PRELIMINARY INFORMATION

INDICATIVE OF THE OUTER LIMITS OF THE CONTINENTAL SHELF AND DESCRIPTION OF THE STATUS OF PREPARATION OF MAKING A SUBMISSION TO

THE COMMISSION ON THE LIMITS OF THE CONTINENTAL SHELF

THE REPUBLIC OF NICARAGUA

August 2009

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Introduction

1. Pursuant to the provisions of paragraph 8 of article 76 of the United Nations Convention on the Law of the Sea (Convention), article 4 of Annex II to the Convention and article 3 of Annex I to the Rules of Procedure of the Commission on the Limits of the Continental Shelf (Commission) and the decision of the Meeting of States Parties to the Convention contained in SPLOS/183, the Republic of Nicaragua (Nicaragua) submits to the Secretary-General of the United Nations preliminary information indicative of the outer limits of the continental shelf beyond 200 nautical miles of Nicaragua in the southwestern part of the Caribbean Sea. This submission of preliminary information is presented without prejudice to the right of Nicaragua to make other submissions for other areas at a future time.

2. Nicaragua signed the Convention on 9 December 1984 and ratified the Convention on 3 May 2000. In accordance with the decision contained in SPLOS/183 paragraph 1(a), by making this submission of preliminary information Nicaragua satisfies the ten-year time period referred to in article 4 of Annex II to the Convention.

3. This submission of preliminary information contains a description of the continental margin of Nicaragua in the southwestern part of the Caribbean Sea (Section 2), preliminary information indicative of the outer limits of the continental shelf beyond 200 nautical miles of Nicaragua in the southwestern part of the Caribbean Sea (Section 3) and a description of the status of preparation and intended date of making a submission to the Commission in respect of the area covered by the

present submission of preliminary information in accordance with article 76 of the Convention and the Rules of Procedure and Scientific and Technical Guidelines of the Commission (Section 4).

4. Nicaragua observes that article 77 of the Convention provides that the rights of the coastal State over the continental shelf do not depend on any express proclamation, and that the Meeting of States Parties to the Convention in the decision contained in SPLOS/183 recalls that "the rights of the coastal State over the continental shelf do not depend on occupation, effective or notional, or any express proclamation".

5. In accordance with the decision contained in SPLOS/183 paragraph 1 (c), the preliminary information submitted herein by Nicaragua is without prejudice to the submission of information in accordance with the requirements of article 76 of the Convention and the Rules of Procedure and Scientific and Technical Guidelines of the Commission, and the consideration of that submission by the Commission. Nicaragua also notes that, in accordance with the decision contained in SPLOS/183 paragraph 1 (b), the preliminary information submitted by Nicaragua shall not be considered by the Commission pending receipt of Nicaragua's submission in accordance with the above-mentioned requirements.

6. In accordance with paragraph 10 of article 76 of the Convention, the present preliminary information is without prejudice to the question of delimitation of the continental shelf between States with opposite or adjacent coasts.

The continental margin of Nicaragua in the southwestern Caribbean Sea

7. Nicaragua and the rest of Central America together with the submerged areas of the Nicaraguan Rise and the oceanic Colombian Basin are all part of the Caribbean Plate which comprises virtually all the Caribbean Sea. It is approximately rectangular in shape and separates the North American Plate (including the Gulf of Mexico) from the South American Plate (and smaller plates that form northern Colombia and Panama). It is bounded on the west by the deep ocean trench west of Central America, to the north by the Cayman Trough running just north of Honduras through Jamaica, Hispaniola and Puerto Rico, to the east by the Lesser Antilles arc, and to the south by the Caribbean and Panama foldbelts. (Figure 1)

8. The southern margin of the Caribbean Plate is formed by subduction zones as it is overridden by the South American Plate. The northern, leading, edge of South America (the Colombian margin) has been buckled into the South Caribbean Deformed Belt. Like all tectonic plates, deformation within the plate is relatively limited. Several major strike-slip faults cross the plate, for example forming the Hess Escarpment.

9. The Caribbean Plate in the southwestern part of the Caribbean Sea is composed of two major geomorphological entities: the Nicaraguan Rise that extends northeastwards from the Central American continent and the Colombian Basin (Figures 2 and 3).

10. The dominant feature in the southwest Caribbean is the Nicaraguan Rise. This is a large area of relatively shallow water stretching over 500 nautical miles from the Nicaraguan-Honduran landmass in the southwest to Hispaniola (Haiti) in the northeast. The Rise is separated from the oceanic abyssal plain of the Colombian Basin to the south by a linear feature: the Hess Escarpment. This Escarpment and hence the southern limit of the Nicaraguan Rise is aligned approximately with the southern border of Nicaragua with Costa Rica. The northern edge of the Nicaraguan Rise is formed by the Cayman Trough, a deep ocean trench lying to the north of Honduras, between Guatemala and the north coast of Jamaica. (Figures 2 and 3).

11. The Rise is divided into two halves: to the north the Nicaraguan Rise, and to the south, separated by the Pedro Bank Fracture Zone – the Lower Nicaraguan Rise[1]. The Nicaraguan Rise is about 150 nautical miles wide and extends from Cabo Gracias a Dios to Jamaica. Water depths are generally less than 1000m and large areas have water depths no more than 50m. The Lower Nicaraguan Rise is about 120 nautical miles wide and has water depths generally between 2000 and 2500m.

12. The Nicaraguan Rise is composed of thickened crust intermediate between continental and oceanic, probably of volcanic origin formed in island arc settings. The Lower Nicaraguan Rise has been poorly stud-

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[1] Sometimes also referred to as the Northern Nicaraguan Rise and the Southern Nicaraguan Rise

ied but appears to be a faulted crustal block composed of thickened oceanic crust.

13. The Hess Escarpment marks a sharp transition between the continental Lower Nicaraguan Rise and the abyssal Colombian Plain. It is a 600 nautical mile long underwater cliff corresponding to a major geological fault or fracture zone. In the southwest, an area of thickened crust forming the Mono Rise and the Zipa Seamount provides a morphological extension of the Lower Nicaraguan Rise across the line of the Hess Escarpment.

14. The Colombian Basin lies between the Hess Escarpment and the continental slope of Colombia and South America. It slopes gently downwards to the north with a maximum depth in the north of about 4200m. It is an area of deep ocean floor, formed of oceanic crust that is being subducted beneath the overriding South American continent along the north coast of Colombia forming a deep ocean trench. The normally sharp junction between continental and oceanic crust is here modified by the South Caribbean Deformed Belt in the east, which is a broad deformed area or accretionary prism riding over the subduction zone, and is overlain by the Magdalena Fan in the west. This latter feature is a thick wedge of sediments derived from the continent forming a deep-sea fan.

Preliminary information indicative of the outer limits of the continental shelf beyond 200 nautical miles of Nicaragua in the southwestern part of the Caribbean Sea

15. Paragraph 4 (a) of article 76 of the Convention provides for the establishment of the outer edge of the continental margin extending beyond 200 nautical miles by the coastal State by either:

    (i) a line delineated in accordance with paragraph 7 by reference to the outermost fixed points at each of which the thickness of sedimentary rocks is at least 1 per cent of the shortest distance from such point to the foot of the continental slope; or

    (ii) a line delineated in accordance with paragraph 7 by reference to fixed points not more than 60 nautical miles from the foot of the continental slope.

16. Paragraph 4 (b) of article 76 of the Convention provides that:

    In the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in the gradient at its base.

17. Paragraph 5 of article 76 of the Convention stipulates that:

    The fixed points comprising the line of the outer limits of the continental shelf on the sea-bed, drawn in accordance with paragraph 4(a) (i) and (ii), either shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured or shall not exceed 100 nautical miles from the 2,500 metre isobath, which is a line connecting the depth of 2,500 metres.

18. In accordance with operative paragraph 1(a) of the decision contained in SPLOS/183 this preliminary information documents that several foot of the slope points (FOS points) defined in accordance with paragraph 4(b) of article 76 of the Convention have locations that make it clear that the continental shelf of Nicaragua extends beyond 200 nautical miles from the baseline.

19. Considering the scientific data available, no final conclusion is made regarding the most appropriate location of the FOS points of Nicaragua at this stage. Rather it is found incumbent, based on available data, to document the minimum extent of the continental shelf in selected key areas.

20. Public domain datasets have been used to define the edge of the continental margin for both Nicaragua and Colombia. These data are freely and widely available and provide an initial estimate of the outer limits of the continental shelf. The software CARIS LOTS was used for the detailed calculations.

    The principal datasets used were:

- 2-Minute Gridded Global Relief Data (ETOPO2v2) June, 2006 obtainable from the World Data Center for Geophysics & Marine Geology, Boulder, Colorado, (NGDC).

  (http://www.ngdc.noaa.gov/mgg/fliers/01mgg04.html)

  This has been used for the regional illustrative maps and for bathymetric profiles where more detailed GEODAS profiles are not available.

- Marine Geophysical Trackline Data (GEODAS database) also obtainable from NGDC

  (http://www.ngdc.noaa.gov/mgg/geodas/trackline.html)

  These detailed bathymetric profiles have been used as the primary source of bathymetric data for foot-of-slope calculations.

21. The datasets used here are sufficient to provide preliminary information for the outer limits of the continental margin. However some of the data and the profiles described below do not satisfy the exacting standards required by the CLCS for a full submission, as detailed in the Commission's Guidelines. Nicaragua will consider the acquisition of new data for these areas in the light of the judgment on the merits of the International Court of Justice in the case concerning the Territorial and Maritime Dispute (Nicaragua v. Colombia) which is currently pending (see paragraphs 25 to 27 below).

22. Five bathymetric profiles have been selected across the continental margin of Nicaragua in the southwestern part of the Caribbean Sea. A figure and an accompanying description of each of these bathymetric profiles is contained in Annex 1 to this document. The FOS points along these bathymetric profiles have been established in accordance with paragraph 4(b) of the Convention. These points are indicated in Figure 4, and listed in Table 1.

23. In accordance with paragraph 4(a) of article 76, 70 fixed points not more than 60 nautical miles from these FOS points have been established. In accordance with paragraph 4(a) and 7 of article 76 these fixed points defined by coordinates of latitude and longitude are con-

nected by straight lines not exceeding 60 nautical miles in length. All of these points are located either less than 350M from the territorial sea baseline or less than 100 nautical miles from the 2500m isobath, according to the provisions of article 76(5) of the Convention. The resulting outer limit of the continental shelf of Nicaragua is indicated in Figure 4. The geographical coordinates of the fixed points used in delineating the outer limit of the continental shelf of Nicaragua and the length of the straight lines connecting them are indicated in Table 2.

Description of the status of preparation and intended date of making a submission to the Commission

24. The basic technical and other preparatory work that will be required in order for Nicaragua to make a submission in accordance with article 76 of the Convention and the Rules of Procedure and Scientific and Technical Guidelines of the Commission is well advanced. Nicaragua has established the approximate outer limit of the continental shelf beyond 200 nautical miles on the basis of available public domain datasets. Nicaragua intends to acquire additional survey data in order to complete the information to be submitted to the Commission in accordance with article 76 of the Convention.

25. Nicaragua for the moment refrains from making a submission in respect of the outer limits of its continental shelf in the southwestern part of the Caribbean Sea covered by this submission of preliminary information to the Commission in the light of the case concerning the Territorial and Maritime Dispute (Nicaragua v. Colombia), which is currently pending before the International Court of Justice. This case is *inter alia* concerned with the delimitation of the continental shelf between Nicaragua and Colombia.

26. Nicaragua observes that the summary of the recommendations of the Commission in respect of the submission of the Russian Federation of 20 December 2001 contained in the Report of the Secretary-General of the United Nations to the Fifty-seventh session of the General Assembly of the United Nations under the agenda item Oceans and the Law of the Sea (A/57/57/Add.1, paras 38-41) states:

"In the case of the Barents and Bering seas, the Commission recommended to the Russian Federation, upon entry into force of the maritime boundary delimitation agreements with Norway in the Barents Sea, and with the United States of America in the Bering Sea, to transmit to the Commission the charts and coordinates of the delimitation lines as they would represent the outer limits of the continental shelf of the Russian Federation extending beyond 200 nautical miles in the Barents Sea and the Bering Sea respectively."

27. In the light of the case concerning the Territorial and Maritime Dispute (Nicaragua v. Colombia), which is currently pending before the International Court of Justice, and the recommendations of the Commission to the Russian Federation on its submission in the case of the Barents and Bering seas, the Government of Nicaragua intends to consider the further implementation of article 76 for the area of the southwestern part of the Caribbean Sea which is the subject of this submission of preliminary information after the International Court of Justice will have rendered its judgment on the merits in the case concerning the Territorial and Maritime Dispute (Nicaragua v. Colombia).

Table 1 List of Nicaragua's Foot of the Slope Points

FOS Pick	Latitude (N)	Longitude (W)	Profile
FOS1	11.92096087	-78.28148232	ETOPO2
FOS2	13.40320077	-77.93829893	GEODAS:V1817
FOS3	14.59189959	-76.64019966	GEODAS:RC1806
FOS4	14.79219908	-76.26540006	GEODAS:V2808
FOS5	15.03499984	-75.65499932	GEODAS:A2060L07

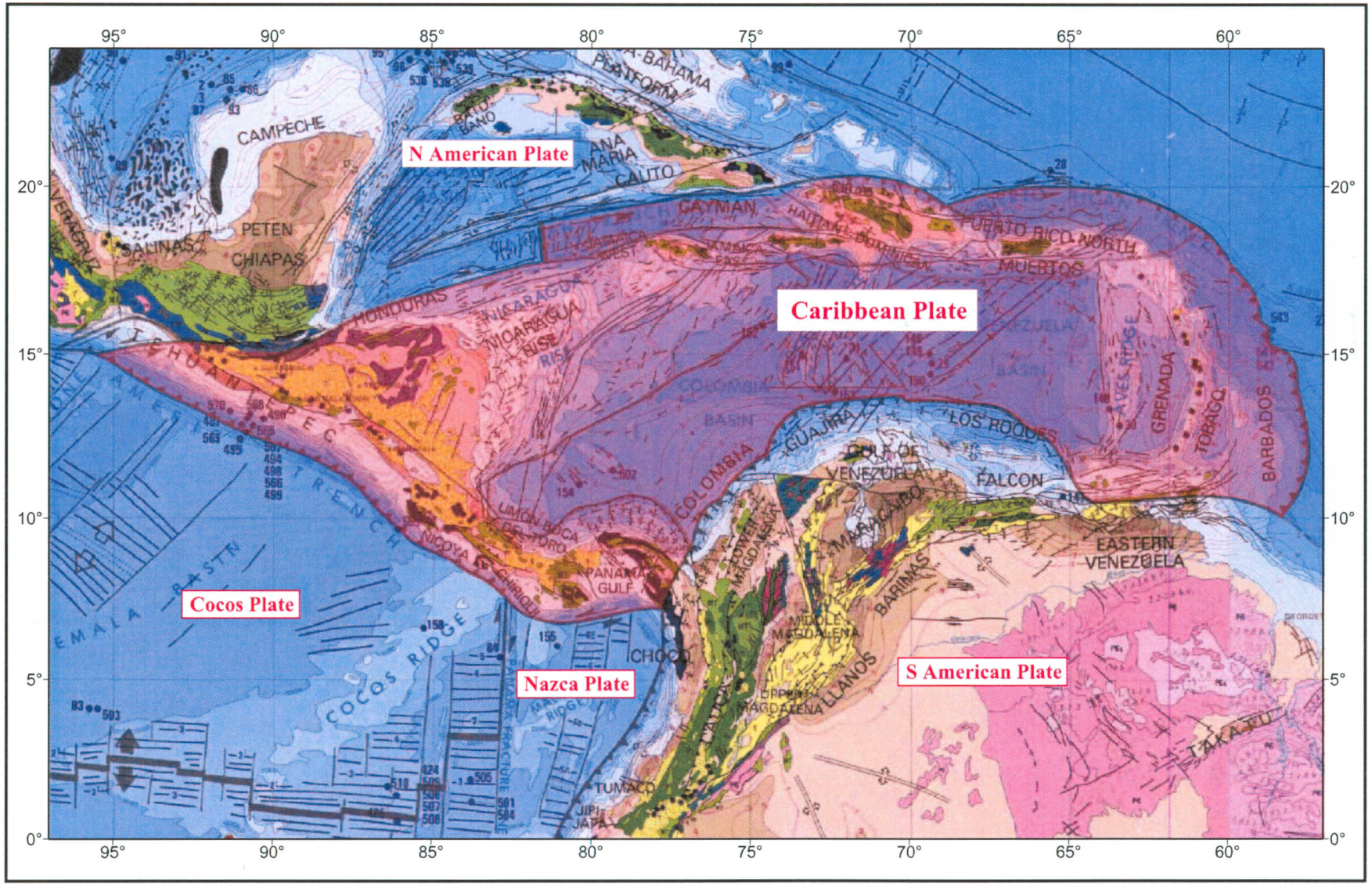
All points referred to WGS84

Table 2 - List of coordinates defining the outer limits of Nicaragua's continental shelf in the southwestern part of the Caribbean Sea

Fixed Point	Latitude	Longitude	Method	Based on FOS	Distance
1	11.2759	-77.5004	FOS+60M	FOS1	na
2	11.2888	-77.4896	FOS+60M	FOS1	1M
3	11.3019	-77.4790	FOS+60M	FOS1	1M
4	11.3152	-77.4687	FOS+60M	FOS1	1M
5	11.3286	-77.4585	FOS+60M	FOS1	1M
6	11.3422	-77.4486	FOS+60M	FOS1	1M
7	11.3559	-77.4389	FOS+60M	FOS1	1M
8	11.3698	-77.4295	FOS+60M	FOS1	1M
9	11.3839	-77.4203	FOS+60M	FOS1	1M
10	11.3981	-77.4113	FOS+60M	FOS1	1M
11	11.4125	-77.4026	FOS+60M	FOS1	1M
12	11.4270	-77.3941	FOS+60M	FOS1	1M
13	11.4416	-77.3858	FOS+60M	FOS1	1M
14	11.4564	-77.3778	FOS+60M	FOS1	1M
15	11.4713	-77.3701	FOS+60M	FOS1	1M
16	11.4863	-77.3626	FOS+60M	FOS1	1M
17	11.5014	-77.3553	FOS+60M	FOS1	1M
18	11.5167	-77.3484	FOS+60M	FOS1	1M
19	11.5320	-77.3416	FOS+60M	FOS1	1M
20	11.5475	-77.3352	FOS+60M	FOS1	1M
21	11.5631	-77.3290	FOS+60M	FOS1	1M
22	11.5788	-77.3230	FOS+60M	FOS1	1M
23	11.5946	-77.3173	FOS+60M	FOS1	1M
24	11.6104	-77.3119	FOS+60M	FOS1	1M
25	11.6264	-77.3068	FOS+60M	FOS1	1M
26	11.6424	-77.3019	FOS+60M	FOS1	1M
27	11.6585	-77.2973	FOS+60M	FOS1	1M
28	11.6747	-77.2930	FOS+60M	FOS1	1M
29	11.6910	-77.2889	FOS+60M	FOS1	1M
30	11.7073	-77.2851	FOS+60M	FOS1	1M
31	11.7237	-77.2816	FOS+60M	FOS1	1M
32	11.7401	-77.2784	FOS+60M	FOS1	1M
33	11.7566	-77.2755	FOS+60M	FOS1	1M
34	11.7731	-77.2728	FOS+60M	FOS2	59.95M
35	11.7897	-77.2704	FOS+60M	FOS2	1M
36	12.7841	-77.1314	FOS+60M	FOS2	1M
37	12.7973	-77.1210	FOS+60M	FOS3	1M
38	12.8108	-77.1108	FOS+60M	FOS3	59.95M

39	13.6002	-76.4783	FOS+60M	FOS3	1M
40	13.6030	-76.4614	FOS+60M	FOS3	1M
41	13.6060	-76.4446	FOS+60M	FOS3	1M
42	13.6093	-76.4278	FOS+60M	FOS3	1M
43	13.6129	-76.4111	FOS+60M	FOS3	1M
44	13.6168	-76.3945	FOS+60M	FOS3	1M
45	13.6209	-76.3779	FOS+60M	FOS3	1M
46	13.6253	-76.3614	FOS+60M	FOS3	1M
47	13.6299	-76.3449	FOS+60M	FOS3	1M
48	13.6349	-76.3286	FOS+60M	FOS3	1M
49	13.6400	-76.3123	FOS+60M	FOS3	1M
50	13.6455	-76.2961	FOS+60M	FOS3	1M
51	13.6512	-76.2800	FOS+60M	FOS3	1M
52	13.6572	-76.2640	FOS+60M	FOS3	1M
53	13.6634	-76.2481	FOS+60M	FOS3	1M
54	13.6699	-76.2324	FOS+60M	FOS3	1M
55	13.6767	-76.2167	FOS+60M	FOS3	1M
56	13.6837	-76.2012	FOS+60M	FOS3	1M
57	13.6909	-76.1857	FOS+60M	FOS3	1M
58	13.6984	-76.1704	FOS+60M	FOS3	1M
59	13.7062	-76.1552	FOS+60M	FOS3	1M
60	13.7141	-76.1402	FOS+60M	FOS3	1M
61	13.8828	-75.8284	FOS+60M	FOS4/Cutoff	20.78M
62	14.4030	-74.9532	2500+100M	CUTOFF	59.74M
63	14.4066	-74.9364	2500+100M	CUTOFF	1M
64	14.4103	-74.9197	2500+100M	CUTOFF	1M
65	14.4142	-74.9030	2500+100M	CUTOFF	1M
66	14.4183	-74.8863	2500+100M	CUTOFF	1M
67	14.4225	-74.8697	2500+100M	CUTOFF	1M
68	14.4269	-74.8531	2500+100M	CUTOFF	1M
69	14.4314	-74.8366	2500+100M	CUTOFF	1M
70	14.4337	-74.8285	FOS+60M	FOS5/Cutoff	1M

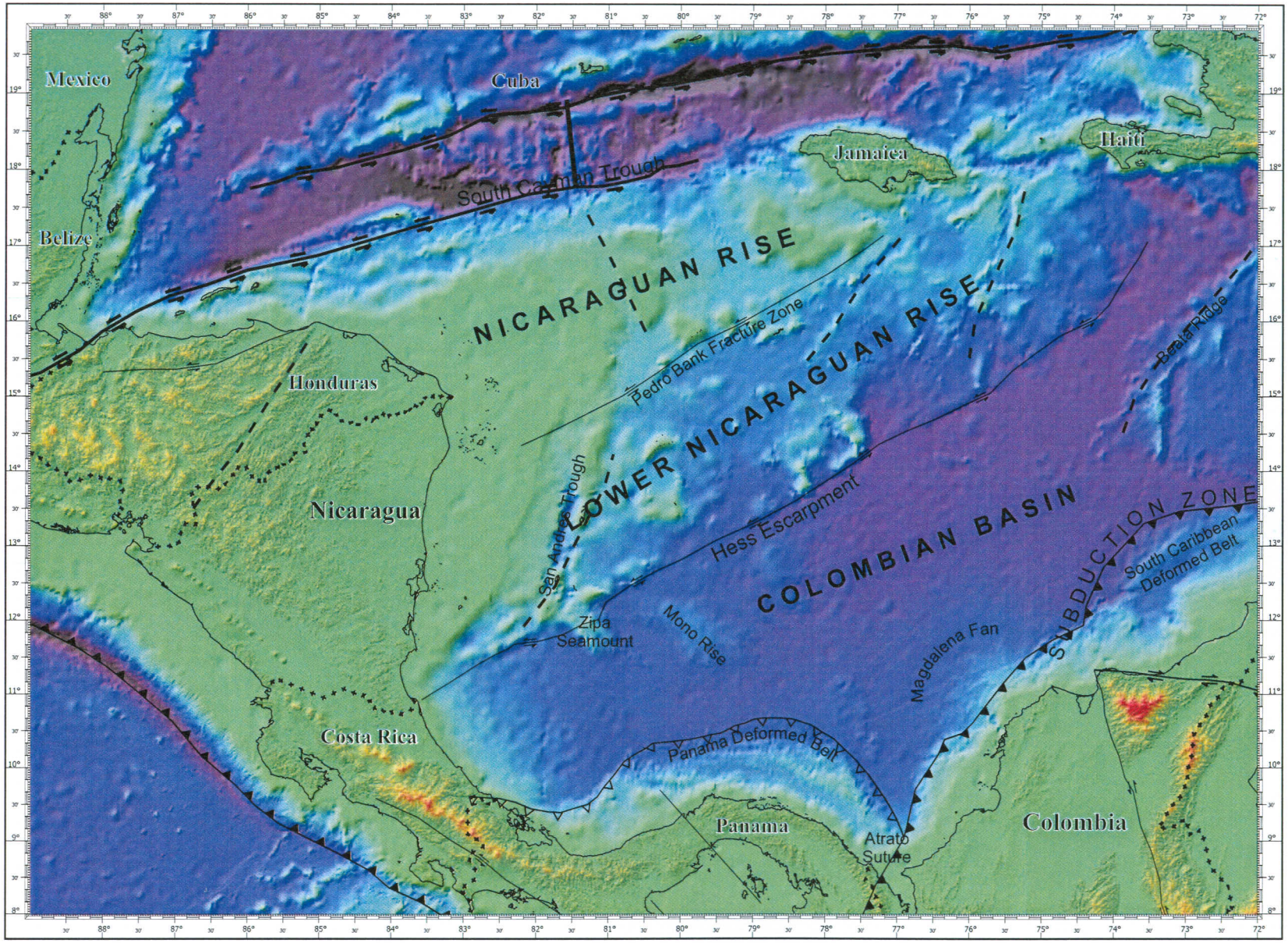
All points referred to WGS84



Background map is an extract from the Exxon Tectonic Map of the World (AAPG, 1985).
Caribbean Plate emphasised in red.

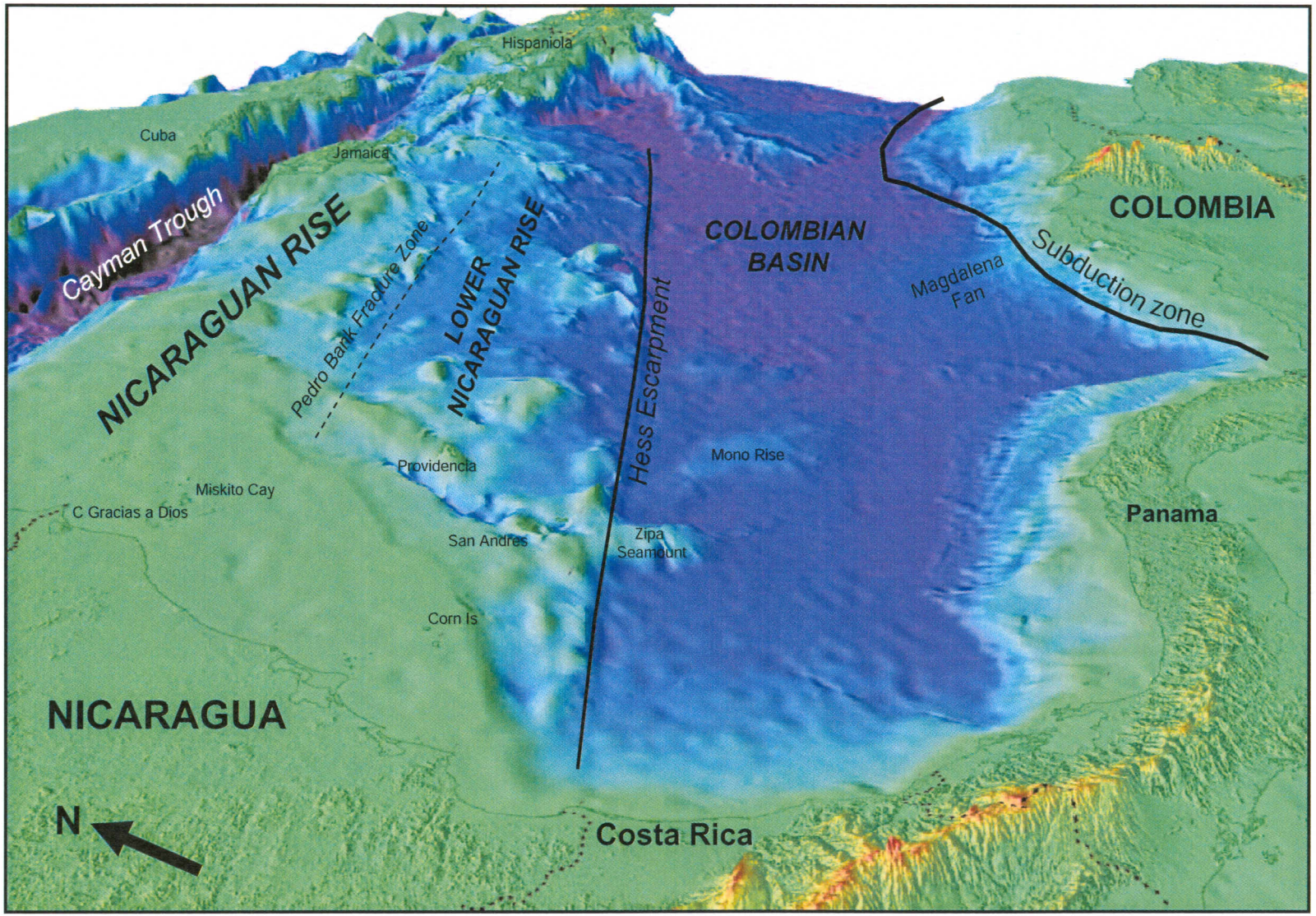
Geological Structure of the Caribbean

Figure 1



Regional Geomorphology of the SW Caribbean

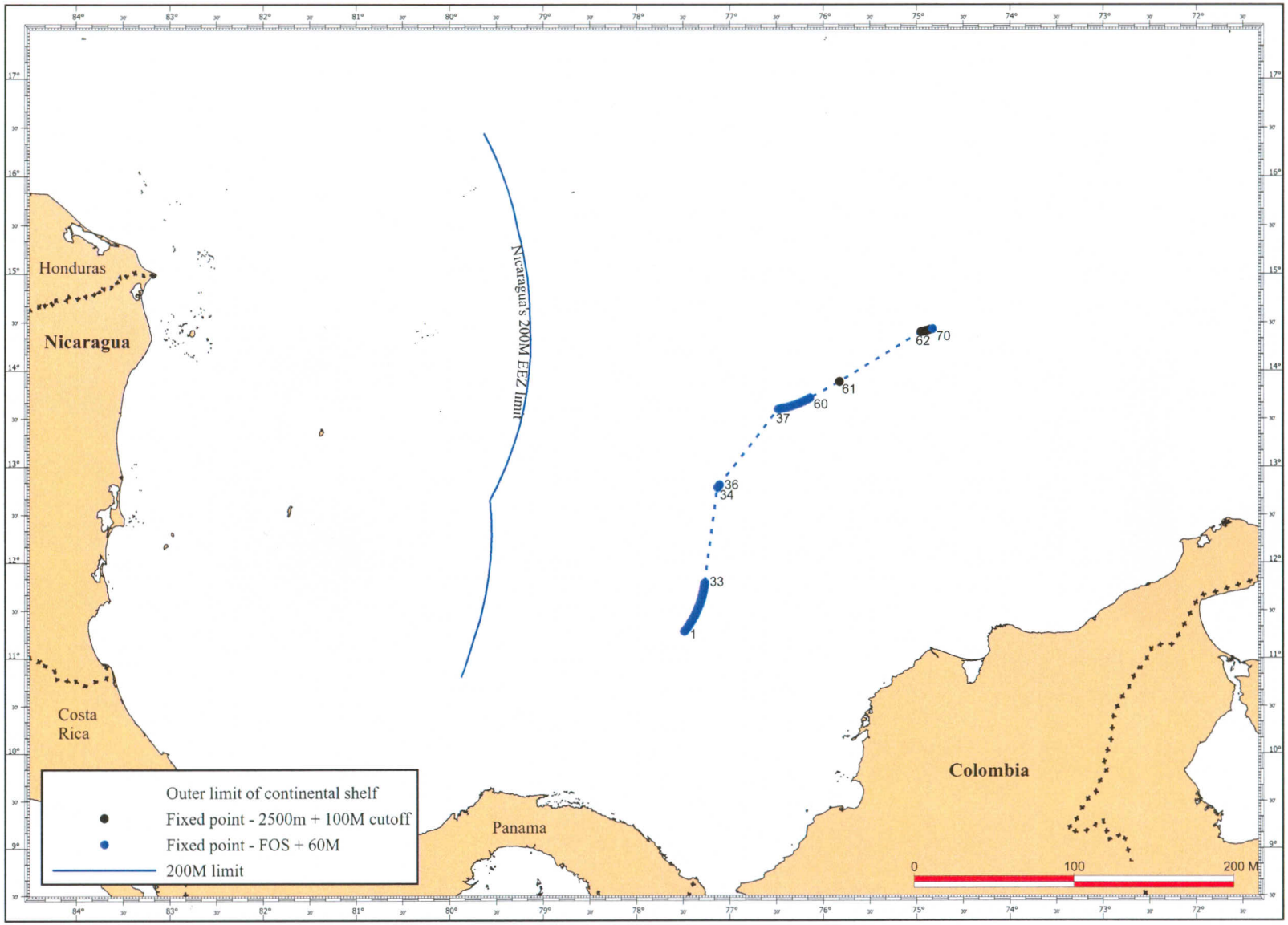
Figure 2



Perspective view of the area covered in Figure 1.
Based on ETOPO2 – public domain bathymetric dataset

Regional Geomorphology of the SW Caribbean – perspective view

Figure 3



Outer Limit of Nicaraguan Continental Shelf

Figure 4

A N E X O S

Annex 1
Preliminary Technical Description of the
Outer Limit of the Nicaraguan Continental Shelf

A1. Introduction

Five FOS points have been picked along the outer edge of the Nicaraguan continental margin.

Four of these are based on the data derived from the marine trackline database GEODAS and are in principle suitable for inclusion in a full submission to the CLCS. There are issues with the data quality in a few areas, especially navigation, and the final submission to the CLCS will evaluate the data quality and present new data where necessary. The picks presented in this submission of preliminary information should be treated as indicative only.

Surveys used:

FOS Pick	GEODAS profile	Date	Comment
FOS1	ETOPO2	NA	NA
FOS2	V1817	1962	Poor navigation data
FOS3	RC1806	1975	Transit satellite
FOS4	V2808	1970	Transit satellite
FOS5	A2060L07	1971	Transit satellite
2500m isobath	CH046L01	1965	Limited metadata

A2. Selection of Foot of the Slope

Five foot of slope positions have been identified along the Hess Escarpment, representing the southern edge of the Nicaraguan Rise. Three of these (FOS 3-5) are along the Hess Escarpment proper; the two westerly points are picked around the base of the Mono Rise and the associated Unnamed Rise.

As recommended in the Guidelines (CLCS/11) a two step approach was employed to identify foot of slope positions. Firstly a Base of Continental Slope region was determined, and secondly foot of the slope positions within this base of slope region were identified.

In the descriptions below, the upper profile is based on the regional ETOPO2 dataset and shows the bathymetry in context, together with the interpreted base of slope zone; the lower profile is based on the GEODAS data (except for FOS-1) and shows a more detailed bathymetric profile with the chosen foot of slope point.

A3. Foot of the Slope + 60 M

Paragraph 4(a) of article 76 describes the two formulæ that can be used to determine the outer edge of the margin. For the submission of the present preliminary information only paragraph 4(a)ii is used:

"a line delineated in accordance with paragraph 7 by reference to fixed points not more than 60 nautical miles from the foot of the continental slope".

Geodetic measurements of 60M were made from all of the foot of slope points.

Figure A1 shows the FOS picks and the calculated FOS+60 nautical miles (M).

A4. Continental Shelf Limit Lines

Paragraph 5 of article 76 states that:

"The fixed points comprising the line of the outer limits of the continental shelf on the seabed [. . .] either shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured or shall not exceed 100 nautical miles from the 2,500 metre isobath, which is a line connecting the depth of 2,500 metres."

A4.1. 350M constraint

The 350M constraint has been calculated from the Nicaraguan territorial sea baseline.

A4.2. 2500m isobath

The 2500m isobath was derived from the ETOPO2 dataset and from the GEBCO bathymetry data. For the critical area the GEODAS profile CH046L01 was used to check the regional dataset.

The 2500m isobath is continuous around the Nicaraguan Rise with only small sections where there are detached contours. The isolated 2500m contours were not used in the calculation of the constraint. A geodetic measurement of 100M was made from the continuous isobath.

The final constraints are shown on Figure A2.

A5. Final Outer Limit

Article 76, paragraph 7 states:

"The coastal state shall delineate the outer limits of the continental shelf [. . .] by straight lines not exceeding 60 nautical miles in length, connecting fixed points, defined by coordinates of latitude and longitude."

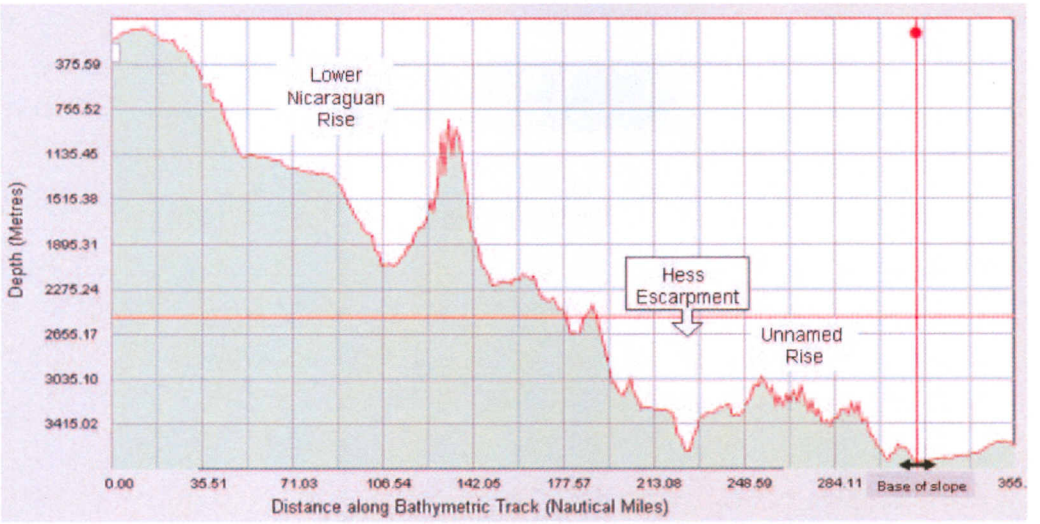
The final outer limit was generated by using points that fall on the FOS+60M line; these are limited in the northeast by the 2500m+100M cut-off.

The final outer limit comprises 70 fixed points, not exceeding 60M apart. Points 1–61 and 70 are based on the FOS+60M line; Points 61–70 are on the 2500+100M constraint. Points 61 and 70 are on the intersection of the FOS+60M line and the 2500m+100M constraint.

The final outer limit is depicted on Figure A3.

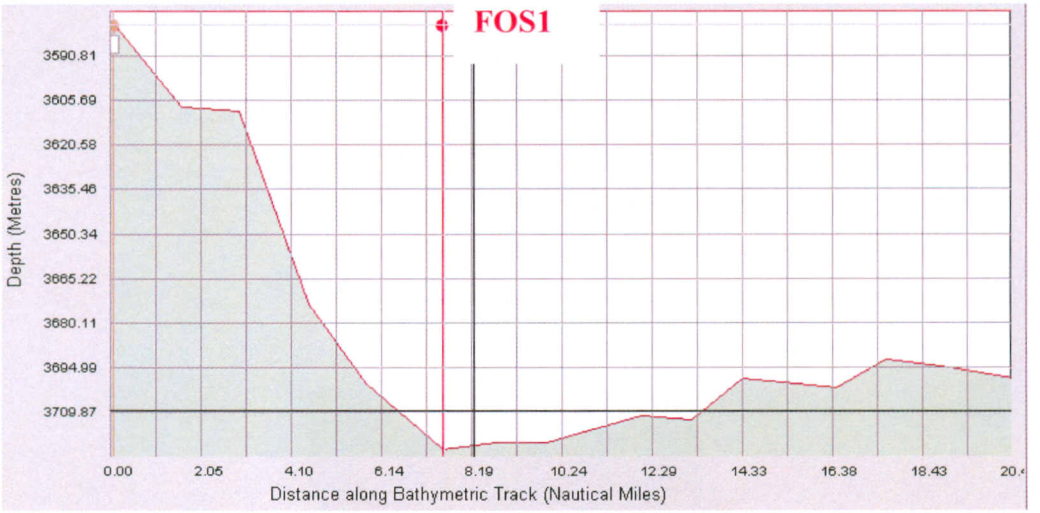
FOS 1

Regional profile – Base of Slope



Data are taken from the global ETOPO2 dataset.

Foot of slope profile



Data are taken from the global ETOPO2 dataset.

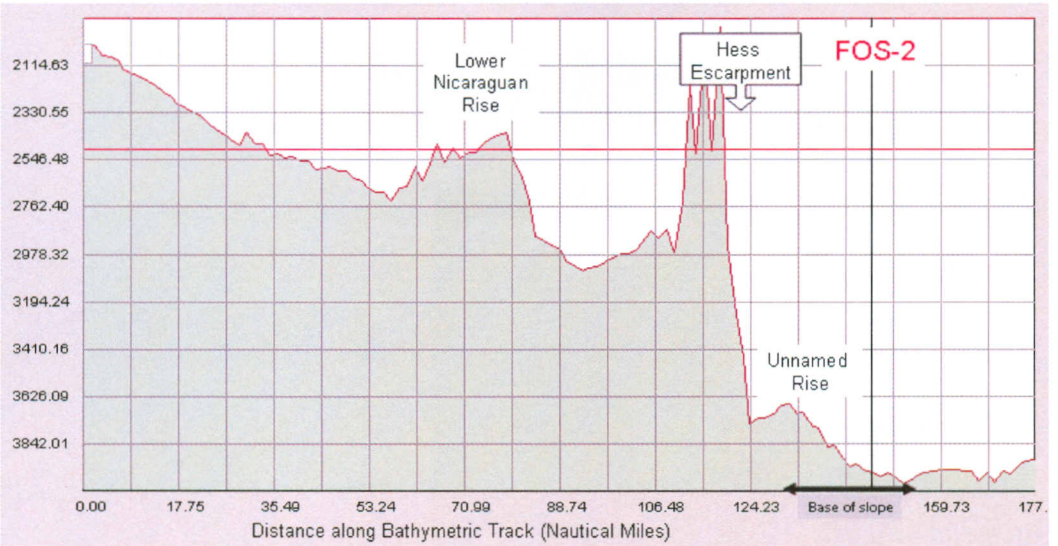
Discussion

FOS 1 is situated at the outer edge of the Unnamed Rise. This is an area of thickened oceanic crust that has accreted to and modified the southern edge of the Nicaraguan Rise, extending it south of the line of the Hess Escarpment.

This profile is based on the ETOPO2 dataset and will be refined once more detailed bathymetric data are available.

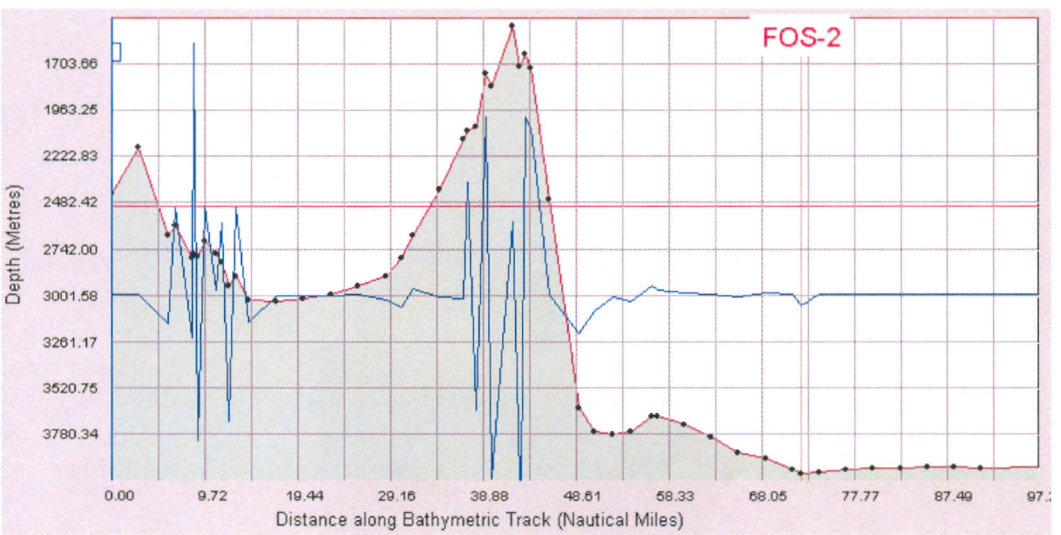
FOS 2

Regional profile – Base of Slope



Data are taken from the global ETOPO2 dataset.

Foot of slope profile



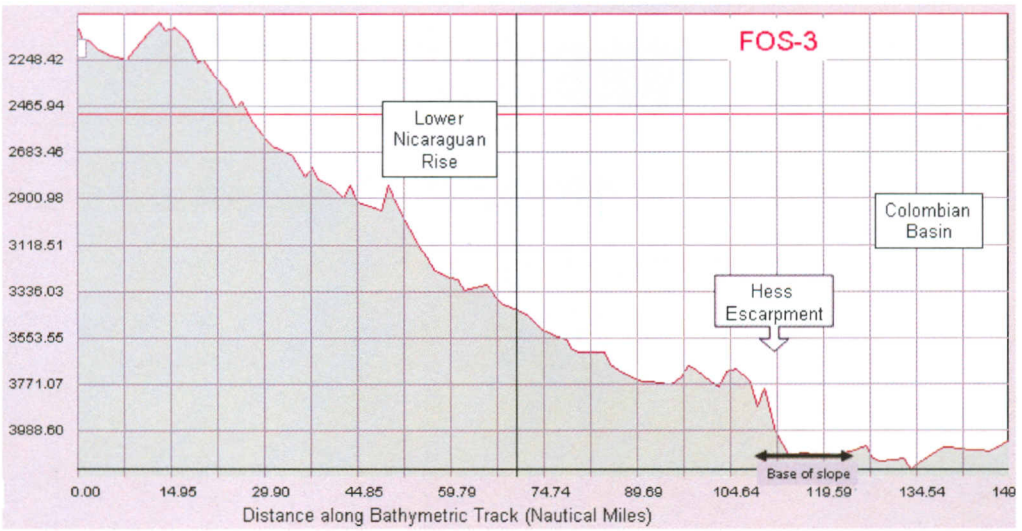
Profile GEODAS:V1817 (Blue line is change of gradient)

Discussion

FOS 2 is situated at the northern edge of the Unnamed Rise. This is an area of thickened oceanic crust that has accreted to and modified the southern edge of the Nicaraguan Rise, extending it south of the line of the Hess Escarpment.

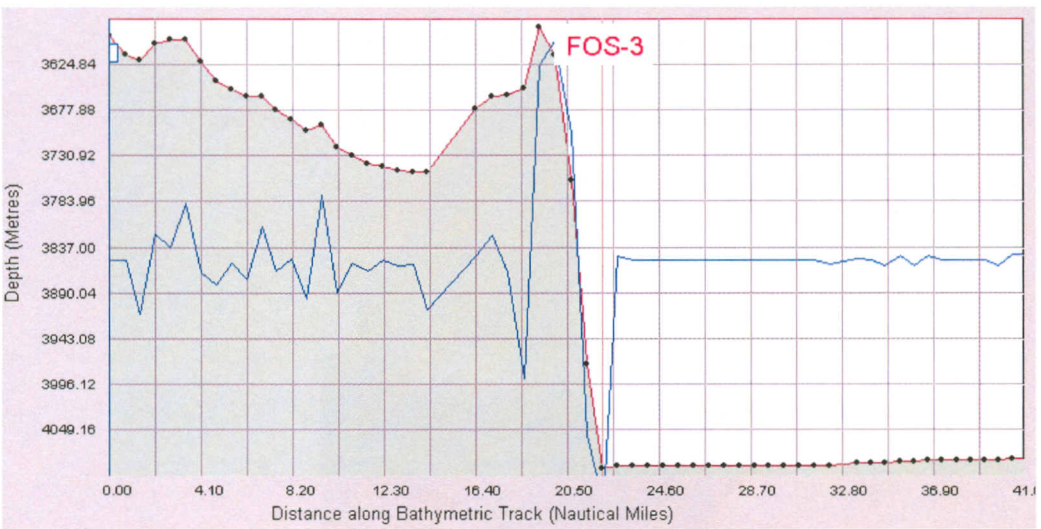
FOS 3

Regional profile – Base of Slope



Data are taken from the global ETOPO2 dataset.

Foot of slope profile



Profile GEODAS: RC1806 (Blue line is change of gradient)

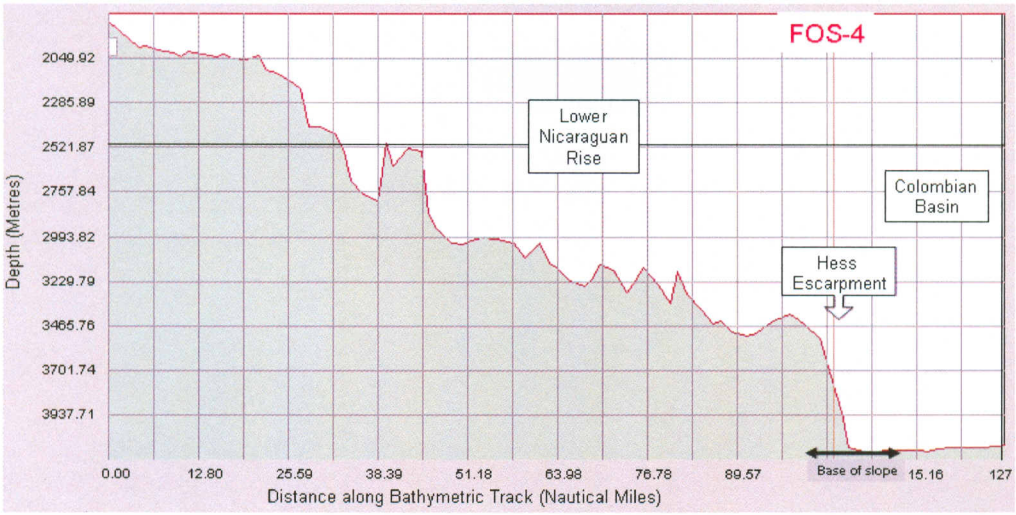
Discussion

FOS 3 is situated at the foot of the Hess Escarpment in an area where the division between the Lower Nicaraguan rise and the Colombian Basin is sharply defined.

Note that the base of slope profile (upper) is normal to the Hess Escarpment but the Geodas profile (lower) is oblique.

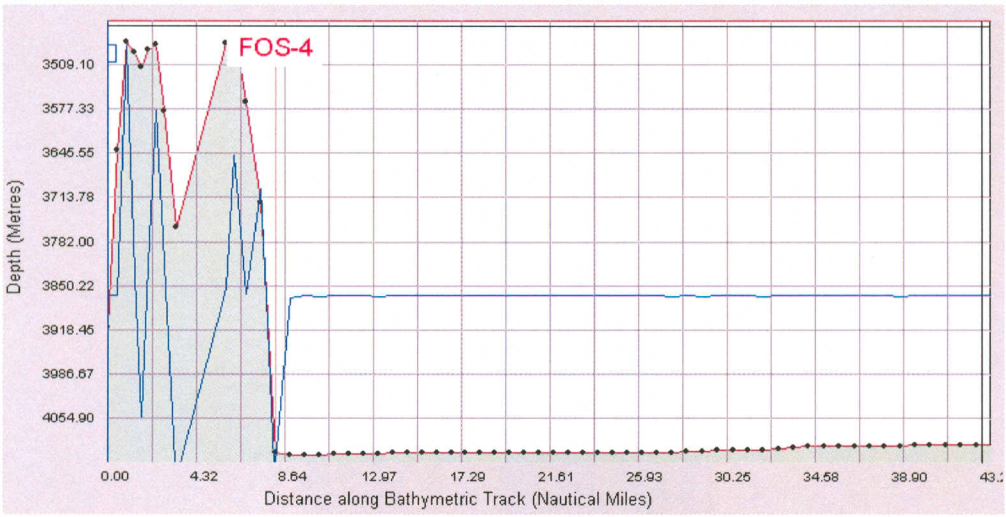
FOS 4

Regional profile – Base of Slope



Data are taken from the global ETOPO2 dataset.

Foot of slope profile



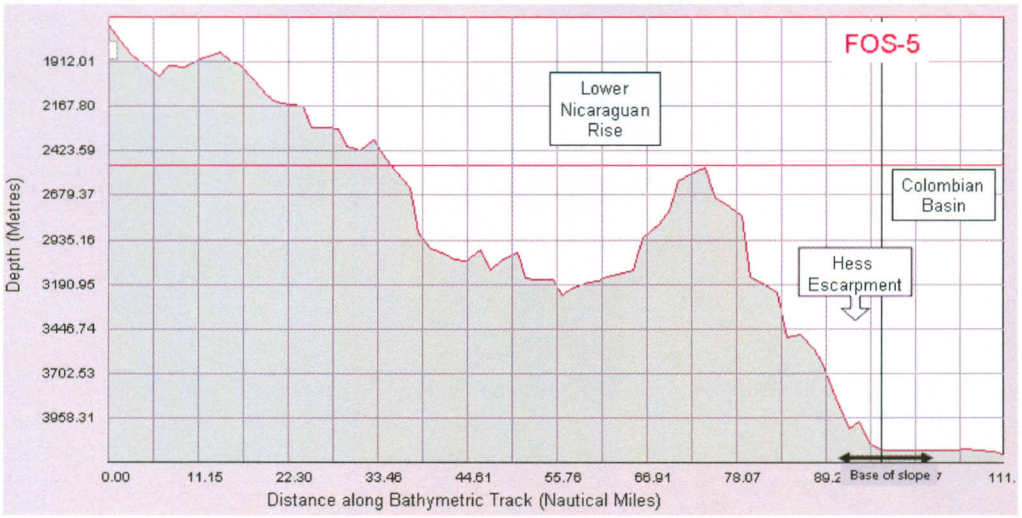
Profile GEODAS: V2808 (Blue line is change of gradient)

Discussion

FOS 4 is situated at the foot of the Hess Escarpment in an area where the division between the Lower Nicaraguan rise and the Colombian Basin is sharply defined.

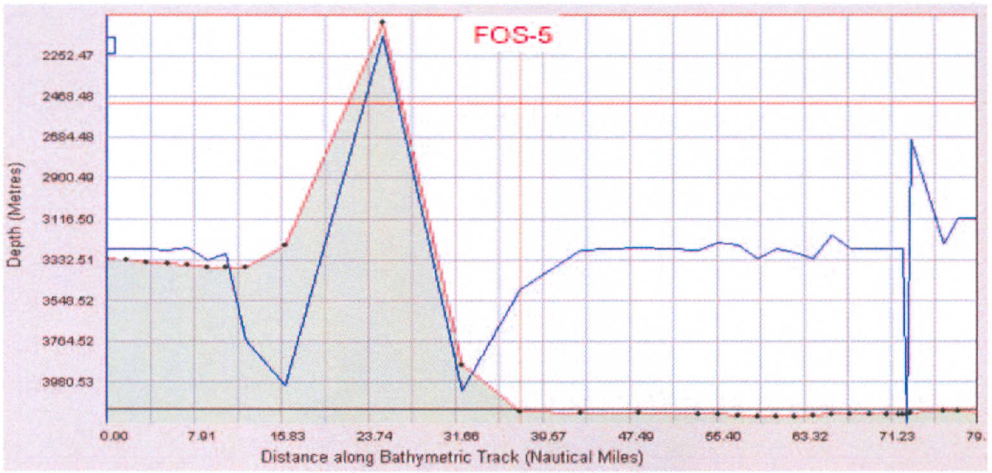
FOS 5

Regional profile – Base of Slope



Data are taken from the global ETOPO2 dataset.

Foot of slope profile

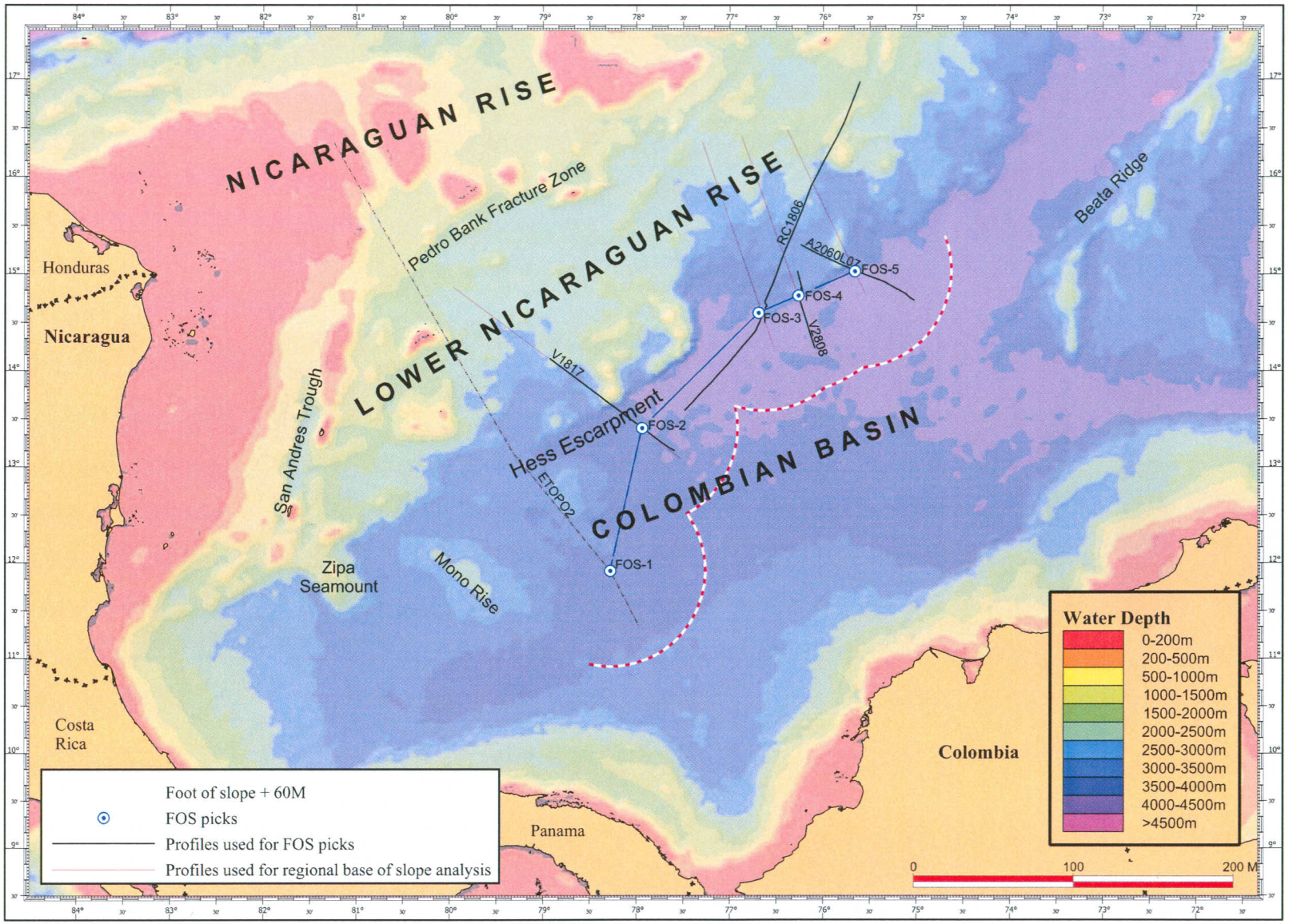


Profile GEODAS: A2060Lo7 (Blue line is change of gradient)

Discussion

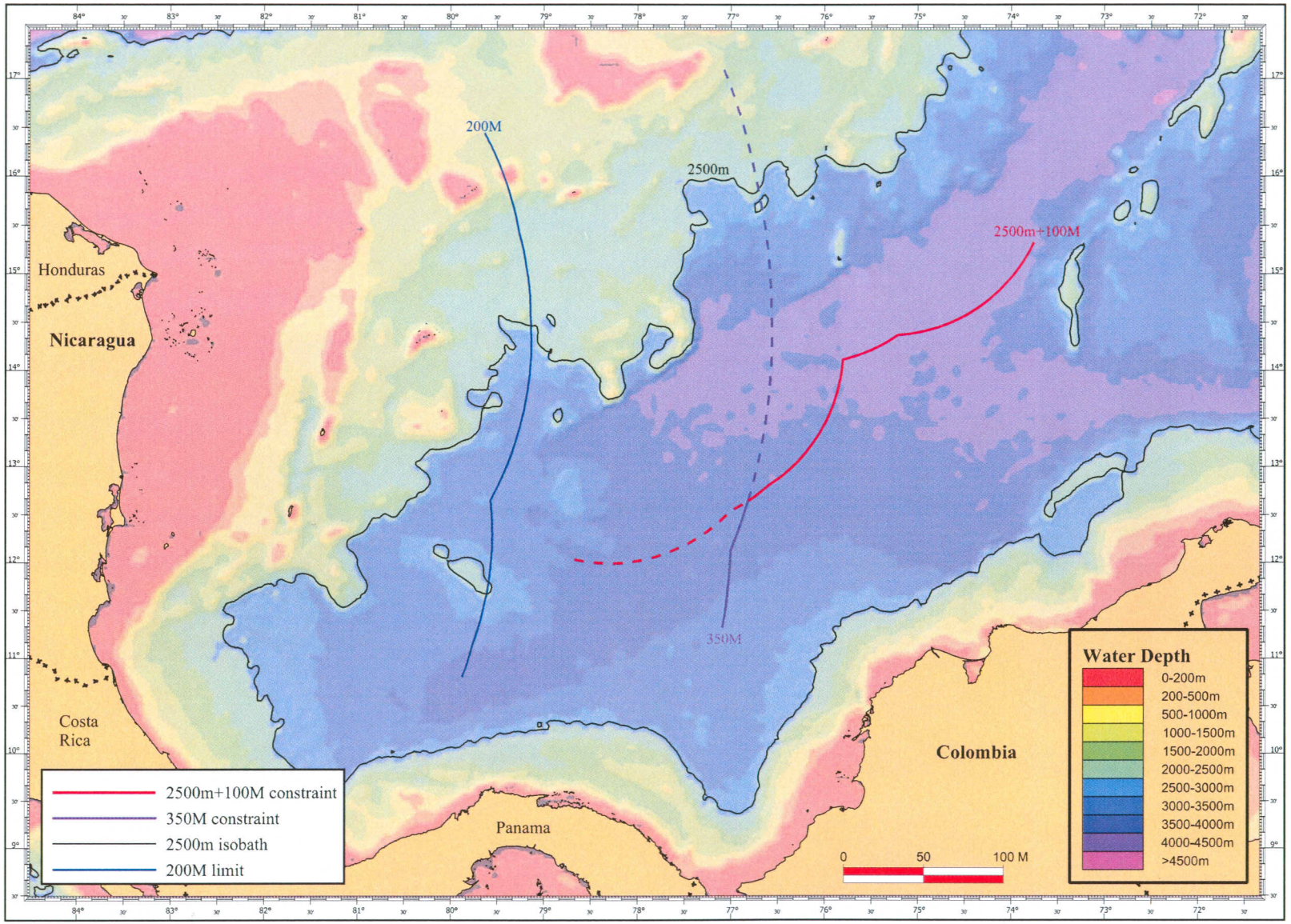
FOS 5 is situated at the northeastern end of the Hess Escarpment in an area where the division between the Lower Nicaraguan Rise and the Colombian Basin is sharply defined.

Note that the foot of the slope pick is based on evidence to the contrary as it does not correspond to the maximum change of gradient.



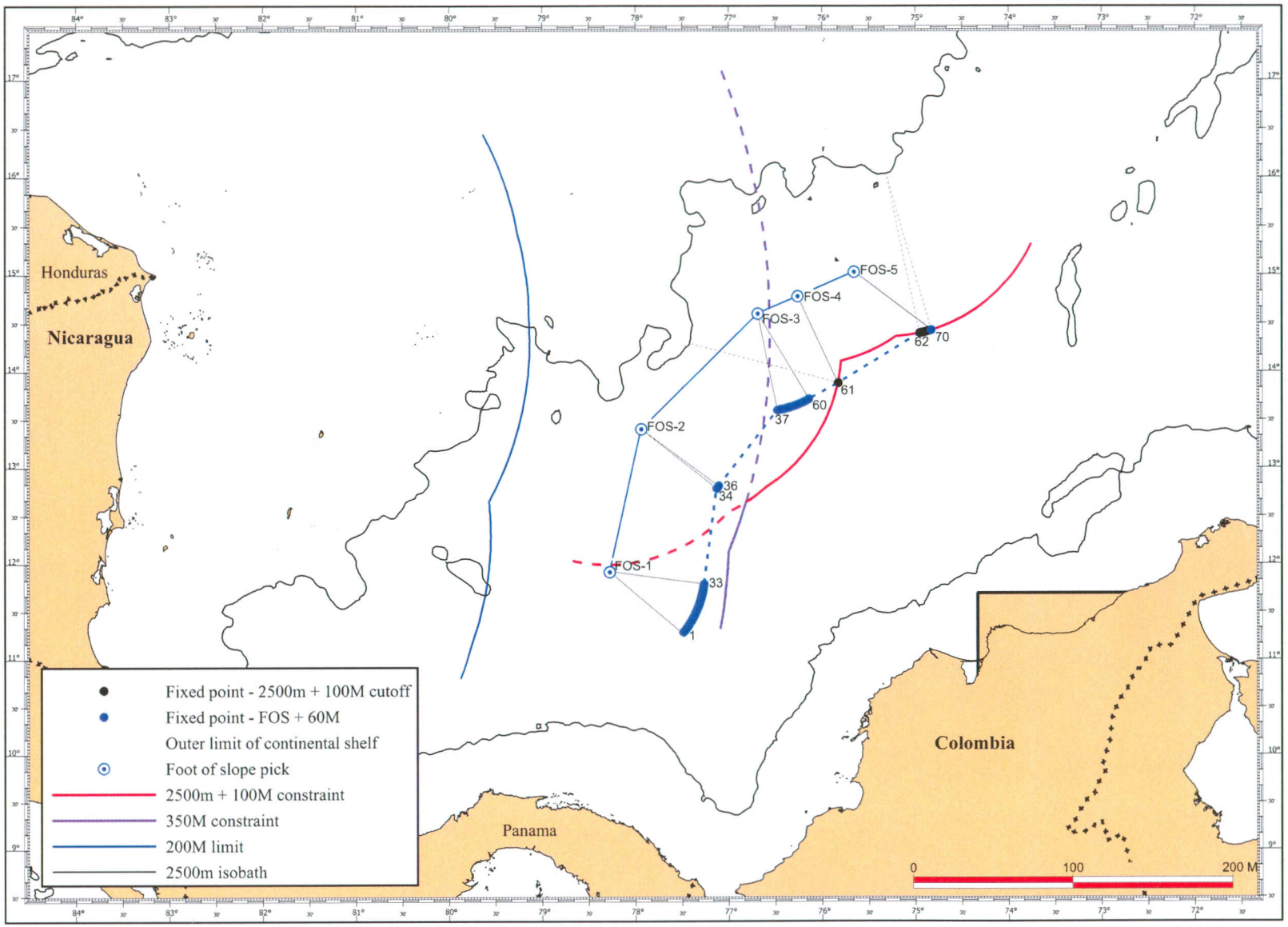
Foot of Slope and FOS+60M

Figure A1



Outer Limit Constraints

Figure A2



Outer Limit of Nicaraguan Continental Shelf

Figure A3