

UNDERSEA FEATURE NAME PROPOSAL

(Sea NOTE overleaf)

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

Name Proposed:	Sonne Seamount	Ocean or Sea:	South Pacific Ocean
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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.

Coordinates:	Lat. (e.g. 63°32.6'N)	Long. (e.g. 046°21.3'W)
	34°04'S (centre)	179°35'E (centre)
	33°59.417`S	179°31.433`E
	33°57.867`S	179°33.65`E
	33°58`S	179°37.433`E
	33°59.85`S	179°40.317`E
	34°3.317`S	179°40.517`E
	34°5.467`S	179°39.867`E
	34°6.533`S	179°39.25`E
	34°8.60`S	179°38.217`E
	34°9.567`S	179°34.90`E
	34°8.667`S	179°30.233`E
	34°6.417`S	179°28.55`E
	34°4.633`S	179°26.617`E
	34°2.883`S	179°26.15`E
34°1.30`S	179°28.083`E	
34°0.567`S	179°30.15`E	
33°59.417`S	179°31.433`E	

Feature Description:	Maximum Depth:	3000 metres	Steepness :	
	Minimum Depth :	995 metres	Shape :	Volcanic cone with satellite peak on NW flank
	Total Relief :	2005 metres	Dimension/Size :	20 x 20 km

Associated Features:	Located in the Kermadec volcanic arc, 45 km NW of Ngātoroirangi Seamount and 25 km west of Kermadec Ridge.
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Chart/Map References:	Shown Named on Map/Chart: Named in an internationally peer reviewed journal	KM Haase, TJ Worthington, P Stoffers, D Garbe-Schonberg and I Wright, (2002). Mantle dynamics, element recycling, and magma genesis beneath the Kermadec Arc-Havre Trough. <i>Geoch., Geoph. Geosys.</i> 3, doi:10.1029/2002GC000335. 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. <i>Journal of Volcanology and Geothermal Research</i> 149, 263 – 296.
	Shown Unnamed on Map/Chart:	
	Within Area of Map/Chart:	Chart NZ 14600 INT 600, INT 605

Reason for Choice of Name (if a person, state how associated with the feature to be named):	Named for the RV Sonne, a German research vessel that conducted several voyages to Kermadec region. 'Sonne' is German for 'sun'. Name first appears in Haase et al. (2002).
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Discovery Facts:	Discovery Date:	1967
	Discoverer (Individual, Ship):	RV Argo

Supporting Survey Data, including Track Controls:	Date of Survey:	1996 - 2012
	Survey Ship:	RV L'Atalante (1996), RV Sonne (1998, 2007, 2011), RV Tanagroa (2002, 2012)
	Sounding Equipment:	Atlas Hydrosweep DS2, EM12, EM120, EM300, EM302 multibeam
	Type of Navigation:	DGPS
	Estimated Horizontal Accuracy (nm):	25 m
	Survey Track Spacing:	Multiple tracks with variable spacing
	Supporting material can be submitted as Annex in analog or digital form.	

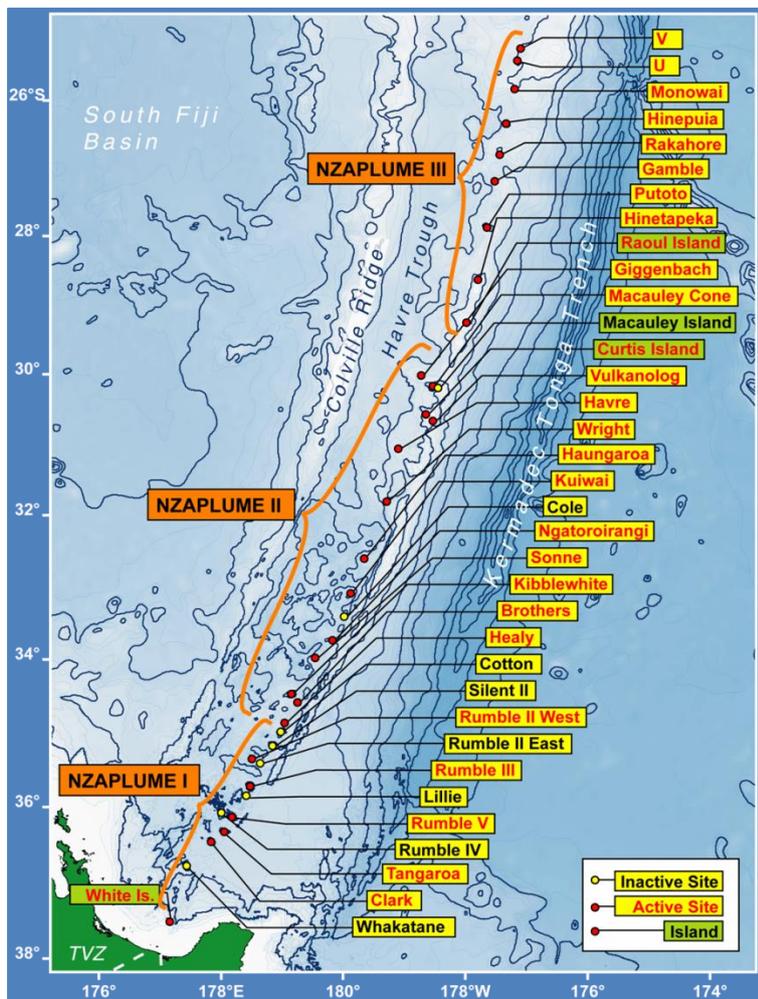
Proposer(s):	Name(s):	Mr Mark Dyer (Chairperson of the NZGB) & Mr Adam Greenland (National Hydrographer)
	Date:	27 June 2016
	E-mail:	markdyer@linz.govt.nz
	Organization and Address:	New Zealand Geographic Board PO Box 5501 Wellington 6145 New Zealand
	Concurren (name, e-mail, organization and address):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

Remarks:	Informally named Sonne Volcano. The New Zealand Geographic Board gazetted Sonne Seamount as an official undersea feature name on 26 May 2016.
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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) 4, Quai Antoine 1er B.P. 445 MC 98011 MONACO CEDEX Principality of MONACO Fax: +377 93 10 81 40 E-mail: info@ihb.mc	Intergovernmental Oceanographic Commission (IOC) UNESCO Place de Fontenoy 75700 PARIS France Fax: +33 1 45 68 58 12 E-mail: info@unesco.org
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Commonly used names of volcanoes on 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.

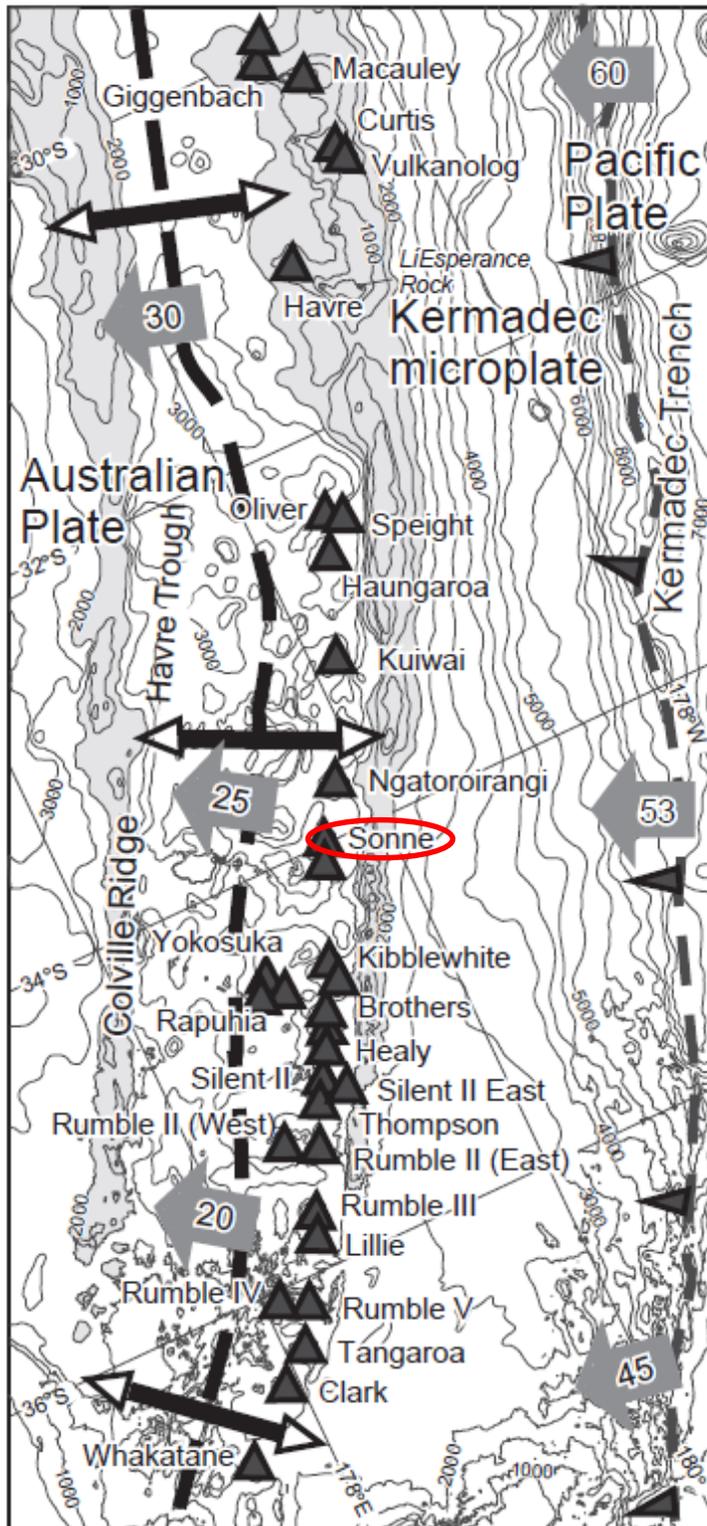
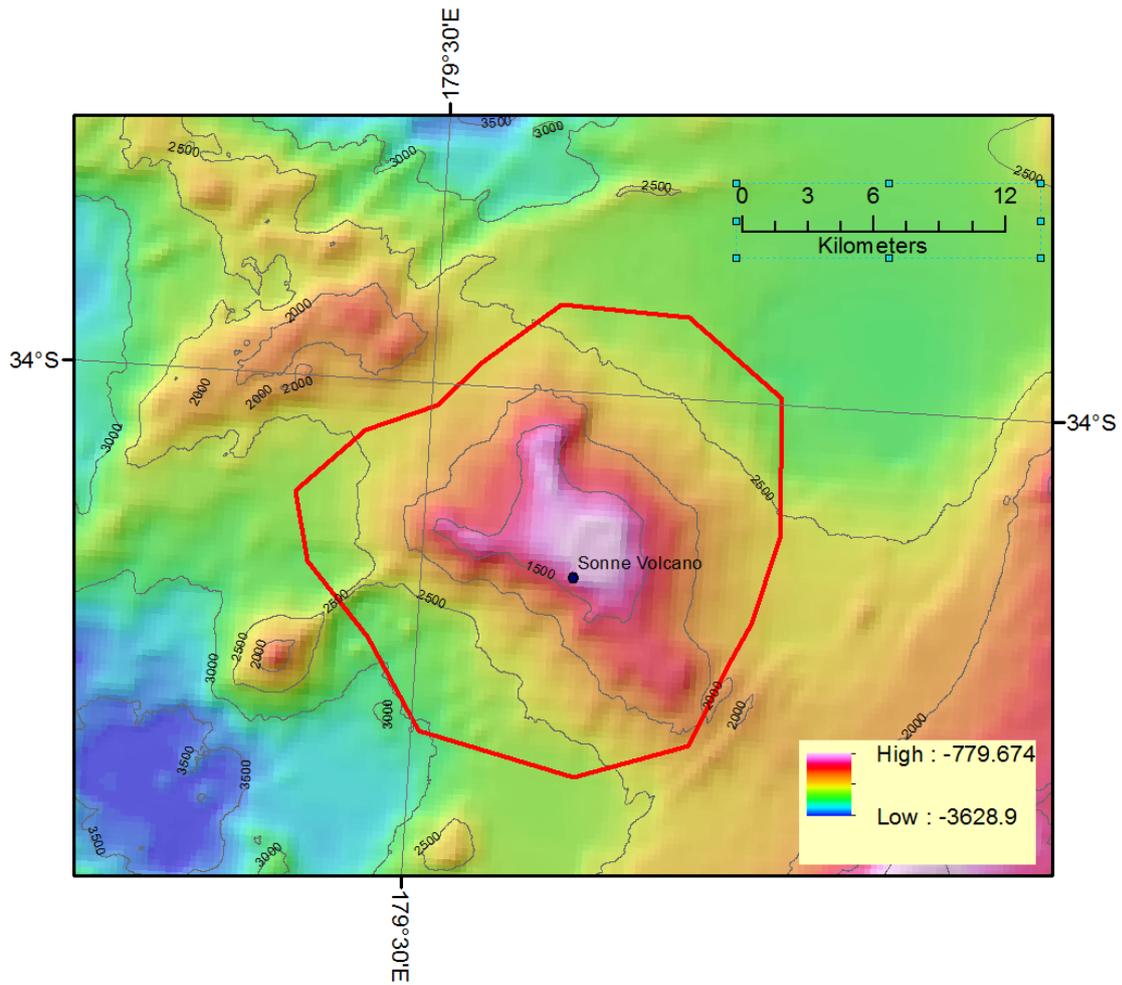
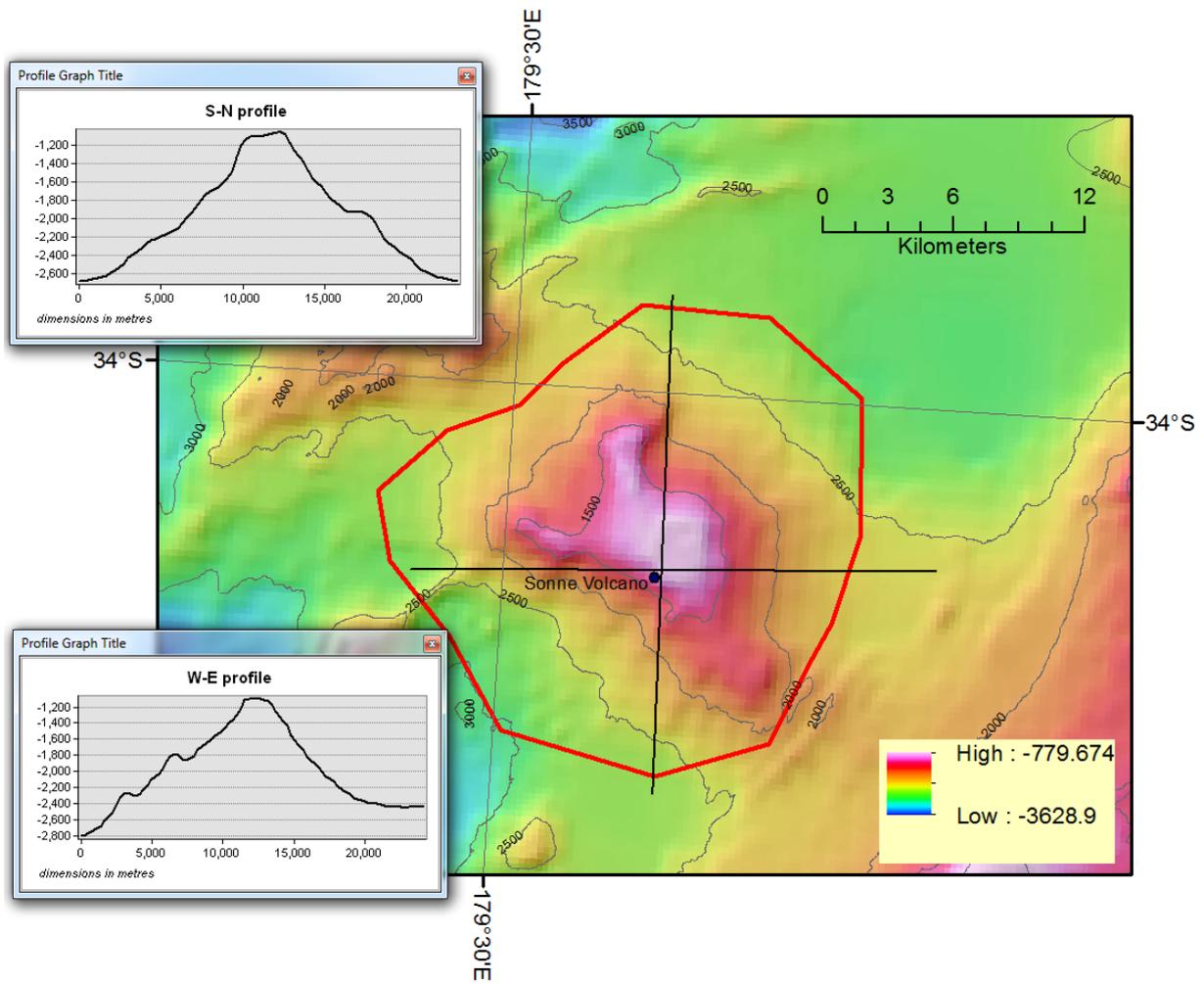


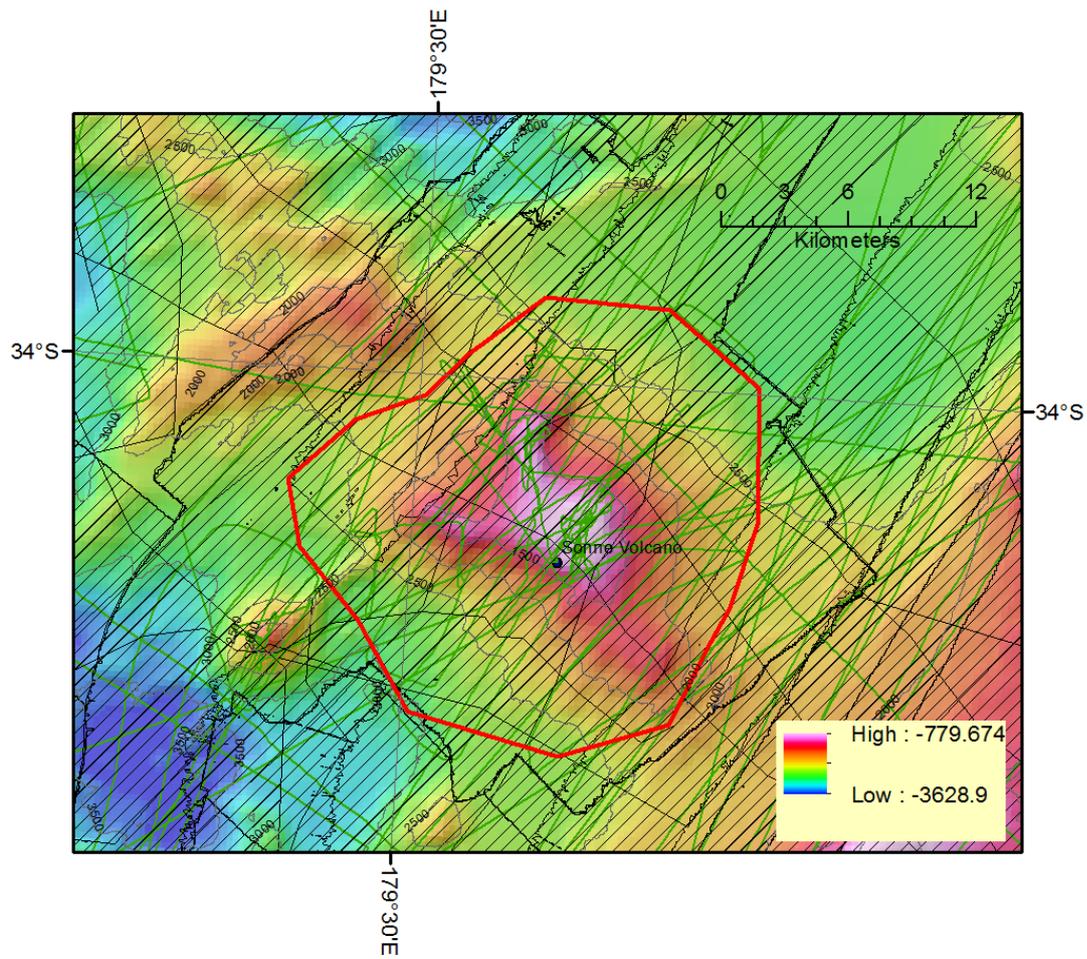
Fig. 2A of Wright et al 2006. Regional setting of the southern and central Kermadec subduction system, including newly discovered volcanoes (closed triangles) of the arc front [including Sonne]. Dashed lines show location of the subduction and extensional plate boundaries, east and west of the Kermadec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



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



Profiles of Sonne Seamount (dimensions in metres).



Data coverage

Cross-hatch = multibeam bathymetry coverage

Dark green = single beam bathymetry data

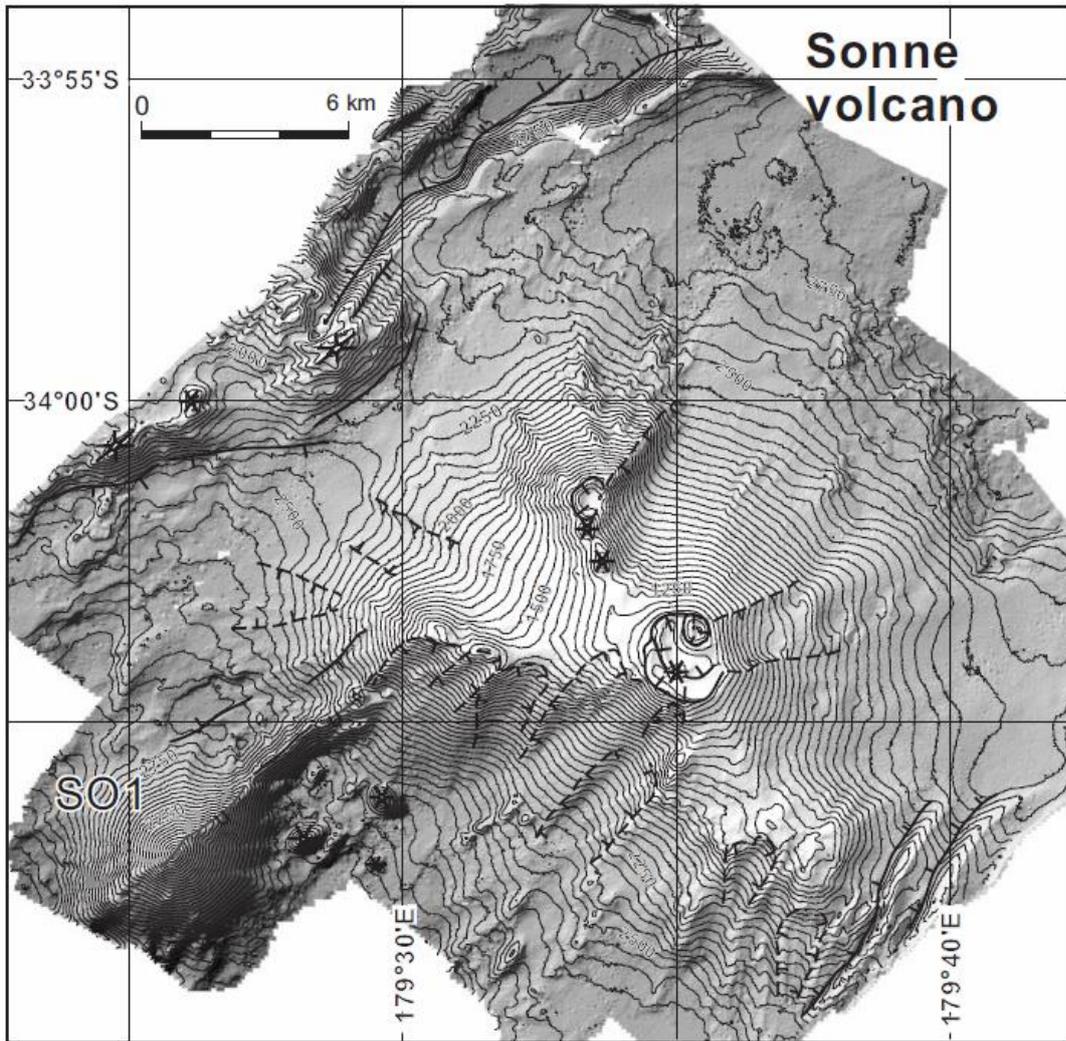


Figure 15 in Wright et al. (2006), showing the bathymetry and synoptic volcanic geology of Sonne volcano.

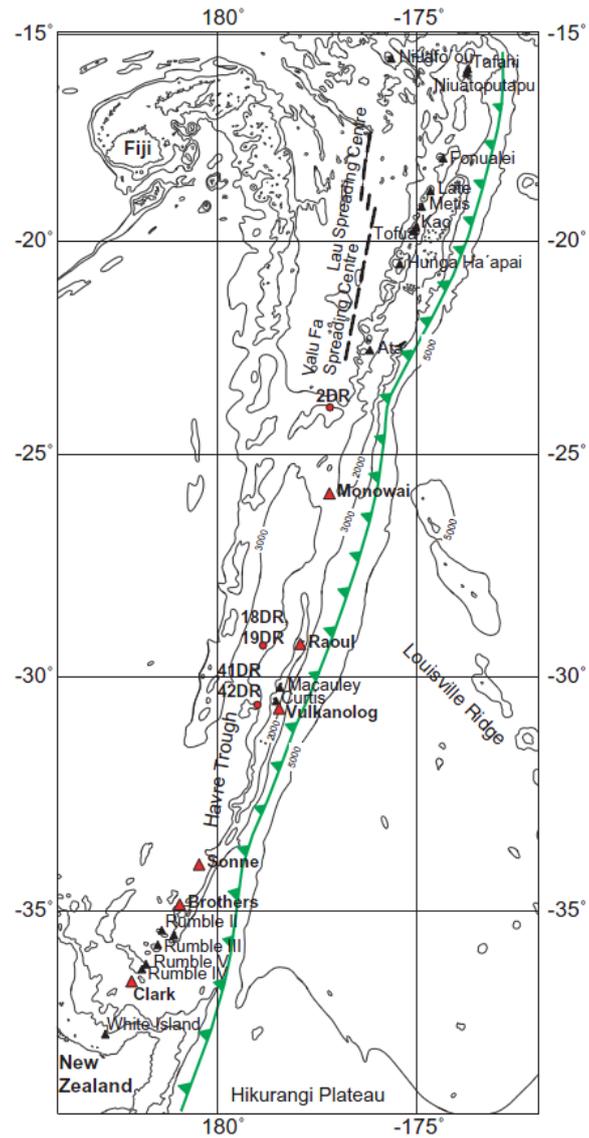


Figure 1. Map of the Tonga-Lau-Kermadec-Havre-New Zealand subduction zone (GEBCO data set) showing the bathymetry and the volcanoes on the arc front (triangles). The dredge stations in the back arc are shown as points with station numbers. The broken line depicts the Lau and Valu Fa back arc spreading centers.

Figure 1 of Haase et al. (2002) depicting Sonne volcano.