	MAY 23	1857 7.8	41.96S	174.15E	5R	2.3	0.3	9	6
6624	MAY 23	2343 48.0	41.86S	174.13E	5R	2.2	0.2	6	4
6627	MAY 23	2355 42.5	41.94S	174.17E	5R	2.0	0.2	6	5
6630	MAY 24	0133 41.7	40.61S	174.34E	25	2.2	0.3	11	7
6631	MAY 24	0136 37.1	41.24S	175.04E	22	2.0	0.1	12	9
6637	MAY 24	0617 25.3	40.72S	175.69E	12R	2.3	0.4	10	7
6654	MAY 24	1748 15.0	41.34S	175.00E	26	2.1	0.1	9	6
6655	MAY 24	1802 31.4	40.88S	175.16E	31	2.0	0.2	9	6
6668	MAY 24	2304 59.9	41.61S	173.50E	86	2.7	0.1	11	9
6672	MAY 25	0402 40.6	40.60S	174.12E	92	2.8	0.2	9	7
6673	MAY 25	0409 15.0	41.75S	174.48E	52	3.0	0.2	16	12
6681	MAY 25	0938 17.7	40.71S	175.90E	30	2.7	0.3	14	11
6687	MAY 25	1333 6.9	41.03S	175.41E	28	2.1	0.1	8	6
6689	MAY 25	1623 40.0	41.77S	174.57E	34	2.2	0.2	14	10
6702	MAY 25	2046 10.0	41.84S	173.97E	12R	2.0	0.1	5	4
6704	MAY 25	2129 29.1	41.20S	174.07E	68	2.0	0.1	7	5
6745	MAY 26	1426 13.6	41.71S	174.53E	27	2.4	0.3	13	11

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6759	MAY 27	0052 36.5	40.89S	175.51E	23	2.4	0.2	10	7
6765	MAY 27	0555 36.1	40.98S	174.66E	51	2.5	0.1	11	8
6769	MAY 27	0657 14.2	40.81S	175.09E	30	2.1	0.1	9	7
6774	MAY 27	1242 44.9	40.64S	174.90E	12R	2.8	0.2	12	9
6788	MAY 27	1603 57.6	41.18S	174.61E	56	2.3	0.1	7	4
6803	MAY 27	2159 29.7	40.92S	175.11E	28	2.1	0.2	10	7
6818	MAY 28	0651 29.5	40.53S	174.61E	58	3.5	0.3	27	24
6819	MAY 28	0733 38.8	40.63S	174.83E	12R	2.0	0.2	8	6
6824	MAY 28	1001 2.8	41.83S	174.53E	24	2.8	0.2	14	12
6872	MAY 29	0433 37.5	41.18S	173.75E	51	2.1	0.2	8	6
6876	MAY 29	0653 57.0	41.47S	174.18E	21	2.0	0.3	8	7
6881	MAY 29	1145 22.2	41.72S	174.50E	32	2.2	0.2	10	8
6884	MAY 29	1419 7.1	41.50S	173.98E	36	2.1	0.2	9	7
6903	MAY 30	0212 16.8	41.72S	174.49E	28	2.4	0.2	12	10
6905	MAY 30	0228 54.2	41.58S	174.65E	31	2.4	0.1	9	7
6909	MAY 30	0646 57.3	40.56S	175.04E	5R	2.7	0.1	11	9
6915	MAY 30	1306 51.5	41.58S	174.65E	30	2.2	0.1	9	7
6918	MAY 30	1512 48.9	41.35S	174.50E	57	2.6	0.1	8	7
6945	MAY 30	2257 50.5	40.86S	174.70E	15	2.3	0.2	8	6
6952	MAY 31	0841 50.6	41.07S	175.48E	37	2.0	0.0	7	6
6960	MAY 31	1405 22.4	40.83S	174.42E	47	2.1	0.1	8	6
6964	MAY 31	1514 0.9	41.26S	175.22E	17	2.2	0.2	8	6
6969	MAY 31	1855 50.4	41.02S	174.60E	50	2.3	0.1	8	7
6976	JUN 01	0339 32.3	41.25S	175.34E	28	2.2	0.1	8	7
6985	JUN 01	0645 10.1	40.54S	173.96E	78	2.2	0.2	8	6
6986	JUN 01	0653 37.9	41.10S	175.37E	23	2.1	0.1	10	8
6994	JUN 01	1401 21.1	41.92S	174.28E	12R	2.5	0.3	10	8
7000	JUN 01	2150 27.0	41.05S	174.86E	51	2.4	0.2	8	6
7001	JUN 01	2259 20.9	41.44S	173.61E	55	2.3	0.2	8	6
7009	JUN 02	1418 31.5	41.66S	174.19E	5R	2.8	0.3	17	14
7010	JUN 02	1439 46.5	41.42S	174.55E	30	2.3	0.2	7	6
7011	JUN 02	1442 34.6	41.03S	173.77E	115	2.8	0.1	10	8
7013	JUN 02	1802 59.2	40.76S	174.61E	64	2.4	0.1	8	6
7020	JUN 02	2307 5.3	41.41S	174.74E	53	3.6	0.2	26	20
7022	JUN 03	0047 8.6	40.90S	174.98E	39	2.2	0.2	9	6
7042	JUN 04	0414 8.4	41.26S	175.18E	23	2.0	0.1	7	6
7057	JUN 04	1753 56.4	41.75S	174.25E	21	2.1	0.2	11	8
7059	JUN 04	1906 11.0	40.59S	174.95E	25	2.1	0.3	8	6
7060	JUN 04	1940 3.2	40.55S	175.33E	27	3.2	0.2	19	15
7063	JUN 05	0030 27.2	41.17S	174.75E	55	2.0	0.0	6	5
7064	JUN 05	0211 23.2	41.80S	174.11E	12	2.2	0.2	8	5
7075	JUN 05	0918 7.1	40.80S	174.00E	60	2.0	0.2	7	5
7077	JUN 05	0938 41.3	41.30S	174.97E	24	2.2	0.2	11	7
7080	JUN 05	1003 24.9	41.62S	174.66E	31	2.1	0.1	10	8
7082	JUN 05	1030 7.1	41.56S	173.89E	20	2.1	0.3	10	8

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7083	JUN 05	1220 37.5	41.15S	174.07E	58	2.1	0.3	8	6
7089	JUN 05	1647 59.8	41.38S	174.38E	34	2.5	0.2	13	10
7090	JUN 05	1649 20.6	40.97S	175.56E	27	2.4	0.1	9	6
7092	JUN 05	1737 29.6	41.64S	174.77E	24	2.0	0.1	8	6
7093	JUN 05	1737 59.9	41.65S	174.79E	26	2.4	0.2	11	9
7098	JUN 05	1941 46.9	40.64S	174.57E	79	2.6	0.1	10	9
7116	JUN 06	1035 22.7	41.13S	174.03E	59	2.5	0.2	10	8
7118	JUN 06	1119 9.5	41.27S	174.63E	27	2.0	0.2	8	6
7121	JUN 06	1315 26.3	40.69S	174.75E	20	2.2	0.1	11	8
7123	JUN 06	1358 48.3	41.29S	175.31E	30	2.9	0.2	16	13
7127	JUN 06	1625 49.8	41.61S	174.05E	18	2.8	0.3	16	12
7132	JUN 06	1722 57.8	41.00S	174.77E	33	2.2	0.1	9	7
7133	JUN 06	1755 40.9	41.31S	173.99E	56	3.1	0.2	19	16
7149	JUN 07	0704 21.8	41.02S	175.60E	27	2.3	0.1	9	7
7164	JUN 07	1945 41.1	41.65S	173.97E	12R	2.0	0.2	4	3
7170	JUN 08	0232 31.9	41.58S	174.08E	19	2.0	0.2	10	8
7173	JUN 08	0422 49.4	41.26S	174.77E	53	2.3	0.1	10	8
7185	JUN 08	1259 16.4	40.72S	174.90E	35	2.1	0.1	6	5
7189	JUN 08	1920 30.1	41.66S	174.25E	11	2.7	0.3	15	12
7203	JUN 09	0525 12.0	41.65S	174.28E	5R	2.4	0.3	15	11
7209	JUN 09	0946 23.3	41.65S	175.55E	30	2.5	0.1	17	12
7212	JUN 09	1156 36.4	40.90S	175.72E	28	2.1	0.2	13	10
7218	JUN 09	1652 29.5	41.62S	174.43E	12R	2.7	0.2	15	12
7221	JUN 09	2256 36.7	40.83S	174.15E	75	2.6	0.2	11	8
7232	JUN 10	0827 2.1	40.50S	173.96E	76	2.9	0.2	8	7
7233	JUN 10	0932 49.5	40.68S	175.11E	33	2.2	0.2	8	6
7236	JUN 10	1034 21.7	41.47S	174.52E	18	2.1	0.2	12	10
7237	JUN 10	1055 11.4	40.96S	174.39E	45	2.0	0.1	8	6
7242	JUN 10	1446 28.2	40.99S	175.58E	28	2.3	0.2	12	9
7243	JUN 10	1545 42.6	40.50S	174.48E	79	3.4	0.3	24	21
7254	JUN 11	0121 50.2	40.79S	175.07E	33	2.1	0.1	7	5
7267	JUN 11	1149 23.2	41.28S	174.17E	40	2.7	0.2	12	10
7282	JUN 11	1557 8.3	41.12S	175.29E	30	2.1	0.0	9	6
7289	JUN 11	1749 33.4	41.36S	175.60E	18	2.4	0.2	11	8
7295	JUN 11	1908 40.6	40.62S	175.41E	41	2.4	0.2	9	6
7299	JUN 11	2233 46.7	41.98S	174.41E	28	2.7	0.2	10	7
7302	JUN 12	0111 53.2	40.94S	175.74E	33	2.8	0.2	15	13
7304	JUN 12	0243 2.4	40.63S	174.85E	10	2.9	0.2	16	14
7307	JUN 12	0609 17.5	41.22S	174.50E	36	2.0	0.1	8	6
7309	JUN 12	0713 8.9	40.94S	174.41E	45	2.6	0.1	12	10
7312	JUN 12	1320 57.8	41.10S	173.57E	83	3.3	0.2	20	15
7313	JUN 12	1501 1.6	40.71S	174.12E	92	2.5	0.2	9	7
7321	JUN 12	2300 58.8	40.74S	174.56E	47	2.1	0.2	9	7
7324	JUN 13	0052 45.1	41.69S	173.94E	15	2.7	0.3	15	11
7325	JUN 13	0055 2.5	41.70S	173.97E	14	2.5	0.2	11	9

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7340	JUN 13	1347 47.5	41.58S	174.66E	25	2.0	0.1	13	8
7345	JUN 13	1846 22.1	40.60S	173.91E	99	2.9	0.3	15	11
7347	JUN 13	1958 20.1	40.53S	174.30E	61	2.6	0.3	11	8
7348	JUN 13	2057 28.3	41.76S	174.08E	5R	2.6	0.2	6	4
7349	JUN 13	2238 40.0	41.75S	174.09E	8	2.2	0.2	11	8
7354	JUN 14	0411 49.6	41.32S	175.54E	16	2.0	0.2	8	7
7362	JUN 14	0935 51.6	40.77S	174.84E	18	2.4	0.3	9	7
7367	JUN 14	1320 17.5	41.13S	174.04E	56	2.5	0.2	11	8
7371	JUN 14	1819 38.2	41.77S	174.30E	5R	2.0	0.3	5	4
7376	JUN 14	2055 26.2	41.52S	174.60E	13	2.1	0.2	11	9
7377	JUN 14	2102 44.9	40.85S	174.54E	24	2.0	0.2	9	8
7381	JUN 15	0402 18.3	40.55S	175.34E	31	2.4	0.2	7	5
7388	JUN 15	0829 47.0	41.59S	174.16E	12R	2.7	0.3	16	12
7395	JUN 15	1032 6.4	41.66S	174.22E	13	2.0	0.2	11	7
7410	JUN 15	2008 46.5	40.98S	174.47E	44	2.2	0.1	7	6
7419	JUN 16	0447 43.2	40.92S	175.02E	30	2.2	0.1	7	5
7430	JUN 16	1459 46.0	41.09S	175.46E	29	2.1	0.2	9	8
7434	JUN 16	1838 49.7	41.24S	174.09E	44	2.3	0.2	10	8
7454	JUN 17	1127 36.4	40.81S	174.76E	49	3.6F	0.2	35	30
7458	JUN 17	1651 57.2	41.70S	174.24E	15	2.0	0.1	9	8
7459	JUN 17	1727 35.8	40.61S	174.15E	66	2.3	0.3	12	8
7465	JUN 17	2202 49.0	41.02S	174.65E	41	2.6	0.1	10	9
7472	JUN 18	0405 21.2	41.17S	173.79E	81	2.1	0.1	11	8
7474	JUN 18	0435 21.5	41.10S	174.77E	34	2.3	0.1	9	7
7476	JUN 18	0644 7.0	41.46S	174.57E	15	3.0	0.3	17	14
7481	JUN 18	1153 1.4	42.00S	173.95E	12R	2.4	0.2	10	7
7483	JUN 18	1219 8.3	42.00S	173.94E	12R	2.6	0.3	8	5
7488	JUN 18	1654 13.9	40.90S	174.88E	58	2.2	0.1	7	5
7491	JUN 18	1915 3.5	41.93S	174.01E	17	2.7	0.3	12	10
7492	JUN 18	1936 36.1	40.84S	174.76E	5R	3.5	0.3	32	26
7493	JUN 18	2020 1.8	41.91S	174.05E	36	2.2	0.3	6	4
7499	JUN 19	0336 43.6	41.59S	173.92E	14	2.8	0.3	15	11
7501	JUN 19	0344 7.9	41.14S	175.68E	17	2.0	0.1	9	6
7502	JUN 19	0344 11.9	41.14S	175.69E	20	2.2	0.1	9	6
7503	JUN 19	0347 56.9	40.82S	175.71E	22	2.2	0.2	14	8
7504	JUN 19	0400 47.3	40.62S	173.92E	78	2.8	0.3	12	7
7513	JUN 19	0851 42.5	41.58S	173.92E	15	2.8	0.2	17	12
7514	JUN 19	0855 4.1	40.64S	174.34E	5R	2.2	0.2	7	6
7517	JUN 19	0934 34.8	41.21S	174.06E	61	2.2	0.0	7	5
7519	JUN 19	1135 35.7	40.87S	175.70E	30	2.3	0.2	10	7
7524	JUN 19	1507 35.0	41.54S	175.36E	23	2.3	0.3	11	8
7525	JUN 19	1511 6.9	41.62S	175.42E	11	2.2	0.1	10	7
7526	JUN 19	1529 12.9	41.06S	174.89E	31	2.0	0.1	9	6
7539	JUN 19	2034 59.3	40.95S	175.70E	29	2.0	0.2	9	7
7543	JUN 19	2259 8.5	41.70S	174.47E	30	2.1	0.2	8	6

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7544	JUN 20	0132 12.7	40.77S	174.10E	81	2.6	0.2	10	7
7546	JUN 20	0222 48.6	41.02S	174.65E	60	2.6	0.0	10	7
7553	JUN 20	0639 45.3	41.00S	173.55E	82	2.8	0.2	14	9
7557	JUN 20	0737 33.7	40.91S	173.94E	65	2.7	0.3	12	9
7565	JUN 20	1654 38.0	41.96S	174.61E	34	2.8	0.3	17	12
7567	JUN 20	1735 18.4	40.64S	174.61E	35	2.1	0.2	10	5
7571	JUN 20	2115 52.4	41.61S	173.90E	20	2.9	0.2	15	11
7574	JUN 20	2245 36.5	41.39S	174.77E	42	2.0	0.2	15	9
7582	JUN 21	0445 19.8	41.36S	174.98E	26	2.0	0.1	10	7
7583	JUN 21	0457 3.9	40.66S	175.43E	30	2.2	0.2	7	5
7611	JUN 22	0315 36.3	41.01S	174.85E	30	2.8	0.1	14	11
7613	JUN 22	0336 42.1	41.02S	174.85E	30	2.8	0.1	16	12
7619	JUN 22	0652 42.1	41.34S	174.41E	16	2.2	0.3	9	7
7624	JUN 22	1057 34.6	40.90S	175.09E	31	2.9	0.1	21	14
7637	JUN 22	1810 52.4	40.92S	175.77E	31	2.1	0.2	12	8
7641	JUN 23	0234 13.7	41.70S	174.24E	8	3.7	0.3	25	20
7642	JUN 23	0235 13.0	41.76S	174.30E	11	2.5	0.0	7	5
7644	JUN 23	0325 10.5	41.75S	174.11E	11	3.2	0.3	17	15
7645	JUN 23	0341 43.2	41.73S	174.26E	8	2.5	0.2	10	7
7646	JUN 23	0342 18.2	41.74S	174.25E	8	2.5	0.2	11	8
7649	JUN 23	0534 31.2	40.60S	174.39E	79	2.7	0.2	11	9
7653	JUN 23	0626 43.9	40.94S	174.69E	61	2.4	0.0	10	7
7655	JUN 23	0759 16.4	41.62S	173.89E	18	2.1	0.2	7	4
7663	JUN 23	1324 6.0	40.79S	174.32E	75	2.8	0.2	15	10
7666	JUN 23	1450 21.4	40.94S	175.63E	28	2.1	0.3	10	7
7668	JUN 23	1714 33.0	41.72S	174.26E	5R	2.5	0.2	15	11
7692	JUN 24	1738 46.0	40.82S	174.41E	74	3.5	0.3	26	20
7704	JUN 25	0518 39.1	40.52S	174.46E	30	2.8	0.3	10	7
7709	JUN 25	1058 4.7	41.04S	174.66E	31	2.1	0.1	10	7
7710	JUN 25	1107 43.4	41.04S	174.67E	32	3.6	0.1	11	8
7714	JUN 25	1720 46.0	40.61S	174.36E	27	2.3	0.2	10	7
7715	JUN 25	1721 39.5	41.79S	174.77E	33	3.0	0.2	12	11
7729	JUN 26	0737 30.0	40.63S	174.67E	12R	2.2	0.3	9	7
7732	JUN 26	0858 56.1	41.30S	175.29E	27	2.2	0.1	11	9
7746	JUN 26	1635 52.8	41.69S	175.42E	29	2.3	0.1	9	7
7752	JUN 26	1832 58.1	41.12S	174.47E	36	2.3	0.2	9	7
7758	JUN 27	0118 18.4	41.08S	174.17E	54	2.0	0.1	7	5
7763	JUN 27	0558 1.6	41.14S	174.06E	57	2.7	0.2	14	11
7775	JUN 27	2121 32.4	41.24S	175.33E	27	2.0	0.2	14	8
7780	JUN 28	0132 28.1	41.60S	173.93E	10	2.2	0.3	11	8
7785	JUN 28	0400 54.5	40.98S	175.81E	42	3.7	0.3	25	21
7786	JUN 28	0433 4.8	40.90S	175.72E	30	2.5	0.2	12	8
7789	JUN 28	0721 59.0	40.91S	175.73E	31	2.0	0.2	11	8
7797	JUN 28	1120 47.9	40.89S	175.72E	31	2.4	0.2	11	8
7811	JUN 28	1929 48.1	41.17S	175.69E	22	2.3	0.2	10	8

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7813	JUN	28	2012	39.1	40.98S	175.57E	27	2.0	0.2	7	6
7825	JUN	29	0801	54.1	40.55S	174.37E	59	3.2	0.4	19	17
7827	JUN	29	0907	34.8	41.19S	174.82E	24	2.2	0.2	14	9
7837	JUN	29	2056	45.2	40.93S	175.75E	30	2.2	0.2	9	7
7838	JUN	29	2135	10.3	40.93S	175.47E	21	2.0	0.2	8	6
7839	JUN	29	2141	12.6	41.40S	174.62E	30	2.2	0.1	10	9
7841	JUN	29	2223	42.5	41.02S	173.96E	55	2.5	0.3	13	10
7842	JUN	29	2256	52.9	40.56S	174.30E	12R	3.2	0.3	18	17
7843	JUN	29	2314	42.8	40.55S	174.44E	5R	2.0	0.3	8	6
7844	JUN	29	2352	8.7	41.10S	174.00E	62	2.8	0.3	14	11
7853	JUN	30	0934	21.3	41.15S	173.90E	59	3.0	0.4	15	12
7856	JUN	30	0955	11.0	41.15S	173.85E	57	2.8	0.4	11	9
7857	JUN	30	0955	52.3	40.53S	173.53E	166	3.6	0.1	16	12
7859	JUN	30	1325	53.5	41.51S	174.48E	18	2.1	0.2	11	9
7862	JUN	30	1653	37.1	41.66S	174.21E	13	2.9	0.3	16	12
7865	JUN	30	1803	20.5	40.97S	174.29E	51	2.1	0.0	7	5
7871	JUN	30	2317	21.0	41.89S	174.10E	12R	2.7	0.3	7	4
7872	JUN	30	2332	38.4	40.69S	175.79E	43	2.9	0.3	13	10
7879	JUL	01	0902	7.7	40.59S	174.50E	54	2.5	0.2	11	8
7880	JUL	01	1249	52.3	40.90S	174.51E	70	2.8	0.1	12	10
7881	JUL	01	1334	8.1	40.68S	175.44E	28	2.3	0.2	12	10
7884	JUL	01	1703	46.3	41.37S	174.98E	28	2.7	0.2	17	12
7893	JUL	02	0635	55.8	41.60S	174.77E	32	2.0	0.1	9	8
7894	JUL	02	0723	22.8	41.01S	174.88E	30	2.0	0.1	6	5
7897	JUL	02	1203	50.5	41.18S	173.80E	58	2.5	0.3	10	7
7899	JUL	02	1834	20.4	41.73S	173.69E	41	2.7	0.3	15	11
7907	JUL	03	0111	39.8	40.62S	175.98E	50	2.8	0.2	11	9
7911	JUL	03	0614	10.6	40.54S	174.80E	25	2.8	0.3	17	14
7912	JUL	03	0632	37.0	41.77S	174.10E	36	3.2	0.4	20	15
7918	JUL	03	1015	4.2	40.72S	175.18E	34	2.9	0.2	21	18
7921	JUL	03	1127	14.7	41.15S	174.11E	51	2.6	0.1	13	9
7924	JUL	03	1503	40.6	41.00S	175.33E	22	2.3	0.3	14	11
7925	JUL	03	1531	29.3	40.86S	174.54E	28	2.3	0.3	10	9
7939	JUL	04	0342	44.9	41.53S	173.76E	45	2.2	0.1	10	7
7950	JUL	04	0822	3.4	41.28S	175.28E	27	2.2	0.2	10	7
7952	JUL	04	1000	10.0	41.72S	173.91E	18	2.5	0.1	7	5
7955	JUL	04	1156	28.6	41.04S	174.66E	59	2.4	0.0	10	9
7957	JUL	04	1223	42.4	40.93S	175.72E	25	3.1	0.3	19	16
7985	JUL	05	0427	44.6	40.77S	175.49E	30	2.6	0.2	13	9
8006	JUL	05	1959	6.3	41.76S	174.26E	18	2.3	0.3	8	6
8019	JUL	06	0947	1.8	41.04S	174.68E	59	2.0	0.1	7	5
8024	JUL	06	1405	13.7	40.84S	174.43E	76	3.2	0.2	20	13
8029	JUL	06	1438	56.2	41.59S	174.18E	5R	2.2	0.3	14	10
8044	JUL	06	1853	59.7	41.27S	175.13E	29	2.1	0.0	7	5
8051	JUL	07	0359	31.8	41.44S	173.78E	5R	2.0	0.2	5	3

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8058	JUL	07	0706	47.2	40.74S	175.08E	33	2.1	0.2	10	7
8061	JUL	07	0854	17.4	41.10S	173.58E	30	2.0	0.3	7	5
8062	JUL	07	0928	29.6	40.79S	175.74E	28	2.1	0.3	8	6
8070	JUL	07	1802	29.3	41.40S	173.57E	90	3.4	0.3	16	12
8077	JUL	07	2309	28.0	41.19S	175.16E	24	2.0	0.1	12	7
8080	JUL	08	0134	2.5	41.01S	174.44E	53	2.6	0.1	10	7
8087	JUL	08	0800	51.8	41.02S	174.42E	49	2.0	0.2	7	5
8091	JUL	08	1430	11.4	41.56S	174.01E	14	2.5	0.1	11	7
8092	JUL	08	1437	8.0	40.67S	174.03E	68	2.7	0.2	11	8
8093	JUL	08	1514	4.7	41.45S	174.57E	19	2.1	0.2	15	11
8094	JUL	08	1858	45.9	41.10S	175.81E	31	3.3	0.2	21	14
8096	JUL	08	1944	29.8	41.44S	173.78E	47	2.2	0.2	9	6
8109	JUL	09	1239	0.1	41.65S	173.97E	19	2.2	0.1	6	3
8120	JUL	10	0147	36.5	41.08S	175.50E	29	2.6	0.2	12	10
8146	JUL	10	1934	49.9	41.81S	173.54E	50	3.1	0.2	20	17
8147	JUL	10	2010	21.8	40.85S	175.62E	23	3.1	0.2	21	16
8148	JUL	10	2047	1.3	41.71S	174.19E	13	2.5	0.2	17	13
8150	JUL	10	2358	23.5	41.42S	174.63E	52	2.1	0.1	9	6
8151	JUL	11	0103	25.6	40.64S	173.58E	100	2.5	0.3	10	7
8152	JUL	11	0200	13.2	40.66S	175.91E	31	2.3	0.2	8	6
8155	JUL	11	0349	44.6	40.62S	174.39E	65	2.2	0.3	8	6
8156	JUL	11	0427	15.5	40.55S	173.79E	123	3.1	0.2	14	12
8159	JUL	11	0656	47.5	40.94S	175.52E	24	2.2	0.2	11	9
8163	JUL	11	0859	44.8	40.87S	174.19E	78	2.4	0.3	7	5
8166	JUL	11	1155	49.1	40.59S	174.42E	55	3.3	0.3	23	18
8169	JUL	11	1259	34.6	40.51S	174.34E	27	2.0	0.2	9	7
8172	JUL	11	1511	48.6	41.20S	174.58E	63	2.0	0.2	6	4
8177	JUL	11	1713	58.0	41.69S	174.24E	12R	2.2	0.2	8	7
8181	JUL	11	2145	59.9	40.92S	175.75E	32	2.0	0.2	8	5
8189	JUL	12	0002	38.2	40.97S	174.48E	17	2.2	0.1	8	6
8190	JUL	12	0025	7.8	41.00S	174.83E	47	3.0	0.1	18	15
8193	JUL	12	0219	43.9	41.26S	173.67E	44	2.4	0.1	6	4
8195	JUL	12	0344	28.2	41.63S	173.95E	12R	2.5	0.2	12	9
8200	JUL	12	0604	53.0	40.98S	174.91E	29	2.1	0.2	11	8
8205	JUL	12	0834	13.5	41.98S	174.29E	30	2.6	0.2	11	9
8213	JUL	12	1435	10.4	40.50S	174.05E	86	2.6	0.3	13	9
8216	JUL	12	1500	30.4	41.03S	174.54E	59	2.9	0.1	14	11
8223	JUL	12	2049	29.5	41.71S	174.18E	14	2.4	0.1	13	10
8224	JUL	12	2100	56.2	41.78S	174.02E	29	2.3	0.2	11	7
8235	JUL	13	0543	14.3	41.30S	174.72E	29	2.0	0.1	8	7
8240	JUL	13	0917	44.7	41.11S	173.94E	75	2.0	0.2	8	5
8251	JUL	13	1435	48.1	41.78S	174.54E	31	3.0	0.3	25	18
8263	JUL	13	1935	7.2	40.90S	174.69E	40	2.1	0.1	7	6
8267	JUL	14	0132	36.0	41.20S	174.53E	58	4.2F	0.2	37	31
8271	JUL	14	0408	34.7	40.97S	174.62E	53	2.0	0.1	7	5

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8273	JUL 14	0619 50.8	41.21S	173.99E	51	2.6	0.2	15	11
8276	JUL 14	0933 5.7	40.85S	175.74E	32	2.2	0.2	6	5
8288	JUL 14	1615 56.9	41.63S	174.25E	5R	2.9	0.3	22	17
8290	JUL 14	1941 17.6	40.84S	175.86E	33	2.0	0.1	5	4
8295	JUL 14	2102 26.6	40.99S	175.95E	31	2.2	0.2	12	8
8303	JUL 15	0355 34.6	40.88S	174.00E	63	2.6	0.2	9	6
8306	JUL 15	0521 12.0	41.40S	173.69E	5R	2.0	0.1	7	5
8314	JUL 15	1618 45.6	40.93S	175.80E	52	2.6	0.1	13	10
8328	JUL 16	0003 10.0	41.66S	173.91E	44	2.1	0.2	8	7
8329	JUL 16	0009 50.4	41.24S	174.81E	63	2.2	0.2	6	4
8334	JUL 16	0249 57.1	40.97S	175.19E	31	2.1	0.1	11	8
8336	JUL 16	0311 58.0	41.16S	173.93E	50	2.2	0.3	11	7
8339	JUL 16	0538 11.3	41.07S	174.76E	52	2.1	0.0	6	5
8340	JUL 16	0652 57.0	41.17S	173.61E	88	2.4	0.2	11	8
8343	JUL 16	0941 28.7	40.85S	174.70E	19	2.1	0.2	9	7
8366	JUL 17	0728 58.0	40.94S	174.74E	68	2.2	0.1	7	5
8376	JUL 17	1802 15.7	40.68S	175.61E	24	2.1	0.2	8	7
8383	JUL 17	2339 29.1	41.56S	174.09E	37	2.4	0.3	14	11
8386	JUL 18	0202 31.3	40.61S	173.66E	155	2.5	0.1	9	6
8393	JUL 18	0840 21.0	41.75S	174.54E	32	2.0	0.1	10	7
8411	JUL 18	1939 29.4	41.50S	174.12E	31	2.5	0.2	14	10
8412	JUL 18	2058 16.2	41.76S	174.62E	26	2.5	0.3	13	9
8413	JUL 18	2141 43.4	41.68S	174.49E	44	2.5	0.2	13	12
8416	JUL 18	2204 20.0	41.54S	174.14E	5R	2.2	0.1	12	9
8417	JUL 19	0009 58.6	41.85S	173.74E	12	2.6	0.3	12	9
8422	JUL 19	0200 35.4	41.59S	175.18E	28	2.0	0.2	11	7
8431	JUL 19	0706 3.6	41.05S	173.99E	60	2.7	0.2	17	12
8444	JUL 19	1606 15.4	41.36S	174.20E	36	2.2	0.3	13	9
8446	JUL 19	1815 38.2	41.97S	173.91E	12R	2.1	0.2	10	7
8447	JUL 19	1818 19.3	41.95S	173.93E	12R	2.1	0.2	10	8
8451	JUL 19	2122 57.1	40.73S	174.76E	16	2.0	0.3	10	7
8452	JUL 19	2133 23.7	41.45S	173.55E	73	2.4	0.2	13	8
8453	JUL 19	2140 59.2	41.70S	173.73E	64	2.5	0.1	8	6
8454	JUL 19	2202 38.9	40.91S	174.70E	49	2.5	0.2	15	11
8469	JUL 20	0744 40.4	41.58S	173.99E	48	2.0	0.1	5	3
8476	JUL 20	1012 20.0	40.54S	173.62E	97	2.6	0.3	9	7
8477	JUL 20	1015 45.2	41.60S	174.66E	30	2.0	0.2	12	10
8487	JUL 20	1456 37.7	41.70S	173.97E	14	2.9	0.2	16	15
8495	JUL 20	2059 9.7	41.72S	174.51E	32	2.4	0.2	11	9
8499	JUL 20	2311 3.4	41.66S	174.41E	30	3.0	0.3	18	16
8515	JUL 21	1522 45.6	40.84S	174.69E	34	2.1	0.1	8	6
8516	JUL 21	1651 1.7	40.92S	175.63E	31	3.4	0.3	18	15
8517	JUL 21	1702 49.1	41.22S	174.61E	54	2.3	0.1	12	11
8521	JUL 21	2022 55.9	41.02S	174.60E	54	2.0	0.0	6	5
8525	JUL 22	0150 6.8	40.79S	175.52E	24	2.5	0.1	8	6

NUM	DATE		TIME		LAT	LONG	DEP	MAG	Rsd	NP	NS
8531	JUL	22	0927	20.9	41.23S	174.68E	30	2.5	0.1	13	11
8542	JUL	22	1427	33.0	41.85S	174.42E	24	3.6	0.3	22	17
8543	JUL	22	1430	20.3	41.82S	174.40E	20	2.7	0.1	11	8
8545	JUL	22	1654	55.7	41.44S	174.04E	36	2.4	0.0	6	5
8546	JUL	22	1712	37.2	41.82S	174.40E	20	2.3	0.1	8	5
8547	JUL	22	1718	48.8	40.63S	173.82E	87	2.9	0.3	12	9
8549	JUL	22	2036	5.3	41.79S	174.43E	12R	2.5	0.2	12	8
8552	JUL	23	0839	0.1	40.77S	174.56E	66	2.9	0.1	11	8
8553	JUL	23	0843	41.5	40.88S	174.55E	54	2.0	0.1	8	6
8556	JUL	23	1104	33.5	40.73S	174.08E	77	2.4	0.3	13	8
8557	JUL	23	1114	36.0	41.02S	174.82E	54	2.6	0.0	6	5
8558	JUL	23	1244	9.7	40.58S	173.68E	110	3.0	0.3	13	11
8566	JUL	23	1828	47.4	40.91S	174.98E	31	2.1	0.2	16	11
8578	JUL	24	0330	47.9	40.78S	174.85E	32	2.1	0.2	7	6
8585	JUL	24	1125	12.9	40.89S	175.80E	28	2.3	0.2	12	9
8586	JUL	24	1225	32.0	40.90S	175.78E	29	2.3	0.1	10	8
8597	JUL	24	2103	30.9	40.90S	175.70E	27	2.2	0.2	10	7
8602	JUL	25	0025	19.0	41.24S	175.05E	21	2.1	0.1	8	6
8605	JUL	25	0213	35.3	40.58S	174.01E	72	2.1	0.1	9	6
8609	JUL	25	0437	19.0	40.66S	174.51E	80	2.2	0.1	10	7
8621	JUL	25	1258	40.8	40.98S	174.96E	60	2.0	0.1	10	8
8625	JUL	25	2053	0.2	41.22S	174.01E	50	2.6	0.3	15	11
8627	JUL	25	2249	1.2	41.38S	174.38E	60	2.5	0.2	11	8
8634	JUL	26	1120	14.1	40.91S	175.11E	28	2.7	0.2	12	9
8639	JUL	26	1800	15.5	41.33S	174.41E	20	2.3	0.3	10	7
8641	JUL	26	2004	48.4	41.34S	174.41E	16	2.6	0.3	10	8
8644	JUL	27	0220	3.4	40.71S	174.98E	21	2.0	0.4	9	6
8645	JUL	27	0258	19.0	41.80S	173.76E	12R	2.4	0.3	8	6
8647	JUL	27	0506	48.6	40.81S	175.24E	32	2.2	0.1	7	5
8652	JUL	27	0603	11.4	41.20S	175.33E	21	2.3	0.3	15	9
8656	JUL	27	0838	32.0	41.54S	173.79E	47	2.1	0.1	9	6
8657	JUL	27	0849	20.1	41.05S	175.29E	11	3.5F	0.2	19	15
8659	JUL	27	1016	50.1	41.35S	173.58E	62	2.2	0.3	9	6
8668	JUL	28	0159	53.4	41.72S	174.18E	15	2.9	0.1	18	13
8678	JUL	28	0810	35.9	40.98S	175.61E	27	2.1	0.1	9	7
8681	JUL	28	1125	17.9	40.85S	174.54E	26	2.1	0.2	10	7
8684	JUL	28	1313	46.4	40.69S	174.65E	44	3.6	0.2	23	18
8694	JUL	28	1754	16.1	41.24S	173.81E	55	2.4	0.3	9	6
8695	JUL	28	2137	53.7	41.06S	175.35E	28	2.6	0.1	12	9
8697	JUL	28	2327	59.2	40.82S	175.96E	32	2.8	0.2	14	11
8701	JUL	29	0631	21.9	41.21S	174.89E	17	2.0	0.1	5	4
8705	JUL	29	1107	24.6	40.60S	175.04E	32	2.8	0.2	15	11
8713	JUL	29	2017	26.7	41.19S	174.59E	57	3.1	0.1	14	11
8715	JUL	29	2106	29.2	41.87S	174.05E	5R	2.5	0.3	12	10
8717	JUL	30	0145	19.5	41.42S	174.71E	15	2.1	0.1	10	6

NUM	DATE		TIME		LAT	LONG	DEP	MAG	Rsd	NP	NS
8718	JUL	30	0308	6.2	40.93S	174.10E	77	2.7	0.2	12	8
8731	JUL	30	1603	6.8	40.73S	174.89E	14	2.4	0.3	13	10
8732	JUL	30	1619	45.5	41.18S	174.12E	48	3.5	0.2	19	16
8733	JUL	30	1647	36.1	41.87S	174.09E	12R	4.0F	0.3	21	18
8734	JUL	30	1652	2.5	41.96S	173.99E	5R	2.4	0.2	9	7
8735	JUL	30	1655	38.3	41.87S	174.02E	5R	2.1	0.2	8	6
8737	JUL	30	1704	58.2	41.84S	174.03E	5R	2.7	0.3	14	11
8739	JUL	30	1739	33.2	41.99S	174.01E	5R	2.6	0.3	8	7
8741	JUL	30	1758	27.2	41.86S	174.05E	5R	3.0	0.3	17	13
8742	JUL	30	1805	44.2	41.87S	174.05E	5R	2.6	0.2	11	9
8743	JUL	30	1828	31.4	41.90S	174.04E	5R	2.4	0.1	7	6
8745	JUL	30	1924	18.5	41.90S	174.08E	5R	4.4F	0.3	19	17
8746	JUL	30	1940	31.3	41.29S	175.26E	21	2.0	0.1	11	8
8747	JUL	30	1942	2.1	41.98S	173.99E	5R	2.6	0.2	10	8
8751	JUL	30	2030	56.2	40.51S	174.30E	90	2.6	0.2	9	7
8752	JUL	30	2046	48.5	41.91S	173.99E	12R	2.2	0.2	9	7
8753	JUL	30	2209	15.5	41.85S	174.03E	5R	2.8	0.2	15	12
8754	JUL	30	2301	21.1	41.88S	173.94E	12R	2.1	0.2	7	6
8759	JUL	31	0205	38.5	40.85S	174.44E	71	2.6	0.2	11	9
8762	JUL	31	0622	40.3	40.99S	175.39E	27	2.1	0.1	10	8
8769	JUL	31	1122	29.1	41.27S	175.15E	24	2.2	0.1	8	6
8770	JUL	31	1153	12.5	41.77S	173.82E	13	2.8	0.3	16	14
8771	JUL	31	1153	27.5	41.81S	173.78E	12R	2.5	0.2	6	4
8773	JUL	31	1212	58.4	41.46S	173.79E	54	2.9	0.3	16	13
8774	JUL	31	1343	52.9	41.84S	173.73E	11	2.6	0.3	13	9
8777	JUL	31	1702	14.6	40.68S	174.41E	80	2.4	0.3	9	7
8779	JUL	31	1911	41.1	40.98S	174.36E	71	2.9	0.2	14	12
8780	JUL	31	2008	13.7	41.26S	175.03E	27	2.2	0.1	9	7
8782	JUL	31	2045	32.3	41.78S	173.88E	11	2.0	0.2	6	4
8783	JUL	31	2135	5.5	41.86S	173.75E	11	2.7	0.3	10	8
8785	JUL	31	2216	19.3	41.90S	173.80E	5R	2.1	0.3	9	6
8789	AUG	01	0122	19.2	40.88S	174.96E	40	3.0	0.1	19	14
8792	AUG	01	0401	6.7	41.76S	173.81E	12	3.2	0.3	16	12
8793	AUG	01	0401	28.8	41.89S	173.70E	12R	2.6	0.2	5	4
8795	AUG	01	0415	48.6	41.85S	173.73E	12R	2.3	0.3	12	8
8797	AUG	01	0732	1.3	41.92S	173.67E	12R	2.8	0.2	9	7
8799	AUG	01	0837	41.5	40.70S	174.31E	59	2.6	0.2	10	8
8800	AUG	01	0839	5.3	41.79S	173.83E	12	2.6	0.2	13	10
8804	AUG	01	1203	35.0	40.90S	174.97E	32	2.3	0.2	10	8
8805	AUG	01	1247	27.4	41.70S	173.93E	18	2.1	0.0	4	3
8806	AUG	01	1345	32.8	41.84S	173.81E	13	2.0	0.1	6	5
8807	AUG	01	1349	13.7	41.85S	173.74E	10	2.6	0.3	8	6
8820	AUG	02	0446	39.6	42.00S	174.09E	12R	2.3	0.2	8	5
8821	AUG	02	0542	22.2	41.86S	173.77E	9	2.4	0.4	9	7
8822	AUG	02	0543	37.1	41.84S	173.77E	11	2.3	0.3	8	6

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8827	AUG 02	0744 29.7	40.60S	175.56E	32	2.7	0.2	15	14
8829	AUG 02	0943 48.7	41.72S	173.98E	12R	2.2	0.1	5	4
8830	AUG 02	0945 13.3	41.67S	173.92E	11	2.7	0.3	18	13
8831	AUG 02	0958 39.7	41.72S	173.95E	14	2.1	0.1	5	3
8832	AUG 02	1014 20.9	41.00S	174.59E	55	2.0	0.2	6	5
8834	AUG 02	1041 9.2	41.35S	174.97E	15	2.1	0.2	12	8
8835	AUG 02	1141 29.4	41.16S	175.81E	32	2.1	0.0	8	7
8859	AUG 03	0233 45.3	41.04S	174.42E	43	3.0	0.2	17	14
8883	AUG 03	1115 58.0	41.09S	174.88E	34	2.0	0.2	8	6
8899	AUG 03	2200 26.1	40.53S	174.66E	21	3.1	0.3	27	22
8901	AUG 03	2243 46.7	40.97S	175.62E	27	2.2	0.1	13	8
8910	AUG 04	1009 14.7	41.16S	175.08E	7	2.0	0.2	12	7
8915	AUG 04	1239 42.1	41.49S	175.49E	21	2.3	0.2	8	7
8916	AUG 04	1326 13.6	41.00S	174.86E	34	2.5	0.2	16	12
8920	AUG 04	1812 2.2	41.84S	174.77E	31	2.2	0.1	9	6
8921	AUG 04	1821 42.9	41.30S	174.72E	30	2.0	0.2	12	9
8928	AUG 05	0034 0.4	40.53S	174.21E	135	2.7	0.1	10	6
8935	AUG 05	0456 10.0	40.53S	173.84E	88	2.6	0.2	9	6
8941	AUG 05	0836 15.8	40.97S	174.69E	62	2.6	0.1	12	9
8944	AUG 05	1039 7.6	41.04S	174.07E	50	2.4	0.3	15	11
8949	AUG 05	1414 38.1	41.19S	174.62E	42	3.6F	0.1	29	24
8962	AUG 05	2124 4.8	40.54S	173.67E	130	4.1	0.3	39	33
8973	AUG 06	0235 46.7	40.91S	174.15E	53	3.3	0.2	21	17
8979	AUG 06	1047 15.9	41.18S	174.63E	32	2.1	0.1	9	7
8990	AUG 06	1829 23.1	40.90S	175.69E	27	2.2	0.2	10	8
8992	AUG 06	1921 15.0	40.91S	175.31E	32	2.3	0.1	10	8
8993	AUG 06	2010 45.8	41.36S	173.90E	49	2.2	0.2	10	7
8996	AUG 06	2226 51.9	41.38S	175.12E	22	2.0	0.1	9	7
9000	AUG 07	0245 39.3	41.25S	175.14E	23	2.0	0.1	9	6
9026	AUG 07	2017 20.6	41.12S	174.48E	35	2.0	0.2	9	6
9027	AUG 07	2059 34.1	41.27S	175.25E	26	2.0	0.1	11	7
9029	AUG 07	2141 52.8	41.01S	174.70E	59	3.2	0.2	18	14
9031	AUG 07	2202 42.8	41.97S	174.23E	20	2.5	0.1	9	6
9032	AUG 07	2208 33.0	41.95S	174.18E	23	2.2	0.1	7	5
9033	AUG 07	2214 8.8	41.97S	174.01E	5R	2.4	0.1	8	7
9038	AUG 08	0137 25.4	40.91S	176.00E	35	2.1	0.2	8	5
9043	AUG 08	0833 32.9	41.69S	174.50E	34	2.5	0.2	11	10
9047	AUG 08	0931 19.1	41.64S	174.34E	5R	2.1	0.3	10	9
9048	AUG 08	1011 10.4	41.65S	174.34E	11	2.2	0.1	11	8
9053	AUG 08	1318 53.7	41.66S	175.41E	28	3.2	0.2	17	14
9054	AUG 08	1411 12.8	40.85S	174.72E	16	2.0	0.1	6	4
9055	AUG 08	1519 20.4	41.11S	174.60E	33	2.1	0.1	9	7
9065	AUG 09	0118 33.7	41.69S	174.83E	32	2.2	0.0	7	4
9074	AUG 09	1100 17.0	40.92S	175.52E	24	2.3	0.2	12	8
9079	AUG 09	1635 41.7	41.26S	173.87E	52	2.2	0.2	8	6

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9082	AUG 09	1732 49.1	41.85S	174.48E	24	2.2	0.1	8	7
9093	AUG 10	0635 31.3	41.18S	174.77E	31	3.1	0.2	18	16
9106	AUG 11	0026 49.9	41.58S	174.76E	29	2.3	0.2	12	9
9108	AUG 11	0520 13.4	41.08S	173.84E	49	2.2	0.1	7	4
9113	AUG 11	0819 18.4	41.64S	174.30E	49	2.0	0.1	9	5
9115	AUG 11	1019 6.1	41.13S	174.45E	38	2.8	0.2	18	15
9119	AUG 11	1520 22.3	41.39S	174.97E	27	2.0	0.1	11	8
9123	AUG 11	1826 53.2	41.48S	173.99E	36	2.2	0.1	8	5
9130	AUG 12	0041 31.9	40.51S	174.09E	21	2.0	0.3	12	9
9131	AUG 12	0041 51.7	40.92S	175.36E	22	2.1	0.2	8	7
9136	AUG 12	0803 48.2	41.83S	173.58E	49	2.9	0.1	20	15
9150	AUG 12	2147 44.2	40.82S	174.93E	54	2.5	0.1	14	9
9176	AUG 13	2149 55.2	40.81S	174.68E	5R	3.1	0.3	19	16
9185	AUG 14	0634 30.1	40.79S	174.68E	5R	2.2	0.3	8	6
9192	AUG 14	1244 6.7	40.66S	175.18E	32	2.5	0.2	11	9
9193	AUG 14	1536 32.8	40.82S	175.65E	19	2.4	0.2	12	10
9199	AUG 14	2013 35.0	41.65S	174.27E	11	2.1	0.2	13	10
9206	AUG 15	0140 44.4	41.02S	174.78E	31	2.0	0.1	11	8
9207	AUG 15	0142 16.3	41.19S	175.42E	17	2.0	0.1	13	10
9211	AUG 15	0655 34.8	40.91S	174.59E	66	2.6	0.1	12	9
9224	AUG 15	1150 31.6	40.57S	174.39E	30	2.0	0.2	9	6
9233	AUG 15	2134 22.0	41.62S	174.31E	43	3.3	0.2	23	17
9236	AUG 16	0039 36.4	40.58S	175.82E	28	2.6	0.4	15	12
9237	AUG 16	0328 42.5	41.17S	174.75E	31	2.3	0.1	10	9
9240	AUG 16	0527 23.3	41.40S	174.97E	26	2.1	0.2	11	9
9243	AUG 16	0720 36.8	41.08S	173.94E	63	3.1	0.3	17	15
9249	AUG 16	1331 36.9	41.04S	174.40E	66	2.8	0.1	14	10
9257	AUG 16	1857 51.1	40.94S	174.95E	30	2.1	0.1	8	6
9261	AUG 16	2116 58.7	40.95S	174.56E	12R	2.2	0.3	9	6
9262	AUG 16	2158 28.0	41.37S	174.99E	26	2.5	0.2	13	11
9263	AUG 16	2228 26.7	41.63S	174.09E	19	2.6	0.1	11	8
9269	AUG 17	0404 9.6	41.38S	175.47E	18	2.3	0.2	13	10
9273	AUG 17	0525 58.5	41.43S	173.78E	5R	2.0	0.1	6	4
9275	AUG 17	0633 53.1	41.31S	174.73E	30	3.0	0.2	19	16
9277	AUG 17	0708 22.8	41.62S	174.26E	34	2.3	0.2	12	11
9280	AUG 17	0827 21.8	40.84S	174.63E	49	2.8	0.2	19	15
9282	AUG 17	0919 54.3	40.94S	175.43E	25	2.4	0.2	13	10
9284	AUG 17	1024 37.3	40.55S	175.83E	28	2.1	0.0	7	5
9290	AUG 17	1417 44.3	41.34S	174.80E	29	3.4F	0.3	21	16
9291	AUG 17	1421 53.0	40.62S	174.01E	93	3.2	0.3	18	14
9292	AUG 17	1507 56.5	41.62S	174.40E	12R	2.5	0.2	14	11
9296	AUG 17	1755 46.2	41.34S	174.41E	16	2.3	0.3	11	8
9302	AUG 17	2040 11.0	41.96S	173.92E	38	2.7	0.1	11	8
9309	AUG 17	2325 20.1	40.97S	174.44E	65	2.8	0.2	12	10
9311	AUG 18	0154 34.8	41.06S	174.48E	62	2.0	0.0	8	6

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9318	AUG 18	0825 32.8	40.75S	174.71E	12R	2.0	0.1	5	4
9319	AUG 18	0931 59.8	41.71S	174.16E	45	2.1	0.2	6	4
9321	AUG 18	1237 3.0	41.36S	174.79E	23	2.0	0.1	9	7
9322	AUG 18	1317 47.0	40.70S	173.52E	158	2.8	0.2	8	8
9329	AUG 18	1820 30.6	41.36S	174.30E	36	2.4	0.1	11	8
9335	AUG 19	0024 26.7	41.38S	174.66E	28	2.5	0.2	17	13
9336	AUG 19	0228 24.1	41.71S	174.16E	15	2.6	0.1	10	8
9337	AUG 19	0319 26.8	40.81S	174.72E	16	2.3	0.2	11	8
9338	AUG 19	0354 46.0	40.66S	173.62E	158	2.7	0.2	7	6
9341	AUG 19	0545 37.7	40.87S	174.75E	17	2.0	0.1	8	6
9345	AUG 19	1002 57.6	41.55S	175.22E	28	2.3	0.2	12	10
9346	AUG 19	1036 16.6	41.15S	173.94E	63	2.8	0.2	12	9
9347	AUG 19	1050 52.6	41.77S	174.06E	38	2.4	0.2	13	10
9349	AUG 19	1150 45.9	41.25S	174.74E	52	2.2	0.1	8	7
9351	AUG 19	1157 36.5	40.60S	174.33E	5R	2.6	0.3	15	12
9352	AUG 19	1224 47.5	41.41S	174.91E	29	2.1	0.1	11	9
9366	AUG 19	2151 22.4	40.87S	175.53E	27	2.0	0.4	9	8
9368	AUG 20	0035 47.8	41.60S	174.66E	32	2.2	0.1	11	8
9369	AUG 20	0100 10.0	40.82S	175.66E	20	2.2	0.2	10	8
9372	AUG 20	0318 18.3	41.58S	174.65E	37	2.2	0.2	11	9
9373	AUG 20	0418 31.7	41.82S	174.12E	12R	2.3	0.2	9	7
9384	AUG 20	1313 52.0	40.54S	174.02E	5R	2.0	0.1	11	6
9390	AUG 20	1547 29.1	41.51S	175.67E	28	2.6	0.1	8	7
9395	AUG 20	1945 0.2	41.43S	174.22E	14	2.1	0.2	10	7
9397	AUG 20	2105 5.9	41.06S	175.54E	12R	2.0	0.3	7	6
9399	AUG 21	0059 23.7	41.06S	174.78E	14	2.0	0.1	7	5
9400	AUG 21	0134 34.5	41.77S	173.74E	14	2.4	0.2	8	6
9404	AUG 21	0919 12.5	41.99S	173.98E	12R	2.3	0.3	8	4
9414	AUG 21	1410 7.3	41.93S	174.04E	15	2.7	0.2	12	9
9419	AUG 21	1700 40.7	41.87S	174.44E	21	2.1	0.2	10	8
9422	AUG 21	1906 9.6	41.86S	174.45E	21	2.8	0.2	17	12
9426	AUG 21	2159 54.8	41.35S	174.78E	27	2.4	0.2	16	14
9427	AUG 21	2200 33.8	40.90S	175.68E	26	2.0	0.1	10	8
9431	AUG 21	2327 36.6	41.33S	173.84E	92	3.4	0.2	20	16
9436	AUG 22	0045 17.2	40.61S	175.13E	35	2.0	0.1	7	5
9437	AUG 22	0118 21.3	41.28S	175.28E	28	2.4	0.1	16	10
9448	AUG 22	0717 31.5	41.76S	174.38E	27	2.3	0.3	13	11
9450	AUG 22	0808 27.3	41.81S	173.61E	45	2.1	0.2	5	3
9452	AUG 22	0855 21.4	41.45S	174.05E	39	2.1	0.2	9	6
9459	AUG 22	1250 25.5	41.75S	174.36E	17	2.1	0.1	12	9
9470	AUG 22	1758 28.4	40.95S	174.83E	55	2.0	0.1	7	5
9476	AUG 22	2037 45.1	41.50S	173.86E	45	2.2	0.1	9	6
9479	AUG 22	2246 39.7	41.27S	173.53E	57	2.6	0.3	11	8
9487	AUG 23	0715 42.7	41.03S	174.70E	36	2.6	0.2	17	13
9491	AUG 23	0919 29.5	41.17S	174.75E	30	2.3	0.1	10	7

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9495	AUG 23	1257 37.6	41.38S	175.02E	27	2.4	0.1	8	6
9497	AUG 23	1348 48.5	41.16S	173.71E	78	2.8	0.2	10	7
9503	AUG 24	0053 15.3	40.79S	174.26E	33R	2.3	0.4	8	6
9505	AUG 24	0252 44.7	41.13S	174.07E	49	2.3	0.1	8	5
9506	AUG 24	0334 38.4	41.95S	174.21E	12R	2.4	0.2	10	7
9513	AUG 24	0450 12.8	40.64S	173.52E	159	3.0	0.2	13	10
9521	AUG 24	0740 10.3	41.27S	175.28E	27	2.6	0.2	17	11
9529	AUG 24	1147 42.2	41.54S	173.52E	66	2.5	0.3	13	9
9533	AUG 24	1223 7.0	41.64S	174.01E	37	2.7	0.1	9	7
9557	AUG 24	2240 46.1	41.12S	175.88E	32	2.7	0.1	9	7
9580	AUG 25	1003 13.9	41.00S	174.47E	38	2.3	0.1	9	7
9587	AUG 25	1351 32.4	41.14S	175.06E	6	2.2	0.1	12	10
9591	AUG 25	1449 12.8	41.47S	174.10E	35	2.0	0.1	7	5
9601	AUG 26	0200 12.6	41.74S	173.71E	43	2.0	0.2	8	6
9603	AUG 26	0436 52.2	40.83S	174.10E	64	2.6	0.2	11	8
9604	AUG 26	0520 26.4	41.25S	175.01E	23	3.1	0.1	20	16
9611	AUG 26	1231 41.7	41.86S	174.05E	5R	2.8F	0.3	16	13
9613	AUG 26	1520 41.9	41.17S	174.63E	34	2.6	0.2	16	14
9636	AUG 27	1116 9.8	40.59S	174.06E	26	2.0	0.1	8	6
9638	AUG 27	1237 27.0	41.00S	174.93E	43	2.1	0.1	10	8
9657	AUG 28	0209 1.3	41.79S	174.21E	12	2.1	0.1	8	7
9658	AUG 28	0323 12.0	40.61S	175.03E	12R	2.0	0.2	8	6
9661	AUG 28	0640 14.4	41.82S	173.55E	47	4.6F	0.2	26	22
9672	AUG 28	1555 57.7	41.53S	173.57E	93	2.1	0.2	9	6
9679	AUG 28	1953 59.3	40.71S	174.06E	96	2.7	0.1	10	8
9687	AUG 28	2119 9.3	40.87S	174.73E	16	2.2	0.1	6	4
9692	AUG 29	0209 46.4	41.82S	174.06E	12	2.2	0.1	12	8
9703	AUG 29	0913 47.2	41.28S	174.43E	34	2.4	0.1	8	5
9708	AUG 29	1024 56.6	40.55S	174.64E	78	2.4	0.1	10	7
9709	AUG 29	1050 45.2	40.90S	175.50E	22	3.3	0.3	25	20
9710	AUG 29	1115 59.1	40.89S	175.50E	24	3.1	0.2	18	15
9712	AUG 29	1155 37.7	41.82S	174.41E	12R	2.7	0.2	12	11
9713	AUG 29	1230 10.1	40.71S	173.64E	135	2.7	0.2	11	8
9717	AUG 29	1531 4.8	41.95S	173.92E	5R	3.1	0.3	21	16
9720	AUG 29	1711 17.6	40.88S	175.72E	32	2.8	0.1	12	8
9723	AUG 29	2141 4.3	41.31S	175.61E	14	2.0	0.2	8	6
9744	AUG 30	1944 42.3	41.84S	173.55E	49	3.7	0.2	21	18
9745	AUG 30	2125 46.4	41.97S	173.93E	12R	2.5	0.2	8	6
9749	AUG 30	2207 19.3	40.87S	175.32E	32	2.2	0.2	8	5
9751	AUG 30	2333 17.3	41.72S	174.29E	13	2.2	0.2	12	10
9786	AUG 31	2319 36.2	40.90S	173.94E	65	2.7	0.2	9	6
9788	SEP 01	0025 14.0	40.64S	174.62E	72	2.3	0.1	7	6
9799	SEP 01	1042 38.5	40.74S	173.93E	101	3.6	0.2	30	24
9800	SEP 01	1049 50.0	40.98S	173.95E	51	2.1	0.1	7	4
9804	SEP 01	1308 42.5	41.14S	175.36E	26	2.1	0.1	13	8

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9813	SEP	01	1819	35.1	41.81S	174.34E	12R	2.3	0.4	14	10
9820	SEP	02	0431	45.5	41.03S	174.63E	54	2.2	0.1	12	8
9824	SEP	02	0725	6.8	41.34S	174.19E	44	2.8	0.1	13	10
9826	SEP	02	0759	1.0	40.96S	175.48E	25	3.1	0.2	16	12
9830	SEP	02	1108	22.9	41.23S	173.61E	66	2.6	0.2	12	9
9841	SEP	02	2220	5.7	41.52S	174.07E	41	2.4	0.1	8	6
9843	SEP	02	2316	8.3	40.97S	175.47E	23	2.2	0.2	10	7
9850	SEP	03	0238	2.0	41.84S	174.25E	12R	2.8	0.2	17	11
9851	SEP	03	0239	47.7	41.85S	174.28E	12R	3.2	0.4	19	15
9854	SEP	03	0331	13.8	41.72S	174.46E	25	2.7	0.1	11	8
9865	SEP	03	0928	37.4	41.46S	174.24E	31	2.1	0.3	10	7
9885	SEP	03	1307	45.3	41.71S	174.29E	14	2.2	0.2	11	9
9889	SEP	03	1319	24.4	41.26S	175.04E	8	2.0	0.2	11	8
9897	SEP	03	1555	18.7	40.89S	174.12E	53	2.2	0.1	10	6
9904	SEP	03	2125	33.9	40.85S	175.14E	36	2.0	0.2	9	6
9905	SEP	03	2253	44.6	41.61S	174.72E	28	2.8	0.2	18	14
9906	SEP	03	2312	1.4	41.60S	174.72E	27	2.4	0.2	13	12
9915	SEP	04	0337	42.0	40.95S	175.11E	38	2.4	0.1	10	7
9919	SEP	04	0636	31.7	40.85S	174.72E	48	2.4	0.1	12	10
9922	SEP	04	0853	27.7	40.54S	174.82E	27	2.5	0.2	14	10
9925	SEP	04	1138	15.0	40.75S	173.95E	95	3.8	0.2	36	32
9941	SEP	04	2323	10.9	40.84S	174.82E	59	3.2	0.2	26	22
9943	SEP	05	0010	57.6	41.58S	174.69E	24	2.4	0.1	12	8
9952	SEP	05	0725	0.5	41.68S	174.56E	31	2.5	0.2	12	10
9954	SEP	05	0946	48.8	40.87S	175.06E	32	2.5	0.1	11	8
9961	SEP	05	1559	45.5	41.36S	174.22E	39	2.5	0.1	9	6
9967	SEP	05	2144	25.3	41.16S	175.29E	32	2.0	0.1	6	4
9968	SEP	06	0011	10.6	41.73S	174.10E	10	2.7	0.2	12	10
9981	SEP	06	0853	57.3	41.23S	175.37E	19	2.0	0.1	10	7
9987	SEP	06	1211	27.2	41.17S	174.63E	33	2.4	0.2	16	13
10000	SEP	06	1902	39.6	41.08S	174.37E	69	3.2	0.2	23	18
10001	SEP	06	1918	12.8	41.71S	173.97E	12R	2.0	0.2	5	3
10009	SEP	07	0214	43.0	40.99S	175.61E	20	3.0	0.5	18	14
10013	SEP	07	0835	11.5	41.29S	174.22E	42	2.0	0.1	8	5
10016	SEP	07	1035	16.4	41.62S	173.62E	59	2.3	0.4	7	5
10022	SEP	07	2049	7.6	40.63S	174.57E	5R	2.0	0.5	8	6
10029	SEP	08	1050	13.1	41.28S	175.29E	21	2.0	0.2	8	7
10030	SEP	08	1125	15.1	41.29S	175.74E	17	2.2	0.2	10	7
10037	SEP	08	1752	40.8	41.70S	174.20E	13	2.1	0.3	12	10
10044	SEP	09	0434	9.3	40.58S	173.82E	78	2.6	0.3	9	6
10049	SEP	09	0642	29.7	41.02S	174.82E	55	2.2	0.0	7	6
10050	SEP	09	0657	44.4	41.28S	175.20E	23	2.0	0.1	12	10
10056	SEP	09	1110	18.1	41.70S	174.62E	31	2.1	0.2	11	8
10061	SEP	09	1218	5.8	41.23S	174.03E	66	2.7	0.2	15	11
10065	SEP	09	1523	5.7	41.69S	173.88E	10	2.2	0.2	12	9

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10067	SEP	09	1647	47.9	40.89S	175.52E	28	2.5	0.2	14	10
10081	SEP	09	2243	23.0	40.95S	175.53E	24	3.6	0.3	23	19
10082	SEP	09	2244	29.9	40.94S	175.50E	13	2.3	0.2	11	9
10089	SEP	09	2344	1.7	41.90S	174.26E	12R	2.2	0.2	6	5
10107	SEP	10	0548	48.8	40.79S	174.57E	78	2.5	0.4	10	7
10115	SEP	10	1132	38.1	41.51S	174.17E	32	2.3	0.3	11	8
10117	SEP	10	1337	41.0	40.58S	174.70E	28	2.2	0.3	11	8
10118	SEP	10	1405	20.9	41.45S	173.63E	46	2.2	0.1	6	4
10119	SEP	10	1508	29.4	40.73S	174.77E	39	2.0	0.1	7	5
10132	SEP	11	0638	22.5	41.23S	174.80E	29	2.1	0.1	10	7
10133	SEP	11	0713	13.8	40.54S	174.67E	27	2.0	0.2	12	9
10145	SEP	11	1030	3.8	41.29S	174.29E	64	2.3	0.1	8	6
10158	SEP	11	1749	21.2	41.97S	174.08E	12R	2.1	0.3	6	5
10159	SEP	11	1756	33.3	41.61S	174.43E	5R	2.0	0.2	9	8
10161	SEP	11	1846	54.8	40.59S	174.22E	67	2.7	0.4	18	13
10166	SEP	11	2042	42.3	40.72S	173.56E	130	2.7	0.2	10	8
10168	SEP	11	2131	59.2	41.14S	174.71E	32	2.8	0.1	15	12
10170	SEP	11	2153	33.1	41.22S	174.85E	51	2.6	0.1	14	10
10171	SEP	11	2315	28.1	41.60S	174.42E	11	2.4	0.3	15	11
10186	SEP	12	0602	22.5	40.50S	175.90E	38	2.8	0.1	11	10
10187	SEP	12	0645	36.3	41.10S	174.75E	58	2.1	0.1	14	8
10193	SEP	12	0903	17.6	40.66S	174.52E	20	2.9	0.3	23	17
10201	SEP	12	1405	50.0	41.61S	174.72E	28	2.9	0.2	20	15
10215	SEP	12	2150	22.1	41.01S	175.32E	28	2.4	0.2	17	11
10217	SEP	12	2242	35.4	41.30S	175.31E	27	2.6	0.1	17	12
10218	SEP	12	2306	12.5	41.10S	173.79E	54	2.0	0.1	7	5
10220	SEP	13	0023	6.9	41.64S	174.66E	32	2.7	0.3	19	16
10225	SEP	13	0311	39.6	41.94S	174.04E	5R	2.3	0.3	10	7
10228	SEP	13	0412	57.6	40.66S	174.48E	51	3.0	0.3	16	13
10231	SEP	13	0634	33.3	40.82S	175.11E	42	2.0	0.2	6	5
10250	SEP	13	2230	28.9	41.26S	175.24E	25	2.0	0.1	11	7
10270	SEP	14	0208	35.0	41.41S	174.66E	49	2.4	0.1	10	7
10271	SEP	14	0408	20.2	41.00S	174.92E	30	2.4	0.2	12	9
10276	SEP	14	1110	46.3	41.61S	174.08E	5R	2.2	0.2	7	4
10278	SEP	14	1226	44.1	40.77S	175.37E	29	2.5	0.2	11	8
10283	SEP	14	1535	22.1	41.55S	175.18E	27	2.3	0.1	9	6
10287	SEP	14	1828	4.1	40.54S	174.24E	67	2.4	0.3	8	7
10294	SEP	15	0042	30.0	41.35S	173.51E	75	2.5	0.4	7	5
10295	SEP	15	0127	27.9	40.83S	175.24E	32	3.2	0.3	22	18
10299	SEP	15	0417	15.4	40.50S	175.77E	32	2.4	0.2	8	6
10303	SEP	15	0627	7.9	41.76S	174.24E	12R	2.1	0.3	13	10
10311	SEP	15	1329	18.9	40.92S	174.19E	62	2.2	0.2	7	4
10312	SEP	15	1525	49.2	41.01S	174.64E	52	2.3	0.0	7	3
10314	SEP	15	1758	44.3	40.99S	175.58E	24	2.1	0.2	8	6
10319	SEP	15	2319	6.1	41.36S	174.43E	58	2.4	0.1	10	7

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10321	SEP	16	0316	16.0	41.20S	174.20E	46	2.1	0.1	7	4
10327	SEP	16	0947	47.9	40.90S	175.71E	28	2.5	0.2	13	9
10333	SEP	16	1542	18.5	40.62S	175.47E	30	2.9	0.1	11	8
10336	SEP	16	1809	15.4	40.96S	174.56E	12R	2.6	0.2	16	13
10358	SEP	17	0743	31.9	40.78S	174.64E	43	2.1	0.2	11	8
10359	SEP	17	0828	31.0	40.87S	174.87E	61	2.3	0.1	9	8
10361	SEP	17	0924	56.5	41.25S	174.32E	38	2.1	0.1	7	5
10362	SEP	17	1350	43.6	41.06S	174.23E	51	2.6	0.4	10	8
10365	SEP	17	1516	6.9	40.54S	174.66E	29	2.1	0.3	9	6
10370	SEP	17	2008	14.2	41.19S	174.13E	51	2.6	0.0	8	5
10371	SEP	17	2025	27.1	41.18S	174.14E	46	2.5	0.2	13	10
10376	SEP	17	2209	35.6	41.18S	175.85E	23	2.2	0.1	7	6
10384	SEP	18	0556	52.9	40.62S	175.67E	30	2.2	0.1	8	5
10387	SEP	18	0646	28.8	41.01S	175.59E	28	2.1	0.1	11	8
10405	SEP	18	1709	50.7	41.05S	174.66E	56	2.2	0.1	9	7
10409	SEP	18	1913	14.7	41.16S	173.81E	74	2.3	0.3	10	7
10412	SEP	18	2056	33.0	40.89S	174.75E	49	2.8	0.2	14	11
10419	SEP	19	0121	30.9	41.47S	173.79E	49	2.2	0.2	14	10
10427	SEP	19	0721	12.7	40.95S	173.52E	130	2.6	0.1	11	9
10434	SEP	19	1423	55.5	40.69S	174.04E	84	3.3	0.3	28	24
10442	SEP	19	2150	33.7	41.74S	174.57E	31	2.2	0.1	11	7
10444	SEP	19	2208	49.4	40.66S	175.02E	35	3.3	0.3	31	26
10449	SEP	20	0038	32.7	40.56S	174.44E	56	3.2	0.3	22	21
10457	SEP	20	0756	23.3	41.27S	174.98E	30	2.1	0.1	11	9
10463	SEP	20	1301	12.7	40.91S	174.93E	32	2.6	0.1	14	11
10475	SEP	20	2250	22.5	40.95S	173.58E	167	2.4	0.3	8	6
10485	SEP	21	1645	45.7	40.53S	174.50E	62	2.3	0.3	9	7
10487	SEP	21	2002	46.4	41.71S	174.52E	25	2.3	0.1	14	11
10499	SEP	22	0317	25.8	40.59S	174.96E	34	2.1	0.1	9	6
10500	SEP	22	0431	13.5	40.98S	174.60E	51	2.2	0.1	7	6
10502	SEP	22	0601	37.5	41.54S	173.77E	55	2.7	0.2	19	13
10508	SEP	22	0846	26.8	41.43S	175.00E	25	3.4F	0.3	27	21
10511	SEP	22	0922	28.0	41.43S	175.00E	28	2.1	0.2	8	6
10533	SEP	22	1915	28.7	41.12S	173.76E	68	2.7	0.2	13	10
10545	SEP	23	0245	41.7	41.23S	175.19E	24	2.2	0.1	11	9
10546	SEP	23	0340	18.9	40.76S	175.12E	31	2.4	0.1	10	8
10557	SEP	23	1241	59.1	41.65S	174.27E	9	2.0	0.3	13	8
10574	SEP	24	0824	55.2	40.95S	175.38E	24	2.3	0.2	12	9
10575	SEP	24	0859	35.4	41.43S	173.68E	57	2.3	0.2	6	4
10588	SEP	24	1634	3.6	41.23S	175.24E	27	2.3	0.1	8	7
10599	SEP	25	0041	13.8	40.50S	174.35E	89	3.1	0.2	15	11
10600	SEP	25	0248	17.0	41.27S	175.31E	27	2.1	0.1	10	7
10602	SEP	25	0307	50.7	40.75S	174.88E	15	2.7	0.4	16	13
10603	SEP	25	0317	33.2	41.43S	173.76E	5R	2.4	0.2	6	3
10605	SEP	25	0411	21.1	41.22S	175.07E	17	2.0	0.2	9	7

NUM	DATE		TIME		LAT	LONG	DEP	MAG	Rsd	NP	NS
10607	SEP	25	0445	45.0	41.65S	174.20E	5R	2.1	0.2	9	6
10608	SEP	25	0516	23.3	41.64S	174.20E	5R	3.3	0.3	21	18
10615	SEP	25	0659	30.8	40.83S	174.58E	12R	2.0	0.3	12	9
10617	SEP	25	0822	20.7	40.79S	174.49E	26	2.4	0.2	13	9
10618	SEP	25	0833	11.9	41.22S	175.29E	25	2.5	0.2	13	10
10619	SEP	25	0833	28.9	41.22S	175.29E	26	2.2	0.2	12	9
10627	SEP	25	1219	32.6	41.19S	173.83E	63	2.7	0.2	12	8
10628	SEP	25	1500	47.8	41.42S	175.01E	25	2.9	0.2	19	15
10633	SEP	25	1655	52.3	41.22S	175.29E	25	2.1	0.2	12	9
10636	SEP	25	1712	27.6	41.22S	175.29E	29	2.2	0.1	8	6
10637	SEP	25	1728	3.1	41.22S	175.29E	25	2.4	0.1	14	10
10645	SEP	25	1945	1.7	41.23S	175.30E	29	2.9	0.3	20	15
10646	SEP	25	1951	2.1	41.22S	175.28E	24	2.1	0.2	11	7
10647	SEP	25	1957	4.7	41.22S	175.29E	25	2.1	0.2	12	9
10649	SEP	25	2004	20.5	41.22S	175.29E	25	2.3	0.1	12	9
10657	SEP	25	2135	38.1	41.23S	175.28E	27	2.3	0.1	12	8
10662	SEP	26	0222	52.9	41.22S	175.30E	29	3.1	0.2	21	16
10663	SEP	26	0223	39.6	41.22S	175.29E	25	2.4	0.2	13	10
10664	SEP	26	0231	40.2	41.22S	175.28E	24	2.2	0.2	9	7
10665	SEP	26	0243	41.2	41.22S	175.29E	26	2.5	0.2	12	9
10669	SEP	26	0518	48.2	41.23S	175.29E	26	2.2	0.2	11	8
10676	SEP	26	0907	15.8	41.59S	174.69E	24	2.2	0.1	11	8
10678	SEP	26	1105	41.1	40.69S	174.33E	48	2.2	0.2	8	5
10681	SEP	26	1338	35.5	40.73S	174.59E	43	2.0	0.1	8	6
10686	SEP	26	1750	6.4	40.89S	175.71E	27	2.4	0.1	11	8
10695	SEP	27	0346	13.1	41.40S	174.42E	55	3.2	0.1	18	14
10701	SEP	27	0731	27.6	41.48S	175.53E	21	2.0	0.1	7	6
10702	SEP	27	0738	15.9	41.30S	174.68E	36	2.6	0.2	13	9
10703	SEP	27	1136	31.5	41.06S	174.36E	64	2.2	0.0	7	5
10708	SEP	27	1309	5.5	40.95S	174.55E	58	2.9	0.1	14	12
10712	SEP	27	1544	26.4	41.23S	175.29E	25	2.2	0.2	11	9
10716	SEP	27	1852	46.9	41.58S	174.70E	30	2.1	0.1	13	10
10717	SEP	27	1854	14.1	41.00S	174.49E	11	2.3	0.3	9	7
10722	SEP	27	2254	33.9	40.63S	175.39E	42	3.9F	0.2	37	33
10723	SEP	27	2359	20.2	41.60S	174.70E	29	2.2	0.2	9	7
10724	SEP	28	0027	11.4	41.83S	173.61E	5R	2.2	0.3	9	6
10731	SEP	28	0409	7.2	41.05S	174.77E	31	3.0	0.1	17	13
10739	SEP	28	1054	7.5	40.88S	175.80E	28	2.1	0.2	10	8
10741	SEP	28	1244	39.9	41.32S	175.16E	24	2.0	0.0	9	6
10742	SEP	28	1309	31.4	41.47S	174.03E	69	2.1	0.1	6	4
10749	SEP	28	1937	32.6	41.88S	174.17E	12R	2.1	0.3	10	6
10751	SEP	28	1949	30.5	41.16S	175.30E	29	3.1	0.2	18	13
10755	SEP	28	2141	0.1	41.49S	174.28E	23	2.0	0.1	8	6
10761	SEP	29	0429	15.5	40.61S	174.83E	5R	2.6	0.2	14	10
10765	SEP	29	0743	21.9	40.64S	174.84E	12R	2.1	0.1	9	6

NUM	DATE		TIME		LAT	LONG	DEP	MAG	Rsd	NP	NS
10766	SEP	29	0821	1.7	41.10S	174.54E	40	2.8	0.2	13	10
10774	SEP	29	1934	7.3	41.82S	174.59E	23	2.6	0.3	14	12
10779	SEP	29	2249	31.3	40.80S	174.66E	34	2.0	0.1	8	7
10785	SEP	30	0638	3.6	41.00S	174.89E	46	2.6	0.1	13	11
10786	SEP	30	0638	21.6	40.98S	174.82E	50	2.0	0.0	6	4
10787	SEP	30	0640	2.4	41.55S	174.27E	12	2.1	0.3	11	9
10792	SEP	30	0948	21.4	40.88S	174.72E	12R	2.0	0.2	8	6
10798	SEP	30	1311	7.2	41.47S	174.50E	27	2.3	0.2	14	11
10801	SEP	30	1413	9.1	40.59S	174.05E	87	2.7	0.2	11	8
10808	OCT	01	0325	50.6	40.50S	173.68E	158	3.5	0.1	20	15
10813	OCT	01	0809	56.8	41.21S	175.28E	25	2.5	0.2	9	6
10814	OCT	01	0956	51.0	41.09S	173.68E	80	2.8	0.3	10	8
10816	OCT	01	1058	15.5	40.54S	175.04E	5R	2.2	0.1	7	5
10819	OCT	01	1139	31.2	41.59S	174.33E	26	3.0	0.2	20	15
10821	OCT	01	1144	26.5	41.58S	174.33E	27	3.0	0.2	21	16
10825	OCT	01	1237	19.3	41.99S	175.30E	34	2.9	0.2	16	13
10830	OCT	01	1530	0.0	40.54S	173.83E	114	3.0	0.3	14	10
10856	OCT	02	1149	26.0	40.88S	174.74E	17	2.1	0.1	7	5
10862	OCT	02	1342	38.6	41.24S	175.30E	27	3.1	0.2	16	14
10863	OCT	02	1344	7.7	41.22S	175.28E	24	2.3	0.2	9	7
10865	OCT	02	1351	44.9	41.22S	175.27E	21	2.2	0.1	12	7
10866	OCT	02	1411	42.2	41.23S	175.29E	26	2.5	0.2	12	9
10868	OCT	02	1426	20.6	41.59S	174.97E	29	2.4	0.1	10	7
10869	OCT	02	1433	54.8	41.22S	175.28E	24	2.2	0.1	10	7
10870	OCT	02	1448	4.4	41.24S	175.29E	25	2.5	0.1	11	8
10871	OCT	02	1459	7.4	41.23S	175.28E	25	2.4	0.2	11	7
10872	OCT	02	1717	16.6	41.11S	174.87E	83	2.2	0.2	5	4
10875	OCT	02	2054	38.8	41.83S	174.43E	27	2.2	0.2	10	8
10878	OCT	02	2302	48.2	41.24S	175.28E	21	2.0	0.2	10	8
10879	OCT	02	2302	49.2	41.23S	175.28E	22	2.6	0.1	10	8
10881	OCT	02	2331	54.4	41.37S	173.56E	89	3.0	0.2	13	10
10882	OCT	03	0150	30.6	41.66S	174.27E	5R	2.2	0.2	15	11
10883	OCT	03	0436	39.6	40.69S	174.09E	69	2.1	0.3	10	7
10884	OCT	03	0444	7.1	41.67S	173.97E	40	2.3	0.1	10	7
10888	OCT	03	0743	10.8	41.16S	175.28E	25	2.5	0.1	13	10
10894	OCT	03	1114	5.8	40.85S	174.73E	16	2.4	0.3	12	9
10903	OCT	03	1638	40.4	41.62S	174.28E	23	2.0	0.1	7	5
10911	OCT	03	2056	40.8	41.39S	175.44E	14	2.2	0.2	12	9
10913	OCT	03	2257	29.6	41.56S	174.57E	53	2.4	0.1	8	6
10914	OCT	03	2323	7.0	41.23S	175.29E	26	3.1	0.2	15	12
10915	OCT	04	0136	14.8	42.00S	173.93E	12R	3.7	0.1	9	5
10916	OCT	04	0157	18.8	41.00S	174.83E	31	3.0	0.1	17	13
10918	OCT	04	0434	15.1	41.22S	175.29E	26	2.6	0.2	12	10
10919	OCT	04	0517	12.8	41.22S	174.49E	35	2.9	0.1	16	12
10924	OCT	04	1435	15.7	41.59S	174.27E	5R	2.0	0.2	8	6

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
10930	OCT 04	1700 13.1	40.97S	174.41E	49	2.2	0.1	10	7
10931	OCT 04	1824 10.1	41.75S	174.17E	12R	2.4	0.3	10	8
10934	OCT 04	2139 29.4	41.24S	175.29E	26	2.9	0.2	17	14
10940	OCT 05	0152 45.4	40.65S	174.87E	16	2.2	0.2	10	6
10948	OCT 05	0951 30.6	41.22S	175.28E	25	2.4	0.2	10	7
10972	OCT 06	1000 5.8	41.33S	173.82E	56	2.2	0.1	7	5
10976	OCT 06	1107 42.2	40.64S	174.55E	5R	2.1	0.2	11	9
10978	OCT 06	1225 0.0	41.61S	173.93E	11	3.0	0.3	25	19
10988	OCT 06	2037 5.1	41.57S	174.26E	5R	3.2	0.2	19	16
10991	OCT 06	2301 5.5	41.77S	174.22E	13	3.3	0.3	20	18
10993	OCT 07	0128 9.6	41.22S	175.29E	25	2.6	0.1	12	9
10998	OCT 07	0450 17.1	41.41S	175.07E	24	2.3	0.1	9	7
11001	OCT 07	0812 33.4	40.53S	174.18E	62	2.9	0.4	14	10
11007	OCT 07	1152 11.1	41.64S	173.65E	87	2.7	0.2	12	9
11012	OCT 07	1528 49.9	41.22S	175.29E	25	2.4	0.2	14	9
11013	OCT 07	1600 21.6	40.83S	174.47E	29	2.4	0.2	14	9
11015	OCT 07	1716 45.9	41.18S	174.74E	33	2.3	0.2	12	10
11021	OCT 07	2047 47.7	40.56S	173.70E	93	3.0	0.2	9	5
11025	OCT 07	2355 25.0	41.03S	174.97E	28	2.4	0.1	10	7
11026	OCT 08	0023 58.2	41.22S	175.29E	24	2.1	0.1	10	8
11029	OCT 08	0205 41.5	41.59S	174.79E	30	2.9	0.2	14	11
11032	OCT 08	0530 26.6	41.23S	175.29E	26	2.4	0.1	12	10
11035	OCT 08	0654 31.4	40.95S	175.72E	30	2.1	0.1	8	6
11039	OCT 08	1219 42.3	41.74S	174.17E	12R	2.3	0.3	13	9
11041	OCT 08	1531 49.0	41.19S	174.91E	30	2.0	0.1	10	7
11044	OCT 08	1714 41.5	41.22S	175.29E	25	2.1	0.2	13	8
11045	OCT 08	1906 58.5	41.21S	175.28E	24	2.2	0.1	9	6
11046	OCT 08	2000 55.7	40.97S	174.00E	52	2.3	0.0	6	4
11047	OCT 08	2032 14.8	41.21S	175.28E	25	2.1	0.1	9	6
11048	OCT 08	2032 56.1	41.22S	175.28E	24	2.1	0.1	11	7
11053	OCT 09	0145 32.6	40.58S	174.98E	5R	2.8	0.2	17	13
11061	OCT 09	0831 5.3	41.07S	175.39E	27	2.4	0.2	13	10
11066	OCT 09	1048 0.2	41.04S	174.54E	73	2.2	0.2	9	6
11072	OCT 09	1326 52.3	41.51S	174.34E	5R	3.1	0.3	19	15
11087	OCT 10	0704 30.2	41.07S	174.32E	72	2.4	0.1	9	7
11089	OCT 10	0854 3.7	41.72S	174.31E	21	2.0	0.4	9	8
11090	OCT 10	0902 58.0	40.60S	175.77E	61	2.6	0.1	11	7
11095	OCT 10	1225 45.7	40.59S	175.93E	50	2.8	0.2	15	12
11112	OCT 10	2140 19.1	41.31S	174.58E	61	3.9	0.1	33	30
11113	OCT 10	2152 56.8	41.71S	174.33E	20	2.8	0.3	17	14
11127	OCT 11	1140 41.3	40.92S	173.55E	118	2.6	0.2	9	7
11141	OCT 12	0139 1.4	41.80S	174.39E	30	2.7	0.2	14	11
11151	OCT 12	1439 57.1	40.50S	173.58E	171	3.1	0.2	11	9
11155	OCT 12	2219 12.1	41.33S	175.74E	13	2.3	0.0	5	3
11158	OCT 13	0946 14.1	41.27S	175.24E	21	2.5	0.1	11	8

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
11163	OCT 13	1212 53.8	41.66S	174.36E	11	3.2	0.4	20	16
11166	OCT 13	1649 16.2	40.66S	175.43E	32	2.3	0.2	9	8
11170	OCT 13	2206 2.2	41.26S	175.22E	9	2.1	0.1	10	7
11175	OCT 14	0203 41.1	41.58S	174.18E	5R	3.3	0.3	21	16
11179	OCT 14	0242 45.8	41.37S	175.05E	28	2.3	0.1	11	8
11180	OCT 14	0335 29.9	41.26S	175.21E	9	2.0	0.2	8	6
11190	OCT 14	0941 14.6	40.55S	175.99E	28	3.7F	0.2	23	20
11193	OCT 14	1021 56.8	40.94S	175.01E	30	2.3	0.1	11	7
11197	OCT 14	1156 8.5	41.27S	174.44E	15	3.2	0.2	18	15
11199	OCT 14	1403 24.2	41.62S	174.38E	22	2.1	0.2	10	6
11203	OCT 14	1500 21.5	40.95S	174.75E	48	2.0	0.4	7	4
11205	OCT 14	1815 8.8	41.68S	174.22E	5R	2.4	0.3	16	11
11208	OCT 15	0055 19.2	41.79S	173.93E	31	2.5	0.2	14	10
11215	OCT 15	0623 20.5	40.90S	174.80E	16	2.0	0.2	6	4
11216	OCT 15	0710 48.0	41.34S	174.23E	33R	2.0	0.3	9	7
11219	OCT 15	0939 37.7	40.67S	174.94E	18	2.2	0.2	11	7
11222	OCT 15	1008 49.0	41.24S	175.31E	28	3.7F	0.2	20	16
11223	OCT 15	1009 35.7	41.24S	175.29E	11	2.5	0.1	8	7
11226	OCT 15	1012 18.4	41.22S	175.29E	26	2.0	0.1	10	6
11231	OCT 15	1051 4.1	41.23S	175.29E	27	2.5	0.2	15	10
11238	OCT 15	1224 10.0	40.59S	175.46E	29	2.7	0.2	9	6
11243	OCT 15	1323 12.0	40.57S	174.54E	5R	2.0	0.3	10	7
11254	OCT 15	1629 44.2	41.22S	175.29E	27	2.1	0.2	12	8
11258	OCT 15	1804 6.2	41.74S	174.13E	12R	2.2	0.2	5	3
11259	OCT 15	1839 25.0	41.44S	174.68E	31	2.9	0.2	18	14
11261	OCT 15	2043 0.5	41.22S	175.30E	27	2.1	0.2	11	8
11263	OCT 15	2245 52.2	41.93S	174.10E	12R	2.0	0.3	7	4
11266	OCT 16	0106 53.9	41.64S	174.24E	5R	2.2	0.1	8	5
11267	OCT 16	0124 47.0	41.23S	175.28E	22	2.2	0.1	10	8
11269	OCT 16	0150 44.3	41.23S	175.29E	27	3.1	0.2	18	14
11272	OCT 16	0843 9.1	41.17S	174.46E	36	2.0	0.1	7	5
11274	OCT 16	0856 25.6	41.21S	175.28E	25	2.2	0.2	7	5
11280	OCT 16	1303 30.7	41.87S	174.08E	12R	2.3	0.2	9	8
11281	OCT 16	1318 29.2	42.00S	173.94E	12R	2.5	0.2	7	5
11287	OCT 16	1846 0.5	41.14S	174.20E	68	2.3	0.2	8	6
11289	OCT 16	1909 39.4	41.60S	174.19E	5R	2.4	0.3	14	10
11290	OCT 16	1912 41.7	41.01S	175.26E	21	2.2	0.2	8	7
11299	OCT 16	2237 8.8	41.14S	174.02E	45	2.8	0.3	16	13
11301	OCT 17	0136 2.1	41.23S	175.28E	27	2.0	0.2	10	8
11311	OCT 17	1038 20.9	41.05S	174.81E	49	3.4	0.2	28	21
11328	OCT 18	0050 31.5	41.24S	175.29E	28	2.6	0.2	15	12
11332	OCT 18	0212 3.5	41.23S	175.28E	27	2.5	0.2	15	11
11333	OCT 18	0216 1.0	41.22S	175.28E	26	2.0	0.2	8	6
11337	OCT 18	0339 48.7	40.77S	174.75E	54	2.2	0.2	7	6
11344	OCT 18	0607 21.8	40.79S	175.33E	32	2.3	0.3	8	7

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11345	OCT 18	0845 50.4	41.55S	174.67E	31	2.2	0.3	10	8
11352	OCT 18	1232 18.1	41.27S	175.13E	28	2.1	0.2	10	6
11354	OCT 18	1318 57.1	41.21S	175.28E	25	2.4	0.2	11	7
11360	OCT 18	2133 18.3	41.12S	173.98E	50	2.5	0.1	8	6
11362	OCT 19	0026 38.3	41.14S	174.47E	35	2.4	0.1	9	7
11363	OCT 19	0145 48.1	41.03S	174.53E	62	2.9	0.1	11	10
11365	OCT 19	0831 33.5	41.39S	174.98E	29	2.5	0.2	9	6
11367	OCT 19	0933 40.0	41.27S	175.25E	25	2.9	0.1	10	7
11368	OCT 19	1349 13.8	41.91S	174.12E	12R	3.2	0.2	13	11
11370	OCT 19	1544 7.4	41.62S	173.99E	9	2.2	0.2	11	7
11375	OCT 19	2022 3.9	40.50S	174.94E	31	2.2	0.2	8	5
11377	OCT 19	2340 17.9	41.26S	175.24E	22	2.6	0.1	10	7
11379	OCT 20	0348 43.9	41.77S	173.53E	32	2.5	0.2	6	4
11402	OCT 20	2023 37.0	41.63S	174.33E	12R	2.1	0.2	10	7
11406	OCT 20	2315 55.9	40.99S	173.90E	40	2.7	0.3	10	8
11407	OCT 21	0016 4.0	41.30S	174.84E	29	3.1	0.1	17	13
11408	OCT 21	0127 17.5	41.06S	173.90E	53	2.6	0.2	10	7
11410	OCT 21	0236 54.0	40.86S	175.75E	28	2.1	0.1	8	6
11414	OCT 21	0846 40.2	40.53S	174.30E	91	2.7	0.1	10	7
11417	OCT 21	1038 28.1	41.22S	175.27E	25	2.0	0.1	6	3
11419	OCT 21	1117 2.2	41.40S	173.56E	87	3.0	0.3	10	7
11427	OCT 21	1555 29.6	41.60S	174.12E	35	3.4	0.3	21	15
11437	OCT 22	0625 39.8	41.55S	173.76E	46	3.7	0.3	20	17
11439	OCT 22	0646 45.3	40.53S	173.88E	102	2.7	0.2	10	8
11443	OCT 22	1034 7.4	41.98S	174.13E	30	2.0	0.1	7	5
11452	OCT 22	2206 49.4	41.19S	174.93E	22	2.1	0.1	8	5
11458	OCT 23	0446 15.3	41.08S	174.84E	66	2.1	0.1	8	5
11460	OCT 23	0929 47.9	41.07S	174.75E	55	2.6	0.0	8	6
11464	OCT 23	1206 58.1	41.84S	174.43E	27	2.4	0.2	14	11
11466	OCT 23	1236 20.7	41.16S	175.08E	24	2.4	0.3	15	10
11490	OCT 24	0650 47.7	41.81S	173.78E	12	2.0	0.0	5	3
11494	OCT 24	0820 46.9	41.29S	174.79E	18	2.2	0.2	12	9
11496	OCT 24	0942 41.5	41.77S	173.88E	9	2.0	0.1	8	6
11503	OCT 24	1218 20.4	40.97S	175.56E	27	2.1	0.1	10	7
11506	OCT 24	1526 34.3	40.60S	173.70E	92	2.2	0.2	9	8
11507	OCT 24	1556 52.0	41.80S	174.43E	5R	2.5	0.2	12	9
11508	OCT 24	1624 39.8	40.89S	173.82E	65	3.0	0.3	12	9
11510	OCT 24	1645 46.2	41.82S	174.45E	5R	2.4	0.3	14	10
11511	OCT 24	1647 11.5	41.82S	174.46E	5R	2.7	0.2	16	12
11517	OCT 24	2025 27.4	41.68S	174.19E	5R	2.4	0.2	8	6
11518	OCT 24	2100 54.8	41.47S	175.52E	26	2.2	0.1	8	6
11520	OCT 24	2122 9.6	41.94S	174.58E	12R	2.5	0.2	7	5
11523	OCT 25	0103 36.1	41.24S	175.05E	21	2.0	0.0	7	4
11525	OCT 25	0145 19.3	41.45S	174.11E	40	2.1	0.2	8	6
11534	OCT 25	1234 39.0	40.77S	175.10E	31	2.7	0.1	12	9

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
11537	OCT 25	1257 32.9	41.66S	174.20E	12R	2.3	0.2	10	7
11540	OCT 25	1454 8.0	40.70S	173.99E	76	2.4	0.3	9	5
11548	OCT 26	0319 46.4	41.72S	174.29E	31	2.1	0.1	9	7
11550	OCT 26	0401 25.7	41.02S	175.39E	20	2.1	0.2	10	6
11557	OCT 26	1006 54.5	40.79S	175.07E	33	2.3	0.2	10	7
11560	OCT 26	1301 1.0	41.27S	175.25E	29	2.7	0.2	13	10
11568	OCT 26	1746 11.5	40.85S	174.05E	50	2.8	0.2	7	6
11574	OCT 27	0224 54.4	40.81S	174.74E	16	2.6	0.1	6	4
11575	OCT 27	0600 18.4	41.60S	173.99E	9	2.5	0.3	12	7
11579	OCT 27	0652 30.0	41.37S	173.68E	65	2.9	0.2	12	10
11585	OCT 27	0918 49.0	40.92S	175.52E	20	3.7F	0.2	23	20
11594	OCT 27	1607 31.5	40.83S	174.68E	65	2.1	0.1	8	5
11596	OCT 27	1657 20.3	41.69S	174.50E	26	2.2	0.1	9	6
11597	OCT 27	1746 16.2	41.35S	175.08E	10	2.2	0.1	11	9
11600	OCT 27	1842 8.9	41.43S	174.41E	60	2.7	0.2	13	11
11607	OCT 28	0449 49.8	41.11S	174.57E	59	2.0	0.1	7	5
11608	OCT 28	0535 50.3	41.80S	173.92E	13	2.2	0.0	5	3
11609	OCT 28	0624 37.5	41.36S	173.71E	50	2.6	0.2	8	5
11613	OCT 28	1527 47.4	41.02S	174.53E	55	2.3	0.1	7	5
11618	OCT 28	2150 17.3	41.31S	174.71E	29	2.5	0.2	13	10
11619	OCT 28	2153 46.6	41.22S	175.29E	27	2.9	0.1	13	11
11625	OCT 29	0727 6.4	41.71S	175.08E	29	2.1	0.1	6	4
11629	OCT 29	1505 46.0	40.97S	175.38E	19	2.3	0.2	9	7
11631	OCT 29	1803 59.5	41.43S	174.35E	41	3.3	0.3	18	14
11633	OCT 29	2247 58.7	40.72S	175.08E	54	2.1	0.3	6	5
11634	OCT 30	0111 3.7	41.32S	174.72E	29	2.2	0.1	9	7
11641	OCT 30	0612 59.5	40.50S	175.26E	39	2.1	0.2	7	6
11643	OCT 30	0806 56.7	40.61S	173.68E	99	2.9	0.5	11	9
11664	OCT 30	2055 5.3	41.25S	174.53E	35	2.3	0.1	8	6
11671	OCT 31	0056 53.7	40.53S	174.64E	27	2.7	0.3	16	13
11682	OCT 31	0651 1.2	41.88S	174.06E	12R	2.2	0.2	10	7
11694	OCT 31	1340 36.1	40.95S	175.59E	27	2.4	0.1	11	8
11703	OCT 31	2143 39.0	41.51S	173.63E	53	2.3	0.2	8	6
11705	OCT 31	2233 1.3	40.92S	175.18E	22	2.2	0.2	9	8
11713	NOV 01	0522 13.5	41.38S	174.43E	57	2.2	0.1	8	6
11731	NOV 01	2231 25.1	41.25S	175.02E	21	2.0	0.1	6	4
11732	NOV 01	2242 41.6	40.56S	173.78E	88	3.1	0.4	14	10
11742	NOV 02	0327 42.1	41.25S	175.02E	23	2.8	0.2	14	11
11752	NOV 02	1028 1.2	40.83S	173.78E	209	2.8	0.2	9	6
11754	NOV 02	1131 7.9	40.72S	175.54E	29	2.2	0.2	10	8
11759	NOV 02	1354 55.8	41.77S	174.34E	32	2.0	0.2	10	6
11763	NOV 02	1619 28.4	40.64S	174.00E	5R	2.2	0.4	9	6
11793	NOV 02	2215 1.7	40.55S	175.68E	28	2.5	0.3	10	9
11800	NOV 03	0334 44.2	40.57S	174.41E	84	2.5	0.2	10	8
11806	NOV 03	0842 56.2	40.54S	175.85E	33	2.9	0.1	18	16

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
11807	NOV 03	0908 46.5	41.33S	173.77E	57	2.5	0.2	11	9
11819	NOV 03	1609 26.0	41.48S	174.67E	24	2.0	0.2	9	6
11829	NOV 03	2132 13.6	41.10S	175.41E	25	2.3	0.1	10	7
11832	NOV 03	2258 22.3	41.17S	174.76E	30	2.4	0.0	8	5
11840	NOV 04	0441 40.0	40.66S	174.35E	63	2.9	0.2	14	10
11842	NOV 04	0702 57.5	40.80S	174.06E	69	2.3	0.4	8	7
11845	NOV 04	1051 59.9	40.55S	175.70E	93	2.2	0.1	10	7
11847	NOV 04	1623 46.1	41.88S	174.47E	27	2.0	0.1	9	6
11880	NOV 05	1340 48.6	41.07S	174.79E	53	2.3	0.1	8	6
11885	NOV 05	1558 38.7	41.32S	174.14E	53	2.1	0.1	5	3
11886	NOV 05	1644 46.3	41.65S	175.34E	12	2.3	0.1	6	4
11896	NOV 05	2323 58.9	41.06S	173.88E	65	3.3	0.2	18	13
11897	NOV 05	2356 10.8	41.64S	174.22E	24	2.1	0.1	7	6
11906	NOV 06	0628 43.8	40.51S	174.17E	67	2.8	0.2	12	9
11909	NOV 06	0659 5.9	41.62S	173.93E	10	2.8	0.3	15	13
11910	NOV 06	0808 54.4	41.07S	174.21E	66	2.4	0.1	8	6
11927	NOV 06	1343 32.1	40.58S	174.21E	33	2.1	0.1	8	7
11929	NOV 06	1415 59.0	40.60S	174.17E	74	2.3	0.2	8	6
11930	NOV 06	1519 33.7	41.44S	174.78E	31	2.3	0.2	10	7
11942	NOV 06	2009 13.4	40.65S	174.89E	33R	2.7	0.2	12	8
11949	NOV 07	0042 9.8	40.91S	175.83E	26	2.5	0.2	10	7
11960	NOV 07	0614 15.7	41.65S	174.30E	5R	2.9	0.3	20	16
11961	NOV 07	0654 35.2	41.17S	173.98E	54	2.7	0.3	10	7
11967	NOV 07	1123 15.3	40.60S	175.02E	12R	2.5	0.4	10	7
11969	NOV 07	1216 38.3	41.08S	175.04E	29	2.7	0.1	14	11
11978	NOV 07	1650 33.0	41.12S	174.64E	32	2.7	0.2	16	13
11980	NOV 07	1844 46.8	41.64S	174.20E	26	2.0	0.1	10	8
11981	NOV 07	1927 34.7	40.63S	174.13E	69	2.4	0.2	11	7
11982	NOV 07	2001 39.0	41.01S	175.93E	27	2.6	0.2	10	7
11986	NOV 07	2221 21.2	40.54S	173.93E	89	3.0	0.2	26	22
11989	NOV 07	2334 48.1	41.71S	173.97E	13	2.2	0.2	10	8
11996	NOV 08	0249 58.1	40.57S	174.34E	60	2.2	0.3	10	7
12006	NOV 08	0703 5.4	41.64S	174.28E	5R	2.7	0.3	19	15
12016	NOV 08	1107 5.6	40.94S	175.17E	28	2.0	0.2	9	5
12029	NOV 08	1847 31.8	41.65S	174.57E	32	2.2	0.1	9	8
12047	NOV 09	1233 50.2	41.41S	175.01E	25	2.2	0.1	9	7
12048	NOV 09	1307 10.5	40.93S	175.01E	29	2.0	0.2	10	6
12053	NOV 09	2041 38.7	41.00S	174.85E	30	2.1	0.1	7	5
12074	NOV 10	1529 41.6	41.66S	174.39E	6	2.7	0.3	22	16
12080	NOV 10	1919 59.6	41.47S	174.46E	22	2.4	0.2	11	9
12089	NOV 10	2356 33.7	41.25S	174.51E	57	2.1	0.1	9	5
12090	NOV 11	0117 10.1	41.58S	174.21E	26	2.6	0.3	16	12
12102	NOV 11	1612 32.9	40.85S	174.76E	44	2.1	0.1	6	4
12105	NOV 11	1741 2.2	41.72S	173.83E	12	2.8	0.4	18	15
12106	NOV 11	2028 47.3	40.94S	175.17E	30	2.0	0.1	6	4

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
12113	NOV 12	0458 35.9	41.43S	174.98E	26	2.8	0.2	14	12
12117	NOV 12	0801 22.0	41.75S	174.51E	37	2.0	0.1	9	8
12118	NOV 12	0854 46.5	41.40S	174.15E	41	2.2	0.1	9	6
12123	NOV 12	1000 12.8	41.65S	174.26E	9	2.7	0.3	18	15
12125	NOV 12	1054 28.2	41.63S	174.35E	5R	2.5	0.2	15	12
12133	NOV 12	1332 4.2	41.20S	174.84E	33	2.2	0.1	11	8
12139	NOV 12	1611 29.3	41.62S	174.24E	5R	3.6	0.2	24	21
12143	NOV 12	1710 10.9	41.84S	174.43E	21	2.4	0.1	10	7
12145	NOV 12	1942 47.3	40.87S	175.33E	22	2.4	0.2	13	10
12148	NOV 12	2238 36.7	41.08S	174.78E	52	2.4	0.1	8	5
12151	NOV 13	0113 26.7	40.72S	174.98E	54	2.1	0.1	9	7
12154	NOV 13	0402 58.9	41.46S	174.34E	19	2.5	0.2	11	9
12158	NOV 13	0718 54.3	41.14S	175.31E	25	2.2	0.2	15	10
12165	NOV 13	1507 1.0	40.70S	174.32E	61	2.3	0.2	8	6
12169	NOV 13	1653 17.0	41.53S	173.64E	44	2.4	0.2	14	9
12170	NOV 13	1716 52.9	40.84S	175.76E	29	2.1	0.2	10	8
12172	NOV 13	1809 36.5	41.63S	174.33E	5R	2.3	0.2	12	9
12175	NOV 13	2142 28.1	41.17S	174.10E	51	2.2	0.1	9	6
12176	NOV 13	2306 7.9	40.61S	174.38E	59	2.1	0.1	7	4
12179	NOV 14	0201 5.2	41.30S	174.54E	37	2.0	0.1	12	8
12181	NOV 14	0313 20.9	41.71S	174.18E	29	2.9	0.2	23	16
12182	NOV 14	0319 56.6	41.65S	174.19E	5R	2.2	0.2	11	8
12188	NOV 14	0826 45.7	41.61S	173.74E	43	3.0	0.3	24	17
12189	NOV 14	0847 4.1	41.51S	174.90E	34	2.0	0.1	6	5
12190	NOV 14	0847 17.9	41.52S	174.89E	34	2.0	0.1	6	4
12191	NOV 14	0917 54.2	41.76S	174.48E	33	2.5	0.2	13	11
12195	NOV 14	1215 42.6	40.92S	174.33E	75	2.6	0.2	13	9
12199	NOV 14	1417 49.5	40.90S	175.79E	30	2.4	0.2	11	8
12212	NOV 14	1904 20.8	40.99S	174.61E	46	2.2	0.2	8	6
12214	NOV 14	2129 22.7	41.55S	173.68E	89	2.2	0.0	6	3
12223	NOV 15	0235 18.9	41.66S	174.30E	12R	2.8	0.3	22	17
12224	NOV 15	0242 33.9	41.05S	175.52E	24	2.2	0.1	12	8
12225	NOV 15	0258 45.8	40.76S	174.22E	65	2.2	0.1	8	6
12230	NOV 15	0639 7.3	41.70S	174.18E	20	2.0	0.1	8	5
12235	NOV 15	1023 58.3	41.67S	174.26E	11	2.0	0.2	11	7
12245	NOV 15	1510 3.9	40.52S	173.73E	213	2.9	0.2	8	6
12251	NOV 15	2202 19.6	40.91S	173.77E	73	2.6	0.3	15	11
12270	NOV 16	1056 50.3	40.78S	174.85E	37	2.4	0.2	11	8
12273	NOV 16	1335 34.6	41.79S	174.14E	14	2.7	0.3	21	16
12280	NOV 16	1713 28.3	41.62S	174.63E	29	2.0	0.1	7	5
12284	NOV 16	2016 35.0	41.82S	174.59E	23	2.2	0.2	11	8
12290	NOV 17	0045 12.7	40.78S	175.15E	41	3.2	0.2	26	21
12299	NOV 17	0629 0.2	41.22S	175.28E	23	2.4	0.2	12	7
12306	NOV 17	1044 5.2	41.38S	175.00E	28	2.4	0.1	18	15
12309	NOV 17	1600 4.1	40.88S	175.73E	29	2.0	0.1	10	8

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
12318	NOV 18	0334 19.2	41.64S	173.99E	5R	2.0	0.2	5	3
12339	NOV 18	1622 32.5	41.59S	174.62E	29	3.3	0.2	25	19
12350	NOV 19	0731 50.8	41.82S	174.01E	33R	2.1	0.1	8	6
12356	NOV 19	1449 45.4	40.68S	175.01E	33	2.6	0.1	10	7
12362	NOV 19	1854 25.8	41.77S	173.82E	38	2.8	0.3	17	9
12379	NOV 20	1746 21.9	41.92S	173.51E	63	2.6	0.1	14	10
12380	NOV 20	1759 15.0	40.68S	174.16E	70	2.5	0.2	9	7
12385	NOV 20	2055 30.0	41.36S	175.66E	12R	2.2	0.1	7	5
12401	NOV 21	1420 46.6	40.91S	174.07E	58	3.0	0.3	18	16
12405	NOV 21	1732 29.0	41.28S	174.82E	23	2.2	0.1	17	9
12410	NOV 21	2258 20.4	40.64S	174.61E	12R	2.0	0.1	8	5
12412	NOV 22	0004 47.0	40.98S	175.13E	29	2.0	0.1	7	4
12425	NOV 22	0643 28.1	40.97S	174.66E	59	2.0	0.1	7	5
12431	NOV 22	1105 29.6	40.56S	175.75E	33	2.2	0.2	7	6
12432	NOV 22	1124 37.1	41.02S	175.42E	12R	2.3	0.1	10	7
12437	NOV 22	1510 33.1	41.10S	173.56E	74	2.4	0.2	12	8
12445	NOV 22	1827 43.1	40.94S	175.16E	29	2.9	0.2	13	9
12452	NOV 22	2350 24.5	41.08S	174.27E	58	3.4	0.2	30	24
12454	NOV 23	0146 40.9	40.58S	173.68E	141	3.0	0.3	11	8
12466	NOV 23	1228 13.5	41.75S	174.06E	5R	2.1	0.1	9	6
12469	NOV 23	1449 56.6	41.89S	174.93E	34	2.4	0.4	12	9
12475	NOV 23	2157 26.6	41.80S	173.96E	33	2.2	0.2	12	8
12479	NOV 24	0327 2.4	41.78S	173.59E	67	2.8	0.2	14	10
12488	NOV 24	0540 6.6	41.34S	174.14E	40	2.3	0.1	9	6
12490	NOV 24	0758 25.6	40.99S	174.83E	30	2.5	0.1	13	9
12495	NOV 24	1020 10.2	41.09S	174.17E	54	2.2	0.1	9	5
12497	NOV 24	1359 47.3	41.74S	174.52E	25	2.1	0.1	12	8
12507	NOV 24	1951 23.6	41.06S	175.34E	25	2.3	0.1	7	6
12510	NOV 24	2107 25.3	41.01S	174.92E	29	2.0	0.1	7	6
12513	NOV 24	2336 24.0	40.92S	174.76E	45	2.5	0.0	6	5
12521	NOV 25	0632 17.6	41.81S	174.26E	14	2.0	0.3	12	7
12523	NOV 25	0821 57.1	40.69S	173.97E	134	2.8	0.3	10	7
12524	NOV 25	0842 21.4	41.44S	173.66E	49	2.1	0.2	8	5
12526	NOV 25	0938 57.0	40.82S	175.07E	33	2.1	0.2	8	6
12528	NOV 25	1003 50.6	40.79S	174.00E	33	2.0	0.3	9	6
12533	NOV 25	1152 26.0	41.72S	174.72E	33	2.8	0.1	16	11
12534	NOV 25	1231 38.6	41.37S	173.77E	57	2.1	0.2	9	6
12548	NOV 26	0133 44.5	41.32S	173.92E	12R	2.1	0.3	9	6
12555	NOV 26	0357 48.4	40.97S	175.37E	26	2.3	0.1	6	4
12559	NOV 26	0646 48.1	40.66S	174.16E	5R	3.0	0.4	15	11
12570	NOV 26	1148 59.6	40.75S	174.29E	83	3.0	0.2	9	8
12571	NOV 26	1203 46.2	40.54S	176.00E	61	2.8	0.1	14	12
12574	NOV 26	1524 29.5	41.51S	174.78E	29	3.0	0.3	17	14
12576	NOV 26	1743 34.9	41.27S	175.23E	26	2.0	0.1	8	6
12580	NOV 26	2146 30.5	41.00S	174.85E	32	2.1	0.0	6	5

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
12598	NOV 27	1402 57.7	41.08S	175.17E	18	2.0	0.1	11	6
12614	NOV 28	0546 47.5	41.00S	175.26E	25	2.5	0.2	11	8
12627	NOV 28	1241 22.0	40.93S	175.73E	33R	2.0	0.1	5	4
12628	NOV 28	1256 45.1	41.62S	174.63E	31	3.0	0.2	16	12
12632	NOV 28	1347 44.8	41.61S	174.63E	25	2.1	0.2	7	6
12641	NOV 28	2244 25.7	41.01S	175.57E	30	2.5	0.2	14	9
12649	NOV 29	1211 17.4	41.81S	174.15E	23	2.0	0.1	6	4
12657	NOV 29	2146 9.4	40.69S	174.69E	134	2.4	0.3	7	5
12658	NOV 29	2150 52.1	41.40S	173.75E	54	2.3	0.1	10	6
12671	NOV 30	0727 27.3	40.99S	173.83E	65	2.3	0.2	11	7
12672	NOV 30	0734 45.5	41.03S	174.59E	63	2.3	0.0	5	4
12677	NOV 30	0926 0.4	41.18S	174.06E	58	2.3	0.1	7	4
12679	NOV 30	1051 15.8	41.41S	174.98E	27	2.2	0.1	10	7
12686	NOV 30	1518 12.0	41.23S	173.79E	57	2.8	0.3	18	12
12693	DEC 01	0125 54.7	40.91S	174.97E	59	2.9	0.1	12	9
12696	DEC 01	0313 22.6	41.56S	175.50E	28	2.2	0.1	10	5
12697	DEC 01	0315 15.9	41.54S	175.53E	30	2.3	0.1	11	6
12698	DEC 01	0315 30.3	41.50S	175.49E	27	2.2	0.1	10	5
12707	DEC 01	1313 15.9	40.58S	174.63E	27	2.1	0.2	7	6
12709	DEC 01	1424 33.2	41.58S	174.05E	33	2.0	0.2	8	5
12710	DEC 01	1451 37.7	41.38S	173.95E	47	2.4	0.1	11	7
12711	DEC 01	1500 3.1	40.78S	173.97E	65	2.7	0.2	13	9
12713	DEC 01	1626 42.3	40.82S	174.82E	38	2.6	0.2	11	8
12720	DEC 01	2101 26.1	40.90S	173.59E	110	2.9	0.2	12	8
12722	DEC 01	2122 37.7	40.84S	174.74E	39	2.4	0.1	11	7
12744	DEC 02	0527 51.7	41.61S	174.25E	5R	2.7	0.3	19	13
12746	DEC 02	0548 12.5	41.28S	174.99E	26	2.1	0.1	10	8
12750	DEC 02	0629 11.9	40.70S	174.83E	31	2.2	0.2	9	7
12751	DEC 02	0645 48.8	41.63S	175.06E	23	2.0	0.1	9	5
12757	DEC 02	1246 16.3	40.83S	175.15E	35	2.1	0.2	8	6
12766	DEC 02	1823 4.5	40.85S	173.78E	83	4.4F	0.2	36	29
12769	DEC 02	2235 13.8	41.48S	174.56E	29	2.5	0.2	13	10
12791	DEC 03	1435 59.5	40.99S	175.09E	27	2.0	0.2	9	7
12793	DEC 03	1513 10.7	40.77S	174.45E	50	2.2	0.0	10	6
12811	DEC 04	0445 40.4	41.89S	174.29E	12R	3.0	0.4	23	18
12813	DEC 04	0656 29.0	41.78S	174.56E	28	2.4	0.1	8	6
12822	DEC 04	1254 54.7	41.63S	174.30E	5R	2.2	0.2	13	10
12833	DEC 04	2018 37.3	41.44S	174.35E	34	3.2	0.2	25	18
12847	DEC 05	0438 38.7	40.77S	175.39E	27	2.2	0.1	11	9
12853	DEC 05	0634 24.6	41.77S	174.52E	33	2.4	0.2	13	9
12854	DEC 05	0637 10.9	40.97S	175.59E	30	2.1	0.1	10	7
12858	DEC 05	0735 11.3	41.46S	174.35E	14	2.1	0.3	13	8
12860	DEC 05	0941 54.5	40.52S	174.64E	20	2.7	0.3	23	19
12861	DEC 05	0948 52.7	41.73S	174.54E	31	2.5	0.2	19	13
12863	DEC 05	1007 58.1	41.15S	174.69E	35	2.0	0.0	6	4

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
12870	DEC 05	1438 54.9	41.15S	173.71E	89	2.2	0.2	8	7
12871	DEC 05	1549 19.0	41.55S	175.39E	15	2.1	0.1	12	9
12875	DEC 05	1915 25.8	40.59S	174.47E	78	2.4	0.1	9	7
12878	DEC 05	2325 37.7	41.76S	174.52E	34	2.1	0.1	8	6
12887	DEC 06	0420 6.3	41.71S	174.16E	16	2.0	0.1	10	7
12889	DEC 06	0549 12.8	40.69S	173.63E	47	2.4	0.1	8	5
12890	DEC 06	0852 9.5	40.58S	174.22E	33R	2.2	0.3	7	5
12922	DEC 07	1919 37.9	41.57S	174.45E	19	2.6	0.1	18	13
12923	DEC 07	2029 13.0	41.22S	175.18E	26	2.1	0.1	7	4
12925	DEC 07	2116 44.5	41.57S	174.46E	19	2.1	0.1	12	9
12927	DEC 07	2243 49.1	41.43S	173.64E	102	2.5	0.3	7	5
12931	DEC 08	0014 59.5	41.09S	174.40E	64	2.5	0.1	10	6
12932	DEC 08	0125 11.8	40.72S	173.66E	83	2.6	0.3	9	5
12937	DEC 08	0707 0.8	41.38S	174.11E	40	2.5	0.1	11	9
12941	DEC 08	1510 30.4	41.75S	174.54E	31	2.9	0.2	19	17
12946	DEC 09	0013 55.4	41.44S	174.97E	30	2.0	0.1	9	7
12951	DEC 09	0400 6.3	41.26S	175.22E	21	2.2	0.1	11	8
12952	DEC 09	0425 57.4	41.27S	175.22E	21	2.2	0.1	9	6
12965	DEC 09	1257 38.3	41.60S	175.41E	23	2.7	0.3	16	12
12972	DEC 09	1609 13.1	41.61S	175.38E	12	2.1	0.1	9	7
12973	DEC 09	1913 0.6	41.04S	175.93E	32	2.3	0.2	9	7
12978	DEC 10	0116 14.2	41.33S	174.44E	57	2.3	0.1	12	10
12980	DEC 10	0337 53.3	40.55S	175.00E	5R	4.0F	0.3	38	32
12982	DEC 10	0656 16.2	40.92S	175.14E	31	2.9	0.1	16	12
12993	DEC 10	1834 5.3	40.51S	173.81E	77	2.5	0.3	12	8
12994	DEC 10	2334 56.5	41.75S	174.51E	31	2.7	0.2	16	12
13009	DEC 11	1519 44.1	41.07S	174.25E	52	2.0	0.1	7	5
13019	DEC 11	1949 52.7	40.52S	174.39E	31	2.1	0.1	8	5
13022	DEC 11	2111 12.3	41.09S	173.85E	52	2.8	0.3	20	14
13028	DEC 12	0328 6.5	41.99S	173.90E	13	2.3	0.2	9	6
13039	DEC 12	1721 54.1	40.75S	175.84E	30	3.0	0.3	21	16
13045	DEC 13	0014 1.9	41.27S	174.15E	44	2.5	0.2	11	7
13057	DEC 13	1151 9.7	41.30S	173.82E	50	2.5	0.1	11	9
13058	DEC 13	1353 36.1	40.98S	175.48E	26	2.2	0.1	11	8
13060	DEC 13	1527 36.7	41.17S	174.75E	31	2.2	0.1	11	10
13064	DEC 13	1623 34.2	40.52S	174.56E	41	2.8	0.4	17	14
13074	DEC 13	2347 56.0	41.46S	173.66E	47	2.5	0.2	11	7
13079	DEC 14	0456 4.7	40.59S	175.55E	32	2.5	0.2	18	14
13080	DEC 14	0752 34.6	41.19S	174.54E	42	2.3	0.1	10	7
13083	DEC 14	0906 30.9	41.68S	174.27E	8	2.1	0.2	12	8
13089	DEC 14	1000 35.2	41.31S	175.19E	24	2.3	0.2	16	11
13092	DEC 14	1232 48.8	41.09S	175.85E	32	3.0	0.1	15	12
13102	DEC 14	2016 44.1	41.28S	175.29E	27	2.3	0.1	12	8
13113	DEC 15	0329 22.7	40.98S	174.41E	42	2.8	0.3	20	14
13114	DEC 15	0417 12.4	40.86S	173.98E	65	2.0	0.2	8	6

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
13117	DEC 15	0655 45.8	41.18S	175.03E	28	2.1	0.2	10	7
13121	DEC 15	1117 1.6	40.69S	173.82E	98	2.4	0.1	6	4
13126	DEC 15	1344 26.6	40.95S	174.90E	32	2.0	0.1	10	8
13128	DEC 15	1503 42.3	40.81S	175.52E	29	2.5	0.1	11	8
13130	DEC 15	1648 13.5	40.60S	174.14E	52	2.5	0.1	8	6
13131	DEC 15	1805 55.3	41.76S	173.78E	14	2.4	0.2	9	7
13132	DEC 15	1806 36.5	41.75S	173.83E	14	3.0	0.2	19	14
13140	DEC 15	2306 19.4	40.56S	176.00E	31	2.5	0.2	11	7
13143	DEC 16	0014 3.1	40.79S	174.63E	59	2.7	0.1	11	9
13145	DEC 16	0115 54.4	40.88S	174.71E	52	3.6	0.1	34	29
13146	DEC 16	0141 1.1	41.75S	173.77E	14	2.4	0.2	11	8
13147	DEC 16	0141 56.2	40.78S	174.68E	44	2.7	0.2	15	12
13153	DEC 16	0438 40.0	41.99S	173.75E	12R	2.7	0.2	14	10
13154	DEC 16	0559 21.1	42.00S	173.75E	12	2.5	0.2	13	10
13158	DEC 16	0713 28.3	40.72S	175.51E	33	2.3	0.1	11	9
13173	DEC 16	2254 30.2	40.86S	174.27E	54	2.8	0.2	17	13
13192	DEC 17	1028 30.9	41.61S	173.97E	24	2.1	0.2	8	4
13199	DEC 17	1325 35.7	40.90S	175.76E	30	2.2	0.2	9	7
13208	DEC 17	1820 13.7	40.94S	175.41E	23	2.1	0.2	12	8
13211	DEC 17	2126 29.7	41.45S	174.23E	12	2.7	0.3	23	17
13213	DEC 17	2238 13.3	40.57S	173.56E	195	2.9	0.1	7	6
13216	DEC 18	0325 9.8	41.67S	174.05E	12R	2.4	0.3	15	12
13228	DEC 18	1443 6.9	41.62S	174.26E	5R	3.8	0.2	26	21
13230	DEC 18	1452 50.3	41.65S	174.25E	5R	2.1	0.2	9	6
13232	DEC 18	1650 39.3	41.03S	174.61E	37	2.6	0.1	14	10
13233	DEC 18	1823 3.9	41.74S	173.95E	16	2.1	0.3	6	4
13234	DEC 18	1859 10.8	40.95S	174.45E	69	2.8	0.1	11	7
13237	DEC 18	2019 8.4	40.83S	174.86E	65	2.3	0.1	7	6
13241	DEC 19	0150 54.9	41.63S	174.79E	29	2.1	0.1	11	7
13246	DEC 19	0434 32.0	40.82S	175.04E	33	2.1	0.1	8	6
13247	DEC 19	0512 31.5	40.90S	175.32E	28	2.5	0.1	10	8
13251	DEC 19	0751 25.7	41.30S	174.74E	28	2.1	0.1	7	4
13295	DEC 19	1646 14.4	40.88S	175.55E	26	2.3	0.1	11	8
13301	DEC 19	1834 4.9	41.65S	174.65E	26	2.1	0.2	11	7
13308	DEC 19	1954 8.8	40.97S	173.81E	69	2.6	0.3	7	5
13313	DEC 19	2342 22.7	41.36S	174.59E	36	2.5	0.2	13	9
13320	DEC 20	0548 12.6	41.41S	175.68E	31	2.7	0.1	13	11
13322	DEC 20	0922 6.6	41.68S	174.60E	35	2.3	0.2	11	8
13337	DEC 20	1553 5.5	41.26S	175.13E	28	2.3	0.2	14	11
13341	DEC 20	1953 32.7	40.51S	173.65E	98	2.9	0.2	8	5
13354	DEC 21	0337 39.8	40.75S	174.21E	53	2.0	0.2	7	5
13361	DEC 21	0903 40.9	41.64S	174.17E	30	2.2	0.3	12	7
13367	DEC 21	1157 0.8	41.07S	173.96E	57	2.2	0.2	9	6
13368	DEC 21	1158 56.0	41.50S	173.64E	56	2.3	0.3	10	6
13371	DEC 21	1231 41.9	40.54S	174.51E	51	2.7	0.2	21	17

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
13373	DEC 21	1318 47.6	41.13S	175.36E	23	2.0	0.1	9	7
13380	DEC 21	1501 32.0	41.79S	174.53E	31	2.9	0.1	21	17
13393	DEC 21	2213 8.3	41.37S	174.05E	43	3.0	0.2	23	16
13400	DEC 22	0357 46.1	41.43S	175.05E	23	2.5	0.1	15	11
13409	DEC 22	1010 2.2	40.60S	174.33E	12R	2.2	0.2	12	9
13412	DEC 22	1026 46.2	40.79S	174.50E	12R	2.0	0.6	6	4
13417	DEC 22	1302 35.7	41.37S	175.11E	27	2.2	0.1	14	10
13419	DEC 22	1422 13.3	41.33S	174.78E	30	2.6	0.1	17	13
13420	DEC 22	1423 36.8	41.85S	174.43E	21	2.2	0.1	8	6
13424	DEC 22	1553 21.6	40.71S	173.93E	81	2.7	0.2	10	6
13429	DEC 22	2050 11.3	41.39S	175.42E	15	2.6	0.1	14	10
13433	DEC 22	2131 20.9	41.39S	175.42E	15	2.0	0.1	10	7
13434	DEC 22	2236 56.0	41.18S	174.29E	43	2.2	0.1	9	6
13435	DEC 23	0042 14.3	41.37S	175.11E	28	2.1	0.1	13	10
13440	DEC 23	0145 44.5	41.27S	175.32E	30	2.9	0.1	15	11
13456	DEC 23	2014 42.9	41.68S	174.29E	5R	2.8	0.4	10	4
13463	DEC 24	0139 51.8	40.85S	175.16E	32	2.7	0.2	17	13
13464	DEC 24	0431 51.1	41.71S	174.48E	44	2.1	0.1	11	8
13469	DEC 24	0537 58.5	41.29S	174.59E	46	2.0	0.1	9	7
13475	DEC 24	1008 59.5	40.94S	175.54E	28	2.5	0.2	15	11
13480	DEC 24	1706 19.7	41.54S	174.21E	5R	2.4	0.4	8	4
13491	DEC 25	0611 44.4	41.64S	174.35E	5R	2.8	0.4	11	5
13497	DEC 25	1038 50.1	40.84S	174.16E	12R	2.5	0.1	7	4
13499	DEC 25	1204 50.9	40.90S	174.96E	5R	2.9	0.1	11	7
13503	DEC 25	1423 18.2	40.80S	174.86E	5R	2.0	0.2	8	6
13513	DEC 25	2155 42.0	41.79S	174.94E	5R	2.0	0.2	7	4
13529	DEC 26	0806 46.8	41.25S	173.58E	79	2.9	0.2	22	15
13545	DEC 26	1500 22.3	41.86S	174.45E	12R	2.1	0.2	12	8
13559	DEC 26	2102 45.1	41.05S	175.08E	28	2.3	0.1	9	8
13564	DEC 26	2218 21.7	41.74S	174.16E	12R	2.1	0.2	8	6
13567	DEC 27	0243 1.5	41.70S	174.22E	5R	2.3	0.4	12	10
13572	DEC 27	0622 49.8	41.75S	174.02E	29	3.0	0.3	24	17
13582	DEC 27	1202 20.7	41.02S	173.87E	67	2.8	0.3	15	11
13593	DEC 27	2021 13.7	41.16S	173.56E	92	2.8	0.3	18	13
13596	DEC 28	0105 30.3	40.79S	174.45E	26	2.4	0.3	9	7
13603	DEC 28	0714 51.7	41.18S	174.72E	36	3.2	0.1	18	16
13608	DEC 28	0958 6.8	41.72S	174.21E	10	2.4	0.2	16	14
13614	DEC 28	1427 43.6	40.81S	175.51E	28	2.7	0.1	13	8
13622	DEC 28	1955 44.5	41.61S	174.21E	12R	2.0	0.3	11	7
13629	DEC 28	2109 8.9	41.37S	173.82E	49	2.6	0.1	9	6
13633	DEC 28	2205 16.6	41.35S	174.66E	31	2.4	0.1	13	10
13639	DEC 29	0350 6.7	41.01S	174.64E	57	2.3	0.1	11	8
13646	DEC 29	0530 5.4	41.78S	173.94E	15	2.1	0.1	6	4
13650	DEC 29	0759 7.1	41.12S	175.45E	21	2.2	0.1	10	7
13653	DEC 29	1202 42.9	40.91S	175.97E	32	2.3	0.2	9	6

NUM	DATE	TIME	LAT	LONG	DEP	MAG	Rsd	NP	NS
13658	DEC 29	1523 34.1	40.67S	174.32E	58	3.0	0.3	29	23
13660	DEC 29	1632 32.4	41.02S	174.77E	56	2.1	0.1	9	6
13661	DEC 29	1759 2.8	41.09S	174.75E	22	2.1	0.2	9	6
13662	DEC 29	1817 12.4	41.41S	173.62E	100	2.4	0.1	8	5
13673	DEC 30	0640 53.5	41.86S	174.06E	7	2.7	0.2	16	13
13676	DEC 30	1349 59.5	41.82S	174.68E	33	2.1	0.1	8	5
13678	DEC 30	1409 58.1	40.86S	175.80E	29	2.1	0.1	7	5
13683	DEC 30	1915 59.3	41.27S	175.31E	26	2.0	0.1	10	7
13686	DEC 31	0034 53.5	41.63S	174.60E	30	2.4	0.1	10	8
13690	DEC 31	0446 15.3	41.28S	175.25E	29	3.0	0.1	19	14
13691	DEC 31	0503 59.9	41.27S	175.25E	26	2.1	0.1	10	8
13700	DEC 31	1031 40.7	40.73S	174.04E	68	2.0	0.3	9	6
13704	DEC 31	1249 13.3	41.25S	174.42E	33	2.2	0.1	9	7
13705	DEC 31	1453 34.2	40.86S	173.74E	39	2.4	0.2	10	7
13707	DEC 31	1535 41.2	41.28S	175.25E	29	2.9	0.1	17	12

NON-INSTRUMENTAL DATA

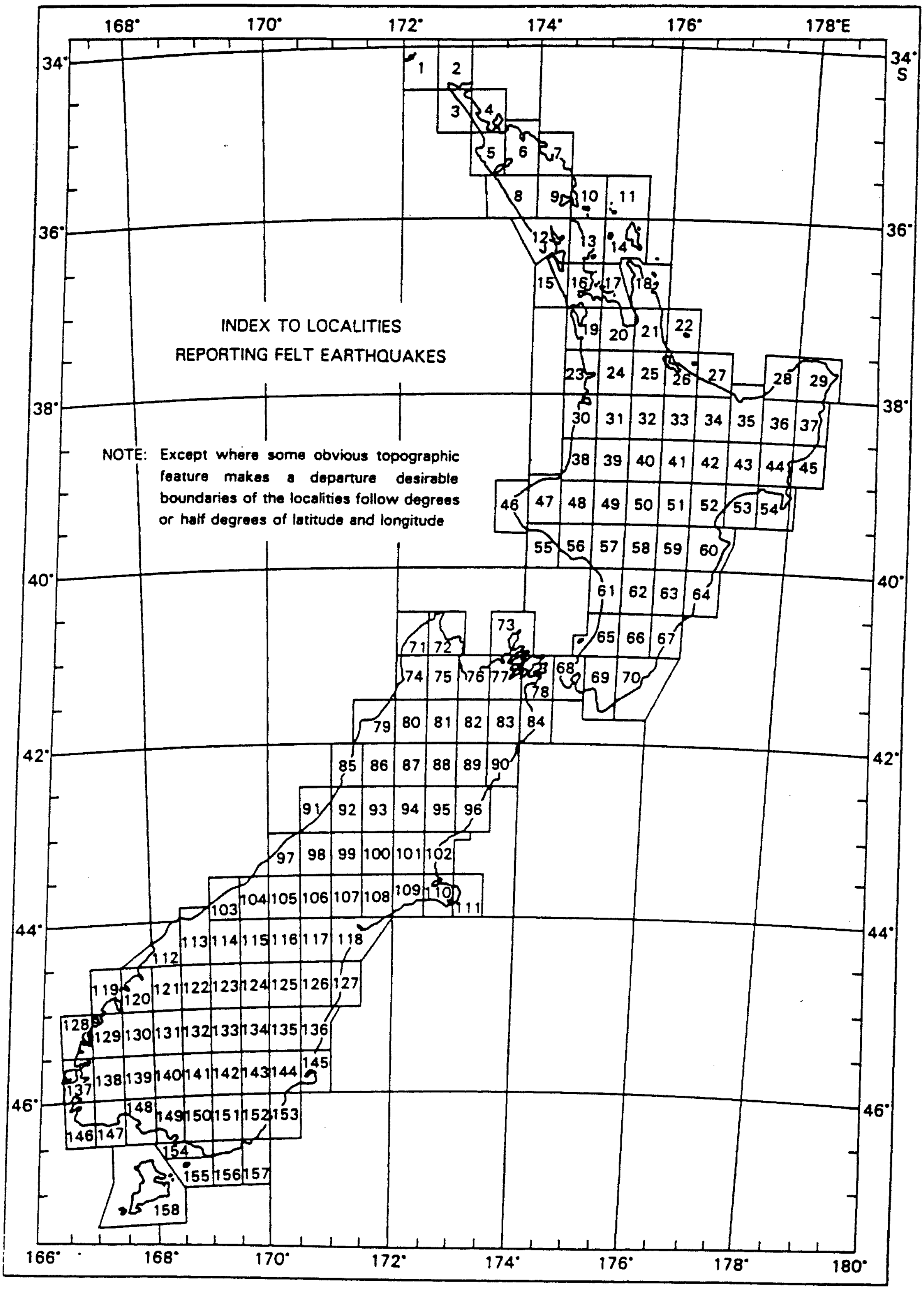
THE FELT REPORTING SYSTEM

The Observatory has recruited a network of about 600 volunteer observers spread throughout the country, who use a standard form to describe the effects of any earthquake they feel. The Observatory also collects casual reports from newspapers, meteorological observers, postmasters and members of the local public. For large earthquakes, or ones with features of special interest, questionnaires are issued and assessed.

Several difficulties arise in assessing the distribution of felt intensity. The population of the country is very unevenly spread, and the observers' personal circumstances may prevent them from feeling a shock that has been noticed by others. These problems also affect lists of earthquakes felt in particular localities. It may reasonably be assumed that a strong earthquake reported from one township was felt in another nearby, even though the Observatory has received no report. However, an index of this kind must summarise data and not deductions, so the following scheme is used.

The land area of New Zealand has been divided into 'localities', mostly bounded by half-degree lines of latitude and longitude, but varied as necessary to avoid splitting obvious geographic or structural units (see map opposite). Each locality has a number and a name, usually that of the principal population centre within it. The names are listed overleaf. In most localities there are at least two well-separated reporters, but there are still some sparsely populated parts of the country without observers, notably in Southland. Felt information is summarised in information lines following the instrumental data in the main list of earthquakes. Modified Mercalli intensities quoted there have been assessed by the Observatory from replies to standard questionnaires. Assessments based on less formal descriptions of intensity are included in the following list, in which the localities which have reported shocks during the year are presented in alphabetical order, each followed by the reference numbers of the shocks felt and their respective maximum reported intensities within that locality. By comparing the reports from neighbouring localities, it is possible to form a truer estimate of the incidence of the felt effects than would be possible from a simple list of places reporting each shock.

A further list records reports received from places in the south-west Pacific.



Standard Reporting Localities.

STANDARD REPORTING LOCALITIES

1	Three Kings	41	Taupo	81	Glenhope	121	Glenorchy
2	Te Reinga	42	Te Whaiti	82	Wairau	122	Arrowtown
3	Ninety Mile Beach	43	Tuai	83	Awatere	123	Wanaka
4	Doubtless Bay	44	Whakapunaki	84	Cape Campbell	124	St Bathans
5	Kaitaia	45	Gisborne	85	Greymouth	125	Kurow
6	Kaikohe	46	Cape Egmont	86	Reefton	126	Duntroon
7	Bay of Islands	47	New Plymouth	87	Maruia	127	Waimate
8	Dargaville	48	Whangamomona	88	Hanmer	128	Secretary Is.
9	Whangarei	49	Ohakune	89	Clarence	129	Doubtful Sound
10	Bream Head	50	Chateau	90	Kaikoura	130	Te Anau
11	Moko Hinau	51	Kaweka	91	Hokitika	131	Livingstone Mts
12	Kaipara	52	Napier	92	Kumara	132	Kingston
13	Warkworth	53	Wairoa	93	Arthur's Pass	133	Alexandra
14	Barrier Islands	54	Mahia	94	Lake Sumner	134	Poolburn
15	Helensville	55	Hawera	95	Culverden	135	Ranfurly
16	Auckland	56	Waverley	96	Cheviot	136	Oamaru
17	Waiheke	57	Wanganui	97	Franz Josef	137	Resolution Island
18	Coromandel	58	Taihape	98	Hari Hari	138	Pillans Pass
19	Pukekohe	59	Ruahine	99	Whitcombe Pass	139	Monowai
20	Mercer	60	Hastings	100	Lake Coleridge	140	Mossburn
21	Thames	61	Bulls	101	Oxford	141	Waikaia
22	Mayor Is.	62	Palmerston North	102	Rangiora	142	Roxburgh
23	Raglan	63	Dannevirke	103	Haast	143	Lawrence
24	Hamilton	64	Porangahau	104	Bruce Bay	144	Outram
25	Matamata	65	Otaki	105	Mount Cook	145	Dunedin
26	Tauranga	66	Masterton	106	Tekapo	146	Puysegur Point
27	Whakatane	67	Castlepoint	107	Mount Somers	147	Poteretere
28	Te Kaha	68	Wellington	108	Ashburton	148	Tuatapere
29	East Cape	69	Featherston	109	Rakaia	149	Invercargill
30	Kawhia	70	Martinborough	110	Christchurch	150	Gore
31	Te Kuiti	71	Mount Stevens	111	Akaroa	151	Clinton
32	Tokoroa	72	Takaka	112	Big Bay	152	Balclutha
33	Rotorua	73	D'Urville Island	113	Jackson's Bay	153	Waihola
34	Murupara	74	Karamea	114	Makarora	154	Bluff
35	Opotiki	75	Motueka	115	Lake Ohau	155	Ruapuke
36	Motu	76	Nelson	116	Pukaki	156	Tahakopa
37	Tolaga Bay	77	Blenheim	117	Fairlie	157	Owaka
38	Mokau	78	Picton	118	Timaru	158	Stewart Is.
39	Taumarunui	79	Westport	119	George Sound	159	Chatham Islands
40	Tokaanu	80	Murchison	120	Milford		

EARTHQUAKES FELT IN STANDARD LOCALITIES

Localities within which earthquakes were felt are listed in alphabetical order, each preceded by its number on the reference map. Each set of numbers, separated by commas, following the name of the locality consists of an earthquake reference number followed by the maximum intensity (in brackets) reported within the district covered by the locality name. An asterisk (*) indicates that the particular intensity was not evaluated from the standard questionnaire. The location of the earthquake, the instrumental magnitude and the actual places at which it was reported felt may be found from the table Summary of Origins and Magnitudes.

16	Auckland	5421	(4),	6323	(5).								
17	Waiheke	6323	(4).										
26	Tauranga	6414	(4).										
27	Whakatane	57	(4*).										
31	Te Kuiti	7739	(4).										
33	Rotorua	2552	(4),	2853	(4),	2923	(4),	2928	(5),	2948	(4),	2969	(4),
		2971	(4),	2972	(4),	3001	(4),	3002	(5),	3030	(3),	3035	(3),
		3067	(3),	3068	(3),	3084	(4),	3086	(3),	3134	(3),	3143	(4),
		3239	(4),	3240	(4),	3241	(5),	3245	(4),	3246	(3),	3261	(4),
		3265	(4),	3268	(4),	3278	(4),	3546	(4),	3547	(4),	3608	(4),
		3728	(4),	3729	(4),	3730	(4),	3735	(4),	3769	(4),	3873	(4),
		4027	(4),	4350	(4),	4379	(4),	4380	(4),	4384	(4),	5333	(4),
		6581	(4),	6715	(4),	6848	(3),	6851	(3),	6855	(3),	6922	(5),
		6930	(4),	12960	(4),	12964	(4).						
35	Opotiki	57	(4),	419	(4),	1882	(4),	3077	(4),	3241	(4),	5421	(4),
		6158	(4),	6228	(4),	9823	(4),	11422	(4),	11651	(4),	13679	(4).
36	Motu	6228	(4),	7126	(4),	8114	(4),	9823	(4).				
39	Taumarunui	1644	(3),	2063	(3),	7739	(4).						
40	Tokaanu	7739	(4).										
41	Taupo	5022	(4),	5450	(4),	5678	(4),	6228	(4),	7087	(4),	7344	(4),
		9875	(4),	9891	(4),	13679	(4).						
43	Tuai	5475	(4),	6228	(4).								
44	Whakapunaki	6228	(3).										
45	Gisborne	147	(4),	5421	(4),	5475	(4),	6228	(4),	7126	(4),	7130	(4),
		9823	(4).										
46	Cape Egmont	7631	(4),	9693	(4),	12615	(4).						
47	New Plymouth	5421	(4),	7631	(4),	9693	(4).						
48	Whangamomona	12325	(4).										
49	Ohakune	1143	(4),	1644	(4),	5421	(4),	7437	(4).				
50	Chateau	1345	(5),	1360	(4*),	1644	(4*).						
52	Napier	400	(4*),	1084	(4),	1177	(4*),	5421	(4),	5475	(4),	6228	(4),
		8217	(4),	11422	(4),	11669	(4).						

53	Wairoa	5421	(4).											
56	Waverley	1644	(4),	5421	(4).									
57	Wanganui	284	(4*),	1143	(4*),	1588	(4*),	5421	(4),	13371	(4).			
58	Taihape	1644	(3),	5134	(4),	6320	(4),	10019	(4),	11593	(4),	11669	(4),	
		13679	(4).											
60	Hastings	380	(4),	1078	(4),	1084	(4),	1177	(4),	5421	(5),	11669	(4).	
61	Bulls	284	(4),	1588	(4),	1644	(4),	5421	(4),	7631	(4),	7966	(3),	
		10887	(4),	11391	(3),	11809	(4),	12624	(4),	13371	(4),	13679	(4).	
62	Palmerston North	5421	(4),	10887	(3),	11391	(3).							
63	Dannevirke	5421	(4),	11190	(4).									
64	Porangahau	13679	(3).											
65	Otaki	417	(4),	1588	(4),	1627	(4),	1922	(4),	5421	(5),	5702	(4),	
		5825	(4),	6027	(4),	6320	(4),	7454	(4),	8114	(4),	8442	(4),	
		10722	(3),	12983	(4),	13371	(4),	13679	(4).					
66	Masterton	11585	(4).											
68	Wellington	1588	(4),	1627	(4),	1757	(4),	1922	(4),	2754	(4),	4784	(4),	
		5421	(4),	5702	(4),	5781	(4),	5825	(4),	6027	(4),	6099	(4),	
		8267	(4),	8949	(5),	9290	(4),	9661	(4),	10508	(4),	13371	(4),	
		13679	(3).											
69	Featherston	284	(4*),	1757	(4*),	1922	(4),	5421	(4),	8657	(4),	9726	(4),	
		11222	(4).											
72	Takaka	9007	(4).											
76	Nelson	5421	(4),	11351	(4).									
77	Blenheim	1922	(4),	5421	(4),	6385	(4),	8267	(3),	12768	(4).			
78	Picton	1627	(4),	4784	(4),	5926	(4),	6385	(4).					
79	Westport	4068	(4),	10985	(3).									
81	Glenhope	11351	(4).											
84	Cape Campbell	8733	(4),	8745	(5),	9611	(4).							
85	Greymouth	548	(4*),	4724	(4),	11398	(5).							
91	Hokitika	5421	(4*).											
92	Kumara	4724	(4),	11398	(4).									
96	Cheviot	548	(4),	8069	(4).									
97	Franz Josef	11398	(5).											
99	Whitcombe Pass	261	(4),	4296	(4).									
100	Lake Coleridge	11398	(4).											

103	Haast	6748	(4),	11398	(5).									
104	Bruce Bay	6748	(4),	11398	(5),	11401	(3),	11459	(4).					
105	Mount Cook	11398	(5).											
110	Christchurch	641	(4*),	1375	(4*),	5421	(4*),	9682	(4),	9684	(4),	11398	(3).	
113	Jackson's Bay	1683	(4),	1692	(4),	2004	(3),	6486	(4),	6729	(3),	6734	(4),	
		8409	(4),	11124	(4),	11398	(4).							
115	Lake Ohau	11398	(5),	11459	(4).									
117	Fairlie	11398	(4).											
118	Timaru	1375	(4),	11398	(4).									
120	Milford	2004	(4),	2744	(4),	6486	(4).							
121	Glenorchy	2404	(3).											
122	Arrowtown	4776	(4).											
123	Wanaka	11398	(4).											
124	St Bathans	1375	(4).											
125	Kurow	1375	(6).											
127	Waimate	1375	(4),	1381	(4*),	1387	(4*),	1397	(4*),	1408	(4*),	1415	(4*),	
		1427	(4*),	2315	(3).									
130	Te Anau	4156	(4),	4776	(4).									
132	Kingston	1955	(4*),	6748	(4),	11398	(3).							
133	Alexandra	11106	(3),	11398	(4).									
135	Ranfurly	4262	(4),	11398	(3).									
136	Oamaru	4262	(4).											
138	Pillans Pass	1955	(4),	2744	(4),	2745	(4),	4776	(4).					
139	Monowai	2744	(4),	4776	(4).									
140	Mossburn	4776	(4).											
144	Outram	1375	(4*),	4262	(4),	4776	(4).							
145	Dunedin	1375	(4),	11398	(4).									
148	Tuatapere	4776	(4).											
149	Invercargill	516	(4),	827	(4*),	4776	(4).							
152	Balclutha	8933	(5).											
153	Waihola	9988	(4).											

FELT REPORTS FROM OUTSIDE NEW ZEALAND

The Observatory sometimes receives reports of earthquakes felt on islands of the south-west Pacific and other places beyond the limits of its systematic reporting network. Where Modified Mercalli scale intensities in the list below are shown in quotes, they have been estimated by the reporters, not the Observatory.

DATE	TIME	INTENSITY	PLACE
Mar 08	14h 02m	MM 4	Raoul Island.
Mar 20	01h 05m	MM 3	Raoul Island.
May 08	16h 52m	MM 4	Raoul Island.
Jun 20	20h 25m	MM 4	Raoul Island.
Jul 09	14h 45m	MM 4	Raoul Island.
Nov 23	18h 53m	MM 4	Raoul Island.
Nov 24	13h 45m	MM 4	Raoul Island.
Nov 27	08h 52m	MM 4	Raoul Island.
Nov 27	13h 30m	MM 4	Raoul Island.
Dec 27	00h 40m	MM 3	Raoul Island.
Dec 27	07h 00m	MM 4	Raoul Island.

PUBLICATIONS BY STAFF MEMBERS

The following papers by members of the Seismological Observatory staff were published in 1998.

Abercrombie, R.E.; Benites, R. A. Strong motion modelling of the 1993 Tikokino earthquake, southern Hawke's Bay, New Zealand. *New Zealand journal of geology and geophysics. 41(3):* 259-270.

The 1993 Tikokino, New Zealand, earthquake (M_L 6.1) is modelled as a unilateral rupture, exhibiting clear source directivity to the south. The earthquake was recorded by four strong motion stations within 30 km: Waipawa to the south, and three sites in Napier and Hastings to the northeast. The shorter duration and greater amplitudes (by a factor of 10) observed at Waipawa with respect to the other stations provide clear evidence for the southward rupture direction. The Tikokino earthquake occurred on a shallow dipping, oblique reverse fault, and probably represents movement at the plate interface. A high rupture velocity is required to match the distribution of observed ground shaking, and the rupture area is constrained to be c. 7 x 2 square km. The moment of the preferred model is 1.1×10^{18}Nm (M_w 6.0) and the stress drop about 35 MPa. This high average stress drop is consistent with the rupture being confined to an isolated asperity. The model used consists of finite, rectangular fault rupturing with prescribed velocity and direction, and with uniform slip. The fault is embedded in a planar layered seismic velocity structure. The ability of the model to match the principal features of the observed seismograms suggests that it will be a useful tool in the prediction of strong ground motion for seismic hazard studies in the region.

Abercrombie, R.E. A summary of attenuation measurements from borehole recordings of earthquakes : the 10 Hz transition problem. *Pure and applied geophysics. 153(2/4):* 475-487.

Earthquake seismograms recorded by instruments in deep boreholes have low levels of background noise and wide signal bandwidth. They have been used to extend our knowledge of crustal attenuation both in near-surface and at seismogenic depths. Site effects are of major importance to seismic hazard estimation, and the comparison of surface, shallow and deep recordings allows direct determination of the attenuation in the near-surface. All studies to date have found that Q is very low in the near-surface (~10 in the upper 100m), and increases rapidly with depth. Unlike site amplification, attenuation at shallow depths exhibits little dependence on rock-type. These observations are consistent with the opening of fractures under decreasing lithostatic pressure being the principal cause of the severe near-surface attenuation. Seismograms recorded in deep boreholes are relatively unaffected by near-surface effects, and thus can be used to measure crustal attenuation to higher frequencies (≥ 100 Hz) than surface recordings. Studies using both direct and coda waves recorded at over 2 km depth find Q to be high (~1000) at seismogenic depths in California, increasing only weekly with frequency between 10 and 100 Hz. Intrinsic attenuation appears to be the dominant mechanism. These observations contrast with those of the rapidly increasing Q with frequency determined from surface studies in the frequency range 1 to 10 Hz. Further work is necessary to constrain the factors responsible for this apparent change in the frequency dependence of Q, but it is clearly unwise to extrapolate Q estimates made below about 10 Hz to higher frequencies.

Abercrombie, R.E.; Robinson, R.; Webb, T.H.; McGinty, P.J. The 1994 Arthurs Pass earthquake : an unusual event with an unusual aftershock sequence. *Eos. 79(17:supplement):* S221.

Aitken, J.J.; Webb, T.H. The where and when of New Zealand earthquakes. *Tephra. 17:* 7-11.

Clever science and technology that accurately measure and locate earthquakes are too recent for our scientists to have detailed pattern books for earthquake behaviours in all parts of New Zealand. On top of this, our written history is too short for seismologists to sort out patterns of normally recurring earthquake activity from activity that heralds an earthquake emergency. Identifying the where and when of local earthquakes is absolutely fundamental to planning ways of lessening earthquake disasters in the future. It is possible that different parts of New Zealand have such different earthquake environments that identifying patterns for some areas may be decades away. And, of course, some areas may not be prone to repetitive earthquake patterns at all. In the late 1980s, however, the national network of seismographs (instruments that record earthquake waves) was upgraded so that earthquakes could be located more accurately and efficiently.

Audoine, E.; Savage, M.K.; Gledhill, K.R. Seismic anisotropy from local earthquakes in the transition from a subduction to a strike-slip plate boundary, New Zealand. *Eos. 79(45:supplement):* F903.

Audoine, E.; Savage, M.; Gledhill, K.R. Upper mantle and crustal anisotropy from Taranaki to Marlborough region, NZ. *Geological Society of New Zealand, New Zealand Geophysical Society 1998 Joint Annual*

Conference, 30 November - 3 December : programme & abstracts. (Bassett, K.N. (ed.); Nobes, D.C. (ed.)) Wellington, NZ : Geological Society of New Zealand, 1998. Geological Society of New Zealand miscellaneous publication. 101A: 32.

Chadwick, M.P. Upgrade of the National Seismograph Network underway. *Newsletter / New Zealand Geophysical Society. 5:* 31.

The author reports on significant developments in the National Seismograph Network.

Chadwick, M.P.; Gledhill, K.R.; Fenaughty, K.F.; Webb, T.H. The New Zealand geophysical network : real-time continuous monitoring of geological hazards. *Eos. 79(45:supplement):* F568.

Chadwick, M.P.; Fenaughty, K.F.; Gledhill, K.R.; Webb, T.H.; Wood, C.P. The New Zealand Geophysical Network : an integrated approach to monitoring geological hazards. *Eos. 79(24:supplement):* W80.

Downes, G.L. Conferences reviewed : San Francisco in December : American Geophysical Union Fall Meeting. *Newsletter / New Zealand Geophysical Society. 49:* 41-42.

Highlights of this AGU Meeting seismological programme included special sessions on hazard mitigation; the seismotectonics of shallow subduction zones; observations and data we should be providing for our grandchildren; geophysical retrospectives: the Hutton-Lyell bicentennial, and on neotectonics, coastal archaeology and sea level variations.

Falconer, R.K.H.; Scott, B.J.; Kozuch, M.J.; Johnston, D.M.; Webb, T.H.; Gledhill, K.R.; Chadwick, M.P. GeoHazard monitoring networks: what practical uses they bring to hazard and risk management. In *Proceedings of the Natural Hazards Management Workshop : Christchurch, 4-5 November 1998. (Johnston, D.A. (comp) Kingsbury, P.A. (comp.)) Lower Hutt: Institute of Geological & Nuclear Sciences information series. 45:* 11-17.

New Zealand is faced with a variety of natural hazards which are capable of producing very large economic losses. The small 1995-96 eruptions cost the country in excess of $130 million. Losses from the 1987 Edgecumbe earthquake are estimated to have cost more than $330 million. Although these events were costly, New Zealand has yet to experience a major disaster in recent times. The cost of future disasters is expected to increase nonlinearly as infrastructures become more expensive, complex, and interdependent. To minimize our risk to natural hazards and meet the needs of emergency managers, the New Zealand GeoHazards Service will provide comprehensive rapid response as part of its suite of services to the hazard prone community. These services will be continuously rolled out over a period of several years and will provide near real-time information on earthquakes, volcanic eruptions and landslides and any other natural disaster as it occurs. We will rely heavily on GIS, Internet and satellite technology to provide information to users. Internet push technology will deliver alerts and information tailor-made to meet the needs of the subscribers. In addition, limited cyber information will be available for access to the public. This approach to rapid response draws on new technologies that have emerged in communications and IT. Advances in these technologies promise new opportunities for hazards users to respond to emergencies as never before.

Gledhill, K.R.; Savage, M.K. Seismic anisotropy and mantle deformation in New Zealand. *Abstracts from the 10th Annual IRIS Workshop. [California]: The IRIS Consortium, 1998.* 1 p.

Grapes, R.; Little, T.; Downes, G.L. Rupturing of the Awatere Fault during the 1848 October 16 Marlborough earthquake, New Zealand: historical and present day evidence. *New Zealand journal of geology and geophysics. 41(4):* 387-399.

Evidence from newspaper reports, diaries and journals, related first-hand information, an 1854 survey map of the lower part of the Awatere Valley, and reports by geologists between 1856 and 1890, indicates that surface rupturing occurred on the Awatere Fault during the 1848 October 16 earthquake and not on the Wairau Fault as previously inferred. The rupture was initially described as a "fissure", "crack", and later as a "rent", and although it extended for c. 105km (from the coast to Barefell Pass), it was not termed a fault because displacement of the land surface or strata across the rupture could not be determined. The coincidence of the 1848 earthquake "rent" and the Awatere Fault was first demonstrated by Alexander McKay in 1885. Present day evidence of the 1848 Awatere Fault rupture is indicated by a depression between 0.6-1.5 m wide and c. 0.3 m deep that has the appearance of an infilled fissure similar to that described in early reports. The smallest and freshest displacements along the fault (15 displacements; 12 localities, most within c.20 km of the coast) range between 4 and 8 m dextral with both the southeast and northwest sides variably upthrown between 3.5 and 0.4 m. Dextral and vertical displacement appears to decrease towards the coast, consistent with a low rate of Late Quaternary slip (<1.4 mm/yr) and the inferred termination of the fault in Cook Strait. The 1848 rupture apparently bypassed the ENE-striking Molesworth section of the Awatere Fault, which implies that the intersection (near Molesworth Station) between this strand and the eastern section of the fault that reaches the coast may be an important mechanical boundary controlling the location of earthquake rupture segments along the Awatere Fault. Reassessment of felt intensities (based on contemporary descriptions), minimum fault rupture length (105 km), and average dextral displacement (6 m), indicates a magnitude for the 1848 earthquake of M 7.4-7.5.

Kozuch, M.J.; Johnston, D.; Webb, T.H.; Gledhill, K.R. Comprehensive rapid response to natural hazards will come on-line in New Zealand with Geohazards Service. In *Disaster management : crisis and opportunity : hazard management and disaster preparedness in Australasia and the Pacific. (King D. (ed) Berry, L. (ed)) Cairns, Qld. : James Cook University:* 133-139.

New Zealand is faced with a variety of natural hazards which are capable of producing very large economic losses. The small 1995-96 Ruapehu eruptions cost the country in excess of $130 million dollars. Losses from the 1987 Edgecumbe earthquake are estimated to have cost more than $1 billion dollars. Although these events were costly, New Zealand has yet to experience a major disaster in recent times. The cost of future disasters is expected to increase nonlinearly as infrastructures become more expensive, complex, and interdependent. To minimize our risk to natural hazards and meet the needs of emergency managers, the New Zealand GeoHazards Service will provide comprehensive rapid response as part of its suite of services to the hazard prone community. These services will be continuously rolled out over a period of several years and will provide near realtime information on earthquakes, volcanic eruptions and landslides and any other natural disaster as it occurs. We will rely heavily on GIS, Internet and satellite technology to provide information to users. Internet push technology will deliver alerts and information tailor-made to meet the needs of the subscribers. In addition, limited cyber information will be available for access to the public. This approach to rapid response draws on new technologies that have emerged in communications and IT. Advances in these technologies promise new opportunities for hazards users to respond to emergencies as never before.

McGinty, P.; Reyners, M.E. Stress directions in the shallow part of the Hikurangi Subduction Zone. *Geological Society of New Zealand, New Zealand Geophysical Society 1998 Joint Annual Conference, 30 November - 3 December : programme & abstracts. (Bassett, K.N. (ed.); Nobes, D.C. (ed.)) Wellington, NZ : Geological Society of New Zealand miscellaneous publication. 101A:* 162.

McLeod, D.P.; Stedman, G.E.; Webb, T.H.; Schreiber, U. Comparison of standard and ring laser rotational seismograms. *Bulletin of the Seismological Society of America. 88(6):* 1495-1503.

Coupling mechanisms and detection thresholds are discussed for ring laser gyroscope measurement of seismic rotation, and simultaneous records from a ring laser and a standard EARSS seismograph 230 km from an M_L 5.3 seismic event are compared. Rotation dominates tilt and strain in modulating the Sagnac frequency, and microseisms are not significant. Power spectral densities for the ring laser and for the seismograph signals are enhanced in the 0.2- to 10-Hz range by up to 18 and 60 dB, respectively, over the noise floors (-160 dB, or order nanoradians per second, and -130 dB, respectively). A seismic sideband of the Earth rotation spectrum is found. These ring laser signals have magnitudes consistent with the amplitude of the standard seismograph record.

Maunder, D.E. (ed). New Zealand seismological report 1996. *Institute of Geological and Nuclear Sciences science report. 98/9:* 150p.

This report contains summaries of origin times, epicentres, focal depths and magnitudes of earthquakes that occurred in the New Zealand region during 1996. It also contains a brief account of the principal earthquakes of 1996, details of the instruments used to record earthquakes, descriptions of Observatory practices and abstracts of papers by Observatory staff.

Neuberg, J.; Luckett, R.; Benites, R.A. Detailed modelling of long-period earthquake swarms on Montserrat. *Geoscience 98 : Keele University, 14-18 April 1998 : abstracts. ( ) London : The Geological Society, 1998:* 61.

Reyners, M.E.; McGinty, P.; Gledhill, K. The Ormond, New Zealand, earthquake of 1993 August 10 : rupture in the mantle of the subducted Pacific Plate. *New Zealand journal of geology and geophysics. 41(2):* 179-185.

Data from temporary seismographs installed immediately after the M_L 6.3 Ormond earthquake of 1993 August 10 have been used to determine the nature of faulting which took place during the event. The rupture began at 37 km depth, within the mantle of the subducted Pacific Plate, and aftershocks extended from near the base of the subducted crust to c.20 km into the subducted mantle. Aftershocks in the mantle decayed exceptionally rapidly compared with those in the crust of the subducted plate. This may reflect a hotter, more ductile mantle and/or relatively homogeneous rupture within the mantle during the mainshock. Aftershocks within the mantle show a variety of thrusting mechanisms. Focal mechanisms of aftershocks within the subducted crust indicate that compression along strike dominates over slab pull, and that the down-dip stress has a similar magnitude to the vertical stress. This suggests that, at least after the Ormond earthquake, the tectonic stress coupled across the plate interface is rather low.

Reyners, M.E. Why does New Zealand have lots of earthquakes? *Tephra. 17:* 4.

New Zealand has many earthquakes because it straddles the boundary between two of the earth's great tectonic plates - the Pacific Plate in the east and the Australian Plate in the west. These two plates are converging obliquely at about 40 mm/year in Fiordland and at about 50 mm/year at East Cape.

Reyners, M.E. The inner core : the New Zealand connection continues. *Tephra. 17*: 33.

Seismograph recordings in Europe of the magnitude 7.8 Murchison earthquake of 1929 provided the Danish seismologist Inge Lehmann with evidence for the existence of a solid inner core, with a seismic velocity larger than the liquid outer core of the Earth.

Reyners, M.E.; Beavan, R.J. What are the largest subduction zone earthquakes we can expect? *Tephra 17:* 35-39.

Most of the world's great earthquakes and tsunamis involve thrusting between the plates in the shallow part of subduction zones. The largest earthquake ever recorded instrumentally, the magnitude 9.5 Chile shock of 1960, was such an event. During this earthquake, the Pacific Plate thrust under the South American Plate by an average of 20 metres along a 1000 km-long section of the coastline. The magnitude 9.3 Alaskan earthquake of 1964 also involved such thrusting between the plates, as did the magnitude 7.9 Kanto earthquake of 1923, which caused major destruction and loss of life in Tokyo. Subduction zones occur in New Zealand from Kaikoura to East Cape (the Hikurangi subduction zone), and also in Fiordland and the region to the south. So what is the potential for such huge events here?

Reyners, M.E. Royal Society of New Zealand : international science representation and communication. *Newsletter / New Zealand Geophysical Society. 51*: 27.

Martin Reyners was recently appointed the Society's inaugural liaison officer to the RSNZ for international activities in geophysics. Here he explains his role.

Reyners, M.E. Conferences reviewed : Conference on Leadership Priorities for New Zealand Science and Technology, Wellington, 5-6 November 1998. *Newsletter / New Zealand Geophysical Society. 51:* 41-43.

The aim of the Royal Society of New Zealand in organizing this conference was to provide a forum for a comprehensive view of the contribution of science and technology to New Zealand's long-term sustainable economic growth and to the future. It was intended to explore the ways in which this contribution might be implemented, and was expected to encourage and strengthen public discussion at a time that was critically important for the Foresight process.

Reyners, M.E. Plate coupling and the hazard of large subduction thrust earthquakes at the Hikurangi subduction zone, New Zealand. *New Zealand journal of geology and geophysics. 41(4):* 343-354.

Recent dense deployments of portable seismographs along the Hikurangi subduction zone have provided insights into the structure and seismic strain regime of the subducted and overlying plates, and the nature of plate coupling at the shallow part of the plate interface. Beneath Marlborough, the plates appear to be permanently locked, and large subduction thrust events are not expected. In the Wellington and Wairarapa regions, the plates appear to be strongly coupled over a downdip width of the plate interface of c. 70 km. Subduction thrust earthquakes of about M_W 8.0 are estimated for this region. Farther to the northeast, the downdip width of the inferred locked portion of the plate interface progressively decreases, and subduction thrust events of about M_W 6.9 are estimated for the northern part of the Raukumara Peninsula. In the south of the subduction zone, changes in coupling arise principally from changes in the thickness of the subducted plate, whereas in the north they are mainly due to changes in thickness of the overlying plate. Tectonic rotations within the overlying plate observed paleomagnetically appear to be a natural consequence of changes in plate coupling along the subduction zone.

Robinson, R.; Benites, R.; Van Dissen, R.J. Evidence for temporal clustering of large earthquakes in the Wellington Region from computer models of seismicity. *Bulletin of the New Zealand National Society for Earthquake Engineering. 31(1):* 24-32.

Temporal clustering of large earthquakes in the Wellington region, New Zealand, has been investigated with a computer model that generates long synthetic seismicity catalogues. The model includes the elastic interactions between faults. Faults included in the model, besides the subduction thrust between the Australian and Pacific plates, are segments of the four major strike-slip faults that overlie the plate interface (Wairarapa, Wellington, Ohariu, and Wairau faults). Parameters of the model are adjusted to reproduce the geologically observed slip rates of the strike-slip faults. The seismic slip rate of the subduction thrust, which is unknown, is taken as 25% of the maximum predicted by the plate tectonic convergence rate, and its position fixed according to recent geodetic results. For comparison, the model was rerun with the elastic interactions suppressed, corresponding to the usual approach in the calculation of seismic hazard where each fault is considered in isolation. Considering earthquakes of magnitude 7.2 or more ("characteristic" events in the sense that they rupture most of a fault plane), the number of short (0-3 years) inter-event times is much higher with interactions than for the corresponding case without interactions (46% vs. 2% of all inter-event times). This reduces to 9% vs. 2% if the subduction thrust is removed from the models. Paleoseismic studies of the past seismic behaviour of the subduction thrust are clearly needed if the degree of clustering is to be tightly constrained. Although some other aspects of our model can be improved in future, we think that the probability of significant short-term clustering of large events, normally neglected in hazard studies, is very high. This has important implications for the engineering, insurance and emergency response communities.

Robinson, R. A test of the precursory accelerating moment release model using some recent New Zealand earthquakes. *Eos. 79(45:supplement):* F643.

Savage, M.K.; Audoine, E.; Gledhill, K.R.; Klosko, E.; Wu, F.; Sheehan, A.F.; Lowry, A.R. Comparison of plate boundary deformation in the mantle beneath New Zealand and the western US : evidence from shear-wave splitting. *Eos. 79(45:supplement):* F902-F903.

Van Dissen, R.J.; Begg, J.G.; Palmer, A.; Nicol, A.; Darby, D.J.; Reyners, M.E. Newly discovered active faults in the Wellington region, New Zealand. *New Zealand National Society for Earthquake Engineering Technical Conference and AGM, Wairakei Resort, Taupo, Friday/Sunday 27-29 March 1998. Lower Hutt : New Zealand National Society for Earthquake Engineering.* 1-7.

Half a dozen "new" active faults have been discovered in the Wellington region during the last five years as a result of continued geological and geophysical research. Each of these faults represents a previously unrecognised source for large magnitude earthquakes (M ≥ 7) capable of generating damaging levels of shaking throughout the region. Three of these faults are located in the western Tararua Range between Paraparaumu and Palmerston North. One fault extends through Whitemans Valley between Wainuiomata and Upper Hutt, and another extends directly underneath Martinborough. The last fault, the subduction thrust beneath Wellington between the Pacific and Australian plates, is potentially the most dangerous, and while technically not a "newly" discovered fault, newly acquired and analysed geodetic and seismological data strongly suggest that the subduction thrust beneath Wellington is accumulating strain that will most likely be released as huge earthquakes (possibly exceeding M 8).

Webb, T.H.; Anderson, H. Focal mechanisms of large earthquakes in the North Island of New Zealand: slip partitioning at an oblique active margin. *Geophysical journal international. 134(1):* 40-86.

We have used body-wave modelling to determine the source parameters of 22 moderate to large earthquakes that have occurred along the Hikurangi subduction margin and elsewhere in the North Island of New Zealand since 1964. We have also included events from the Harvard CMT catalogue since 1977 as that catalogue contains smaller events than can be modelled with body waves. We have found that shallow earthquakes occurring in the back-arc Taupo Volcanic Zone and its extension to the north show predominantly normal faulting with nodal planes parallel to the regional fabric and T-axes indicating extension in a direction in agreement with geodetic measurements. A normal faulting solution for the 1974 Opunake earthquake is compatible with the mapping of active faults in the offshore Taranaki region, and the initiation depth of 17 km is close to the expected brittle-ductile transition for that area. Earthquakes within the subducted plate at the southwestern end of the margin are dominated by down-dip tension that is rotated towards the deepest part of the subducting plate. Further north, the events in the upper part of the Wadati-Benioff zone (<200 km) show pure down-dip tension, while this association is less obvious for the deeper events, suggesting that the aseismic part of the subducting slab inferred from plate reconstructions has reached the 670 km discontinuity. Normal faulting earthquakes associated with plate bending below the region of interplate contact occur along the length of the margin, while shallow normal faulting events also occur in the trench, indicating that some slab pull propagates to that region. We infer that large interplate earthquakes are not imminent because in other similar areas they are preceded by outer-rise compressional events that have not been recorded in the region in historical times. Slip vectors of interplate thrust earthquakes indicate that the oblique plate motion across the margin is fully partitioned; that is, the plate interface accommodates very little transcurrent motion, which is instead accommodated by faults in the overlying Australian Plate. Extensional geodetic strain has been measured across the margin in the northeast, which has been regarded as unusual in view of the plate convergence. We suggest that the topography at this part of the margin is too steep to be supported by the current horizontal forces due to friction on the plate interface. This may have occurred due to a reduction in friction because of the subduction of seamounts and the subsequent entrapment of sediments, this also being consistent with the idea of underplating at this part of the margin, or due to the subduction of less buoyant crust. Other margins, such as Japan and Mid-America, where there is known to be subduction of sediments, also show extension in the forearc. Compressional strain observed across the margin in the southwest is more usual for a convergent margin, but it does not show the partitioning we see in focal mechanisms. These data might only agree after the long-term compressional strain accumulation has been averaged over a complete seismic cycle. Large historical and palaeo-earthquakes have occurred along the length of the margin associated with deformation in both the axial and the coastal ranges. In addition, along the length of the margin the rate of recent interplate thrust activity is low compared to margins that have a high proportion of aseismic slip. These factors indicate that the entire length of this margin is capable of producing large earthquakes.

Webb, T.H.; Doser, D.I. Historic seismicity of the North Island, New Zealand, and its relation to oblique subduction along the Hikurangi margin. *Eos. 79(45:supplement):* F904.

Yomogida, K.; Benites, R.A.; Robinson, R. Spatial variation of coda wave amplitude in media with a localized heterogeneous region. *Earth, planets and space. 50(4):* 303-312.

Using an indirect boundary integral method, seismograms are computed for elastic media with localized heterogeneities. Models are two-dimensional homogeneous full spaces (P and SV waves) with many circular cavities as heterogeneities or scatterers. Heterogeneities are localized within a depth range, forming a relatively thin random layer. Seismograms are obtained for receivers at depth 0 km (surface) and for several focal depths, with sources radiating S waves isotropically. Seismograms are composed of the direct S wave and all the possible scattered waves by the heterogeneities, exhibiting late arrivals of coda waves. The coda wave amplitude, or coda energy level, and its duration vary for events with different focal depths. As the focal depth increases and the source gets closer to the layer of localized heterogeneities, the coda level becomes small. When the source is within the heterogeneous layer, however, the coda level becomes larger than for a case of the source either above or below the heterogeneous layer. This local enhancement of coda takes place clearly only in the frequency range for which the scattering is the most effective, that is, when the non-dimensional frequency kd takes values from 2 to 3, where k is the wavenumber and d is the size of each heterogeneity. Such enhancement of coda is not observed when the density of cavities, or strength of the heterogeneities, is reduced. Coda level becomes locally large for a source within the heterogeneous layer only in the case that the heterogeneities are strong enough to excite multiply scattered waves, as compared with the singly scattered ones. Robinson (1987) studied the temporal variation of coda-duration magnitude relative to event magnitude based on P and S wave amplitudes using the seismic network of the Wellington, New Zealand, region. He found that coda-duration magnitude relative to amplitude magnitude decreases with focal depth and becomes large locally for events in the depth range from 65 and 75 km. Our synthetic seismograms explain his results well, implying that there must be a region of localized, strong heterogeneity at depths around 70 km. The effective size of the heterogeneous region may be of about several kilometers because the observation was performed with 1 Hz seismometers. This localized heterogeneous layer is probably associated with the subducting Pacific Plate underneath the Wellington region.

Zeng, Y.; Benites, R. Seismic response of multi-layered basins with velocity gradients upon incidence of plane shear waves. *Earthquake engineering and structural dynamics. 27(1):* 15-28.

A boundary integral scheme based on boundary-integral discrete-wave-number approach has been developed to compute the seismic response of two-dimensional irregular-shaped basins with horizontal soil layers. Each layer exhibits a linear gradient of shear wave velocity with depth. The approach combines the boundary-integral representation of the seismic wave field outside the basin with plane wave representation of the seismic wave field inside the basin. The propagation throughout the layers is performed by matrix propagators in which the effect of the vertical variation of the velocity is incorporated by using confluent hyper-geometric functions of the Whittaker type. Our method is tested against other well-accepted solutions for the case of a circular basin with excellent agreement. Test of the ground response for a semi-circular basin with radius a shows that stable solutions are obtained if the chosen model parameters satisfy following conditions: (1) the distance from the sources to the interface is greater than $0.1a$; (2) the distance between the sources is smaller than a quarter of the incident wavelength; and (3) the discrete wave-number step is smaller than $2pi/4a$. The computation of ground response of basins with a sharp interface and several horizontal deposits leads to the following main results: (1) the amplification of a basin with velocity gradients is larger than that of a basin with homogeneous layers; (2) the frequencies of the second- and third-order harmonics for a basin with velocity gradients are lower than those of a basin with homogeneous layers; and (3) the response amplitude of the basin with velocity gradients attenuates more slowly in time domain than when layers are homogeneous. Since these results have been obtained for realistic values of basin geometrical and mechanical consideration, they should find some interest in earthquake engineering or seismic microzonation studies.

OBSERVATORY SERVICES

PUBLICATIONS

The New Zealand seismological reports are a continuing series of E-bulletins published in the science report series from the Institute of Geological and Nuclear Sciences. They contain summaries of the data used for each origin determination, lists of origins, felt intensity data, and brief accounts of the principal earthquakes of the year. They also provide details of the instruments used to record earthquakes and descriptions of Observatory practices.

Copies of this material may be purchased from:

Publications Sales
Institute of Geological and Nuclear Sciences
PO Box 30-368
Lower Hutt
New Zealand.

EARTHQUAKE CATALOGUE

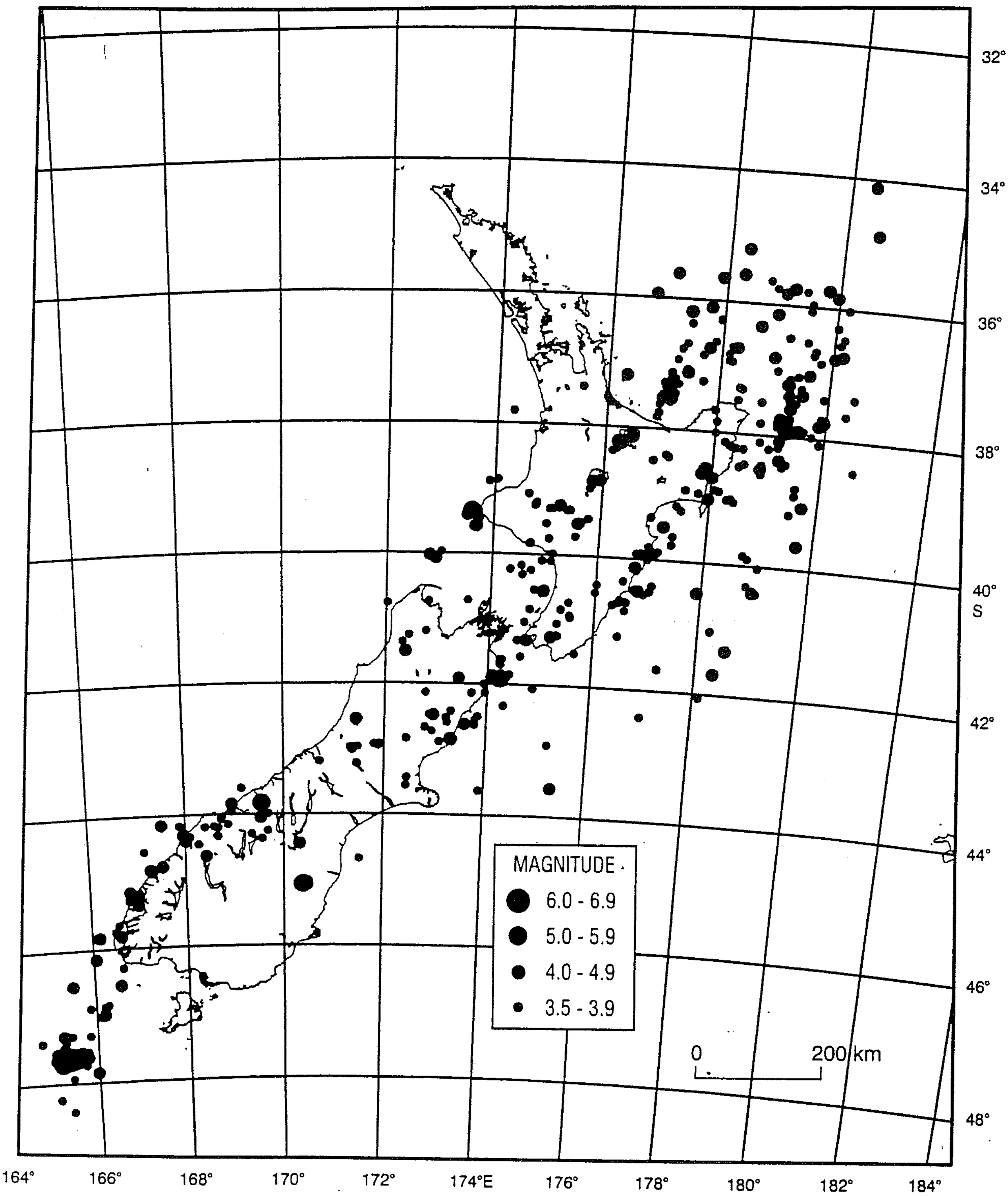
The Observatory has a master file of some tens of thousands of earthquake origins and associated information stored on magnetic tape. From this, lists of earthquakes within particular geographical areas of New Zealand, or in categories defined in other ways, can be made available to researchers. Full details have been published elsewhere (W.D. Smith, 1976: A Computer File of New Zealand Earthquakes. *Bulletin of the New Zealand National Society for Earthquake Engineering. 9(2)*: p.136-13; *New Zealand journal of geology and geophysics, 19(3)*: p.393-394). Criteria that may be specified are dates, magnitudes, focal depths, intensities and regions bounded in a number of different ways. It is also possible to search for earthquakes likely to have produced intensities above a specified minimum at a particular place and to list reports of intensities above a given minimum intensities that have originated in a chosen reporting locality. Because of the dangers inherent in the use of incompletely assessed data, it is recommended that users should discuss their search criteria with the Observatory.

Waveforms of earthquakes recorded by digital seismographs are also archived and accessible for further processing by CUSP or other compatible software.

EPICENTRE MAPS 1998

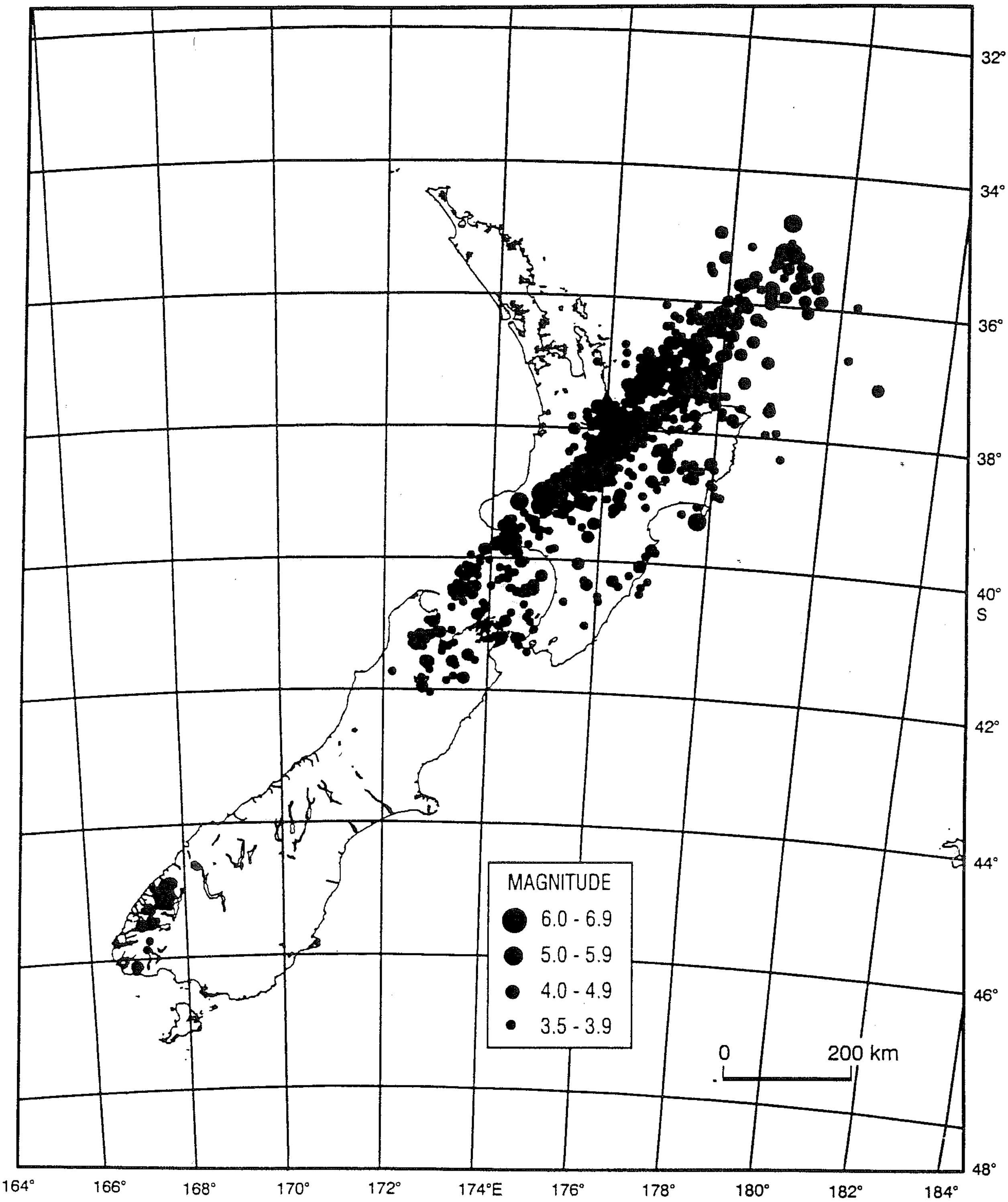
Page

REGIONAL SHALLOW EARTHQUAKES



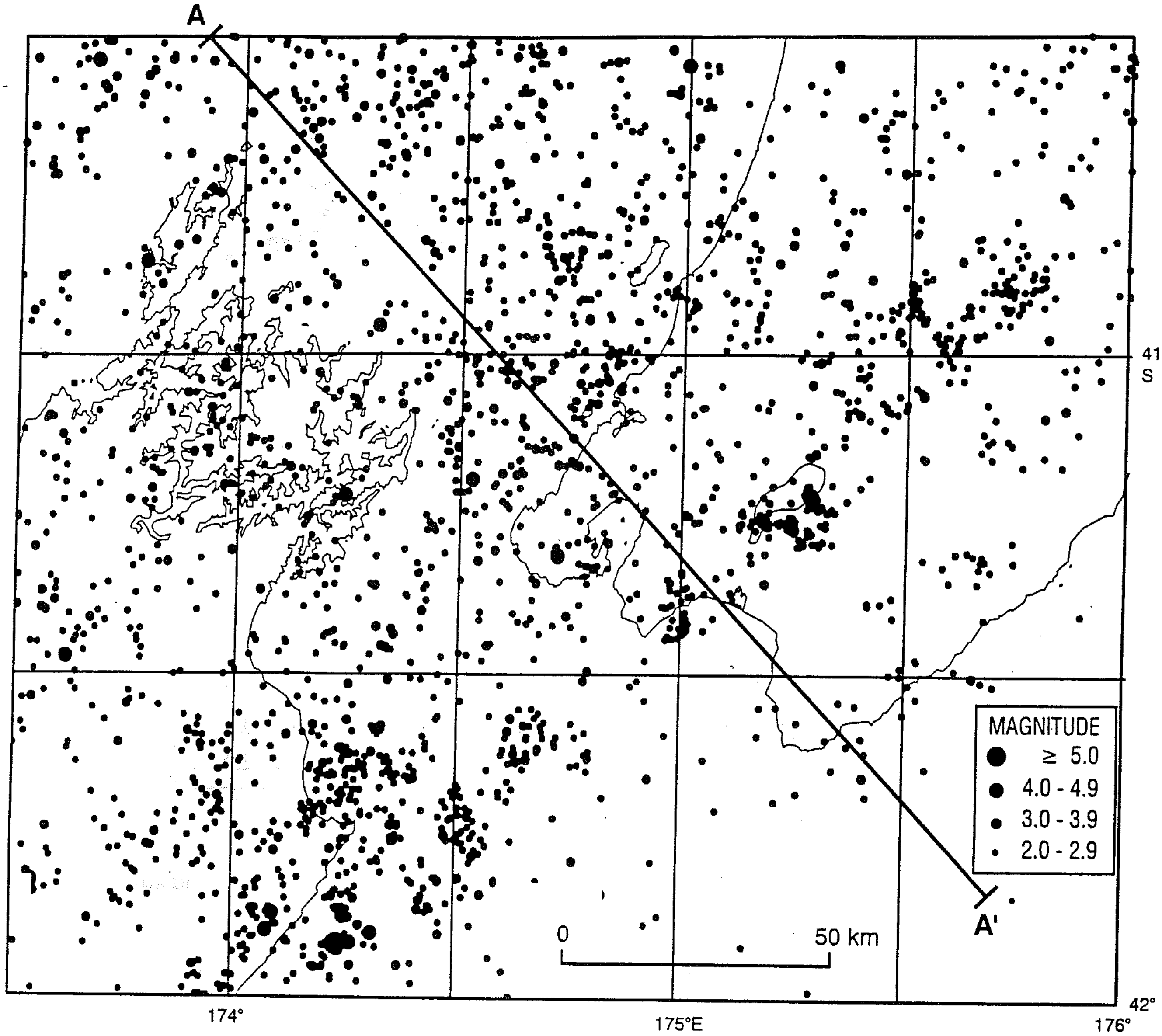
Epicentres of all earthquakes of $M_L \geq 3.5$ with focal depths less than 40 km. When several shocks have the same epicentre, the largest is shown.

REGIONAL DEEP EARTHQUAKES



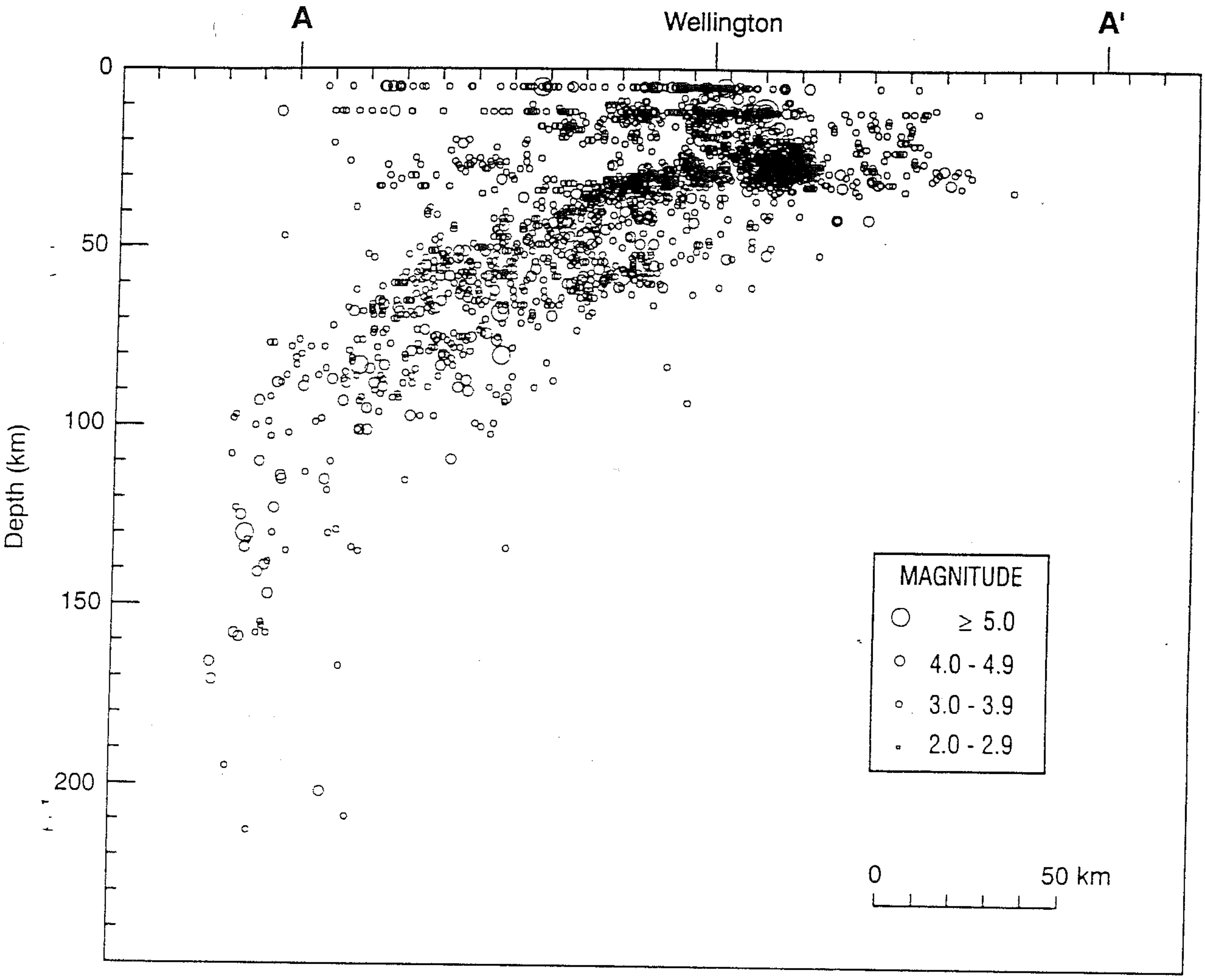
Epicentres of all earthquakes of $M_L \geq 3.5$ with focal depths of 40 km or more. When several shocks have the same epicentre, the largest is shown.

WELLINGTON AREA EPICENTRES



Epicentres of all earthquakes of M_L ≥2.0 in the Wellington area. The distribution of these earthquakes in depth is shown on the next page, where the hypocentres have been projected onto a vertical plane passing through the line A-A'.

WELLINGTON HYPOCENTRE DEPTHS



In this diagram, the hypocentres of all shocks mapped on the previous page have been projected onto a vertical plane passing through the line A-A', which is roughly normal to the Pacific/Australian plate boundary.