INTERNATIONAL HYDROGRAPHIC ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (of UNESCO)

UNDERSEA FEATURE NAME PROPOSAL

(See IHO-IOC Publication B-6 and NOTE overleaf)

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

Name Proposed:	Naka-Hiyoshi Knoll	Ocean or Sea:	N/A

Geometry that best defines the feature (Yes/No) :

Point	Line	Polygon	Multiple points	Multiple lines*	Multiple polygons*	Combination of geometries*
		Yes				

** 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:	23°40.30'N	141°46.11'E
	23°38.89'N	141°47.41'E
	23°38.13'N	141°48.41'E
	23°36.86'N	141°49.15'E
	23°36.04'N	141°49.20'E
	23°35.04'N	141°48.40'E
	23°35.37'N	141°46.53'E
	23°36.53'N	141°45.21'E
	23°38.62'N	141°45.71'E
	23°39.67'N	141°45.38'E
	23°40.30'N	141°46.11'E

Feature Description:	Maximum Depth:	1,147 m	Steepness :	N/A
	Minimum Depth :	273 m	Shape :	Elongated
	Total Relief :	874 m	Dimension/Size :	10 km × 7 km

Associated Features:	East Mariana Ridge, Kita-Hiyoshi Seamount, Minami-Hiyoshi Seamount

Chart/Map References:	Shown Named on Map/Chart:	Japanese chart #6723 (to be published in July 26, 2019)
	Shown Unnamed on Map/Chart:	
	Within Area of Map/Chart:	

Reason for Choice of Name (if a person, state how associated with the feature to be named):	Named after the Japanese fishery boat "Hiyoshi-maru" which discovered this feature. "Naka" means "Central" in Japanese. This undersea feature name was accredited by JCUFN in 1977. This feature is located on the East Mariana Ridge, which is in fact the volcanic front of the Mariana Arc. Because of the significance of its tectonic setting, many scientific papers were produced, dealing with the volcanoes along the East Mariana Ridge, including this feature. Among these, the following papers are noted: • Bloomer S.H., et al., 1989, Physical volcanology of the submarine Mariana and Volcano arcs, *Bulletin of Volcanology*, 51, 210-224. • Hein J.R., et al., 2008, Diffuse flow hydrothermal manganese mineralization along the active Mariana and southern Izu-Bonin arc system, western Pacific, Journal of Geophysical Research, 113,

	B08S14, DOI: 10.1029/2007JB005432. • Naka, J., 1998, An outline of the Shinkai 2000 dive at the Ko-Hiyoshi Seamount, Northern Mariana arc, *JAMSTEC Journal of Deep Sea Research*, 14, 157-162 (in Japanese with English abstract) • Nishizawa A., et al., 2003, Ocean Bottom Seismographic Observation at Minami-Hiyoshi Seamount at the Northern End of the Mariana Arc, Report of Hydrographic and Oceanographic Researches, 39, 3-21 (in Japanese with English abstract) • Stern R.J., et al., 1984, Unzipping of the volcano arc, Japan, *Tectonophysics*, 102, 153-174. Note that the undersea feature names in the Japanese chart #6723 largely consists of two major categories. One is relevant to season names or seasonal/annual event in Japan, and the other is to discovering ship (all are fishery boats except one). The names belonging to the former category were mostly accredited by JCUFN in 1994.

Discovery Facts:	Discovery Date:	Aug. 1993
	Discoverer (Individual, Ship):	Japanese survey vessel "Takuyo"

Supporting Survey Data, including Track Controls:	Date of Survey:	Aug. - Sep. and Oct. 1993
	Survey Ship:	Japanese survey vessel "Takuyo"
	Sounding Equipement:	Multibeam echo sounder Seabeam
	Type of Navigation:	GPS with Selective Availability
	Estimated Horizontal Accuracy, in nautical miles (M):	0.054 nm (100 m)
	Survey Track Spacing:	3 nm
	Supporting material can be submitted as Annex in analog or digital form.	

Proposer(s):	Name(s):	JCUFN
	Date:	June 4, 2019
	E-mail:	ico@jodc.go.jp
	Organization and Address:	Hydrographic and Oceanographic Department, Japan Coast Guard Kasumigaseki 3-1-1, Chiyoda-ku, Tokyo 100-8932, Japan
	Concurrer (name, e-mail, organization and address):	

Remarks:	The position of the summit is located in (23°36.82'N, 141°47.46'E).

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 Publication B-6) or, if this does not exist or is not known, either to the IHO 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 IHO or to the IOC, at the following addresses :

International Hydrographic Organization (IHO) 4b, Quai Antoine 1er B.P. 445 MC 98011 MONACO CEDEX Principality of MONACO Fax: +377 93 10 81 40 E-mail: info@iho.int Web: www.iho.int	Intergovernmental Oceanographic Commission (IOC) UNESCO Place de Fontenoy 75700 PARIS France Fax: +33 1 45 68 58 12 E-mail: info@unesco.org Web: http://ioc-unesco.org/

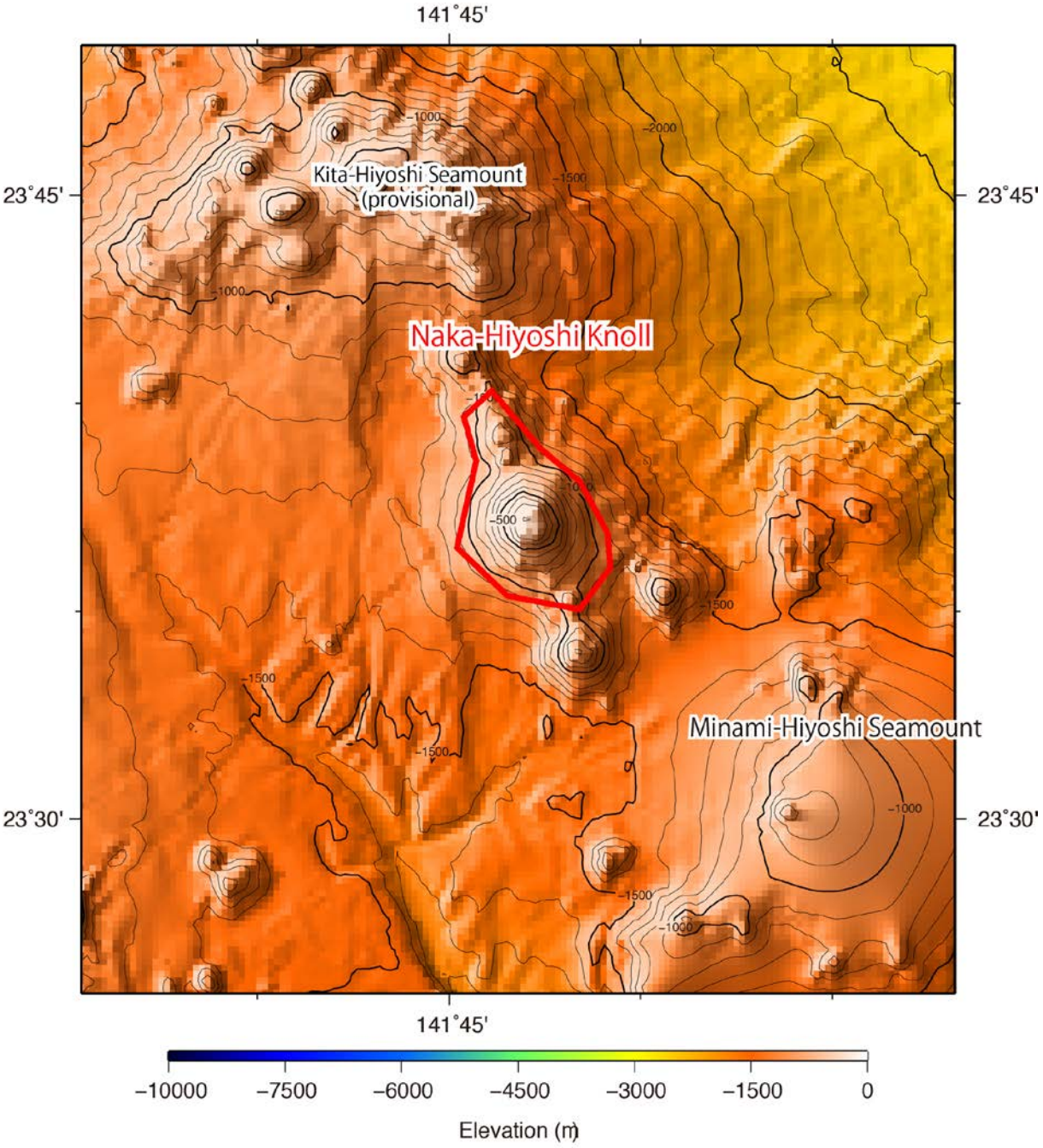

Fig. 1. Bathymetric map of the Naka-Hiyoshi Knoll. Contours are in 100 m.

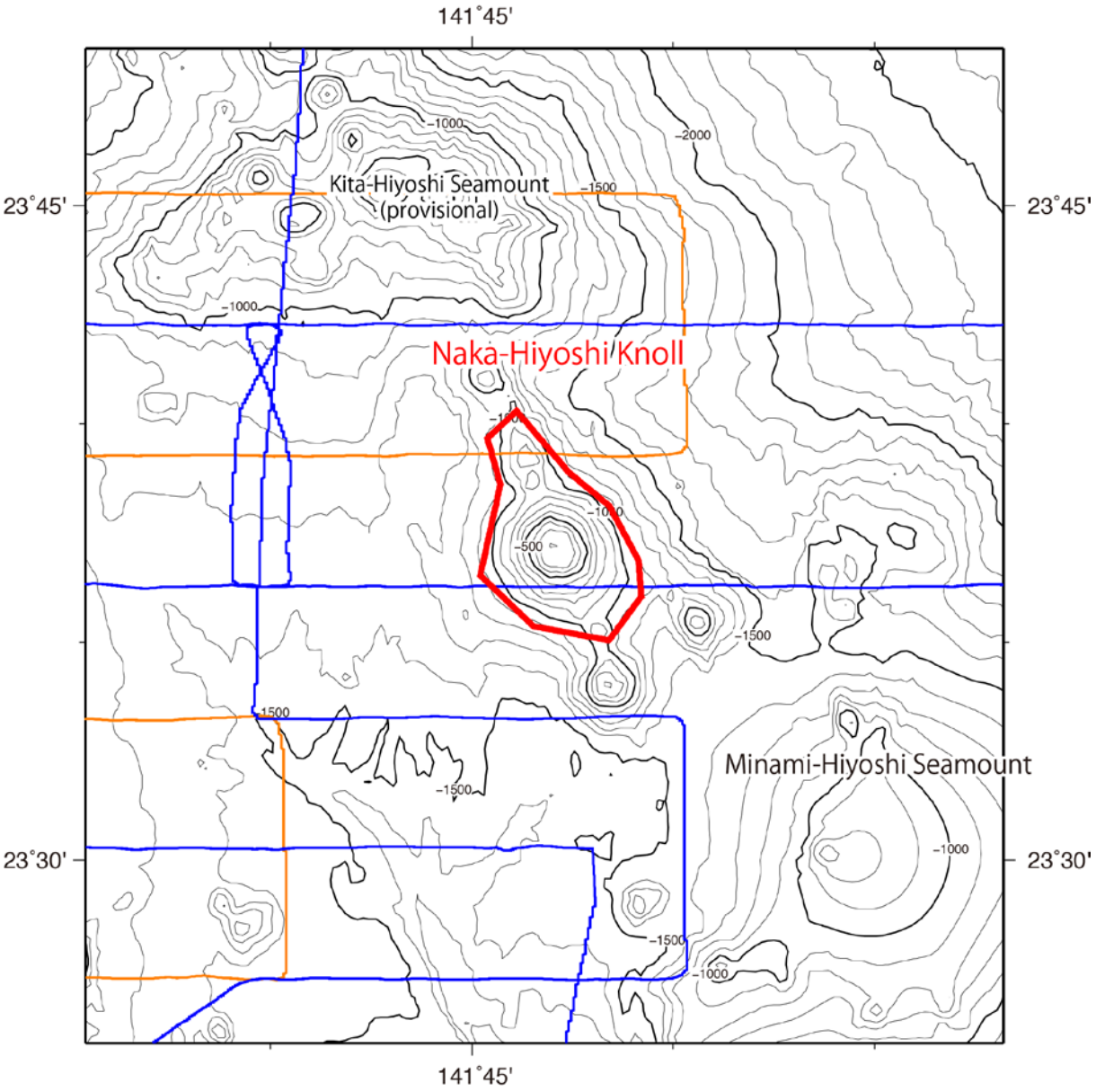

Fig. 2. Bathymetric map of the Naka-Hiyoshi Knoll, shown with track lines. Contours are in 100 m.

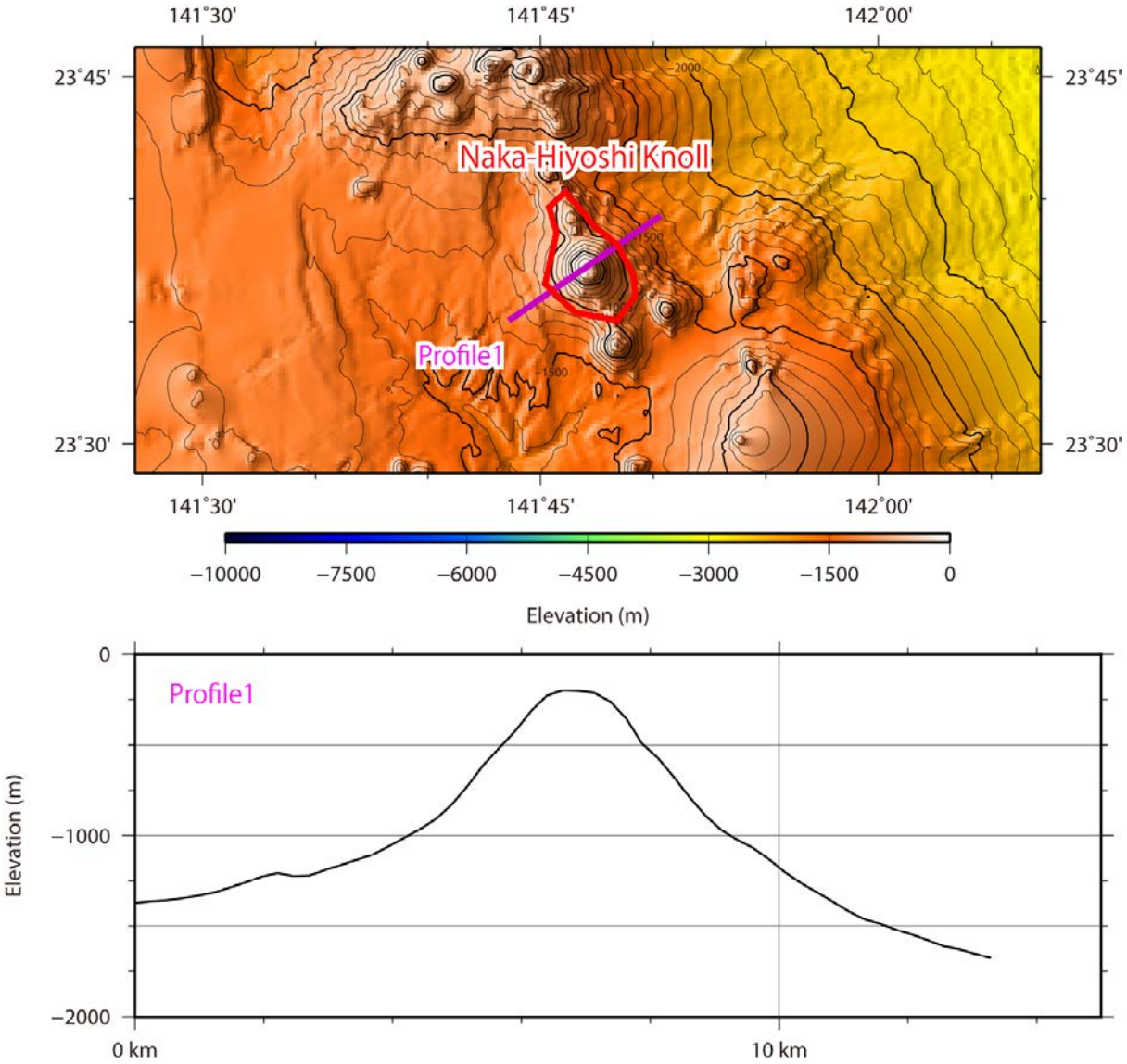

Fig. 3. Bathymetric profile across the Naka-Hiyoshi Knoll.

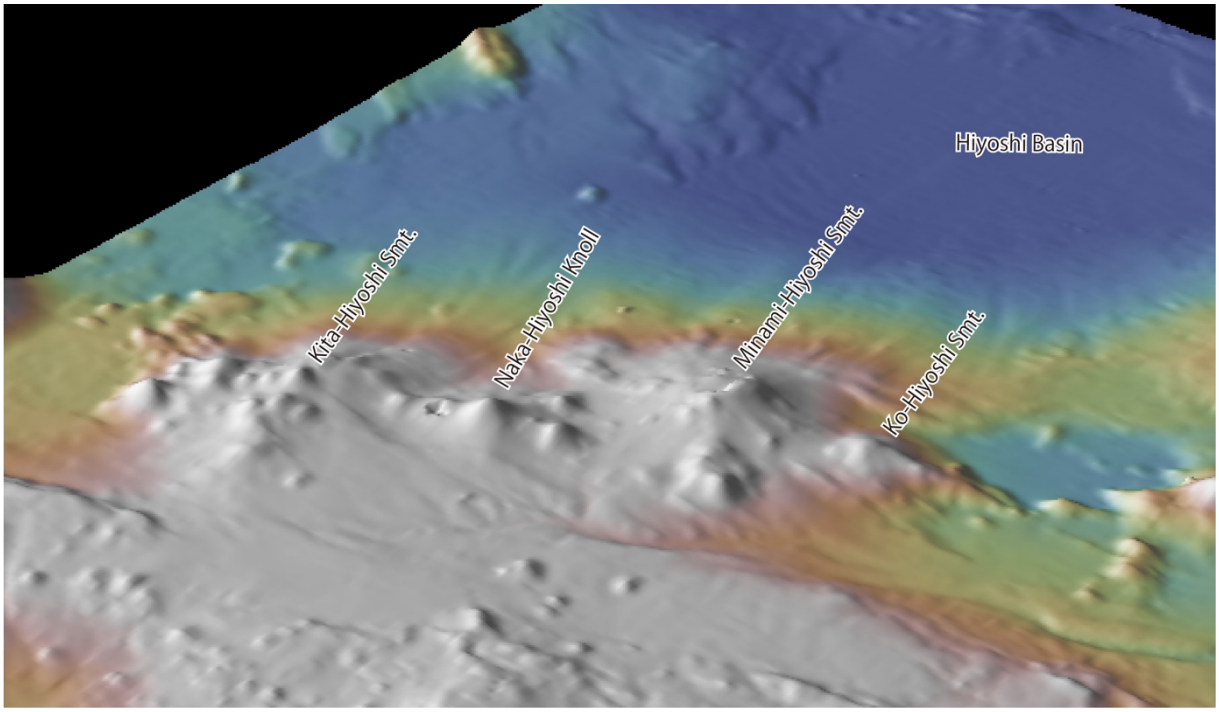

Fig. 4. 3D image of the Naka-Hiyoshi Knoll and its vicinity.