

TSP Australia Report to WG2

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TSP Australia Structure

TSP Australia is operated by the JATWC (Joint Australian Tsunami Warning Centre), consisting of:

Geoscience Australia (GA), Canberra: Earthquake Monitoring and Alerting

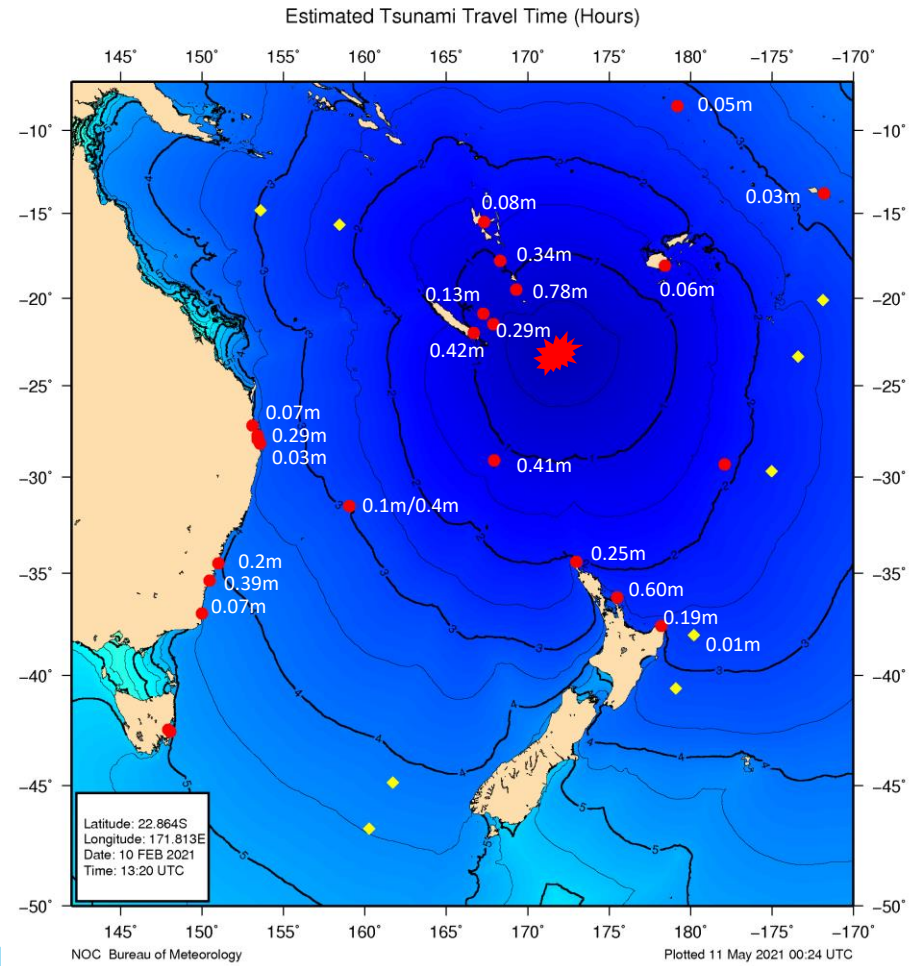
Bureau of Meteorology (BOM), Melbourne & Brisbane: Sea Level Monitoring and Tsunami Warning



JATWC staff located at Geoscience Australia (left) and Bureau of Meteorology (right)

Loyalty Islands Event

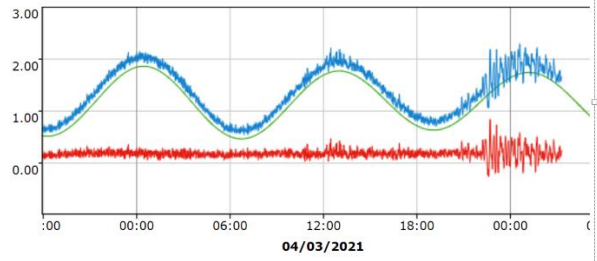
Time (UTC)	Elapsed Time (hh:mm)	Key Event 10 Feb 2021
13:20:00	0	Earthquake occurs Southeast of the Loyalty Islands, New Caledonia.
13:30:00	10 min	Geoscience Australia issues Manual Solution (Mag 7.5).
13:36:41	16 min	IOTWMS assessment generated (Mag 7.5) – EQ Bulletin issued.
13:37:52	17 min	IOTWMS No Threat Bulletin issued but shouldn't be.
13:38:03	18 min	ATWS assessment generated (Mag 7.5).
13:41:59	21 min	ATWS National No Threat Bulletin issued.
13:46:00	26 min	Geoscience Australia issues Manual Solution (Mag 7.5).
13:55:00	34 min	Geoscience Australia issues Manual Solution (Mag 7.6).
13:58:20	38 min	ATWS assessment generated (Mag 7.6).
14:18:31	58 min	ATWS National Watch Bulletin 1 issued.
14:44:06	01:24	ATWS Lord Howe Island Marine Warning 1 issued.
14:44:26	01:24	ATWS National Warning Summary 1 issued.
15:02:49	01:42	ATWS Lord Howe Island Marine Warning 2 issued.
15:03:29	01:43	ATWS National Warning Summary 2 issued.
15:11:08	01:51	Norfolk Island - Observed Wave Amplitude: 0.11 m.
15:11:17	01:51	Suva Viti Levu, Fiji – Observed Wave Amplitude: 0.04 m.
15:23:49	02:03	Norfolk Island – Observed Wave Amplitude: 0.38 m.
15:28:56	02:08	Port Villa, Vanuatu – Observed Wave Amplitude: 0.35 m.
16:01:48	02:41	ATWS Lord Howe Island Marine Warning 3 issued.
16:02:52	02:42	ATWS National Warning Summary 3 issued.
17:02:02	03:42	ATWS Lord Howe Island Marine Warning 4 issued.
17:04:08	03:44	ATWS National Warning Summary 4 issued.
17:10:20	03:50	Lord Howe Island – Bureau observer reported tsunami waves
17:25:43	04:05	Gold Coast – Observed Wave Amplitude: 0.15 m.
18:03:21	04:43	ATWS Lord Howe Island Marine Warning 5 issued.
18:03:43	04:43	ATWS National Warning Summary 5 issued.
18:52:03	05:32	Port Kembla – Observed Wave Amplitude: 0.15 m.
19:00:48	05:40	ATWS Lord Howe Island Marine Warning 6 issued.
19:01:17	05:41	ATWS National Warning Summary 6 issued.
19:42:32	06:22	Gisborne, New Zealand – Observed Wave Amplitude: 0.05 m.
19:58:27	06:38	ATWS Lord Howe Island Warning Cancellation issued.
20:06:13	06:46	ATWS National Warning Summary 7 issued.
20:07:18	06:47	ATWS National Event Summary 8 issued.
20:08:00	06:48	The JATWC is stood down.



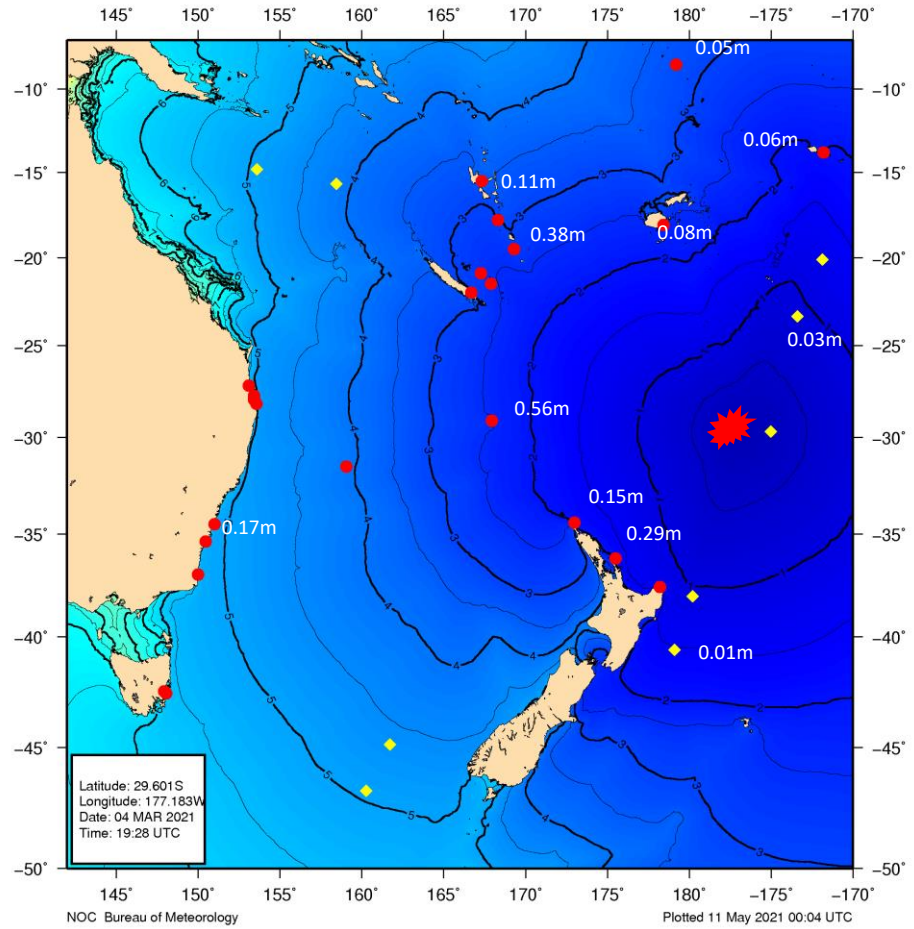
Kermadec Islands Event

Time (UTC)	Elapsed Time (hh:mm)	Key Event
		4 March 2021
13:27:00		M7.3 Earthquake occurred near the North Island, New Zealand. National No Threat Bulletin issued.
18:09:00		M7.3 Earthquake near the Kermadec Islands, New Zealand. National No Threat Bulletin issued.
19:28:00	0	M7.9 Earthquake occurred near Kermadec Islands, New Zealand.
19:37:00	9 min	Geoscience Australia assessed as M7.3
19:42:00	14 min	Geoscience Australia upgraded to M8.1.
19:46:00	18 min	ATWS National Watch Bulletin 1 issued
19:53:00	25 min	Geoscience Australia downgraded to M8.0.
20:02:00	34 min	Geoscience Australia downgraded to M7.9.
20:10:00	42 min	ATWS Norfolk Island Marine Warning 1 issued, predicted impact in 1 hour 49 minutes.
21:33:00	02:05	Tsunami confirmed with observed waves of 6cm at Nuku'Alofa, Tonga.
22:45:00	03:17	Norfolk Island tide gauge recorded 64cm tsunami waves.
23:13:00	03:45	M6.6 Earthquake occurred in the same location. JATWC considered it as aftershock, not as a new event to avoid conflicting threat advice.
01:20:00	05:52	ATWS Cancellation of warning. JATWC stood down.

Norfolk Australia



Estimated Tsunami Travel Time (Hours)



TSP Australia Developments since last WG2 Meeting

- COVID-19 has had minimal impact on TSP Australia's continued operations and no impact on service delivery.
- JATWC commenced regular joint (GA-Bureau) operations exercises in January 2021.
- Geoscience Australia commenced development of the training and accreditation system for GA-JATWC front-line staff in July 2021.
- The Bureau upgraded their tsunami Decision Support Tool (DST) in August 2021:
 - Automated issuing of IOTWMS EQ Bulletin from GA issued earthquake solutions.
 - Update the TSP Australia Public page to facilitate separate bulletins for multiple events
 - Extend the technique for generating products for atypical (non-seismic) events to IOTWMS products
 - Added new IOTWMS products for international maritime agencies.
- The Bureau's Tsunami Warning Services, part of the JATWC, maintained its accreditation as an ISO 9001 compliant quality managed system after a successful audit in July 2021.

TSP Australia Future Developments

- TSP Australia services will be upgraded to match version 4 (2019) of the IOTWMS TSP Service Definition Document (new Final Bulletin message, new Cancellation message).
- The Bureau's ROBUST Program is enhancing BOM-JATWC tsunami applications and systems to be more secure and resilient.
- GA-JATWC will upgrade to SeisComP4 (early 2022)
- GA-JATWC will integrate, test and operationalise seismic array processing as input to rapid earthquake detection and characterisation.
- GA-JATWC will commence work towards ISO 9001:2015 accreditation for GA-JATWC systems (as input to BOM-JATWC accredited system).

TSP Australia Ongoing Commitments

- Continue to contribute strongly to IOTWMS activities in the next intersessional period, including:
 - The planning, conduct and reporting of biennial IOWave exercises
 - The planning, conduct and reporting of 6-monthly Communication Tests
 - Regular NTWC/DMO/Media SOP Training Workshops
 - ICG/IOTWMS Working Groups and Task Teams
 - The Bureau of Meteorology's funding of the IOC staff of the IOTWMS Secretariat Office located at the Bureau's Perth office and their support with infrastructure and other logistics



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Thank you

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