

UNDERSEA FEATURE NAME PROPOSAL

(Sea NOTE overleaf)

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

Name Proposed:	Ponta do Mel Canyon	Ocean or Sea:	Atlantic 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*
Yes	Yes					


* 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)
	(Central Point) 04°37.02'S	(Central Point) 036°45.43'W
	4°37.20S	36°45.77W
	4°36.88S	36°45.68W
	4°36.25S	36°45.55W
	4°35.13S	36°45.47W
	4°33.62S	36°45.03W
	4°33.38S	36°44.96W
	4°32.70S	36°44.25W
	4°31.42S	36°43.42W
4°30.55S	36°42.90W	

Feature Description:	Maximum Depth:	1260 m	Steepness :	35° - 25°
	Minimum Depth :	115 m	Shape :	V - U shape
	Total Relief :	1145 m	Dimension/Size :	0,4km - 2,3km width X 9,8km longer

Associated Features:	Guará Bank and Sirius Bank
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Chart/Map References:	Shown Named on Map/Chart:	
	Shown Unnamed on Map/Chart:	
	Within Area of Map/Chart:	

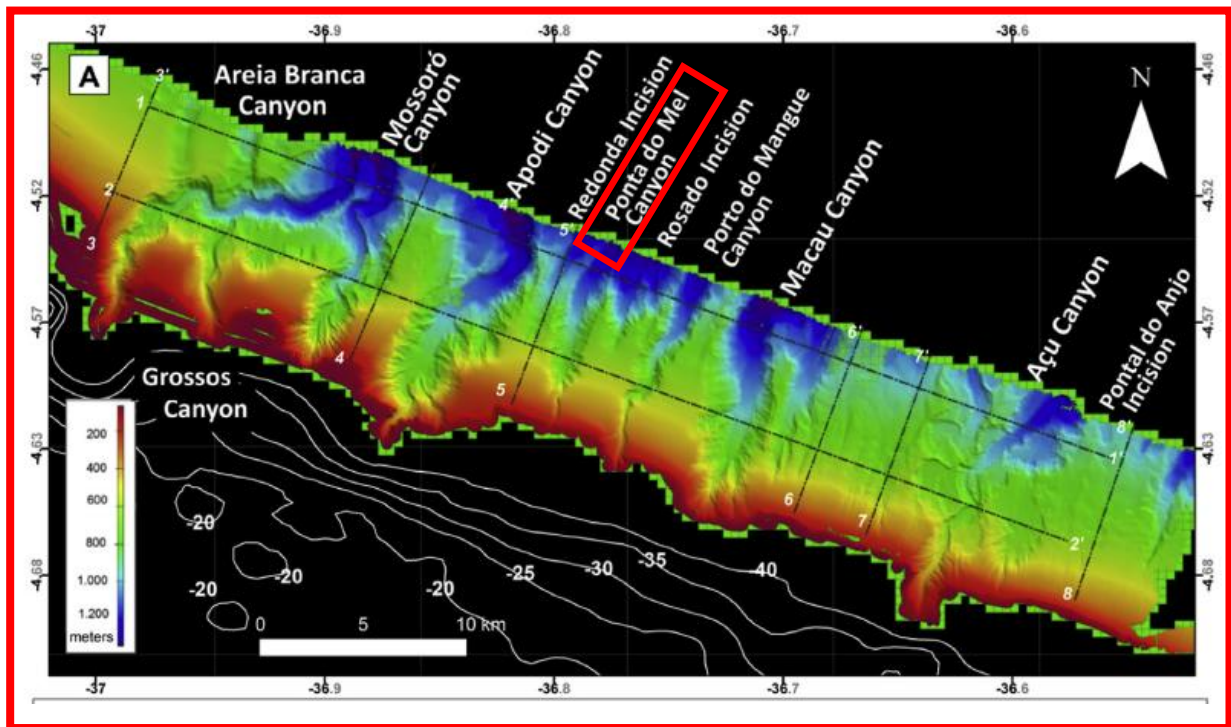
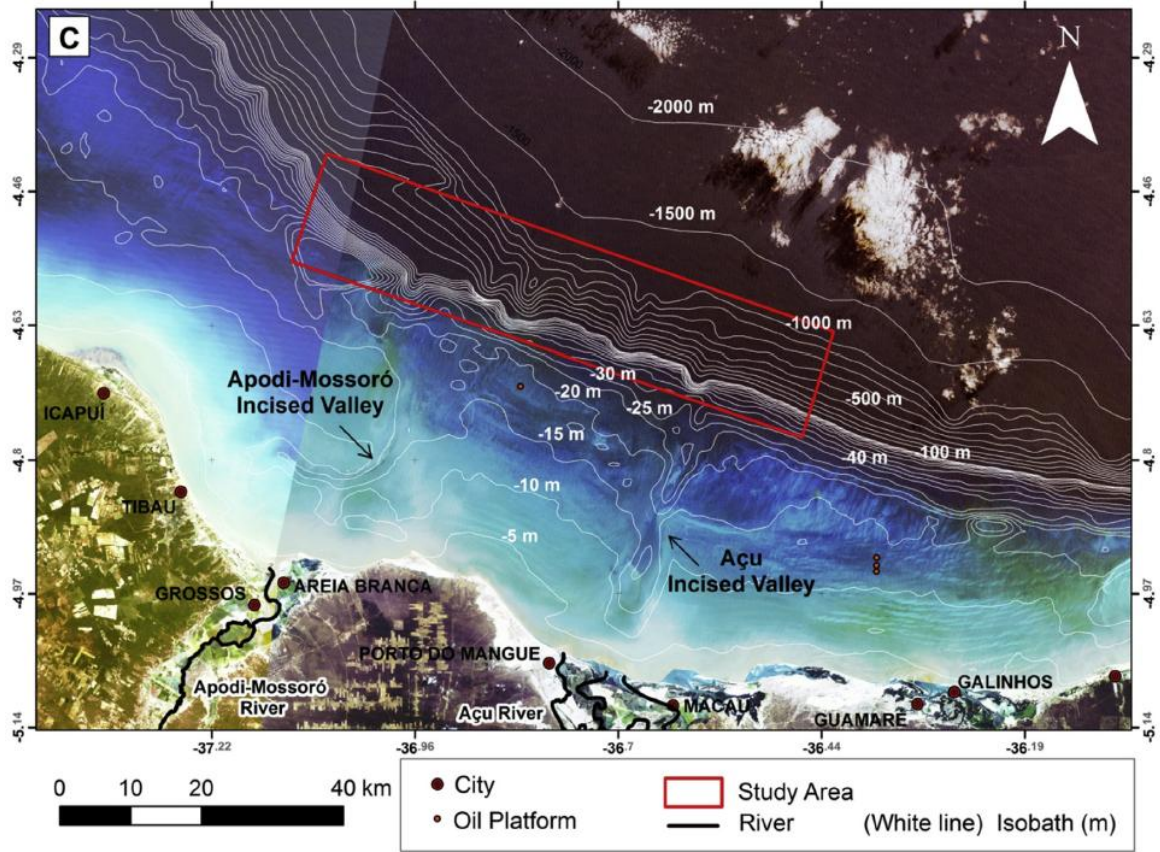
Reason for Choice of Name (if a person, state how associated with the feature to be named):	<p>Ponta do Mel is a small village at the coast of Rio Grande do Norte state, Brazil. The name Ponta do Mel was given due the existence of a large number of bees in this area and the shape of a promontory. Mel = honey This name was published in the scientific paper Almeida, N., Vital, H., and Gomes, M., 2015. Morphology of submarine canyons along the continental margin of the Potiguar Basin, NE Brazil.</p>
	

Discovery Facts:	Discovery Date:	May 2011
	Discoverer (Individual, Ship):	NHi Sirius (Directorate of Hydrography and Navigation)

Supporting Survey Data, including Track Controls:	Date of Survey:	May 2011
	Survey Ship:	NHi Sirius (Directorate of Hydrography and Navigation)
	Sounding Equipment:	Multibeam - Simrad EM 302
	Type of Navigation:	DGPS
	Estimated Horizontal Accuracy (nm):	
	Survey Track Spacing:	Full bottom covered
	Supporting material can be submitted as Annex in analog or digital form.	

LOCATION





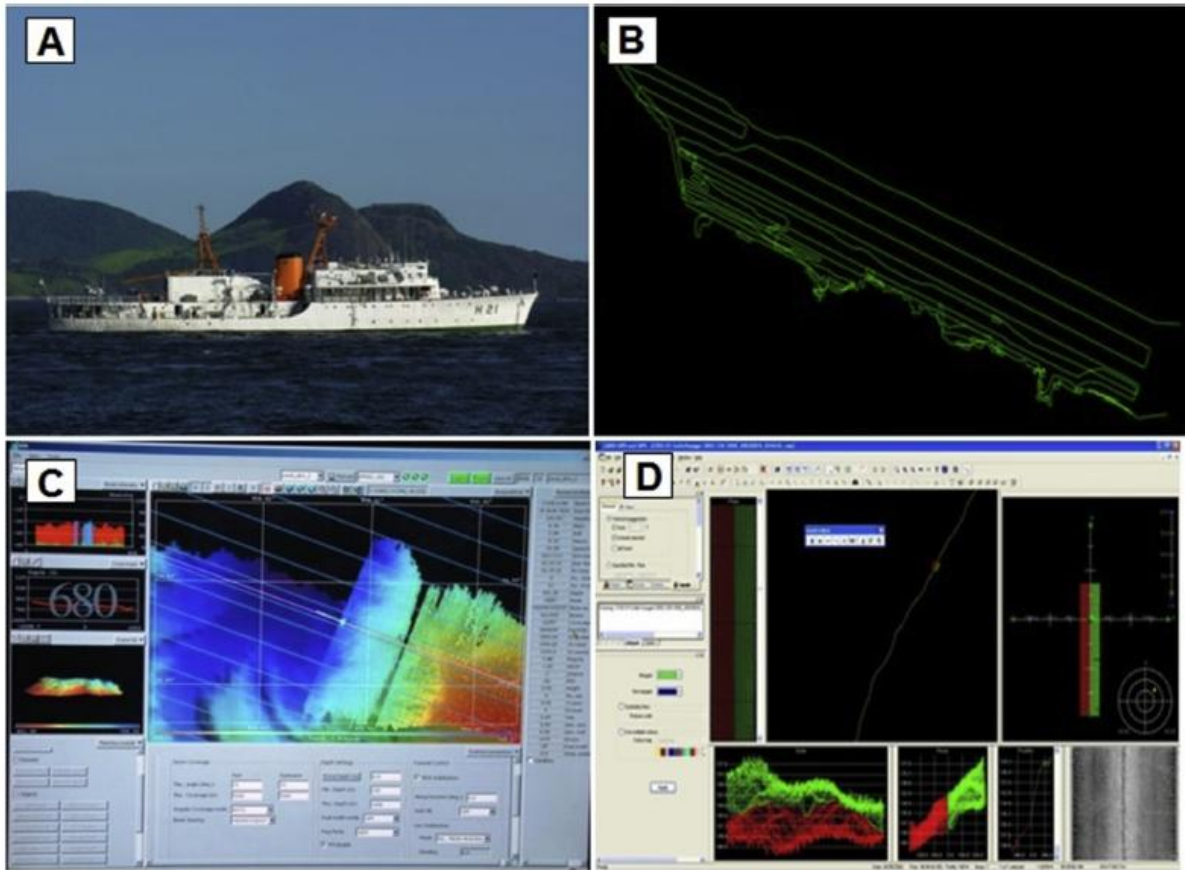
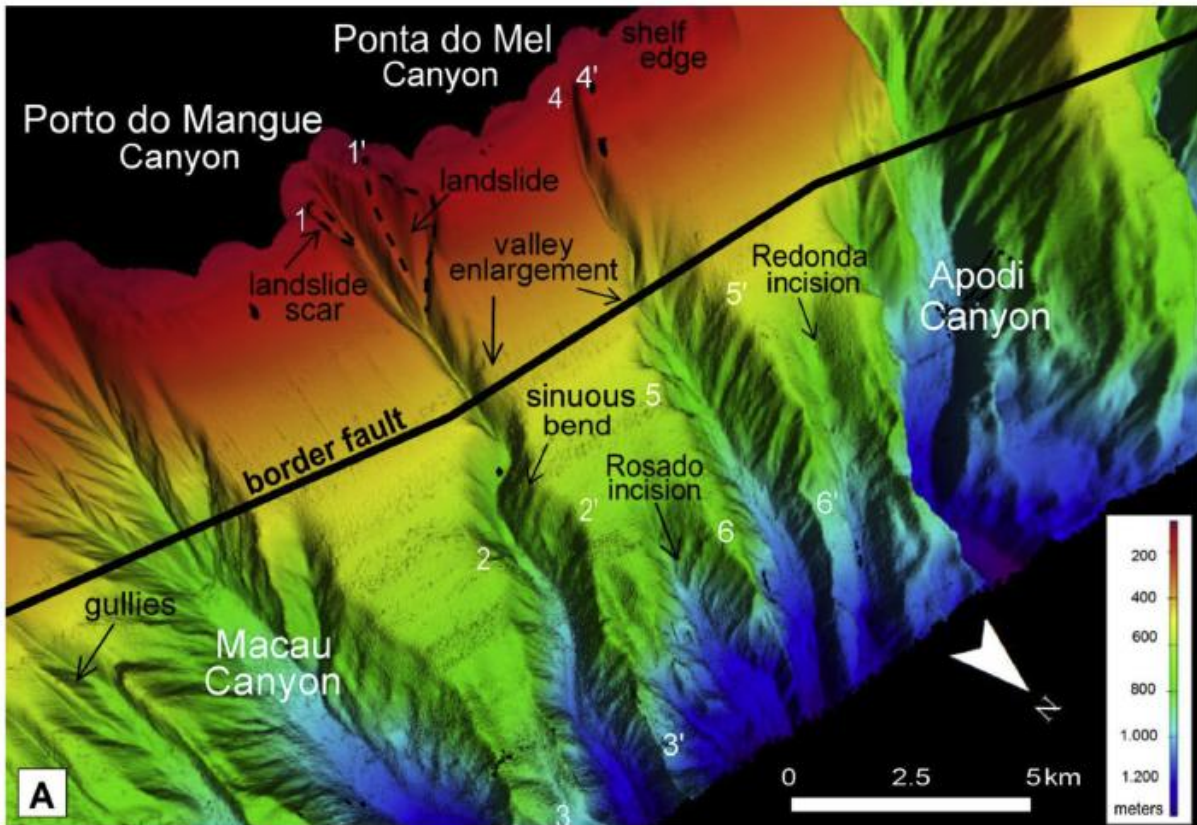
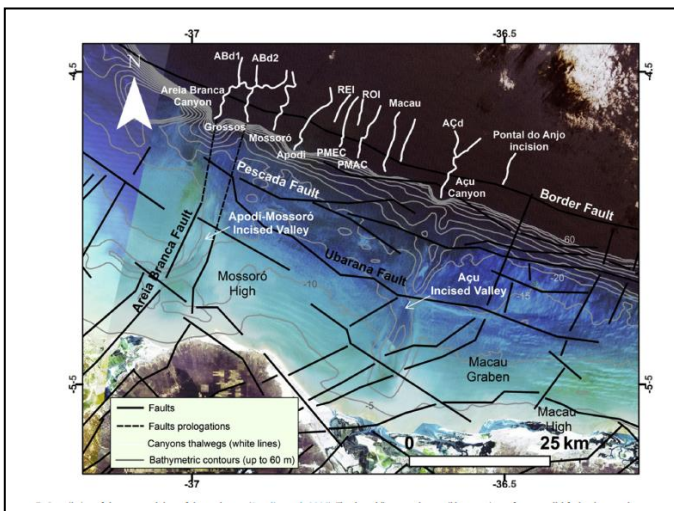
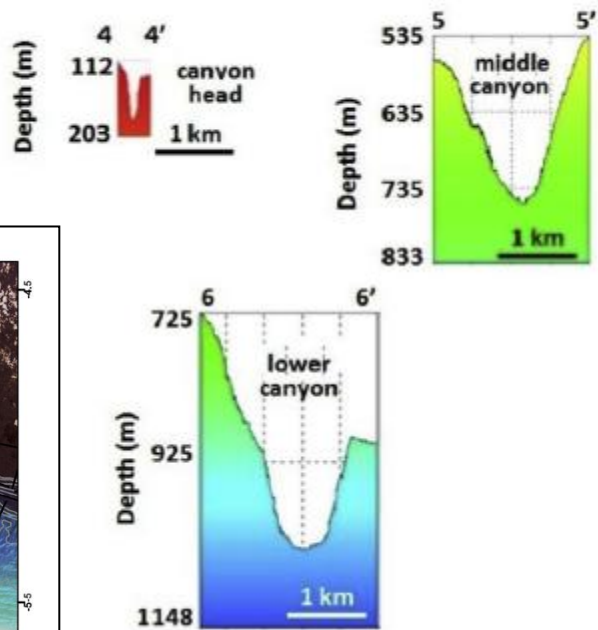


Fig. 2. A) Hydroceanographic Vessel Sirius (NH21) from the Brazilian Navy used for data acquisition. B) Acquisition lines of the bathymetric data. C) SIS software used for automatic acquisition of the bathymetric data. D) Example of multibeam echosounder data processed using Caris HIPS (INFOMAR, 2013).



PONTA DO MEL CANYON





Research paper

Morphology of submarine canyons along the continental margin of the Potiguar Basin, NE Brazil

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ABSTRACT

New insights into equatorial slope morphology were acquired through analysis of the continental margin of the Potiguar Basin (NE Brazil). In this paper, we present the first full data coverage of the seafloor between the upper and middle continental slopes (100–1300 m) adjacent to the Brazilian equatorial margin, developed using multibeam bathymetric data. Some of the submarine canyons mapped in this study have wall gradients greater than 35°. Wide (~1700 km) and deep (~250 m) incisions are present on the continental slope and can be linked to incised valleys that are underfilled or incised only on the outer shelf at depths up to 60 m. Two different types of canyons were identified. Canyons of one type are characterized by heads that indent the shelf edge, association with incised valleys and large fluvial systems, high sinuosity, 'V' shapes, and terraces along margins, in addition to erosive features such as landslides and gullies. These characteristics suggest that canyons of this type are associated with the deposition of submarine fan systems, which are considered permeable hydrocarbon reservoirs, on the base of the continental slope. The presence of gullies and sediment waves illustrates the role of bottom currents in the shaping of the slope. The enlargement of the canyons in the study area and the changes in their courses where they cross an important fault suggest that tectonic activity has probably also influenced the morphology of the deep-water environments of the Potiguar Basin. The results of this study constitute initial steps in describing and understanding submarine canyons as part of the equatorial continental Brazilian margin.

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