



**Preliminary Information
Indicative of the Outer Limits of the
Continental Shelf
and
Description of the status of preparation
for making a submission
to the Commission on the Limits of the Continental
Shelf**

for

THE REPUBLIC OF THE GAMBIA

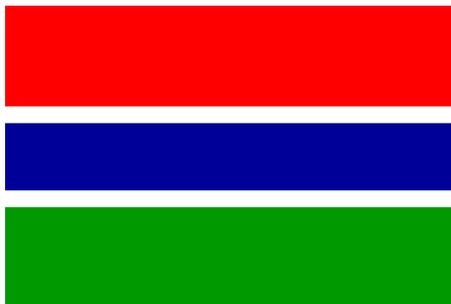


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1. Introduction

The Republic of The Gambia (also called “The Gambia”) ratified the United Nations Convention on the Law of the Sea, hereinafter referred to as “the Convention”, on 22 May 1984. The Convention entered into force for The Gambia on 16 November 1994.

Article 4 of Annex II to the Convention stipulates that where a coastal State intends to establish, in accordance with article 76, the outer limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, it should submit particulars of such limits to the Commission on the Limits of the Continental Shelf, hereinafter referred to as “the Commission”, along with supporting scientific and technical data as soon as possible, but in any case within ten years from the entry into force of the Convention for that State.

In 2001 the Eleventh Meeting of States Parties to the Convention decided that in the case of a State Party for which the Convention entered into force before 13 May 1999, it is understood that the ten-year time period referred to in article 4 of Annex II to the Convention shall be taken to have commenced on 13 May 1999 (document SPLOS/72, paragraph (a)). This decision applies to The Gambia. Consequently, in the case of The Gambia the ten-year time period referred to in article 4 of Annex II to the Convention expires on 13 May 2009.

The Eleventh Meeting of States Party to the Convention also decided that the general issue of the ability of States, particularly developing States, to fulfil the requirements of article 4 of Annex II to the Convention be kept under review (document SPLOS/72, paragraph (b)). Due to lack of financial and technical resources and relevant capacity and expertise, or other similar constraints, many developing countries are in fact facing particular challenges to fulfil these requirements.

In June 2008 the Eighteenth Meeting of States Parties to the Convention therefore decided that it is understood that the ten-year time period referred to in article 4 of Annex II to the Convention may be satisfied by submitting preliminary information indicative of the outer limits of the continental shelf beyond the 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, and a description of the status of preparation and intended date of making a submission (document SPLOS/183, paragraph 1 (a)).

On 5 December 2008 the United Nations General Assembly adopted its resolution A/RES/63/111 on Oceans and the law of the sea which in its paragraph 19 called upon “States to assist developing States, and especially the least developed countries and small island developing States, as well as coastal African States, at the bilateral and, where appropriate, at the multilateral level, in the preparation of submissions to the Commission regarding the outer limits of the continental shelf beyond 200 nautical miles, including the assessment of the nature and extent of the continental shelf of a coastal State through a desktop study, and the delineation of the outer limits of its continental shelf as well as in the preparation of preliminary information to be submitted to the Secretary-General in accordance with the decision contained in SPLOS/183”.

It is against this background and after consultations with the President of the Commission of the Economic Community of West African States (ECOWAS), Dr Mohammed Ibn Chambas, with the Special Representative of the Secretary-General (SRSG) for West Africa, Mr Saïd Djinnit, and with the Deputy Secretary-General of the Manu River Union, Ms Linda Koroma, and at the request of the ECOWAS Commission, that Norway stated the following in a note verbale of – December 2008 from the Royal Norwegian Embassy in Abuja to the ECOWAS Commission:

“In accordance with paragraph 19 of resolution A/RES/63/111 of the United Nations General Assembly, Norway is ready to assist the relevant Member States through the Economic Community of West African States (ECOWAS) in the preparation of preliminary information indicative of the outer limits of the continental shelf beyond 200 nautical miles. Such information is to be submitted to the Secretary-General of the United Nations in accordance with the decision of the Eighteenth Meeting of States Parties to UNCLOS contained in document SPLOS/183. The assistance and advice provided by Norway will be based on open and accessible sources, notably, where appropriate, on a GIS based study to be provided by the UNEP Shelf Programme, represented by GRID Arendal. The modalities of this assistance should be discussed further at the ministerial meeting which the ECOWAS Commission intends to convene in Abuja 11 and 12 February 2009”.

A Meeting of Ministers from Coastal Member States of ECOWAS was held at the Headquarters of the ECOWAS Commission in Abuja on 11 and 12 February 2009. Also present at the meeting was the Norwegian Deputy Minister for International Development, Mr Håkon Arald Gulbrandsen, and Norwegian specialists on the Law of the Sea. One of the recommendations adopted at this meeting reads as follows:

“All coastal States Members of ECOWAS under the framework of the preparation of preliminary information dossier on the extension of the Continental Shelf could officially solicit the assistance of the Norwegian Government to present their preliminary information before May 13th 2009”.

The Norwegian offer of assistance should be seen in the context of Norway’s commitment to assist countries in West Africa in their efforts to manage their natural resources in a sustainable way, to secure social and economic development. The continental shelf beyond 200 nautical miles represents a potential for such development for the coastal State. Hence, assisting The Gambia in preparing a preliminary information dossier, becomes an important part of the Norwegian natural resource management engagement.

The Gambia is a developing country in West Africa and is faced with challenges and constraints in fulfilling the requirements of article 4 of Annex II to the Convention. Some of these constraints could be listed as lack of financial and technical resources and relevant capacity and expertise in various sectors. The Government of The Gambia therefore decided to solicit the assistance of the Norwegian Government in the preparation of preliminary information indicative of the outer limits of the continental

shelf beyond 200 nautical miles to be submitted to the Secretary-General in accordance with SPLOS/183 before 13 May 2009. The Norwegian Government responded positively to this request for assistance in line with their development co-operation strategy.

2. Assistance and advice received during the preparation of this document

As stated in paragraph 1, the Government of Norway has provided assistance and advice in the preparation of the present submission. Both the Royal Norwegian Ministry of Foreign Affairs and the Norwegian Petroleum Directorate have been involved in the preparation. Gambian and Norwegian experts met in Oslo on 18 April 2009 to discuss and finalise the document.

Based on open and accessible sources and modern Geographical Information System technology (GIS) the UNEP Shelf Programme, represented by GRID-Arendal, has provided an initial desktop study of the Gambian continental shelf for the purpose of the present submission. The initial findings were presented to experts from the Republic of The Gambia in a work session in the GRID-Arendal offices on 16 and 17 April 2009. The discussions during the work session form the basis for paragraphs 5, 7, and 8 of the present submission.

The Republic of The Gambia was moreover assisted in the preparation of the present submission by Mr Harald Brekke, member of the Commission (1997 – present). No advice was provided by any other member of the Commission.

All expenses related to the preparation of the present submission have been covered by the Government of Norway.

The Norwegian assistance was based on the following premises:

- The assistance should not amount to the preparation of a submission to the Commission in accordance with article 76 of the Convention and article 4 of Annex II to the Convention, as well as the decision contained in SPLOS/72, paragraph (a), but should be limited to the preparation of preliminary information indicative of the outer limits of the continental shelf of the Republic of The Gambia beyond 200 nautical miles to be submitted to the Secretary-General in accordance with the decision contained in SPLOS/183, paragraph (a).
- Norway takes no position on, nor does it accept any responsibility for, any legal or other issue pertaining to the preparation of the present submission, including with regard to baselines.
- The assistance and advice provided by Norway should be based on open and accessible sources, notably an initial desktop study based on modern Geographical Information System technology (GIS) to be provided by the UNEP Shelf Programme, represented by GRID-Arendal.
- A main purpose of the Norwegian assistance is to ensure that, in accordance with the decision contained in SPLOS/183, paragraph 1 (a), the Republic of The Gambia satisfies the time period referred to in article 4 of Annex II to the Convention and the decision contained in SPLOS/72.

3. Outer limit of the continental shelf of the Republic of The Gambia – Baselines

The present Preliminary information on the outer limit of the continental shelf of The Gambia was assessed with reference to a baseline. However by virtue of the provisions of the Territorial Sea and Contiguous zone Act 1968 of the Republic of The Gambia, and amended version of the same Act of 1969, the normal baseline for measuring the breadth of the territorial sea is the low-water mark along the Coastline.

In view of the above and in connection with this document all measurements were carried out based on the World Vector Shoreline as an approximation of this normal baseline.

The ‘Territorial Sea and Contiguous Zone Act, 1968, as amended by the Territorial Sea and Contiguous Zone (Amendment) Act, 1969’ defines:

Territorial sea

1. Gambia shall extend for a distance of twelve nautical miles from the low-water mark and any reference to "The Gambia" whatsoever or wheresoever made shall be deemed in the absence of a contrary intention to include the territorial sea of The Gambia.

Contiguous zone

2. It is hereby declared that Her Majesty in right of Her Government of The Gambia may in the zone of the high seas contiguous to the territorial sea of The Gambia and extending seaward to a line 18 nautical miles from low-water mark exercise control necessary to prevent and punish the infringement of any law or right of The Gambia.

"Territorial waters" considered as "territorial sea"

3. Any reference in any law in force in The Gambia to "territorial waters" shall be construed as if it were a reference to "territorial sea".

4. Provisions of article 76 invoked in support of this document

The provisions of paragraphs 1, 3 and 4 of Article 76 of the Convention are referred to in support of preliminary information indicative of the outer limits of the continental shelf beyond the 200 M.

5. General description of the Northwest African continental margin off the coast of the Republic of The Gambia

The geology offshore the Republic of The Gambia is dominated by The Mauritania-Senegal-Gambia-Bissau-Conakry (MSGBC) Basin. The MSGBC covers some 600,000sq km of offshore Northwest Africa, extending almost 150 km along the margin from the Cap Blanc Fracture Zone in northern Mauritania, south through Senegal, The Gambia, Guinea Bissau and Conakry to the Guinea Fracture Zone (Laurie Brown 2002) ¹

¹ Laurie Brown ‘Petroleum Prospectivity of the MSGBC Basin Northwest Africa; an Emerging Deepwater Petroleum Province?’ AAPG Annual Meeting March 10-13, 2002 Houston, Texas.

The MSGBC Basin is a typical passive continental margin basin with Palaeozoic pre-rift section, Mesozoic syn-rift section and Mesozoic-Cenozoic post-rift section. It is believed that Atlantic rifting generated fault-bounded basins that were filled with salt and clastics of presumed Late Triassic and Early Jurassic age. These syn-rift sequences progress upwards to a prominent Jurassic to Lower Cretaceous carbonate platform, a Cretaceous clastic wedge and Tertiary carbonates and shales.

The thickness of the sedimentary succession offshore the Republic of The Gambia is considerable and is composed of post rift sections of Mesozoic and Cenozoic age, probably underlain by the Palaeozoic (Ordovician to Devonian) succession (Hansen et al., 2008)².

The geological continental shelf offshore the Republic of The Gambia is approximately 100 km wide and overall less than 120 m deep, and constitutes a central section of the continental margin adjacent to the Republic of Senegal, south of the Cap-Vert Peninsula. The continental slope is cut by canyons and is subject to large scale sediment movements. The continental slope between canyons is gentle and descends gradually down to the abyssal plain of the Gambia Basin (Figure 1).

6. Maritime delimitations and other issues

All information and maps contained in this submission are without prejudice to issues of maritime delimitation, nor do they constitute any statement or expression of views by the United Nations, Norway or UNEP Shelf Programme at GRID Arendal.

On the 4th day of June 1975 at Banjul, the Republic of Senegal and the Republic of The Gambia in order to avoid and where necessary settle peacefully the issues or problems of maritime boundaries between the two States entered into a Treaty fixing the maritime boundaries between the two countries and agreed as follows:

The Government of the Republic of Senegal and the Government of the Republic of The Gambia:

Considering the ties of friendship existing between their two nations;
Being motivated by the principles of the Charter of the United Nations and the Charter of the Organization of African Unity; Determined to establish and to maintain between them conditions favourable for the development of co-operation between the Republic of Senegal and the Republic of The Gambia;

Desiring to settle peacefully the problem of the maritime boundaries between States;

² Hansen, D.H., Redfern J., Federici F., di Biase D., and Bertozzi G. 2008. Miocene igneous activity in the Northern Subbasin offshore Senegal, NW Africa. *Marine and Petroleum Geology*, 25, 1-15.

Have concluded between them the present Treaty fixing the maritime boundaries between the Republic of Senegal and the Republic of The Gambia, according to the following provisions:

Article 1

The maritime boundary to the North commences from the point of intersection of the land boundary with the coast and follows the parallel of latitude 13° 35' 36" North.

Article 2

The maritime boundary to the South commences from the point T of intersection of the land boundary situated to the South of the River Allahein (or San Pedro) with the coast and of which the co-ordinates are:

Latitude: 13° 03' 51" North;
Longitude: 16° 44' 49" West.

From point T the maritime boundary proceeds in a south-westerly direction as far as point M of which the co-ordinates are:

Latitude: 13° 01' 21" North;
Longitude: 16° 45' 19" West.

From point M, the maritime frontier proceeds in a northerly direction as far as point P of which the co-ordinates are:

Latitude: 13° 03' 27" North;
Longitude: 16° 45' 22" West.

From point P, the maritime frontier follows the parallel of latitude 13°03' 27" North.

Article 3

The boundaries defined in articles 1 and 2 above have been delimited on the basis of the French Chart No. 6125 on the scale of 1:300,500 (latitude 13°40') agreed by the Government of the Republic of The Gambia and the Government of the Republic of Senegal and of which an enlarged extract is annexed to the present Treaty.

The Treaty will be registered at the Secretariat-General of the United Nations Organization at the Secretariat-General of the Organization of African Unity and at the Permanent Senegalo-Gambian Secretariat.

The Treaty was signed in Banjul on the 4th day of June 1975.

There is no treaty fixing maritime boundaries of the Republic of The Gambia and the Republic of Cape Verde.

There may be a potential overlap between areas of the continental shelf beyond 200 nautical miles that may be claimed by the Republic of The Gambia, the Republic of Cape Verde and the Republic of Senegal. Possible delimitation issues between these three coastal States should be considered by reference to Rule 46 and Annex I of the Rules of Procedure of the Commission.

The Republic of The Gambia is ready to enter into consultations with the Republic of Cape Verde and the Republic of Senegal with a view to reach an agreement which will allow the Commission to consider and make recommendations on submissions by the three coastal States in any area that may come under dispute without prejudice to the final delimitation of the continental shelf concluded subsequently in these areas by the Republic of The Gambia, the Republic of Cape Verde and the Republic of Senegal.

7. Preliminary information indicative of outer limits of the continental shelf beyond 200 M

In accordance with SPLOS/183 op.p. 1 (a), this submission seeks to document that at least one Foot of the Slope point (FOS point) has a location that makes it clear that the Republic of The Gambia's continental shelf extends beyond the 200 M from the baseline (see Chapter 3 for definition of baseline in this document).

In the light of limited scientific data available, no final conclusion is made regarding the most appropriate location of the base of the continental slope of the Republic of The Gambia at this stage. Rather it is found prudent, based on available data, to document at least the minimum extent of the continental shelf in one selected key area – by providing *prima facie* evidence that FOS points may at least be located in certain areas, if not further offshore.

While there may be grounds for carrying out additional surveys for the precise identification of FOS points (for which there is the possibility of significant variations), the subsequent FOS point and its projected preliminary outer limit points are submitted as part of the preliminary information. These may be subject to further revision.

7.1 Existing database

Figures 2 and 3 show track lines for bathymetric and seismic data that has been available for analyses to determine if the Republic of The Gambia meets the criteria for an extended continental shelf beyond the 200 M (test of appurtenance).

Most of the available bathymetric and seismic data are sourced from the Geophysical Data System (Geodas) of NOAA National Geophysical Data Center (NGDC) in Colorado. However, for the purpose of this document, the following satellite derived bathymetric grids have been used: SRTM30plusV4 and ETOPO1. Total Sediment Thickness of the World's Oceans & Marginal Seas (provided by: World Data Center for Geophysics & Marine Geology, Boulder) was used as an approximation for sediment thickness.

All data are assembled, reformatted and provided by the One Stop Data Shop (GRID-Arendal, www.continentalshelf.org).

The analyses of data were done in the Geocap software utilizing the UNCLOS Module (www.geocap.no). Methods used are documented in the software documentation.

7.2 Foot of the continental slope points

Even though publicly available data exists in the area off the Republic of The Gambia, none of the existing bathymetric or seismic data is orientated in such a way that it is representative of the real morphological characteristics of the margin. Therefore, one FOS point has been identified on a bathymetric profile extracted from the SRTM30plus_4V grid. This FOS point generates continental shelf area beyond the 200 M (Figure 4). The FOS point is described in more detail below for documentation purposes.

The possibility of identifying FOS points located further seaward than the one documented here cannot be excluded, should more data be acquired and made available at a later stage.

7.2.1 FOS-1

Basic Data

Data type	Data source
Synthetic bathymetric profile extracted from bathymetric grid	SRTM30plus_V4

Point FOS-1 is situated at the base of the continental slope off The Gambia. The continental slope in this area connects the shallow and narrow shelf of the Republic of The Gambia with the deep ocean floor of the Gambia Basin in the Atlantic Ocean. The area of the base of the slope is identified on the basis of the morphology of the continental slope in the area as it is depicted by the SRTM30plus_4V bathymetric grid. Point FOS-1 was determined as the point of maximum change in gradient within the base of the slope area (Figure 5).

7.3 Indicative extent of continental shelf based on selected FOS point

Foot of slope point FOS-1 generates continental shelf area beyond the 200 M based on both the sediment thickness criterion and the 60 M distance criterion of article 76 paragraphs 4(a)(i) and 4(a)(ii), respectively. The exact location of the outer limits of the continental shelf beyond the 200 M awaits the final analysis, which will be submitted to the Commission (see section 8). However, the extent of the continental shelf beyond the 200 M is indicated in a general way in Figure 4.

Further studies and data are needed to clarify the final extent of the continental shelf beyond the 200 M of the Republic of The Gambia.

8. Description of status of preparation and intended date of making a submission

This document takes advantage of the available data from relevant intergovernmental bodies and organizations.

The utilization of GRID-Arendal's global public marine geoscientific database, provides a careful documentation of the aforementioned FOS point thus providing *prima facie* evidence that the Republic of The Gambia's continental shelf extends beyond the 200 M from the baseline (see Chapter 3 for definition of baseline in this document).

However, additional data collection may be necessary to provide exact information on the location of FOS points. It should be pointed out that several conditions make it unfeasible or unpractical at this stage to engage into any attempts to acquire such data.

The Scientific and Technical Guidelines (STG) of the Commission³ gives guidance to the type and quality of the data that is required to support the submission of a coastal State to the Commission concerning the outer limits of its continental shelf. Chapter 9 of the STG specifies the format and recommended contents of such a submission. The STG, on the other hand, does not give any guidance to the planning and organisation of the project of preparing a submission.

The Training Manual provided by the Division for Ocean Affairs and the law of the Sea Office of Legal Affairs (DOALOS)⁴, however, contains more details on how such a project may be conducted. Among this, the Government may identify the responsible political and technical bodies and the organizational structure through which the project will be executed. According to the Training Manual the following steps may be taken by the technical committee:

- Undertake the initial appurtenance study;
- Produce a desktop study;
- Plan and acquire data;
- Analyse all data and produce all relevant scientific and technical documentation;
- Prepare the final submission; and
- Provide technical support to the relevant authorities throughout the project cycle.

³ Commission on the Limits of the Continental Shelf, 1999. Scientific and technical guidelines of the commission of the continental shelf. Division for Ocean Affairs and the Law of the Sea Office of Legal Affairs United Nations, document CLCS/11, 92 p.

⁴ Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, 2006. Training Manual for delineation of the outer limits of the continental shelf beyond 200 nautical miles and for preparation of submissions to the Commission on the Limits of the Continental Shelf.

The “*Preliminary information indicative of the outer limits of the continental shelf*” provided in this document shows that the Republic of The Gambia passes the test of appurtenance and the next step will be to prepare a desktop study.

According to the Training Manual a desktop study shall cover the following items:

- Assemble and organize all pre-existing data;
- Analyse the data according to article 76;
- Identify areas of critical value for further studies;
- Subdivide the geographical area being considered according to the applicability of the formulae and constraints provisions;
- Identify the need for further data; and
- Determine preliminary survey plans, cost estimates and recommendations for future work.

To fund activities relating to a preparation of a submission, the Republic of The Gambia will make an application to the “*Trust fund for the purpose of facilitating the preparation of submissions to the Commission on the Limits of the Continental Shelf for developing States, in particular the least developed countries and small island developing States, and compliance with article 76 of the United Nations Convention on the Law of the Sea*” (UN Trust Fund)

The UN Trust Fund does not fund acquisition of new data; consequently the Government should provide or secure funding for acquisition of additional data for the delineation of the Republic of The Gambia’s extended continental shelf beyond the 200 M.

Following the South Africa workshop in 2005 and the Windhoek Training in 2008 on the subject, The Gambia had set-up a Technical committee with the Geological Department under the Office of the President as the focal point. The committee consists of relevant Government Departments and has been coordinating the continental shelf project. The committee had received the political support needed during the preparation of this document.

A full submission is planned to take place within 10 years, unless otherwise specified in light of unforeseen circumstances.

9. Conclusions

The data provided in the present submission of preliminary information indicative of the outer limits of the continental shelf beyond the 200 nautical miles show that the Republic of The Gambia passes the test of appurtenance as described in the Scientific and Technical Guidelines of the commission. The location of the Foot of the Slope Point (FOS-point), that has been identified on the base of the continental slope of the Republic of The Gambia, indicates that the continental shelf of the Republic of The Gambia extends beyond 200 nautical miles from the baseline.

Following the submission of this preliminary information to the UN Secretary-General, the Republic of The Gambia would continue with the process that would lead to a final submission to the Commission in accordance with article 76 of the Convention and article 4 of Annex II to the Convention, as well as the decision contained in SPLOS/72, paragraph (a).

APPENDIX 1

FIGURES

Figure 1: Three dimensional view of the continental margin adjacent to the Republic of The Gambia in the eastern central Atlantic Ocean. Names of primary submarine features (from GEBCO) are included. The red coloured sphere represents the FOS point.

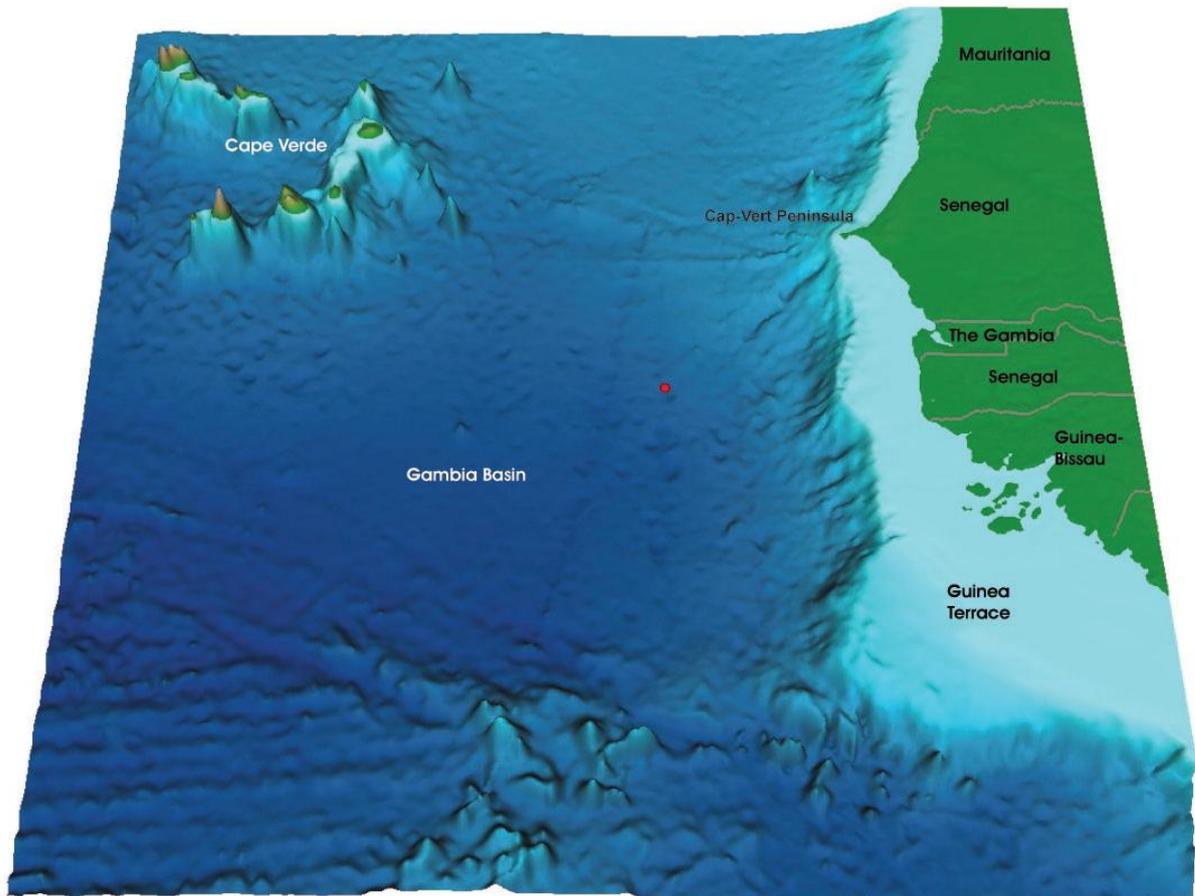


Figure 2: Map showing tracklines of single beam bathymetry and the position of DSDP/ODP drill sites.

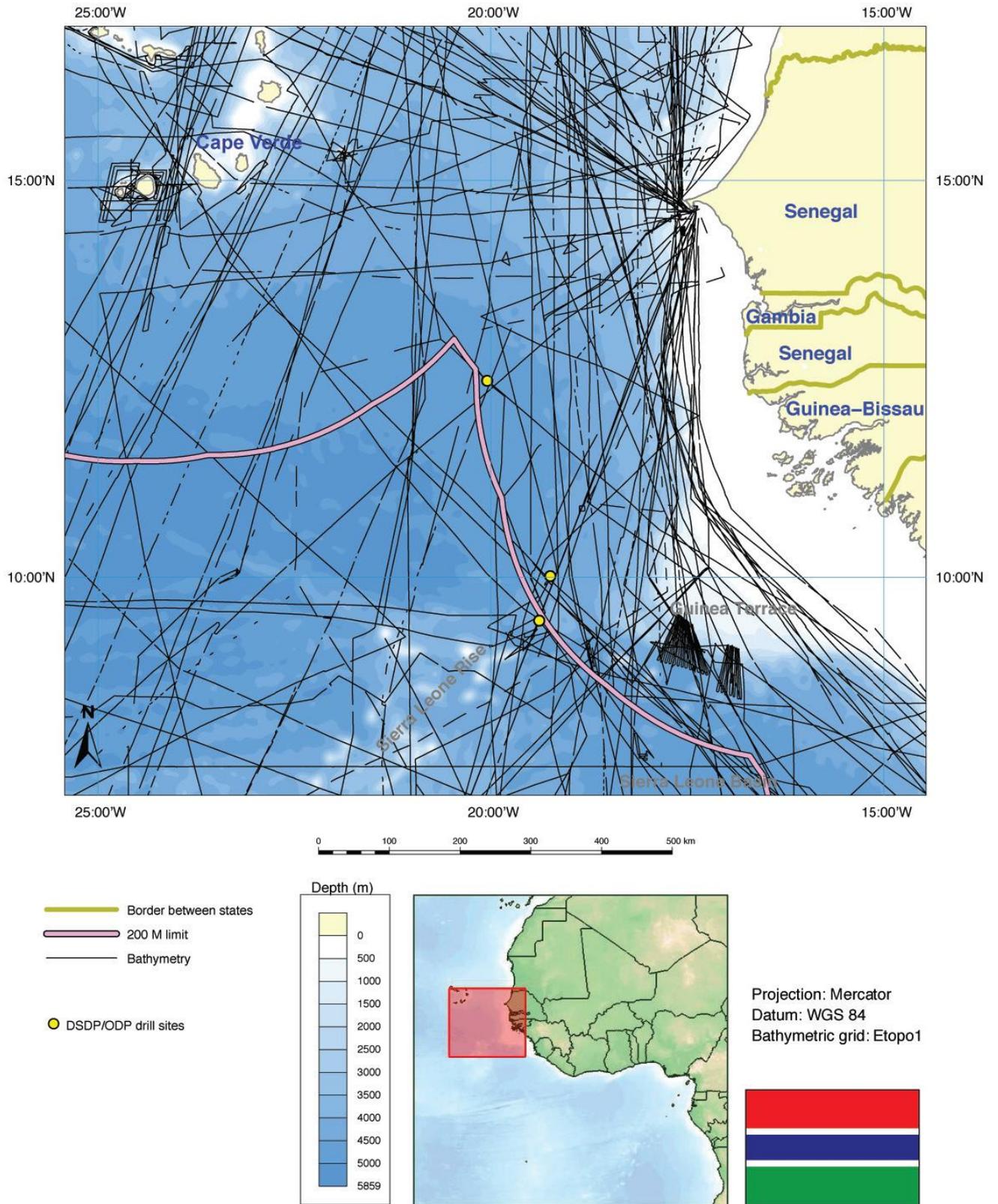


Figure 3: Map showing tracklines of analogue seismic reflection surveys and the position of DSDP/ODP

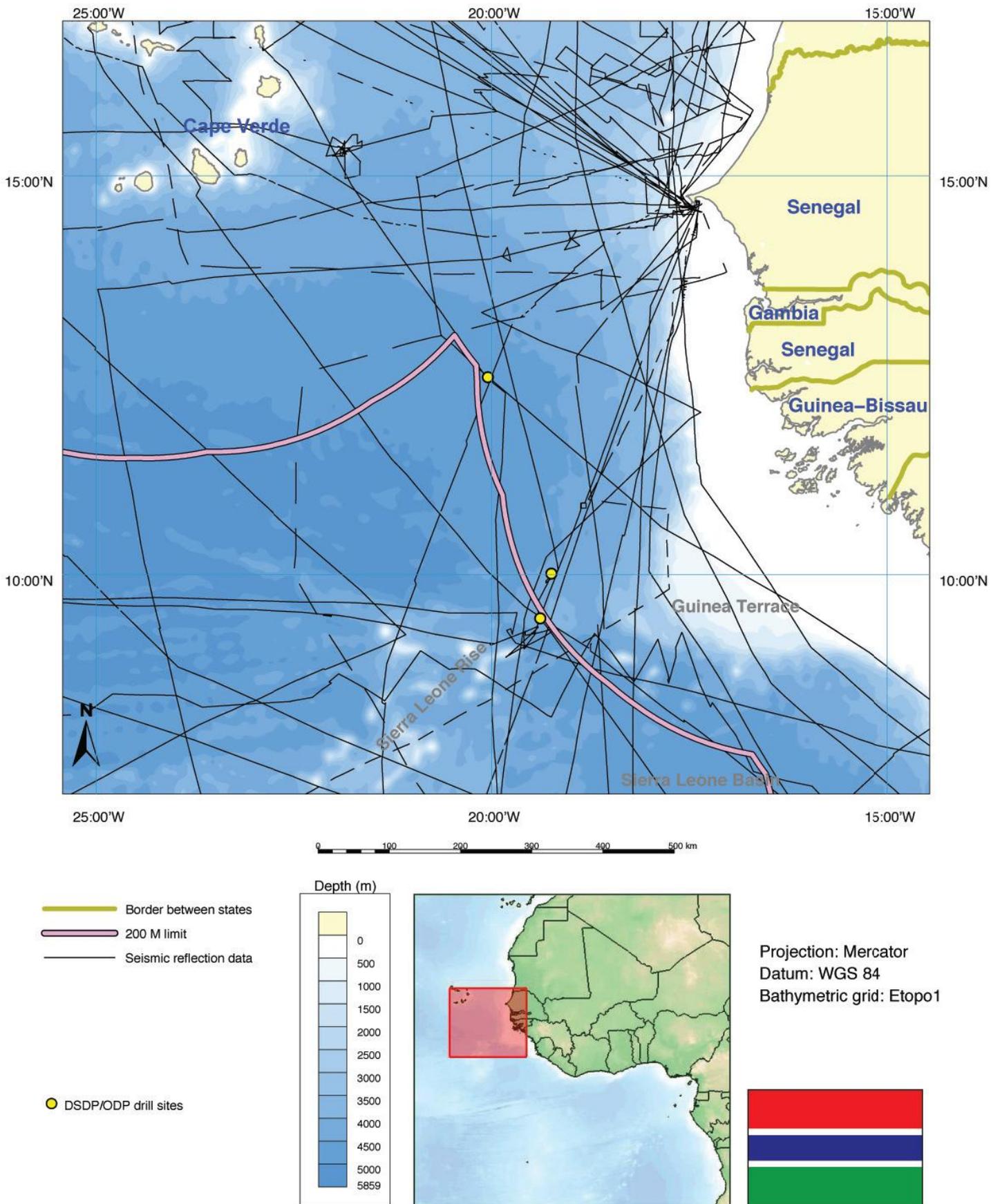
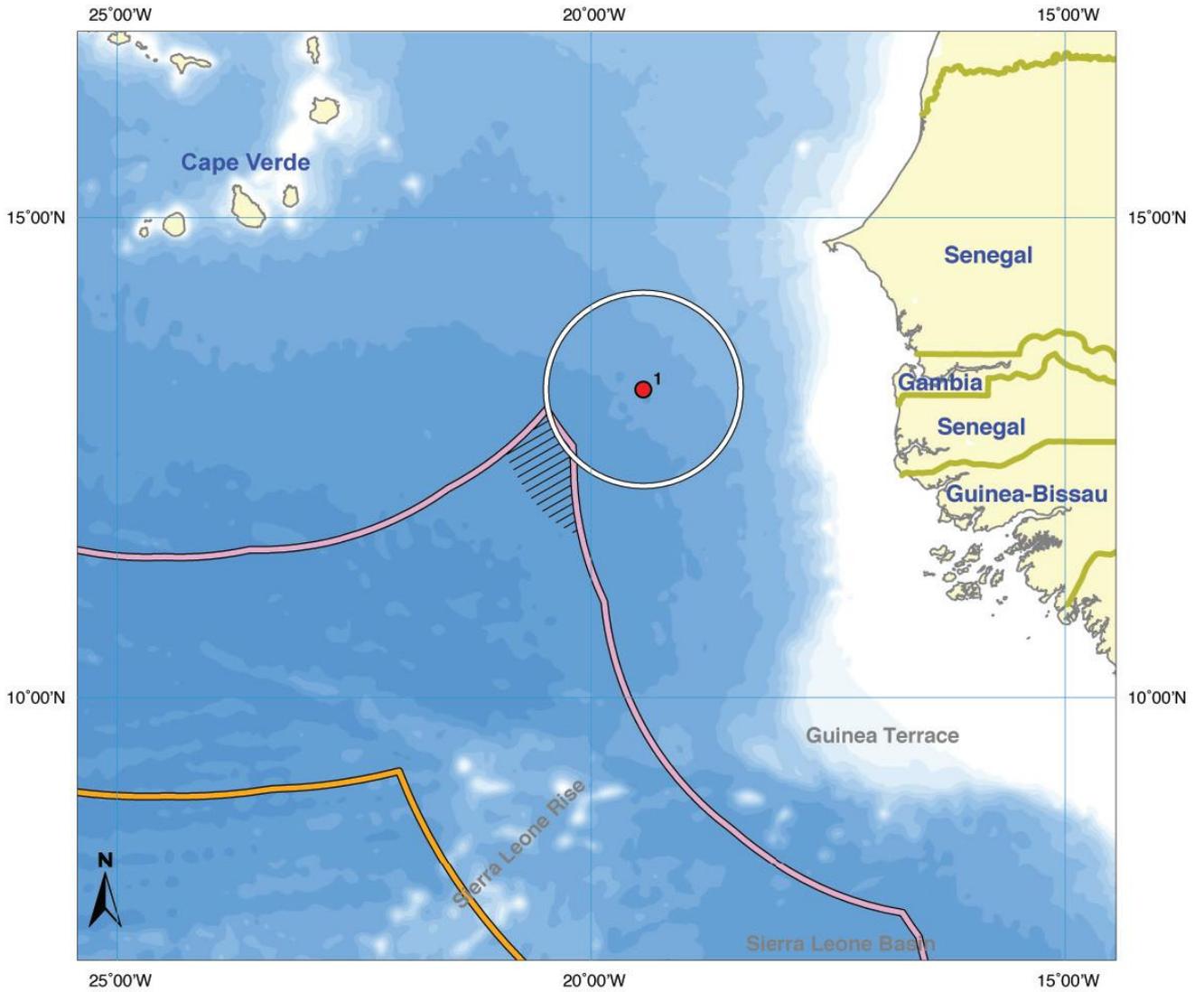
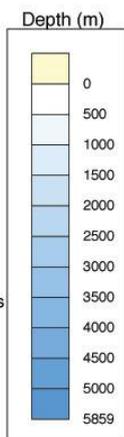


Figure 4: Map showing the location of one FOS point. This point generates continental shelf beyond the 200 M based on both the sediment thickness criterion and the 60 M distance criterion of Article 76, paragraphs 4(a)(i) and 4(a)(ii), respectively.



-  Border between states
-  200 M limit
-  350 M limit
-  FOS + 60 M
-  Foot of slope points

 Area in which the sediment thickness criterion of article 76, paragraph 4(a)(i) may be satisfied



Projection: Mercator
Datum: WGS 84
Bathymetric grid: Etopo1



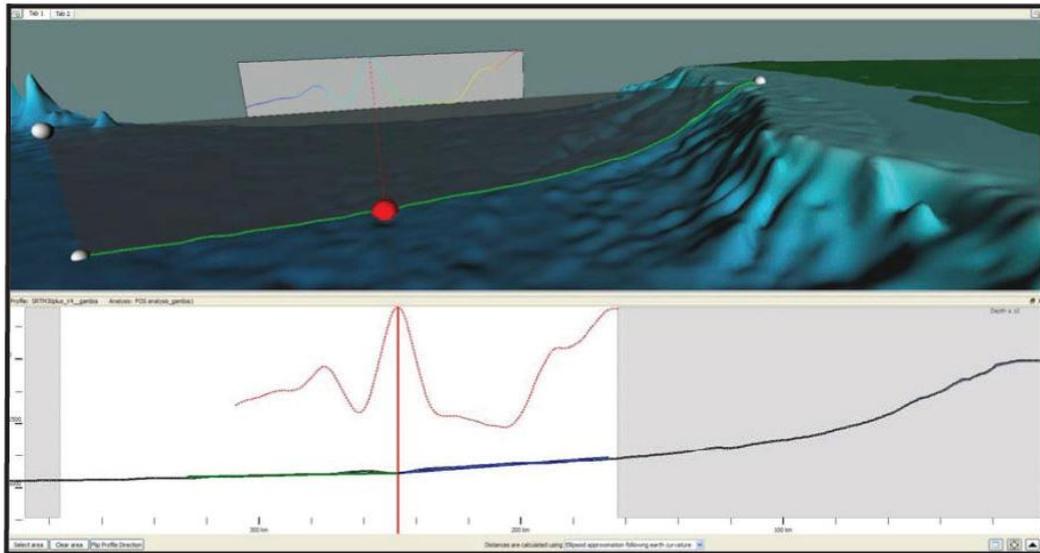


Figure 5: Analysis of point FOS-1 at the base of the continental slope, based on a synthetic bathymetric profile extracted from the satellite derived bathymetric grid SRTM30plus_V4 (lower panel). The upper panel shows a 3D view of the continental margin off The Gambia viewed from east towards west, including the location of FOS-1 (red circle) and the bathymetric profile (grey shaded panel). Point FOS-1 has been calculated to be the point of maximum change in average gradient across the area of the base of the slope based on the 2nd derivative of the slope (red dotted graph in lower panel).

Regarding the use of the SRTM30plus_V4 in the above figures, the following is observed:

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Please note that due to the use of the Mercator projection system, the scale bar displayed with the maps on Figure 2-5 is only precise when measurements are made at the Equator. Precision diminishes with distance in relation to the Equator (e.g. about 3 % of error has degree of latitude 15°N).
