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:	Zhemchug Canyon (update GEBCO and ACUF locations)	**Ocean or Sea:**	Bering Sea

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

Point	Line	Polygon	Multiple points	Multiple lines*	Multiple polygons*	Combination of geometries*
Yes	Yes	No	No	Yes	No	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:	Point (3016 m) 58° 01.8'N	Point (3016 m) 174° 49.2'W
	Line1 Start (68 m) 58° 17.5'N	Line1 Start (68 m) 169° 41.0'W
	Line1 Mid1 (107 m) 57° 47.4'N	Line1 Mid1 (107 m) 172° 11.3'W
	Line1 Mid2 (133 m) 57° 34.9'N	Line1 Mid2 (133 m) 173° 11.1'W
	Line1 Mid3 (2452 m) 58° 03.2'N	Line1 Mid3 (2452 m) 174° 30.8'W
	Line1 End (3021 m) 58° 01.9'N	Line1 End (3021 m) 174° 48.7'W
	Line2 Start (64 m) 60° 45.1'N	Line2 Start (64 m) 171° 36.6'W
	Line2 Mid1 (71 m) 59° 44.2'N	Line2 Mid1 (71 m) 171° 13.5'W
	Line2 Mid2 (119 m) 58° 46.8'N	Line2 Mid2 (119 m) 173° 24.2'W
	Line2 Mid3 (224 m) 58° 38.9'N	Line2 Mid3 (224 m) 174° 34.2'W
	Line2 Mid4 (3021 m) 58° 01.9'N	Line2 Mid4 (3021 m) 174° 48.7'W
	Line2 Mid5 (3016 m) 58° 01.8'N	Line2 Mid5 (3016 m) 174° 49.2'W
	Line2 Mid6 (3348 m) 57° 42.1'N	Line2 Mid6 (3348 m) 175° 24.8'W
	Line2 Mid7 (3496 m) 57° 18.5'N	Line2 Mid7 (3496 m) 175° 08.2'W
	Line2 Mid8 (3647 m) 56° 39.7'N	Line2 Mid8 (3647 m) 175° 42.8'W
	Line2 Mid9 (3713 m) 56° 29.1'N	Line2 Mid9 (3713 m) 176° 45.5'W
	Line2 Mid10 (3725 m) 56° 44.7'N	Line2 Mid10 (3725 m) 177° 37.4'W
	Line2 End (3811 m) 56° 10.4'N	Line2 End (3811 m) 179° 56.8'W

Feature Description:	Maximum Depth:	3811 m	Steepness :	0.3°
	Minimum Depth :	64 m	Shape :	U/V
	Total Relief :	3747 m	Dimension/Size :	1053757 m long/ ~35000 m wide

Associated Features:	Northern canyons, Zhemchug Spur, Saint Paul Spur

Chart/Map References:	Shown Named on Map/Chart:	
	Shown Unnamed on Map/Chart:	US Nav. Chart 16006
	Within Area of Map/Chart:	

Reason for Choice of Name (if a person, state how associated with the feature to be named)**:**	Our proposed canyon is recognized by GEBCO and ACUF. GEBCO represent the canyon with a polyline. ACUF represents the canyon as a single point.

	We are proposing to update both. According to GEBCO this canyon was discovered by the Russian Fishery vessels Zhemchug and Pervenets in 1958, but it was actually discovered by the US hydrographic vessel Pioneer in 1953. Please see the Descriptive Report for this survey, Page 14, which was classified as "CONFIDENTIAL" at the time. https://data.ngdc.noaa.gov/platforms/ocean/nos/coast/H08001-H10000/H08103/DR/H08103.pdf It is also clearly depicted on smooth sheet H08103 (Figure 3). Since it was named simply "MARINE CANYON" by the Pioneer in 1953, we argue that the name of Zhemchug should remain.

Discovery Facts:	Discovery Date:	update to 1953
	Discoverer (Individual, Ship):	update to Pioneer

Supporting Survey Data, including Track Controls:	Date of Survey:	various
	Survey Ship:	various
	Sounding Equipement:	various
	Type of Navigation:	various
	Estimated Horizontal Accuracy, in nautical miles (M):	100 m horizontal resolution bathymetry surface
	Survey Track Spacing:	various
	Supporting material can be submitted as Annex in analog or digital form. Please see Zimmermann and Prescott (2018)	

Proposer(s):	Name(s):	Mark Zimmmermann & Megan Prescott
	Date:	July 2018
	E-mail:	mark.zimmermann@noaa.gov
	Organization and Address:	National Marine Fisheries Service, NOAA, Alaska Fisheries Science Center, 7600 Sand Point Way NE, Bldg. 4, Seattle, WA 98115-6349 USA
	Concurrer (name, e-mail, organization and address):	

Remarks:	Zimmermann and Prescott (2018): shown in Fig. 8 (please see below). Harris et al. (2014): recognized as shelf incising canyon C8888. Harris and Whiteway (2011): recognized as Zhemchug canyon.

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 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 <u>outside the external limits</u> of the territorial sea**:
- to the IHO or to the IOC, at the following addresses :

International Hydrographic Organization (IHO) 4b, Quai Antoine 1er	Intergovernmental Oceanographic Commission (IOC) UNESCO

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	Place de Fontenoy 75700 PARIS France Fax: +33 1 45 68 58 12 E-mail: info@unesco.org Web: http://ioc-unesco.org/

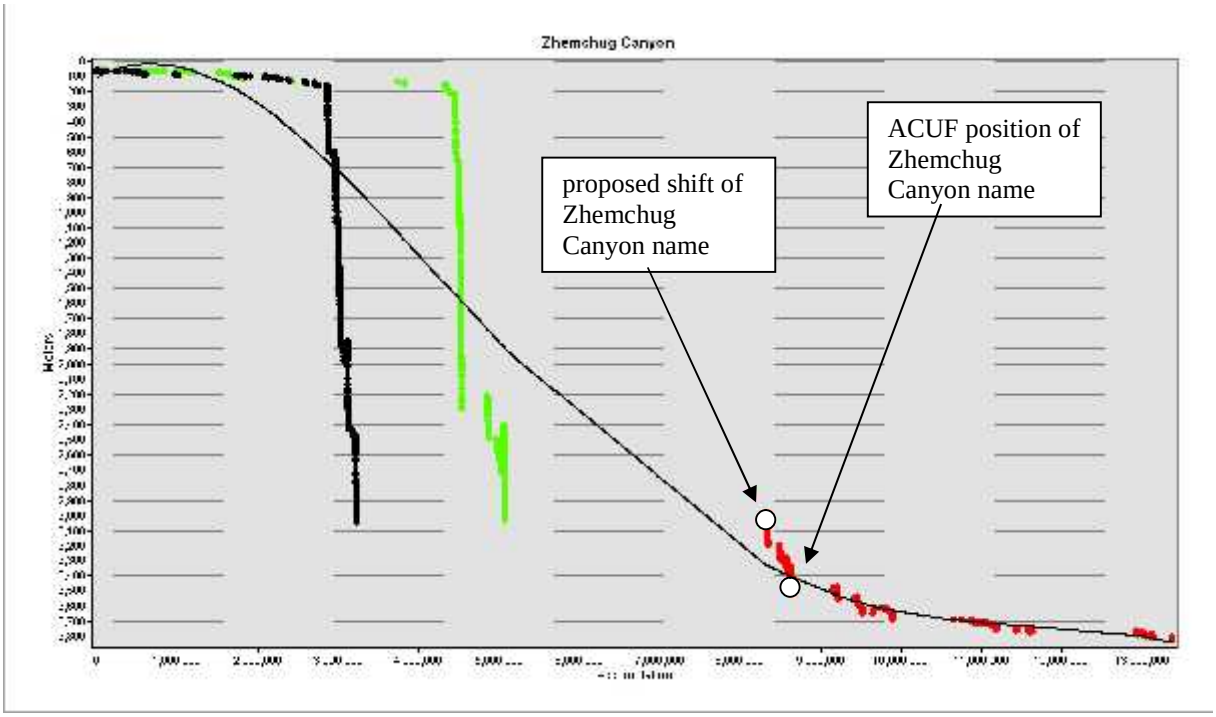

Figure 1. Plot of depth and accumulation of raster cells along main thalweg path (red points), north thalweg (green points), south thalweg (black points), and fitted trend line.

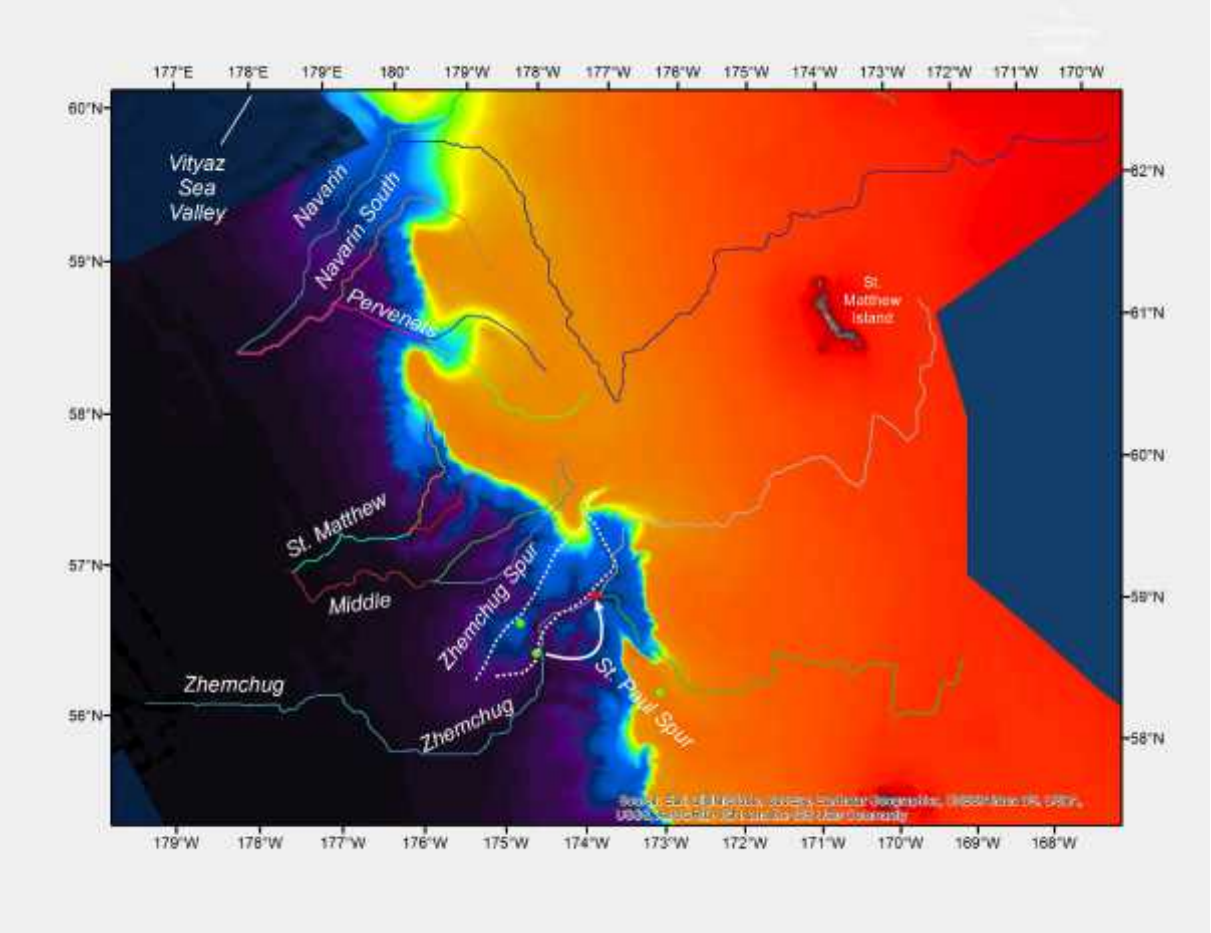

Figure 2. Modified version of Fig 8. (Zimmermann &Prescott, 2018) "Thalwegs of the Navarin Canyon area of the eastern Bering Sea slope" showing proposed Zhemchug Canyon place name. ACUF only uses a point (green point) to represent the place name while GEBCO only uses a polyline (dashed white line).

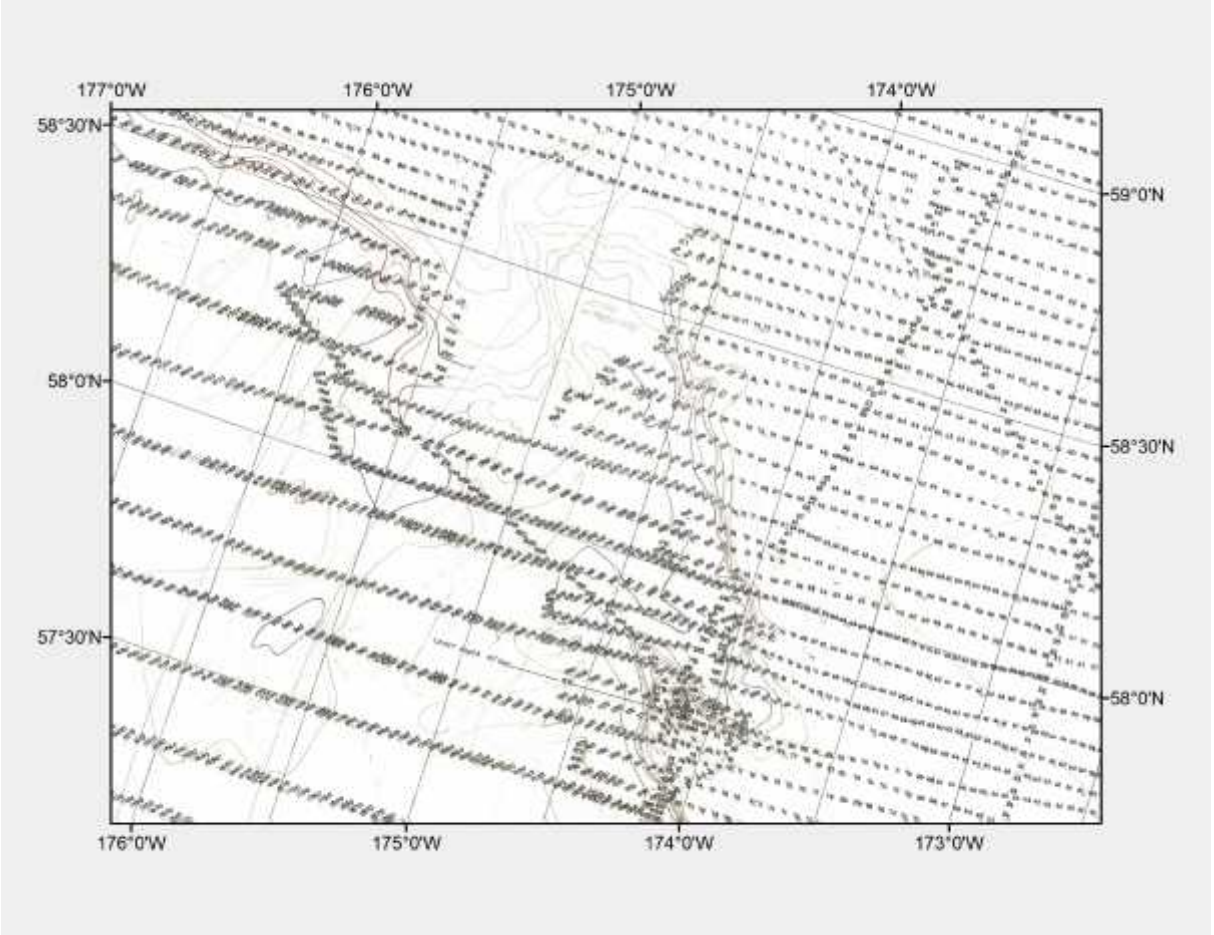

Figure 3. Detail of Zhemchug Canyon discovered by the US hydrographic vessel Pioneer in 1953 and charted on smooth sheet H08103.