



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 FOR THE**

REPUBLIC OF CAPE VERDE

B

Table of Contents

1.	Introduction	3
2.	Assistance and advice received during the preparation of this communication	4
3.	Outer limit of the continental shelf of the Republic of Cape Verde – Baselines	4
4.	Provisions of article 76 invoked in support of this communication	4
5.	General description of the Northwest African continental margin off the coast of the Republic of Cape Verde	5
6.	Maritime delimitations and other issues	5
7.	Preliminary information indicative of outer limits of the continental shelf beyond 200 M	6
	7.1 Existing database	7
	7.2 Foot of the continental slope points	7
	7.2.1 FOS-2	8
	7.2.2 FOS-5	8
	7.3 Indicative extent of continental shelf based on selected FOS points	8
8.	Description of status of preparation and intended date of making a submission	9
9.	Conclusion	10

APPENDIX

Figure 1 – Three dimensional view of the continental margin adjacent to the Republic of Cape Verde in the eastern central Atlantic Ocean.

Figure 2 – Map of the eastern central Atlantic Ocean coastline adjacent to the Republic of Cape Verde.

Figure 3 – Map showing bathymetric surveys and the position of DSDP/ODP drill sites.

Figure 4 – Map showing seismic survey tracklines and the position of DSDP/ODP drill sites.

Figure 5 – Map showing the location of five FOS points.

Figure 6 – Analysis of point FOS-2 at the base of the continental slope.

Figure 7 – Analysis of point FOS-2 at the base of the continental slope.

3

1. Introduction

Cape Verde ratified the United Nations Convention on the Law of the Sea, hereinafter referred to as "the Convention", on 10 August 1987. The Convention entered into force for Cape Verde 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 Cape Verde. Consequently, in the case of Cape Verde 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 Parties 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 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".



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

Cape Verde 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 Cape Verde therefore decided to solicit the assistance from some of its partners for 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.

Cape Verde has benefited from the comprehensive assistance of the Government of Portugal in regard to the preparation of a preliminary study as well as to detailed information / materials in the initial process of extension of Cape Verde's continental shelf

Moreover, the Government of Norway has provided assistance and advice in the preparation of the present submission, in the frame of the bilateral cooperation relations and according the strategy adopted by the ECOWAS Commission for the extension of the continental shelf of the west African sub-region coastal states, in respect of the decisions adopted by the Abuja ministerial meeting of February 11 – 12th, 2009.

3. Outer limits of the continental shelf of Cape Verde - Baselines

The present submission deals with the outer limits of the continental shelf appurtenant to Cape Verde, without prejudice to any issues of bilateral maritime delimitation with neighbouring States. Such issues will be referred to under item 6 below.

Cape Verde is an archipelagic state in the sense of article 46 of the Convention. The archipelagic baselines of Cape Verde are defined in article 24 of Law Nr. 60/IV/92 of 21 December 1992 delimiting the maritime areas of the Republic of Cape Verde. As regards the present submission all measurements are carried out based on the World Vector Shoreline. A closer examination has showed that the maximum difference between the 200 nautical miles line based on this source and based on the archipelagic baseline is 1,2 km.

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

The provisions of paragraphs 1, 3 and 4 of article 76 of the Convention are referred to in support of the present submission of preliminary information indicative of the outer limits of the continental shelf beyond 200 nautical miles of the Republic of Cape Verde.

5. General description of the Northwest African continental margin off the coast of the Republic of Cape Verde

The Cape Verde archipelago is located approximately 500 km off the west coast of Africa. It is a u-shaped group of both active and inactive volcanic islands, open to the north-west, that sit on a triangular topographic high called the Cape Verde Rise. This high is a prominent elevation approximately 1000 km in diameter, dissected by WNW-ESE transform faults, that extends out from the African continental margin. The high sits 2000-4000 m above the surrounding deep ocean floor. The shallowest section, between the islands and the mainland, is termed the Cape Verde Plateau (sometimes referred to as the Cape Verde Terrace). A large number of submarine slides occur on the flanks of the plateau, forming a major gravity flow complex termed the Cape Verde Slide Complex (Wynn et al, 2000)¹. Complex turbidity current pathways run from the shelf break to the abyssal plains, where the majority of the turbidity load is deposited (Wynn et al., 2000)¹. Since the Miocene, up to 2 km of volcanoclastic sediment has been deposited in the flexural moats that flank the islands (Ali et al. 2003)².

Pim et al., (2008)³ estimated that the islands were emplaced on Cretaceous (125-150 Ma) oceanic lithosphere and range in age from 8 Ma in the west to 20 Ma in the east. The oldest outcropping rocks, 128-131 Ma mid-Atlantic Ridge pillow lavas, occur on the island of Maio. The origin of the volcanism has been attributed to a hotspot. Supporting evidence includes the fact that the islands occur near the crest of a broad topographic mid-plate swell (the Cape Verde Rise) that correlates with a gravity and geoid anomaly high. Patriat and Labails (2006)⁴ suggested that the Canary and Cape Verde archipelagos share a common history of subsidence, uplift and emersion and were formed along a continuous basement bulge that links the two territories

6. Maritime delimitation and other issues.

All information and maps contained in this submission are without prejudice to issues of maritime delimitation.

¹ Source: Wynn R., Masson D., Stow D. and Weaver P. 2000 The Northwest African slope apron: a modern analogue for deepwater systems with complex seafloor topography. *Marine and Petroleum Geology*, 17:253-265

² Source: Ali M., Watts A. and Hill I. (2003). Structure of Mesozoic oceanic crust in the vicinity of the Cape Verde Islands from seismic reflection profiles. *Marine Geophysical Researches*, 24:329–343.

³ Source: Pim, J., Peirce, C., Watts, A.B., Grevemeyer, I. and Krabbenhoft, A., 2008. Crustal structure and origin of the Cape Verde Rise. *Earth and Planetary Science Letters*, 272(1-2): 422-428.

⁴ Source: Patriat, M. and Labails, C., 2006. Linking the Canary and Cape-Verde hot-spots, Northwest Africa. *Marine Geophysical Researches*, 27(3): 201-215.



The Republic of Cape Verde has entered into bilateral treaties on maritime delimitation with the Republic of Senegal (Treaty on the Delimitation of the Maritime Frontier between the Republic of Cape Verde and the Republic of Senegal, 17 February 1993) and with the Islamic Republic of Mauritania (Treaty on the Delimitation of the Maritime Frontier between the Republic of Cape Verde and the Islamic Republic of Mauritania, 19 September 2003). There is no bilateral agreement on maritime delimitation between the Republic of Cape Verde and the Republic of The Gambia.

Within 200 nautical miles from its archipelagic baselines there is no unresolved issue of maritime delimitation between the Republic of Cape Verde and any of its neighbouring States.

There may be a potential overlap between areas beyond 200 nautical miles claimed by the Republic of Cape Verde, the Islamic Republic of Mauritania, the Republic of Senegal and the Republic of The Gambia. Possible unresolved issues of delimitation of the continental shelf in these areas should be considered by reference to rule 46 and Annex I of the Rules of Procedure of the Commission. Such unresolved delimitation issues should be considered as a “maritime dispute” for the purpose of rule 5 (a) of the Rules of Procedure of the Commission.

The Republic of Cape Verde is ready to enter into consultations with the Islamic Republic of Mauritania, the Republic of Senegal and the Republic of The Gambia with a view to reaching agreements which will allow the Commission to consider and make recommendations on submissions by these four coastal States in any area under dispute without prejudice to a final delimitation of the continental shelf concluded subsequently in these areas by the Republic of Cape Verde, the Islamic Republic of Mauritania, the Republic of Senegal and the Republic of The Gambia.

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

In accordance with SPLOS/183 op.p. 1 (a), this communication seeks to document that several Foot of the Slope Points (FOS points) have locations that make it clear that the Republic of Cape Verde’s continental shelf extends beyond 200 M from the baseline.

Considering the 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 Cape Verde at this stage. Rather it is found incumbent, based on available data, to document at least the minimum extent of the continental shelf in selected key areas – by providing prima facie evidence that FOS points may at least be located in certain areas, if not farther 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 following FOS points and their projected preliminary outer limit points are submitted as part of preliminary information. These may be subject to later revision.



7.1 Existing database

Figure 3 and Figure 4 show track lines for bathymetric and seismic data that has been available for analyses to determine if Cape Verde fills the criteria for an extended continental shelf beyond 200 M (test of appurtenance).

The majority of bathymetric and seismic data were sourced from the Geophysical Data System (Geodas) of NOAA National Geophysical Data Center (NGDC) in Colorado.

Additional bathymetric and seismic data are sourced from: Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER), Bundesamt für Seeschifffahrt und Hydrographie Marine Geoscience (BSH), Bundesanstalt für Geowissenschaften und Rohstoffe (BGR) and Marine Geoscience Data Management System (MG_DMS).

The following satellite derived bathymetric grids have been used: ETOPO1 and SRTM30plus_V4.

Total Sediment Thickness of the World's Oceans & Marginal Seas (provided by: World Data Center for Geophysics & Marine Geology, Boulder) was used as a first 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

Among others, several FOS points have been identified on single-beam bathymetric profiles from the GEODAS database. Five FOS points generating continental shelf area beyond 200 M are plotted in Figure 5. Two FOS points are described in more detail below for documentation purposes and to demonstrate the variable nature of the continental margin of the Republic of Cape Verde.

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

7.2.1 FOS-2

Basic Data

Data type	Data source
Single beam bathymetric profile	GEODAS, survey WI343413

Point FOS-2 is situated at the base of the continental slope to the north of the Cape Verde Rise. The continental slope in this area connects the shallow shelf of the Republic of Cape Verde with the Cape Verde Abyssal Plain (Figure 1 and Figure 2). The area of the base of the slope is identified on the basis of the morphology of the continental slope in the area as its depicted both by the single beam bathymetric profile WI343413 and the SRTM30plus_4V bathymetric grid bathymetric grid. Point FOS-2 was determined as the point of maximum change in gradient within the base of the slope area (Figure 6).

7.2.2 FOS-5

Basic Data

Data type	Data source
Single beam bathymetric profile	GEODAS, survey 73003121

Point FOS-5 is located at the base of the continental slope on the southern flank of the Cape Verde Rise. The continental slope in this area connects the shallow shelf of the Republic of Cape Verde with the deep ocean floor (Figure 1 and Figure 2). The area of the base of the slope is identified on the basis of the morphology of the continental slope as depicted by the single beam bathymetric profile 73003121. Point FOS-5 was determined as the point of maximum change in gradient within the base of the slope area (Figure 7).

7.3 Indicative extent of continental shelf based on selected FOS points

All five FOS points generate continental shelf area beyond 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 200 M awaits the final analysis, which will be submitted to the Commission (see section 8). However, the extent of the continental shelf beyond 200 M is indicated in a general way in Figure 5.

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

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

The utilization by GRID-Arendal, acting on behalf of the government of the Republic of Cape Verde, of GRID-Arendal's global public marine geoscientific data together with the analytical support given provides a careful documentation the aforementioned FOS point thus providing prima facie evidence that the Republic of Cape Verde's continental shelf extends beyond 200 M from the normal baseline.

However, additional data collection may be necessary to provide exact information on the location of foot of the slope points.

The Scientific and Technical Guidelines (STG) of the Commission⁵ gives guidance to the type and quality of the data that is required to support the submission of coastal State to the CLCS concerning the outer limit 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 organization of the project of preparing a submission.

The Training Manual provided by Division for Ocean Affairs and the Law of the Sea Office of Legal Affairs (DOALOS)⁶, however, contains more details on how such a project may be conducted. According this Training Manual the following steps should be taken to plan and manage a submission:

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

The "Preliminary information indicative of the outer limits of the continental shelf" provided in this document shows that the Republic of Cape Verde 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;

⁵ 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.

⁶ 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.

- Analyze 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 related to preparing a submission, the Republic of Cape Verde 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) - http://www.un.org/Depts/los/clcs_new/trust_fund_article76.htm

As the UN Trust Fund does not fund acquisition of new data, the government of Republic of Cape Verde should secure funding for acquisition of additional data, if needed for the delineation of extended continental shelf beyond 200 M.

The Government of the Republic of Cape Verde envisages regular reporting on progress pertaining to the above conditions. A full submission is planned to take place by the end of December 2014, 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 200 nautical miles show that the Republic of Cape Verde passes the test of appurtenance as described in the Scientific and Technical Guidelines of the Commission. The location of five FOS-points identified on the continental slope of the Republic of Cape Verde makes it clear that the continental shelf of the Republic of Cape Verde extends beyond 200 nautical miles from the normal baseline. The maximum difference between the 200 nautical miles line based on the normal baseline and based on the archipelagic baseline of the Republic of Cape Verde is 1,2 km.