**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:** | **Pūtoto 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:** | 27°55.77'S (centre)<br>27°59.283`S<br>27°57.9`S<br>27°56.35`S<br>27°49.9`S<br>27°46.167`S<br>27°43.583`S<br>27°43.517`S<br>27°45.65`S<br>27°48.883`S<br>27°52.317`S<br>27°55.6`S<br>27°58.183`S<br>27°59.283`S | 177°36.67'W (centre)<br>177°38.45`W<br>177°42.5`W<br>177°46.1`W<br>177°47.95`W<br>177°45.583`W<br>177°41.633`W<br>177°37.933`W<br>177°35.017`W<br>177°30.517`W<br>177°30.167`W<br>177°31.95`W<br>177°36.05`W<br>177°38.45`W |

| **Feature Description:** | Maximum Depth: | 1600 metres | Steepness : | |
|---|---|---|---|---|
| | Minimum Depth : | 225 metres | Shape : | Volcanic edifice and associated caldera |
| | Total Relief : | 1375 metres | Dimension/Size : | 28 x 27 km |

| **Associated Features:** | Located 80 km north of Hinetāpeka Seamount adjacent to Kermadec Ridge |
|---|---|

| **Chart/Map References:** | ~~Shown Named on Map/Chart:~~<br>Named in an internationally peer reviewed journal | IJ Graham, AG Reyes, IC Wright, KM Peckett, IEM Smith & RJ Arculus (2008). Structure and petrology of newly discovered volcanic centers in the northern Kermadec–southern Tofua arc, South Pacific Ocean. *Journal of Geophysical Research*, Vol. 113, 1-24. |
|---|---|---|
| | 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 for Pūtoto, the Māori word for 'magma' and the direct offspring of Hinetāpeka. |
|---|---|

| | | |
|---|---|---|
| **Discovery Facts:** | Discovery Date: | July 1977 |
| | Discoverer (Individual, Ship): | RV Tangaroa (1) |

| | | |
|---|---|---|
| **Supporting Survey Data, including Track Controls:** | Date of Survey: | September/October 2004 |
| | Survey Ship: | RV Tangaroa |
| | Sounding Equipment: | EM300 multibeam |
| | Type of Navigation: | DGPS |
| | Estimated Horizontal Accuracy (nm): | 25 m |
| | Survey Track Spacing: | Variable, including single beam data from older surveys |
| | 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 |

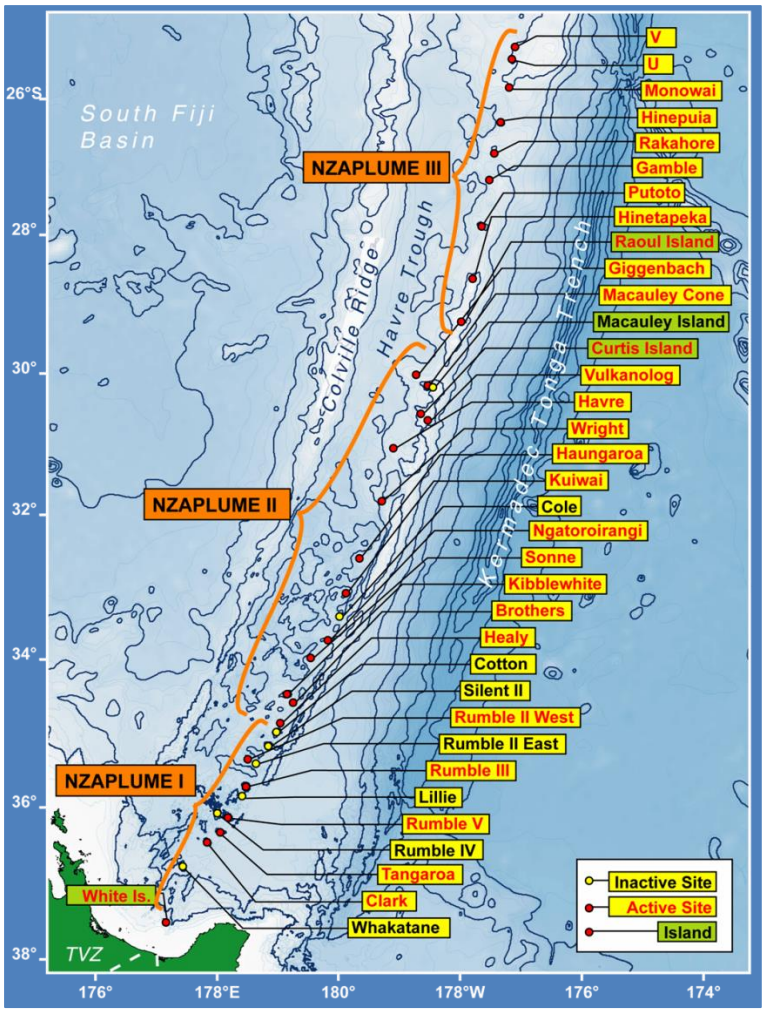
| | |
|---|---|
| **Remarks:** | Informally named Putoto Volcanic Centre. The New Zealand Geographic Board gazetted **Pūtoto Seamount** as an official undersea feature name on 26 May 2016. |

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

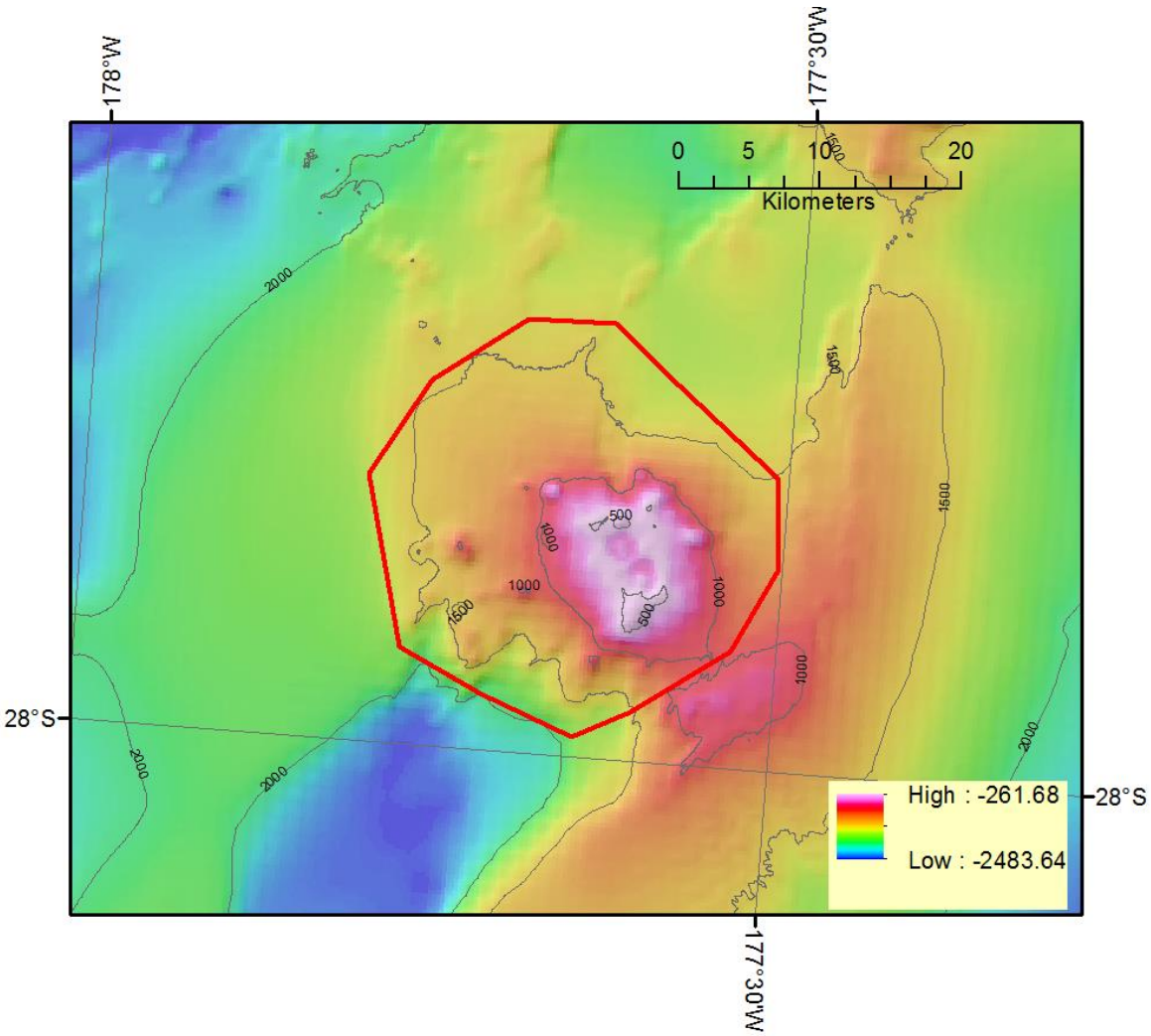
a) **If the undersea feature is located inside the external limit of the territorial sea**:-
to your "National Authority for Approval of Undersea Feature Names" (see page 2-9) or, if this does not exist or is not known, either to the IHB or to the IOC (see addresses below);

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

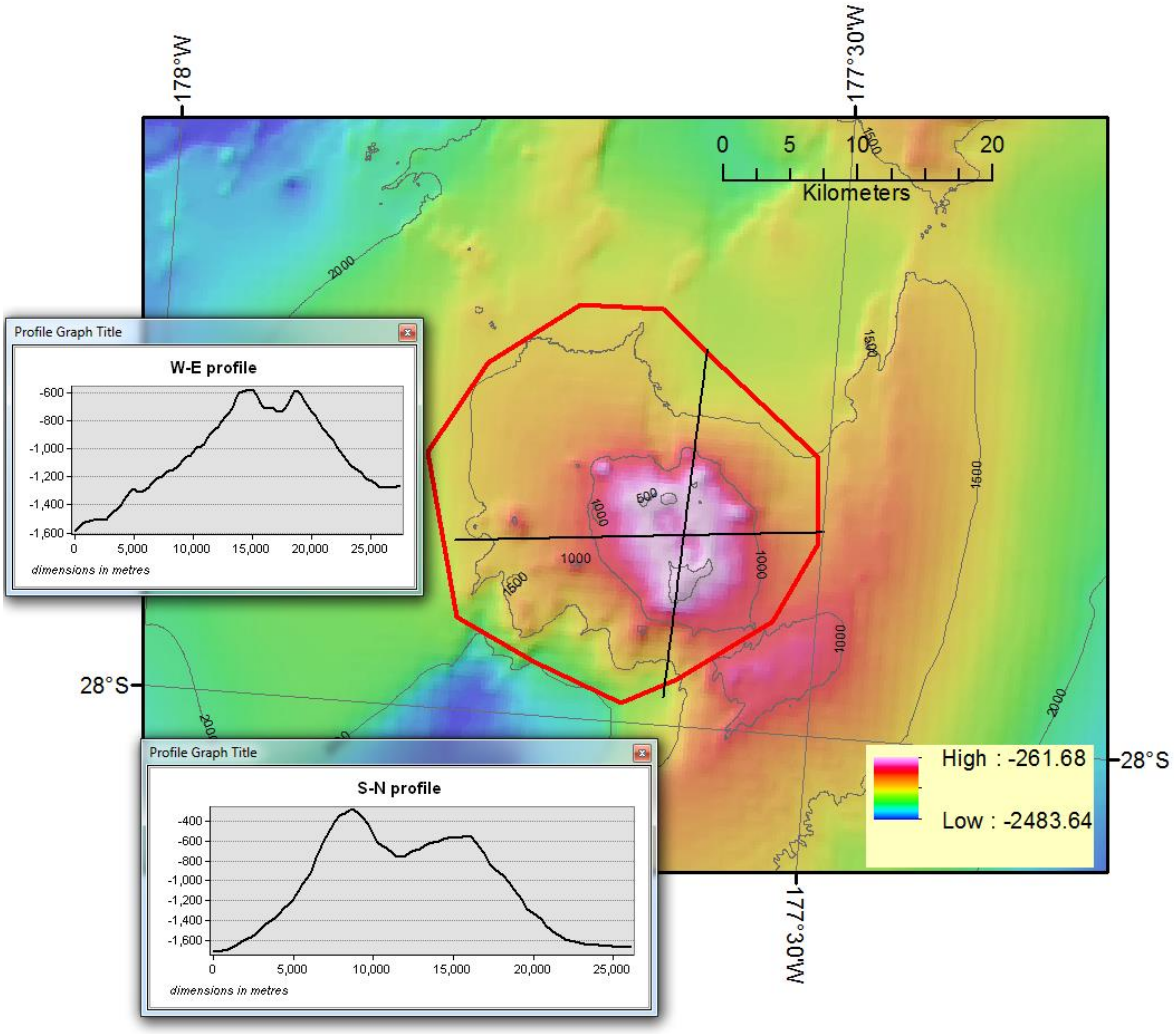
| | |
|---|---|
| International Hydrographic Bureau (IHB)<br>4, Quai Antoine 1er<br>B.P. 445<br>MC 98011 MONACO CEDEX<br>Principality of MONACO<br>Fax: +377 93 10 81 40<br>E-mail: info@ihb.mc | Intergovernmental Oceanographic Commission (IOC)<br>UNESCO<br>Place de Fontenoy<br>75700 PARIS<br>France<br>Fax: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



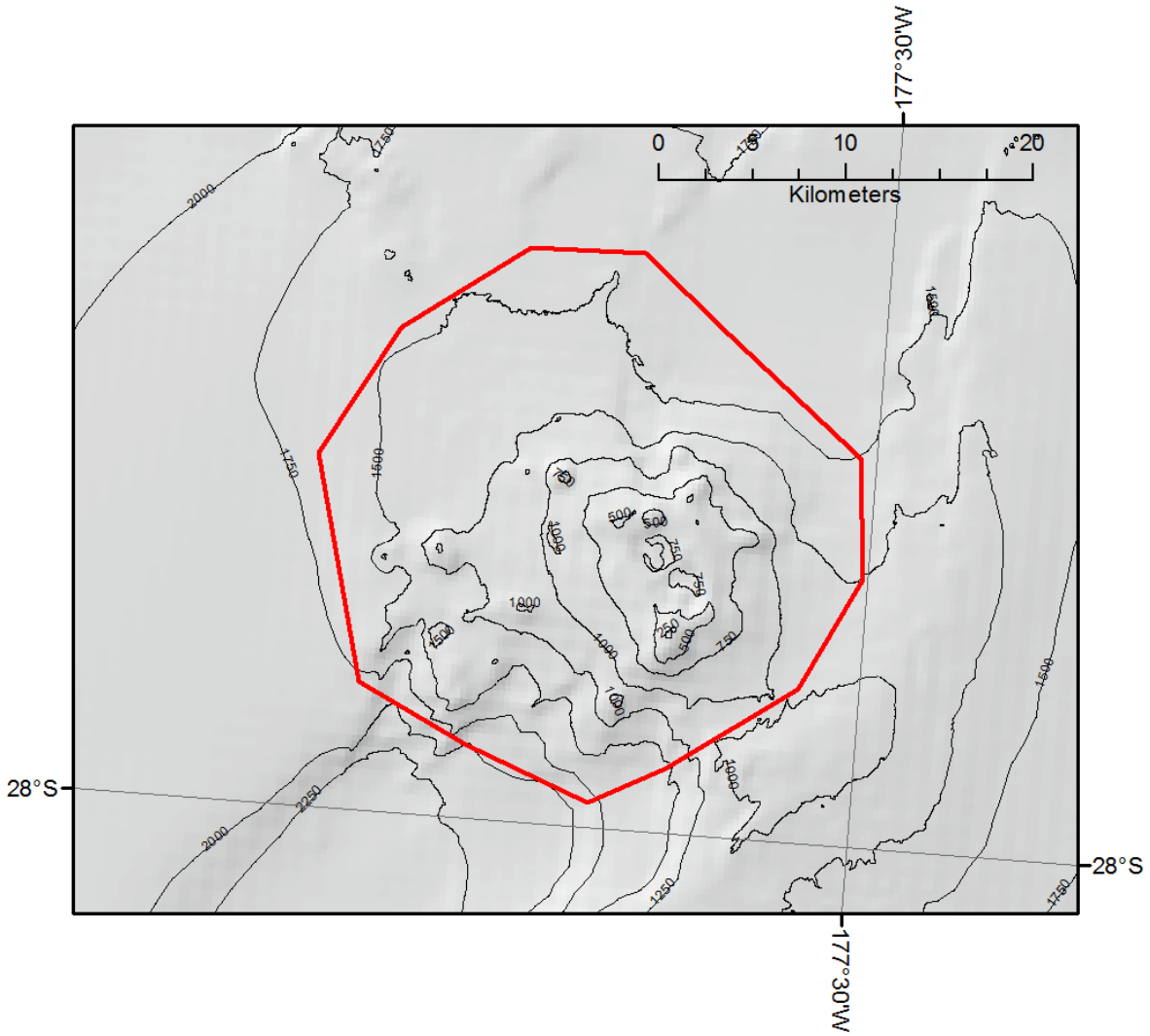

Commonly used names of volcanoes of the Kermadec arc (de Ronde, pers. com. 2015). NZAPLUME I (1999) NZAPLUME II (2002) and NZAPLUME III (2004) refer to New Zealand-led surveys that mapped the regions and named many of the features (U and V are in Tongan waters). Active sites are those that are hydrothermally active and known to vent hot water.



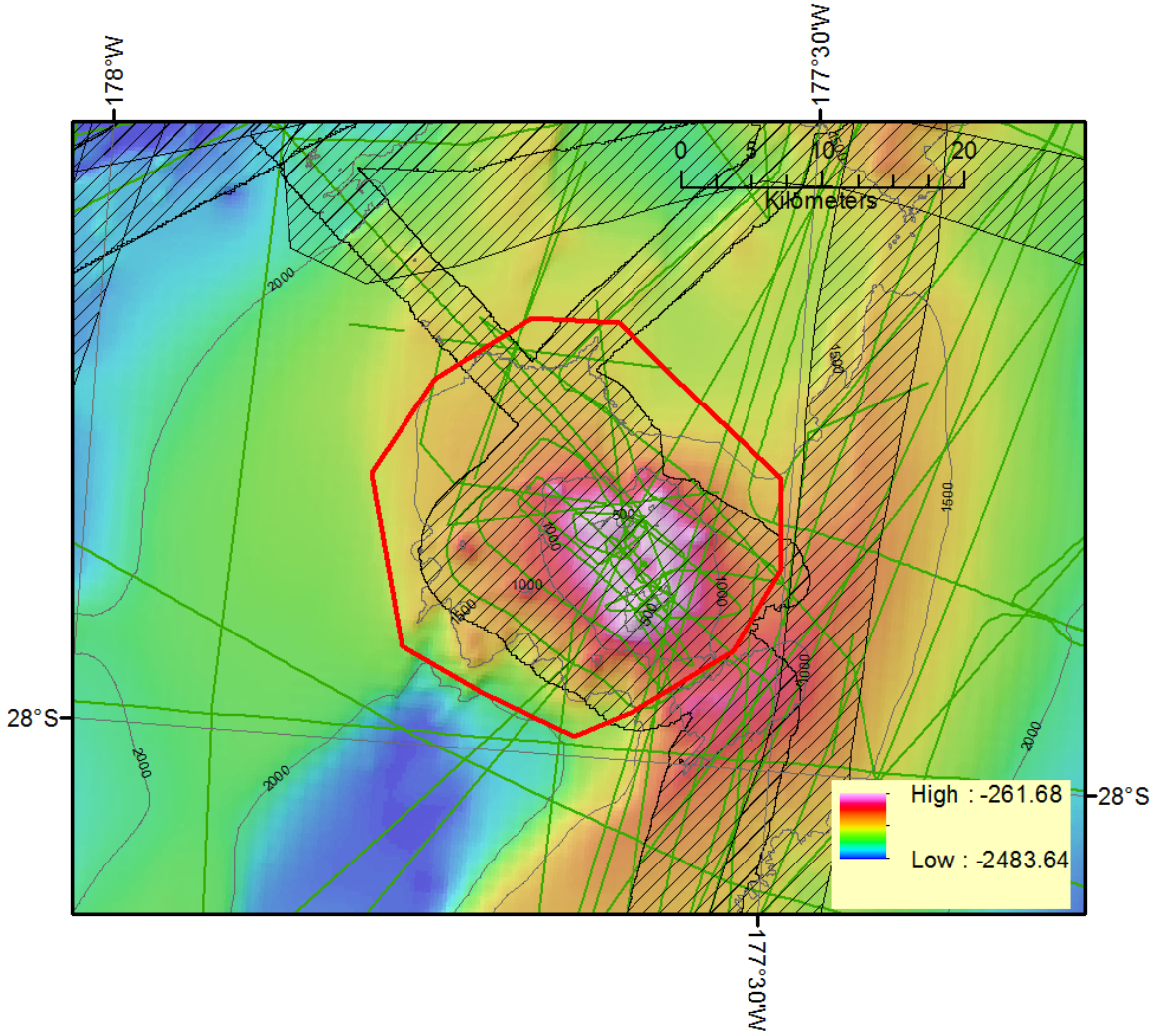

Bathymetry of Pūtoto Seamount (250m grid) and polygon around the feature.




Profiles of Pūtoto Seamount (dimensions in metres)




Bathymetry contours on hillshade background




Data coverage

Cross-hatch = multibeam bathymetry coverage

Dark green = single beam bathymetry data

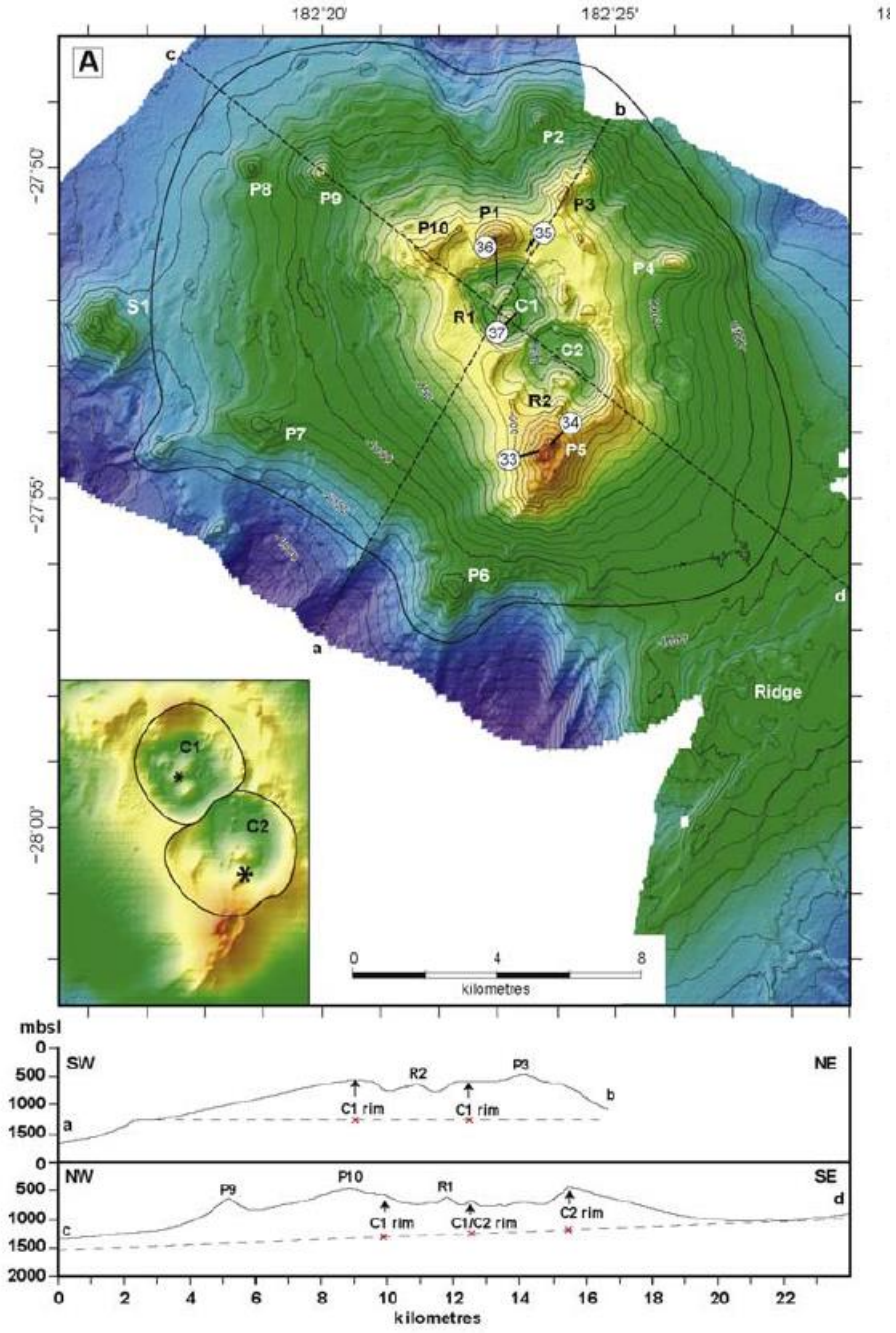



Figure 5(a) from Graham et al., 2008. Multibeam bathymetric map and cross section of Putoto volcanic centre.