**INTERNATIONAL HYDROGRAPHIC ORGANIZATION**

**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (of UNESCO)**

# UNDERSEA FEATURE NAME PROPOSAL

(Sea **NOTE** overleaf)

Note: The boxes will expand as you fill the form.

| **Name Proposed:** | **Rumble II East Seamount** | **Ocean or Sea:** | South Pacific Ocean |
|---|---|---|---|

| **Geometry** that best defines the feature (Yes/No) : | | | | | | |
|---|---|---|---|---|---|---|
| Point | Line | Polygon | Multiple points | Multiple lines* | Multiple polygons* | Combination of geometries* |
| | | X | | | | |

** Geometry should be clearly distinguished when providing the coordinates below.*

| | Lat. (e.g. 63°32.6'N) | Long. (e.g. 046°21.3'W) |
|---|---|---|
| **Coordinates:** | 35°25.55'S (centre)<br>35°23.4`S<br>35°22.583`S<br>35°22.35`S<br>35°23.05`S<br>35°24.583`S<br>35°26.05`S<br>35°27.1`S<br>35°28.433`S<br>35°29.35`S<br>35°28.85`S<br>35°27.333`S<br>35°24.717`S<br>35°23.4`S | 178°38.76'E (centre)<br>178°36.1`E<br>178°39.017`E<br>178°41.7`E<br>178°43.467`E<br>178°44.033`E<br>178°43.583`E<br>178°42.433`E<br>178°41.867`E<br>178°40.05`E<br>178°36.333`E<br>178°34.583`E<br>178°35.1`E<br>178°36.1`E |

| **Feature Description:** | Maximum Depth: | 2750 metres | Steepness : | |
|---|---|---|---|---|
| | Minimum Depth : | 850 metres | Shape : | Volcanic cone with small satellite peak on SW flank |
| | Total Relief : | 1900 metres | Dimension/Size : | 12 x 15 km |

| **Associated Features:** | In the Kermadec volcanic arc located 13 km SE of Rumble II West Seamount, 36 km north of Rumble III Seamount and 25 km SW of Thompson Seamount. |
|---|---|

| **Chart/Map References:** | ~~Shown Named on Map/Chart:~~<br>Named in an internationally peer reviewed journal | Kibblewhite AC, Denham RN, 1967. The bathymetry and total magnetic field of the south Kermadec Ridge seamounts. NZ Jour. Sci. 10, 52-67.<br><br>IC Wright, TJ Worthington & JA Gamble (2006). New multibeam mapping and geochemistry of the 308–358 S sector, and overview, of southern Kermadec arc volcanism. *Journal of Volcanology and Geothermal Research* 149, 263 – 296. |
|---|---|---|
| | Shown Unnamed on Map/Chart: | |

| | | |
|---|---|---|
| | Within Area of Map/Chart: | Chart NZ 14600<br>INT 600, INT 605 |

| | |
|---|---|
| **Reason for Choice of Name** (if a person, state how associated with the feature to be named)**:** | Named by Dr Alick Kibblewhite because of the 'rumble' sound recorded on the RNZ Navy hydrophone network near Auckland when erupting. RNZN survey vessel Tui surveyed the area where the acoustic signals were coming from in the mid-1960s with bathymetry maps published in Kibblewhite and Denham 1967. NOTE: all volcanoes in the vicinity were named either 'Rumble' or 'Silent' during the early surveys (Kibblewhite 1966, Kibblewhite and Denham 1967, Kibblewhite 1967, Wright et al. 1996). Subsequent surveys identified Rumble I Seamount and Silent I Seamount to be part of Kermadec Ridge rather than stratovolcanoes.<br>Kibblewhite AC, 1966. The acoustic detection and location of an underwater volcano. NZ Jour. Sci. 9, 178-199.<br>Kibblewhite AC, Denham RN, 1967. The bathymetry and total magnetic field of the south Kermadec Ridge seamounts. NZ Jour. Sci. 10, 52-67.<br>Kibblewhite AC, 1967. Note on another active seamount in the south Kermadec Ridge group. NZ Jour. Sci. 10, 68-69.<br>Wright IC, Parson LM, Gamble JA, 1996. Evolution and interaction of migrating cross-arc volcanism and backarc rifting: An example from the southern Havre Trough. Jour. Geoph. Res. 101, 22071-22086 |

| | | |
|---|---|---|
| **Discovery Facts:** | Discovery Date: | c. 1965 |
| | Discoverer (Individual, Ship): | HMNZS Tui |

| | | |
|---|---|---|
| **Supporting Survey Data, including Track Controls:** | Date of Survey: | 1965 - 2004 |
| | Survey Ship: | Single beam - HMNZS Tui (1965), multibeam – RV Giljanes (1994), RV Yokosuka (2004) |
| | Sounding Equipment: | EM300 multibeam, SeaBeam 2112 |
| | Type of Navigation: | DGPS |
| | Estimated Horizontal Accuracy (nm): | 25 m |
| | Survey Track Spacing: | Variable |
| | Supporting material can be submitted as Annex in analog or digital form. | |

| | | |
|---|---|---|
| **Proposer(s):** | Name(s): | Mr Mark Dyer (Chairperson of the NZGB) & Mr Adam Greenland (National Hydrographer) |
| | Date: | 27 June 2016 |
| | E-mail: | markdyer@linz.govt.nz |
| | Organization and Address: | New Zealand Geographic Board<br>PO Box 5501<br>Wellington 6145<br>New Zealand |
| | Concurrer (name, e-mail, organization and address): | Dr Vaughan Stagpoole<br>V.Stagpoole@gns.cri.nz<br>GNS Science<br>PO Box 30 368<br>Lower Hutt 5040<br>New Zealand |

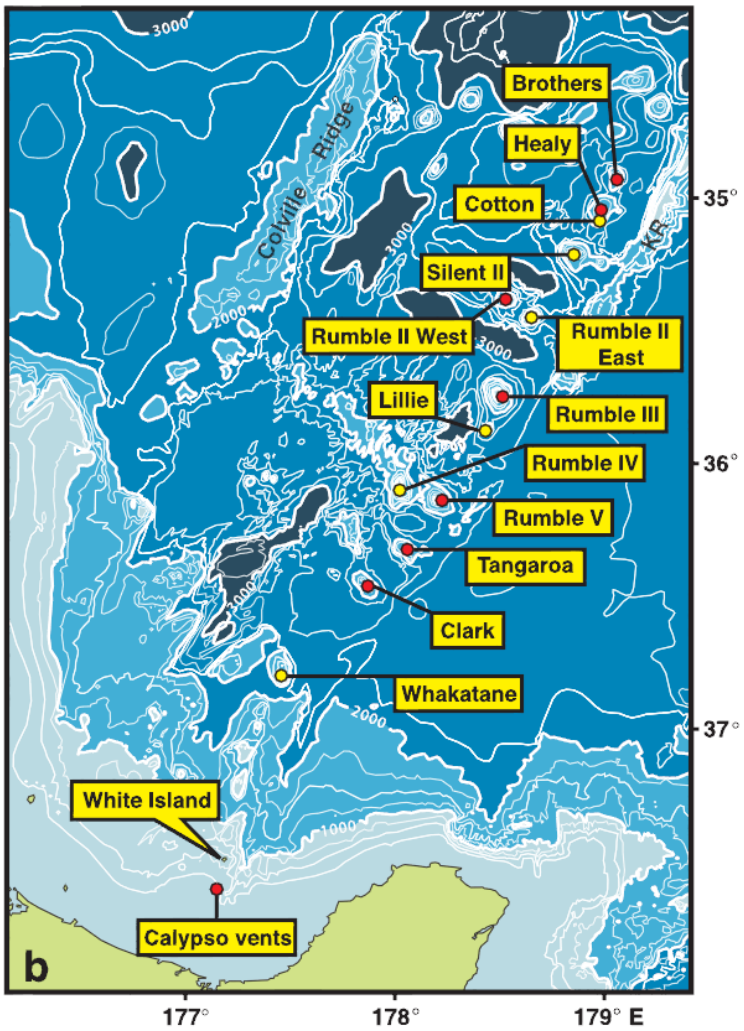
| | |
|---|---|
| **Remarks:** | Informally named Rumble II East Volcano. The New Zealand Geographic Board gazetted **Rumble II East Seamount** as an official undersea feature name on 26 May 2016. |

**NOTE** : This form should be forwarded, when completed :

a) **If the undersea feature is located <u>inside the external limit</u> of the territorial sea**:-
to your "National Authority for Approval of Undersea Feature Names" (see page 2-9) or, if this does not exist or is not known, either to the IHB or to the IOC (see addresses below);

b) **If at least 50 % of the undersea feature is located <u>outside the external limits</u> of the territorial sea**:-
to the IHB or to the IOC, at the following addresses :

| | |
|---|---|
| International Hydrographic Bureau (IHB)<br>4, Quai Antoine 1er<br>B.P. 445<br>MC 98011 MONACO CEDEX<br><u>Principality of MONACO</u><br>Fax: +377 93 10 81 40<br>E-mail: info@ihb.mc | Intergovernmental Oceanographic Commission (IOC)<br>UNESCO<br>Place de Fontenoy<br>75700 PARIS<br><u>France</u><br>Fax: +33 1 45 68 58 12<br>E-mail: info@unesco.org |




Commonly used names of volcanoes on the southern Kermadec volcanic arc, north of the Bay of Plenty, New Zealand (from CEJ de Ronde, ET Baker, GJ Massoth, JE Lupton, IC Wright, RA Feely, RR. Greene, 2001. Intra-oceanic subduction-related hydrothermal venting, Kermadec volcanic arc, New Zealand. Earth and Planetary Science Letters 193, 359-369). Hydrothermally active sites, vent hot water, are shown with red circles.

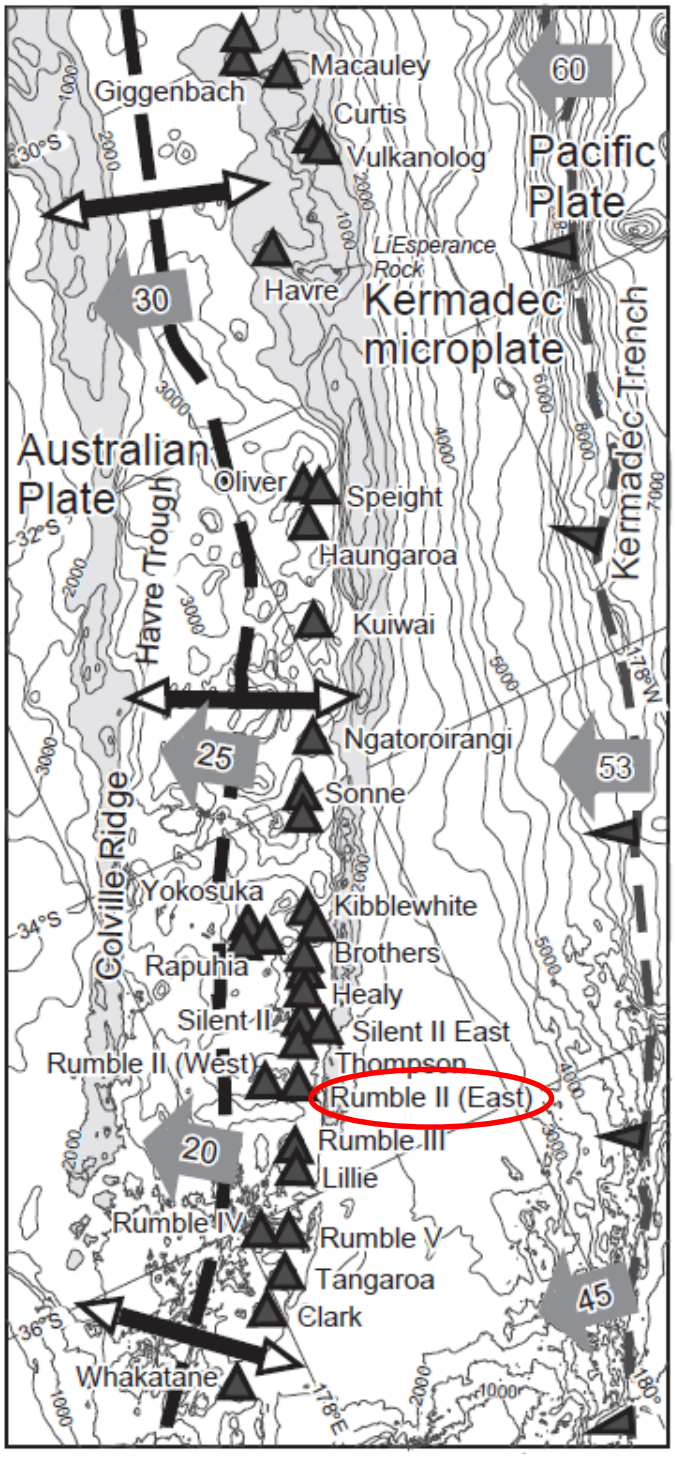
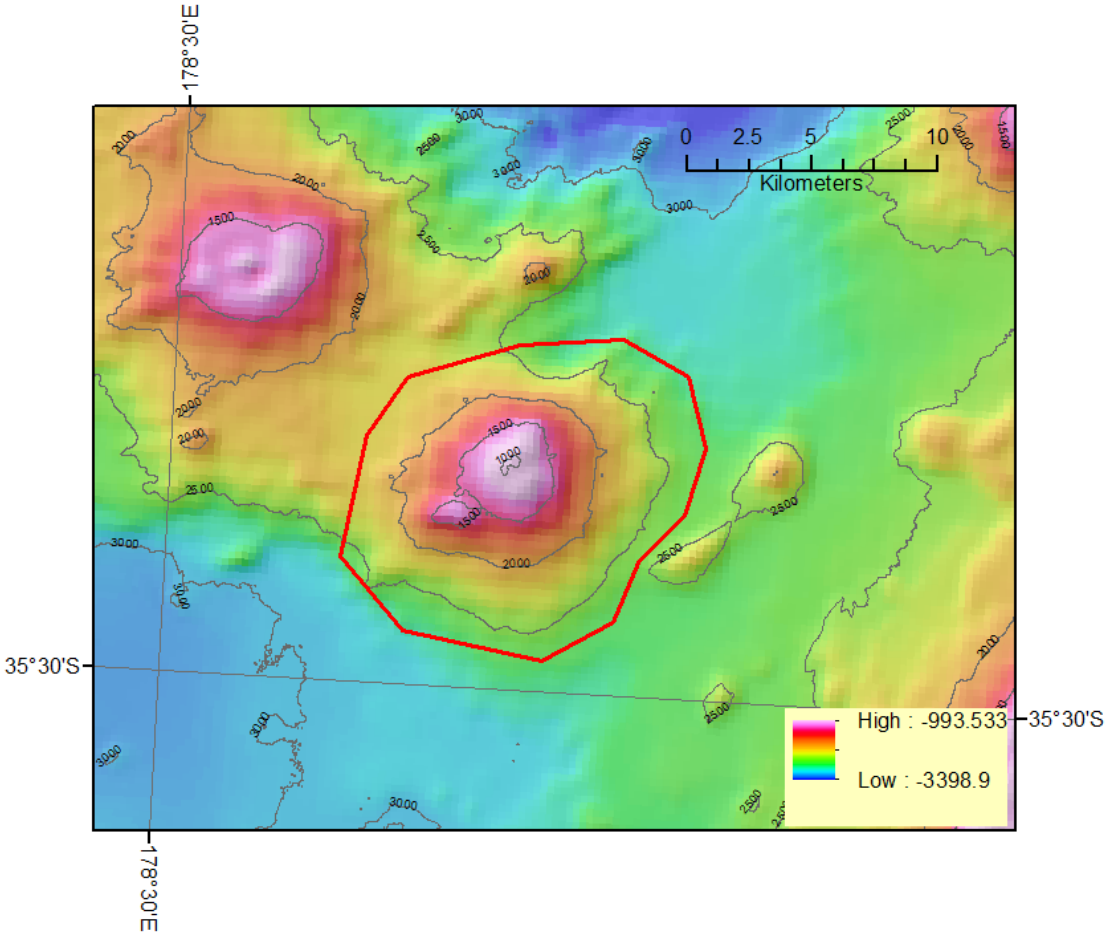
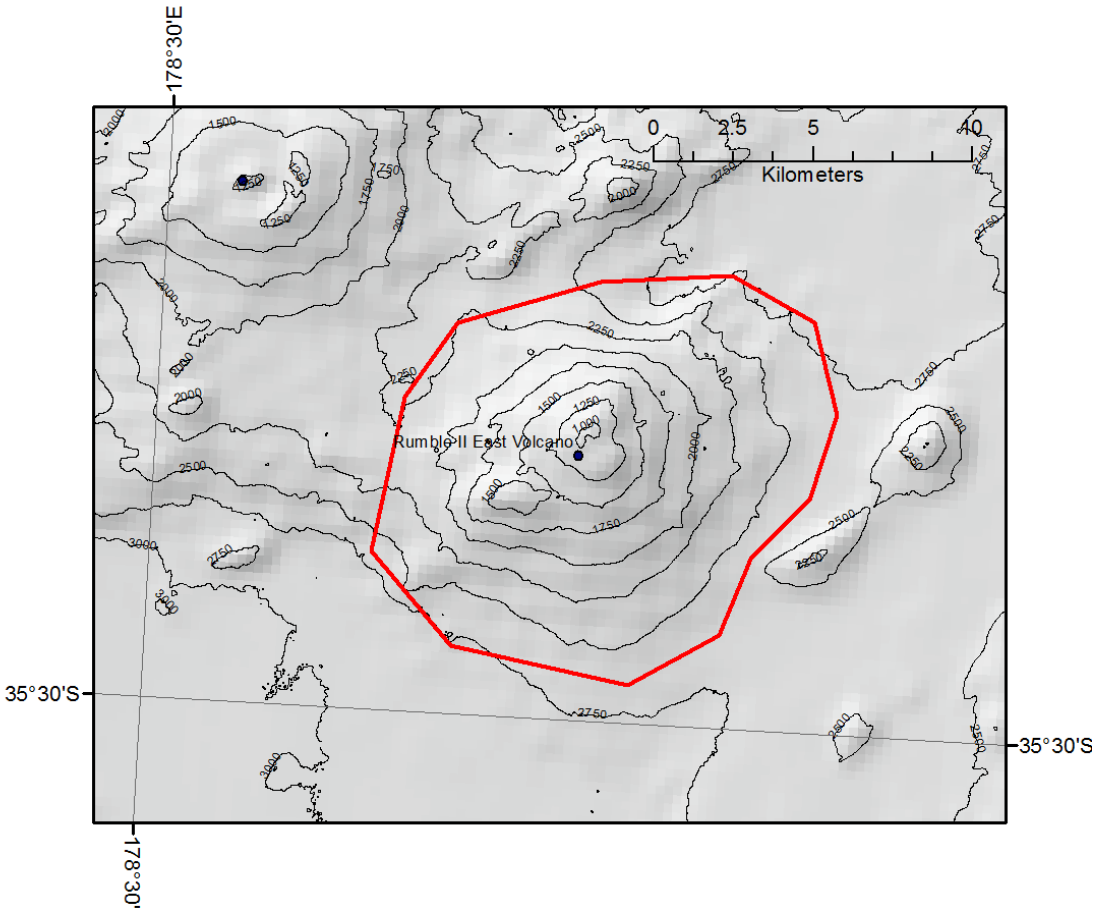


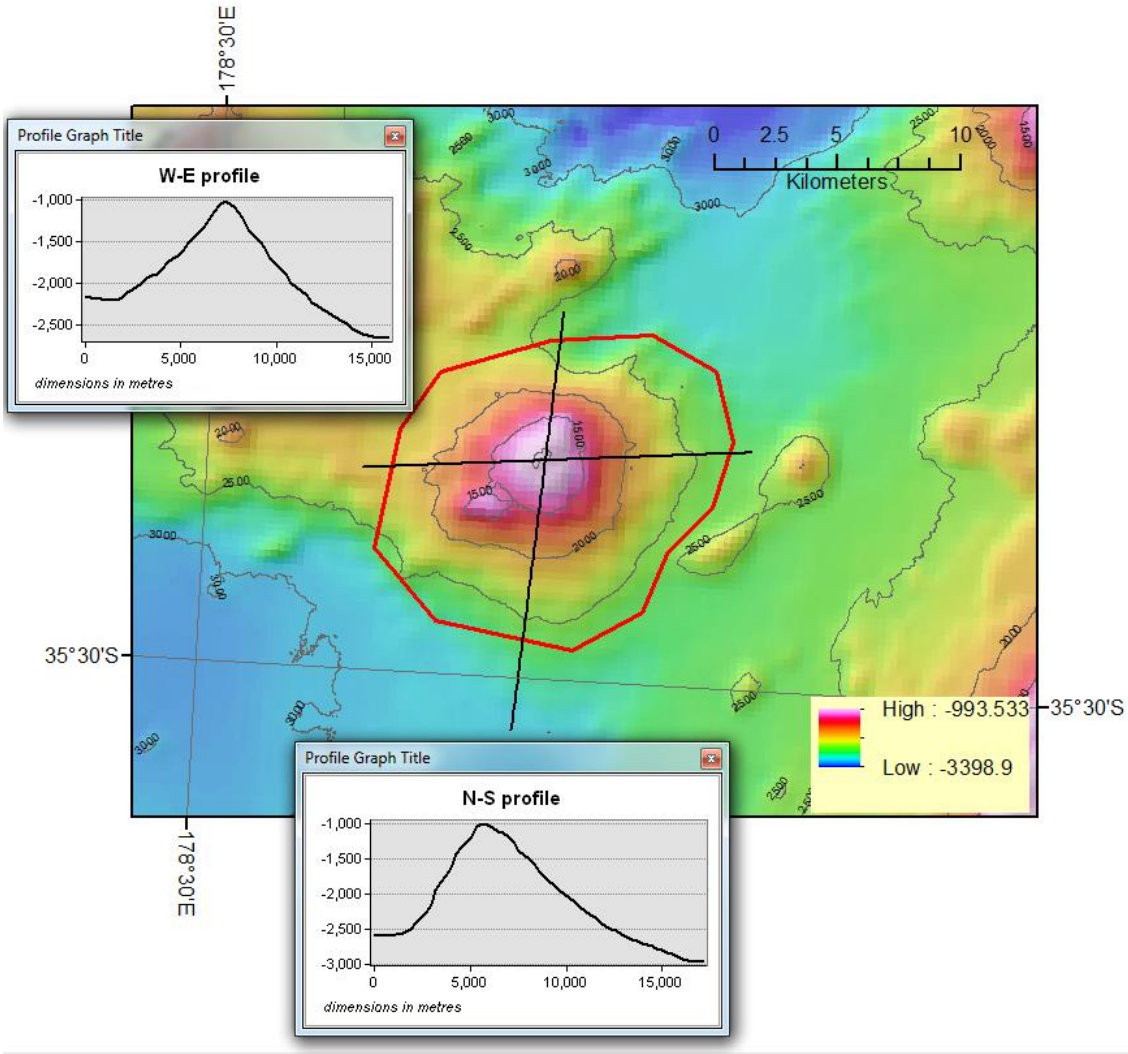

Fig. 2A of Wright et al 2006. Regional setting of the southern and central Kermadec subduction system, including newly discovered volcanoes (closed triangles) of the arc front [including Rumble II East]. Dashed lines show location of the subduction and extensional plate boundaries, east and west of the Kermadec microplate, respectively, with grey arrows showing estimated relative Pa–Ke and Ke–Au plate motion in millimeters per annum.



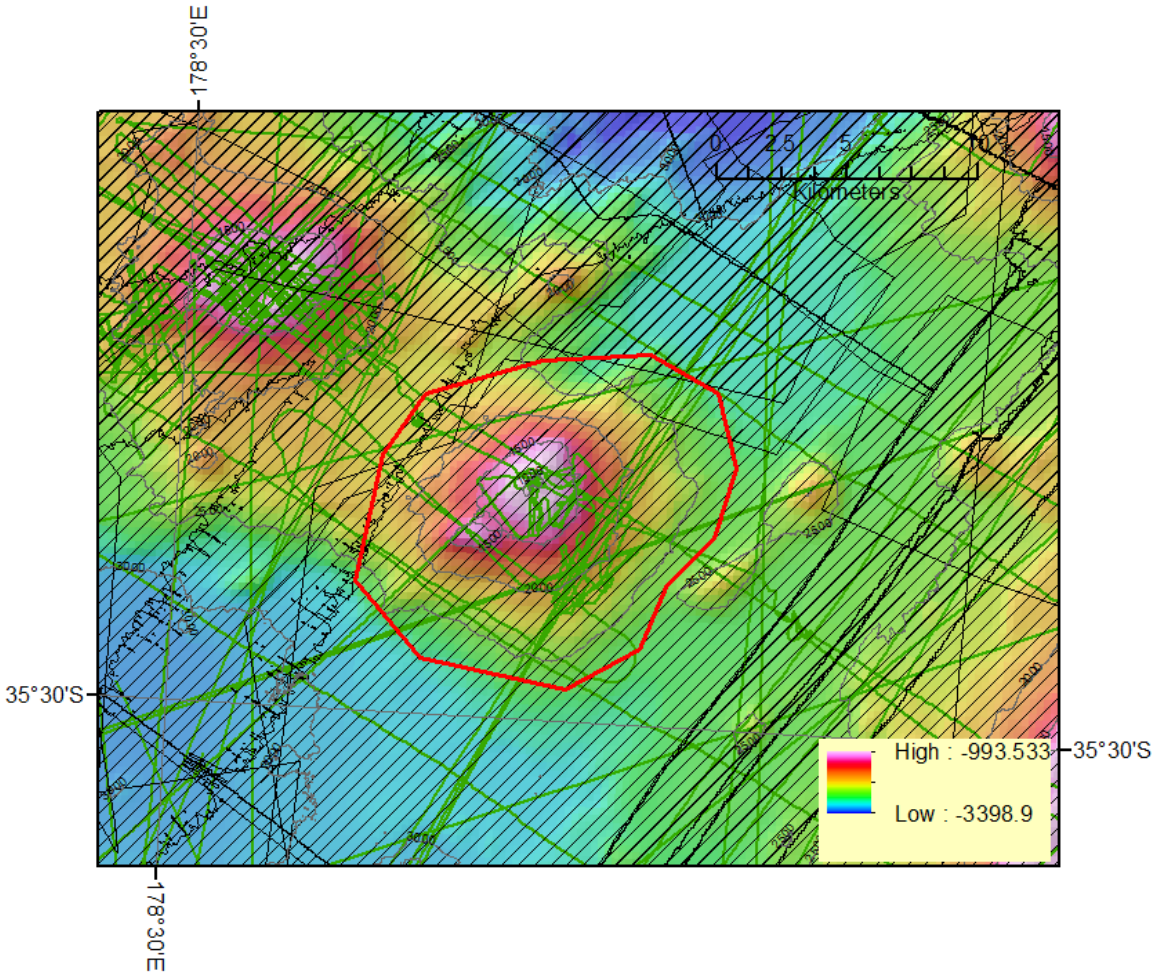

Bathymetry of Rumbe II East Seamount and polygon around the feature




Bathymetry contours on hillshade background




Bathymetry of Rumble II East Seamount and profiles of the feature




Data coverage

Cross-hatch = multibeam bathymetry coverage

Dark green = single beam bathymetry data

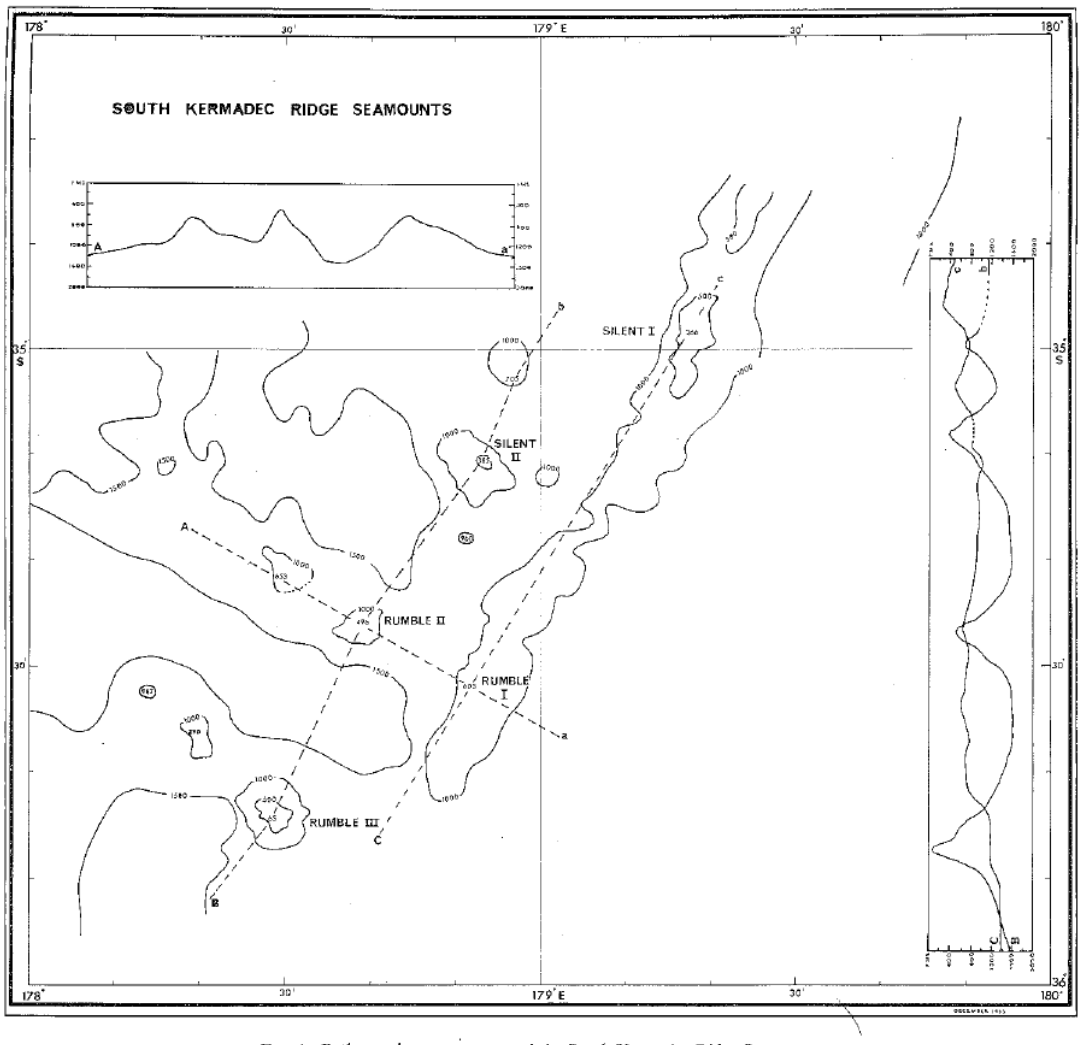



FIG. 4—Bathymetric contours around the South Kermadec Ridge Seamounts

Map from Kibblewhite and Denham (1967) showing the location of Rumble II East Seamount (marked as Rumble II)

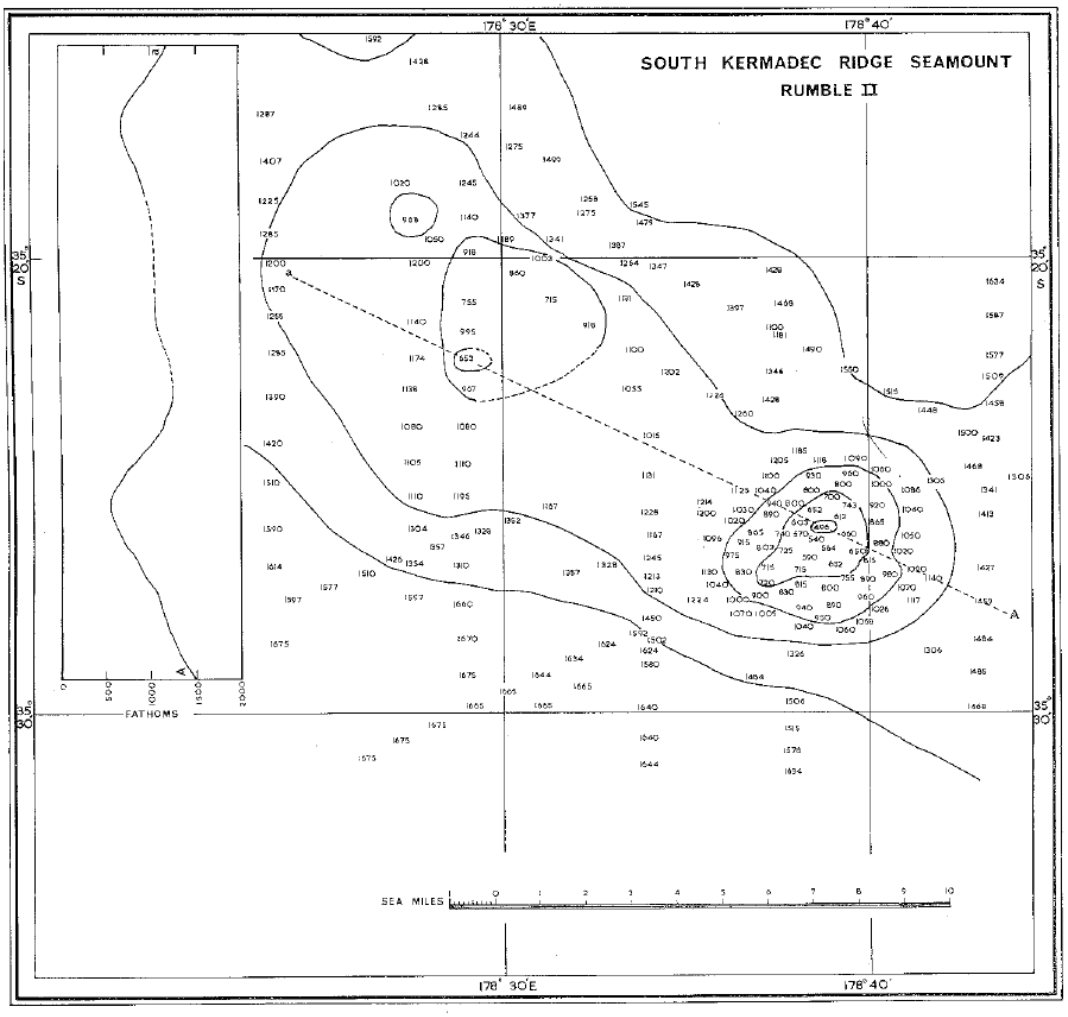



FIG. 8—Bathymetry of Rumble II

Map from Kibblewhite and Denham (1967) showing the bathymetry of Rumble II East Seamount and Rumble II West Seamount from surveys by HMNZS Tui.