CLCS/TB/1

United Nations Convention on the Law of the Sea

Commission on the Limits of the Continental Shelf

Technical Bulletin #1

DELINEATION OF THE 2,500 M ISOBATH

8 August 2025

1. PREAMBLE

1.1 The Scientific and Technical Guidelines[1] (the Guidelines) of the Commission on the Limits of the Continental Shelf (the Commission) were adopted on the 13 May 1999.[2] In view of the significant scientific and technical advances that have been achieved since that adoption, as well as the development of practice in the examination of submissions over the past decades, the Commission perceives a need for a series of scientific and technical bulletins that may assist coastal States towards delineating the outer limits of their continental shelf.

1.2 These bulletins are meant to complement the Guidelines in implementation of article 76 of the United Nations Convention on the Law of the Sea (the Convention) and the Statement of Understanding concerning a specific method to be used in establishing the outer edge of the continental margin (SOU). In cases of contradiction between the Guidelines and the bulletins, paramountcy is given to the Guidelines.

2. FORMULATION OF THE PROBLEM

2.1 This particular bulletin concerns the delineation of the 2,500 m isobath, which serves as the basis for the construction of one of the constraints to the formulae lines in order to produce the outer limits of the continental shelf, pursuant to paragraph 5 of article 76:

> "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."

2.2 The depth constraint lies 100 M seaward of the 2,500 m isobath. In the case of submarine elevations, paragraph 6 of article 76 makes an exception allowing the use of this constraint in the delineation of the outer limits of the continental shelf, that is when such submarine elevations are natural components of the continental margin:

> “Notwithstanding the provisions of paragraph 5, on submarine ridges, the outer limit of the continental shelf shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured. This paragraph does not apply to submarine elevations that are natural components of the continental margin, such as its plateaux, rises, caps, banks and spurs.”

[1] CLCS/11. See also CLCS/11/Corr.1, CLCS/11/Corr.2, CLCS/11/Add.1 and CLCS/11/Add.1/Corr.1.
[2] See CLCS/12, para. 14.

2.3 The intent of this bulletin is to elaborate on the interpretation and application of the provisions of chapter 4 of the Guidelines on the basis of the practice of the Commission concerning the delineation of the 2,500 m isobath and the construction of the depth constraint.

3. RELEVANT PROVISIONS OF THE GUIDELINES

3.1 The delineation of the 2,500 m isobath and the construction of the depth constraint is detailed in chapter 4 of the Guidelines, which contains four sections:

"4.1. Formulation of the problem" (paragraphs 4.1.1 and 4.1.2).

"4.2. Sources of data and hydrographic measurements" (paragraphs 4.2.1 to 4.2.10), describing the sources of bathymetric data that may be used in a submission for the delineation of the 2,500 m isobath, the required technical information of the bathymetric database(s) used, and procedures for error estimations.

"4.3. Bathymetric model" (paragraphs 4.3.1 to 4.3.7), which describes general information regarding the development and application of bathymetric models to assist coastal States in selecting the 2,500 m isobaths relevant to the determination of the depth constraint.

"4.4. Selection of points for the delineation of the 100 M limit" (paragraphs 4.4.1 and 4.4.2), which describes the criteria that may be applied by coastal States in the selection of the most salient points along the 2,500 m isobath for the purpose of delineating the depth constraint.

3.2 Regarding section 4.2 of the Guidelines, the Commission is of the view that only those 2,500 m depth points that are based on measured bathymetric data are considered valid for the construction of the depth constraint.

3.3 With respect to section 4.3:

a) Submitted bathymetric models, pursuant to paragraph 4.3.3 of the Guidelines, should include a comprehensive description of the data sources including type, horizontal and vertical precision and resolution of depth measurements, as well as of how the data is processed and can be visualised.

b) Regarding data sources, in the case of single beam data the echosounder measures depth directly below the survey vessel, providing a series of discrete depth points along the vessel's track. The resulting coverage is thus limited, and interpolation between survey lines is required to estimate depths between measured points.

c) It must be noted that interpolation is necessary only for visualization purposes.

d) On the other hand, multibeam echosounders emit a fan shaped beam covering a swath of the seafloor, capturing high-resolution, full-coverage data. Subject to the grid resolution sought, the given data coverage may require a selection of soundings instead of interpolation.

e) Single beam and multibeam data can be combined and integrated with gridded datasets (e.g., satellite-derived bathymetry or pre-existing models). This option offers a comprehensive model by filling gaps where single or multibeam data alone might be insufficient. Caution should be exercised when combining datasets, which requires integration and validation to avoid inconsistencies between datasets, coordinate systems and resolutions.

f) The resulting processed data forms a regular grid representing seafloor topography. The grid should be then subject to validation and quality control including comparison with known reference points or additional survey data to ensure accuracy as well as the identification and correction of anomalies such as spikes or dips caused by errors in data collection and gridding processes (e.g. by comparing the model with independent field observations, ensuring its accuracy and reliability; by performing statistical analyses to evaluate the performance of the combined model against individual datasets; etcetera).

3.4 Owing to the variety of possible configurations and characteristics of continental margins, paragraph 4.4.2 of the Guidelines provides the following guidance:

> "4.4.2. The selection of the most salient points along the 2,500 m isobath for the purpose of delineating the 100 M limit may be straightforward when isobaths are simple. However, when isobaths are complex or repeated in multiples, the selection of points along the 2,500 m isobath becomes difficult. Such situations arise as a result of geological and tectonic processes shaping the present continental margins. They can create multiple repetitions of the 2,500 m isobath, for example, by faulting, folding and thrusting along continental margins. **Unless there is evidence to the contrary**, the Commission **may** recommend the use of the first 2,500 m isobath from the baselines from which the breadth of the territorial sea is measured that conforms to the general configuration of the continental margin" (emphasis added).

3.5 A semantic analysis of the last sentence of paragraph 4.4.2 of the Guidelines, which is an examination of its structure, meaning, and relationships between its components, leads to the following conclusions:

a) The last sentence begins with "Unless there is evidence to the contrary," which introduces a conditional clause. It implies that a recommendation based on the criteria indicated further along that sentence is contingent upon the absence of contrary evidence. This "unless" condition sets the context for the recommendation.

b) The central action in the sentence is that the Commission "… may recommend the use of the first 2,500 m isobath …". The use of "may" indicates a possibility rather than a certainty.

c) The final part of the phrase clearly indicates that the 2,500 m isobath must "conform to the general configuration of the continental margin.". This condition implies that the location of the 2,500 m isobath must be in harmony with the continental margin. The recommendation of the Commission is contingent upon this alignment.

4. CLCS PRACTICE

4.1 The table contained in annex I to this bulletin[3] presents a chronological list of all the Recommendations approved by the Commission on the Limits of the Continental Shelf that addressed the delineation of the 2,500 m isobath to determine the depth constraint and the relevant paragraphs and figures.

4.2 Relevant aspects of the Commission's practice:

a) All recommended 2,500 m depth points used to construct the depth constraint were based on measured bathymetric profiles.

b) The Commission agrees with the principle that any 2,500 m depth point located landward of the foot of the continental slope (FOS) conforms to the general configuration of the continental margin, and that this principle is in accordance with article 76 and paragraphs 4.4.1 and 4.4.2 of the Guidelines. It is noted that this principle has been cited and applied as per the annexed table.

c) Whenever a coastal States submits 2,500 m depth points located seaward of the FOS due to the characteristics of its continental margin, the Commission shall examine those points in accordance with paragraphs 4.4.1 and 4.4.2 of the Guidelines.

[3] The table contained in annex I will be updated as needed upon the approval of future Recommendations.

5. SUMMARY AND CONCLUSIONS

5.1 In the context of the examination of the depth constraint, the Commission applies the following with regard to submitted 2,500 m depth points based on measured bathymetric data:

a) Any 2,500 m depth point that is located landward of the FOS conforms to the general configuration of the continental margin. Such point may be applied in the construction of the depth constraint. This principle is in accordance with article 76 and paragraphs 4.4.1 and 4.4.2 of the Guidelines and has been consistently applied by the Commission.

b) Those 2,500 m depth points located seaward of the FOS and utilised to construct the depth constraint shall be examined in accordance with paragraphs 4.4.1 and 4.4.2 of the Guidelines in order to determine if they conform to the general configuration of the continental margin.

ANNEX I – CHRONOLOGICAL LIST OF RELEVANT RECOMMENDATIONS* – AS AT 14 NOVEMBER 2025

Submission	Date of Recommendations	Paragraphs	Figures	Principle cited	Principle applied but not cited
Australia (2004)	9 April 2008	Recommendations: 25, 77, 106, 145, 146, 170, 171, 215, and 216 Summary of Recommendations: 7, 65, 134	G.3, H.2, H.3, and I.4	Yes	
New Zealand (2006)	22 August 2008	Recommendations: 57, 81, 119, 144, 163, and 191	A.2, B.2, C.2, and D.2	Yes	
Norway - in respect of areas in the Arctic Ocean the Barents Sea and the Norwegian Sea (2006)	27 March 2009	Summary of Recommendations: 20, 73, 74, 75, and 76	6, 7, 11, and 12	Yes	
Mexico - in respect of the western polygon in the Gulf of Mexico (2007)	31 March 2009	Recommendations: 47 Summary of Recommendations: 47	13	Yes	
France - in respect of the areas of French Guiana and New Caledonia (2007)	2 September 2009	Summary of Recommendations: 66	9	Yes	
Joint submission by the Republic of Mauritius and the Republic of Seychelles - in the region of the Mascarene Plateau (2008)	30 March 2011	Recommendations: 68, and 69 Summary of Recommendations: 52, and 53	8	Yes	
France - in respect of the areas of the French Antilles and the Kerguelen Islands (2009)	19 April 2012	Summary of Recommendations: 79, and 80	21	Yes	
Argentina (2009)	11 March 2016	Recommendations: 87, and 88 Summary of Recommendations: 86, and 87	19, and 20		Yes

* Recommendations and Summaries of Recommendations are available at https://www.un.org/Depts/los/clcs_new/commission_submissions.htm

Submission	Date of Recommendations	Paragraphs	Figures	Principle cited	Principle applied but not cited
South Africa - in respect of the mainland of the territory of the Republic of South Africa (2009)	17 March 2017	Summary of Recommendations: 95	9		Yes
Joint submission by the Federated States of Micronesia, Papua New Guinea and Solomon Islands - concerning the Ontong Java Plateau (2009)	17 March 2017	Summary of Recommendations: 80, 81, and 82	12		Yes
Norway - in respect of Bouvetøya and Dronning Maud Land (2009)	8 February 2019	Summary of Recommendations: 70, and 71 Corrigendum to the Summary of Recommendations: 2	14, 18, and 19		Yes
Russian Federation - partial revised Submission in respect of the Arctic Ocean (2015)	6 February 2023	Summary of Recommendations: 107, and 113	15, and 16		Yes
Iceland - partial revised Submission in respect of the western, southern and south-eastern parts of the Reykjanes Ridge (2021)	12 March 2025	Summary of Recommendations: 103	28		Yes
Cook Islands - Revised submission concerning the Manihiki Plateau (2021)	1 August 2025	Summary of Recommendations: 105	24, 25		Yes