

**UNDERSEA FEATURE NAME PROPOSAL**  
(Sea NOTE overleaf)

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

<b>Name Proposed:</b>	Demeter Pass	<b>Ocean or Sea:</b>	North Atlantic Ocean
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<b>Geometry that best defines the feature (Yes/No) :</b>						
Point	Line	Polygon	Multiple points	Multiple lines*	Multiple polygons*	Combination of geometries*
				Yes. Two east-west channels, with a north-south central connection, creating an H-shaped pass.		

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

	Lat. (e.g. 63°32.6'N)	Long. (e.g. 046°21.3'W)
<b>Coordinates:</b>	North channel: 55°21.0'N to 55°18.0'N	36°15.0'W to 33°48.0'W
	South channel: 55°10.8'N to 54°54.0'N	36°15.0'W to 34°00.0'W
	Central connector: 55°02.88'N to 55°20.1'N	35°15.0'W to 35°15.0'W

<b>Feature Description:</b>	<b>Maximum Depth:</b>	2800 meters	<b>Steepness :</b>	variable
	<b>Minimum Depth :</b>	1100 meters	<b>Shape :</b>	East-west oriented double channeled pass.
	<b>Total Relief :</b>	1700 meters	<b>Dimension/Size :</b>	150 km long, 40 km wide at western end, 100 km wide at eastern end, and each of two channels about 20 km wide.

<b>Associated Features:</b>	Reykjanes Ridge
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<b>Chart/Map References:</b>	<b>Shown Named on Map/Chart:</b>	n/a
	<b>Shown Unnamed on Map/Chart:</b>	The pass lies at approximately 55°20.0'N, oriented east-west across the Reykjanes Ridge. See accompanying figures.
	<b>Within Area of Map/Chart:</b>	[ 54°40.0'N 55°40.0'N 036°40.0'W 033°40.0'W ]

<b>Reason for Choice of Name (if a person, state how associated with the feature to be named):</b>	Hecate Seamount and proposed Hecate Ridge are nearby to the south, and mark the deep passage through the Charlie-Gibbs Fracture Zone. In ancient Greek Mythology, Demeter worked with Hecate to light the way to the underworld in their quest to find Persephone. I am applying to name this feature because in my work as physical oceanographer, tracking the
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	abyssal currents of the Iceland and Irminger Basins, we are learning that this pass is important for the conduit of the deep currents, along with the Bight Fracture Zone and Charlie-Gibbs Fracture Zone. We have been referring to this pass as 'no-name gap' in our presentations at scientific meetings. I would like this pass to be officially named before we need to submit scientific papers. I felt that having a name related to a nearby already-named feature would bring cohesiveness to the region. I felt that since Hecate and Demeter work together to search the dark underworld for Persephone, 'Demeter Pass' is an appropriate choice of name, since this passageway is a conduit for the deepest ocean currents.
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<b>Discovery Facts:</b>	Discovery Date:	n/a
	Discoverer (Individual, Ship):	n/a

<b>Supporting Survey Data, including Track Controls:</b>	Date of Survey:	n/a
	Survey Ship:	n/a
	Sounding Equipment:	n/a
	Type of Navigation:	n/a
	Estimated Horizontal Accuracy (nm):	n/a
	Survey Track Spacing:	n/a
	Supporting material can be submitted as Annex in analog or digital form.	

<b>Proposer(s):</b>	Name(s):	Heather Hunt Furey
	Date:	16 August 2017
	E-mail:	hfurey@whoi.edu
	Organization and Address:	Woods Hole Oceanographic Institution
	Concurrer (name, e-mail, organization and address):	

<b>Remarks:</b>	I have consulted with geological oceanographer Dr. Stephen Swift (Woods Hole Oceanographic Institution), who confirmed that this bathymetric feature is not a fracture zone, but a pass or gap.
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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: <a href="mailto:info@ihb.mc">info@ihb.mc</a>	Intergovernmental Oceanographic Commission (IOC) UNESCO Place de Fontenoy 75700 PARIS France Fax: +33 1 45 68 58 12 E-mail: <a href="mailto:info@unesco.org">info@unesco.org</a>
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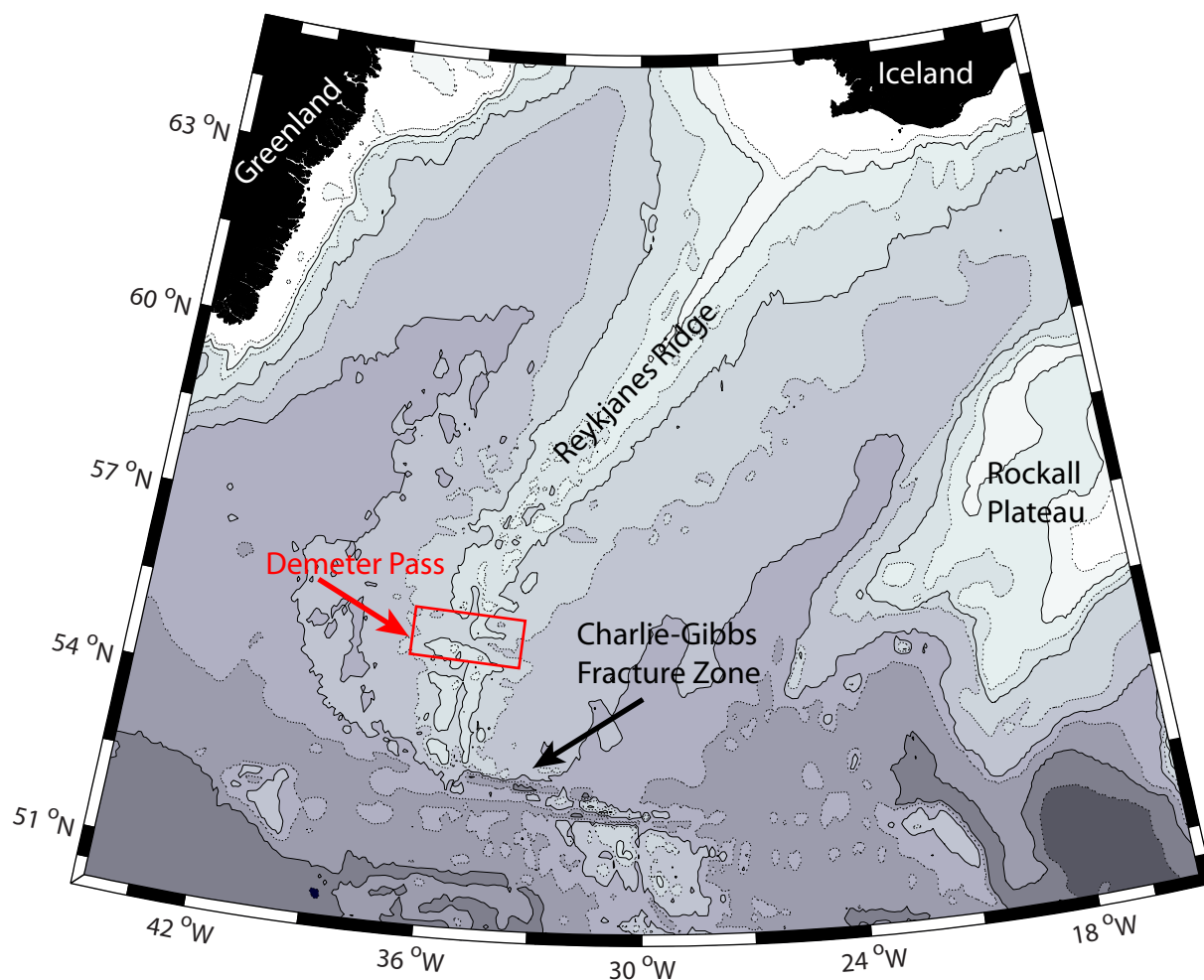


Figure 1. Overview of the region containing the proposed Demeter Pass, which is a deep passage at about 55N across the Reykjanes Ridge. Bathymetry data base ETOPO5, 5 minute resolution.

Heather Hunt Furey (hfurey@whoi.edu)  
 Woods Hole Oceanographic Institution, Woods Hole, MA

International Hydrographic Organization

Undersea Feature Name Proposal:

Demeter Pass: and H-shaped feature, defined by

north pass: [55°21.0'N 36°15.0'W] to [55°18.0'N 33°48.0'W]

south pass: [55°10.8'N 36°15.0'W] to [54°54.0'N 34°00.0'W]

central connector: [55°02.88'N 35°15.0'W] to [55°20.1'N 35°15.0'W].

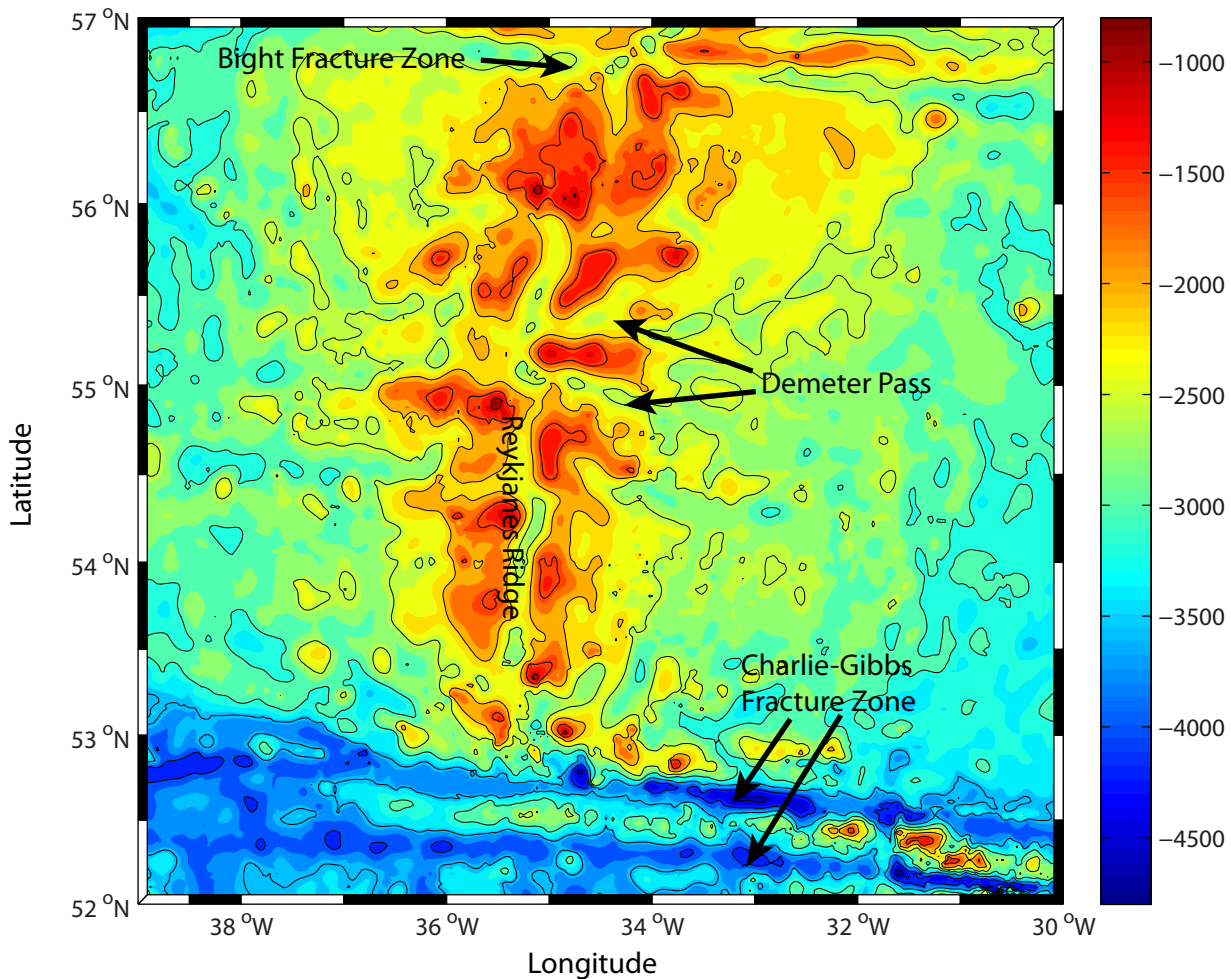


Figure 2. Zoom-in of the region containing the proposed Demeter Pass, which lies along the Reykjanes Ridge at about 55N. Demeter Pass is H-shaped: a two-channel pass at the eastern end, meets in the middle, and contains a less-pronounced two-channel exit. This pass has been found to be an important passageway for the transfer of the abyssal water flowing from the Iceland Sea to the Irminger Sea. The two other known conduits for this water are the Bight Fracture Zone and the Charlie-Gibbs Fracture Zone. I have consulted with geological oceanographer Stephen Swift at the Woods Hole Oceanographic Institution, who confirmed that this bathymetric feature is not a fracture zone, but a pass or gap.

Bathymetry at 2 minute resolution from Smith and Sandwell database, see *Smith, W. H. F., and D. T. Sandwell, Global seafloor topography from satellite altimetry and ship depth soundings, Science, v. 277, p. 1957-1962, 26 Sept., 1997.*

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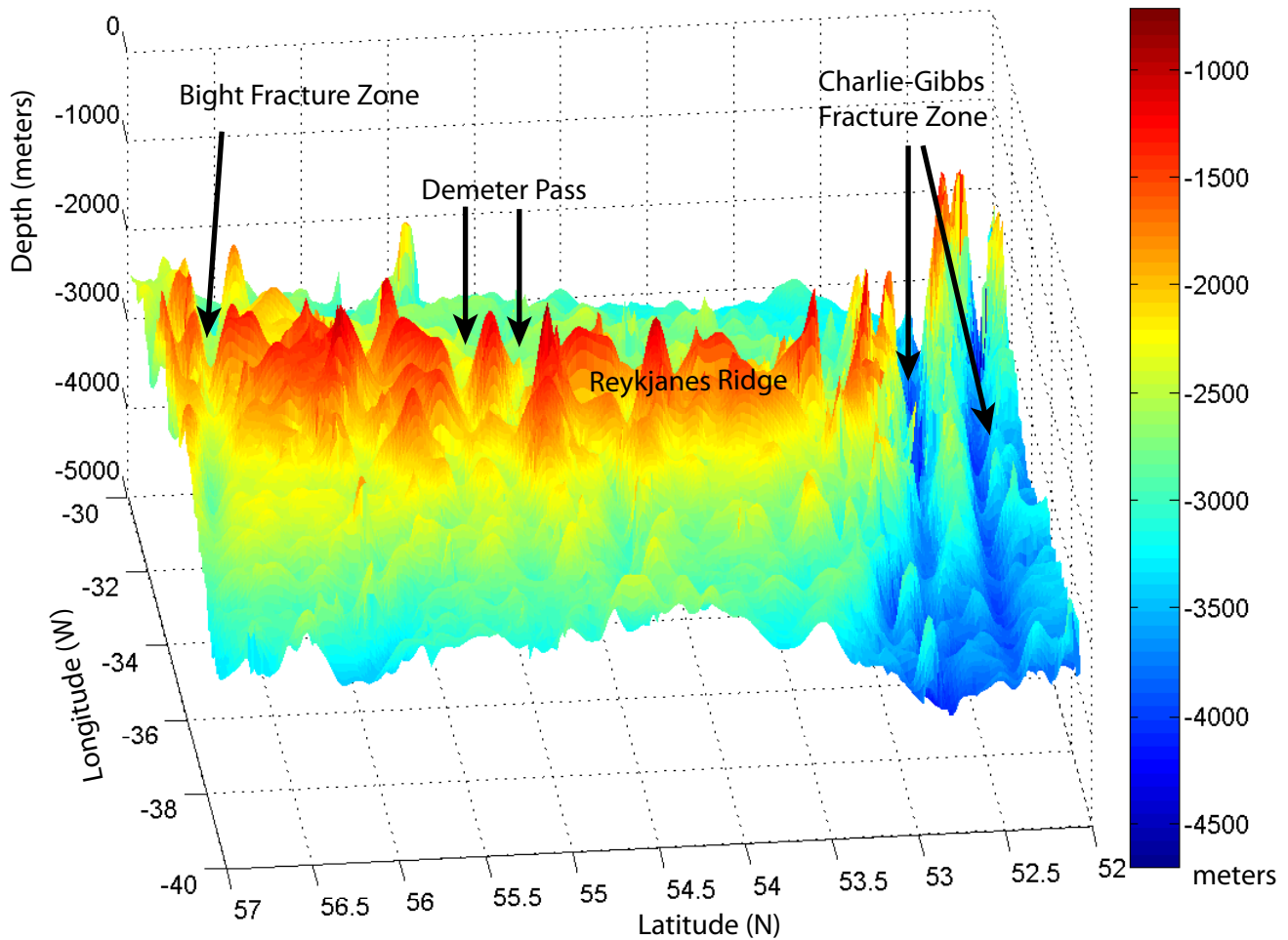


Figure 3. Zoom-in of the region containing the proposed Demeter Pass, which lies along the Reykjanes Ridge at about 55N. Demeter Pass is H-shaped: a two-channel pass at the eastern end, meets in the middle, and contains a less-pronounced two-channel exit. This pass has been found to be an important passageway for the transfer of the abyssal water flowing from the Iceland Sea to the Irminger Sea. The two other known conduits for this water are the Bight Fracture Zone and the Charlie-Gibbs Fracture Zone. I have consulted with geological oceanographer Stephen Swift at the Woods Hole Oceanographic Institution, who confirmed that this bathymetric feature is not a fracture zone, but a pass or gap. This figure is similar to Figure 2, but shows the region rendered in 3D. Bathymetry at 2 minute resolution from Smith and Sandwell data base, see *Smith, W. H. F., and D. T. Sandwell, Global seafloor topography from satellite altimetry and ship depth soundings, Science, v. 277, p. 1957-1962, 26 Sept., 1997.*

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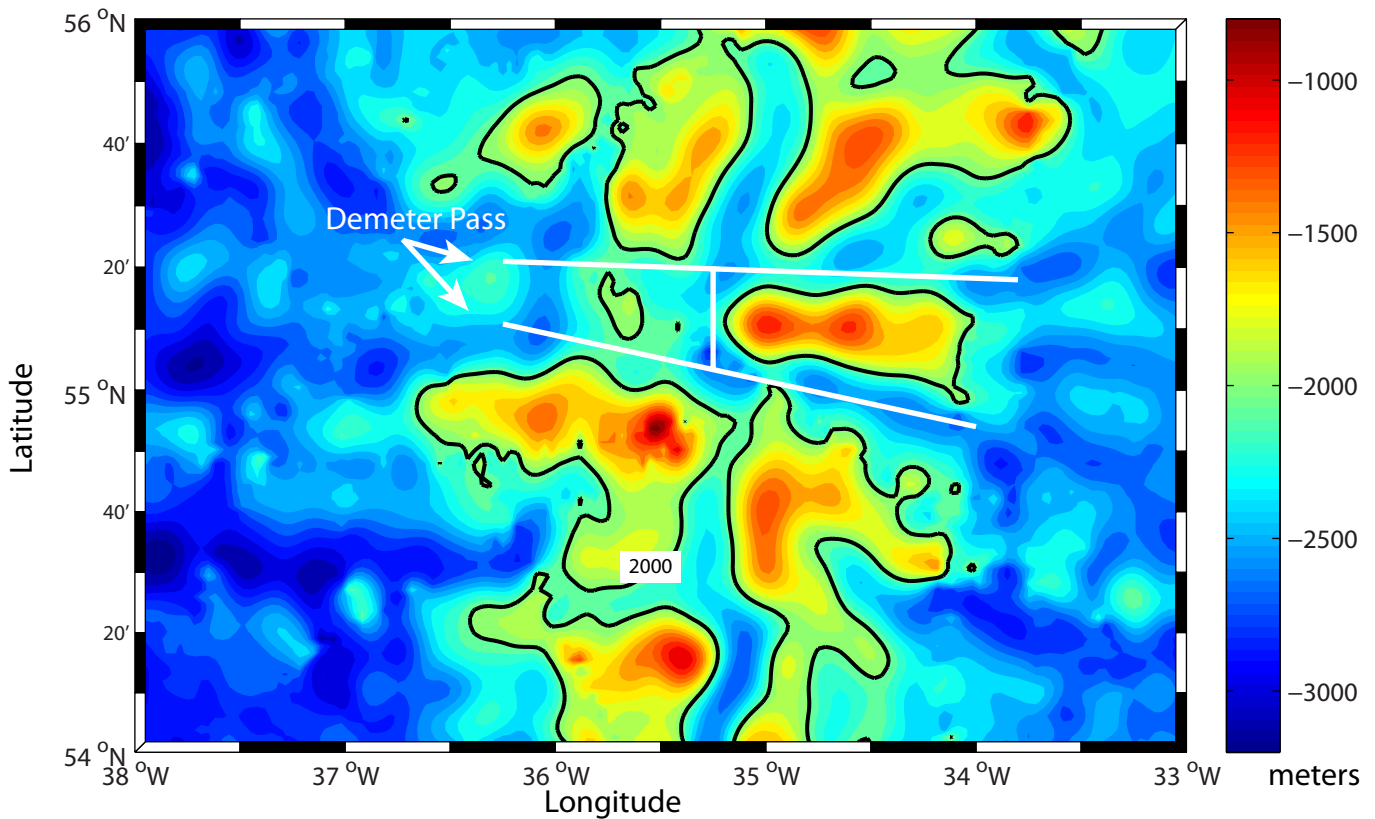


Figure 4. Zoom-in of the region containing the proposed Demeter Pass, which lies at about 55N across the Reykjanes Ridge. On this plot, the 2000 meter isobath is drawn as a bold black line, to highlight Demeter Pass which is defined as being deeper than this isobath. The pass is H-shaped, with two entries on the east and on the west, and is connected in the center of the Reykjanes Ridge. The line segments are described by the endpoints:  
north pass: [55°21.0'N 36°15.0'W] to [55°18.0'N 33°48.0'W]  
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