

**THE LEGAL REGIME OF THE CONTINENTAL SHELF
AND THE ESTABLISHMENT OF THE OUTER LIMITS
OF THE CONTINENTAL SHELF BEYOND THE 200
NAUTICAL MILES**

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Abstract

The United Nations Convention on the Law of the Sea contains a legal definition of the continental shelf, provides the rules which allow coastal states to claim continental shelves beyond 200 mile limit and the methods in order to establish their outer limits under specific conditions, and introduced a new international body: the Commission on the Limits of the Continental Shelf (art.76).

Article 76 paragraphs 4-7 established the operational methods and constraints for the purposes of delineating the continental shelf's outer limits beyond 200 nautical miles. The operational definition of the continental shelf applies only beyond the 200 nautical miles limit because it is primarily directed at defining the extent of the continental shelf beyond that limit.

The Commission is a body in charge of making sure that coastal States have applied article 76's technical and scientific requirements, assisting them in the process of delineation of its outer limits, and making recommendations based on article 76. Only if the coastal States take into account the recommendations from the CLCS, the outer limits of their continental shelf shall be final and binding.

The Convention provides that a coastal State shall make its submission to the Commission as soon as possible or within a 10-year period for after the date when the Convention enters in to force for that State. At the Eleventh Meeting of the State Parties of the Convention in 2001, the states parties decide that the ten-year time period would commence as of 13 May 1999, for those States that ratified the Convention before that date. In the last few years, submissions have increased dramatically.

This research wants to examine evolution of the legal regime of the Continental Shelf, the process of establishing the outer limits of the Continental Shelf and the role of the Commission on the Limits of the Continental Shelf in that process.

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Acronyms

CLCS - Commission on the limits of the Continental Shelf.

EEZ - Exclusive Economic Zone

ICJ - International Court of Justice

IMO - International Maritime Organization

ISA - International Seabed Authority

ITLOS - International Tribunal for the Law of the Sea

LOSC - Law of the Sea Convention on the Law of the Sea

UN - United Nations

UNCLOS I - First United Nations Conference on the Law of the Sea

UNCLOS II - Second United Nations Conference on the Law of the Sea

UNCLOS III - Third United Nations Conference on the Law of the Sea

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1. Introduction

”The issues concerning the continental shelf and its outer limits are among the central problems of the law of the sea”¹.

The United Nations Convention on the Law of the Sea that entered into force in 1994, established a legal regime for the continental shelf in its Part VI (art. 76 - 85) and its Annex II (together with Annex II of the Final Act) according to which coastal State may extend its rights to the continental shelf throughout the natural prolongation of the land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines.

Article 76 of the Convention provides that States may extend the outer limits of their continental shelf beyond the 200 nautical miles if certain physical circumstances exist, namely that the outer limits of the continental margin extends beyond that distance. In that case the coastal State has to follow the procedure regulated in Article 76 and Annex II to the Convention by making a submission to a technical institution created to the Convention: the Commission on the Limits of the Continental Shelf (CLCS)

This research wants to present a general perspective of the legal regime of the continental shelf and the process to establishment of its outer limits. In order to achieve that objective, this research is divided in four chapters. The first chapter will start with a review of the historical evolution of the definition of the continental shelf

¹ Ian Brownlie. Recommendations on the Limits of the continental shelf and related matters: a commentary. In: Lewis M. Alexander (ed.). The Law of the Sea: National Policy Recommendations. Proceedings of the Fourth Annual Conference of the Law of the Sea Institute, June 23 - 26, 1969. University of Rhode Island, Kingston, Rhode Island, 1970, p. 133.

since the XIX century until the adoption of the 1958 Convention on the Continental Shelf which introduced in its article 1 the first definition of the continental shelf. As we will see, the 1958 Convention defined the continental shelf in terms of exploitability as *the seabed and subsoil of the submarine areas adjacent to the coasts, outside the area of the territorial sea to a depth of 200 meters or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of natural resources in those areas.*

The second chapter will be related to the 1982 United Nations Convention on the Law of the Sea which is considered as one of the most important legal and political agreements adopted by the United Nations. The Convention modified the approach of the Geneva Convention and provided a legal definition of the continental shelf in article 76 which is based on the concept of the scientific continental margin.

In addition, we will developed all the aspects of the current regime of the continental contained in Part VI of the Convention which sets out the rules which regulate the exploration an exploitation of resources over the continental shelf, that entitled the States to lay submarine cables and pipelines on the continental shelf, that include provisions for contributions to be made by the coastal State in respect the exploitation of the nonliving resources of the continental shelf beyond 200 nautical miles, and also establish rules relating to delimitation of the continental shelf between State with opposite or adjacent coasts.

As John E. Noyes states, “knowing where a coastal state’s continental shelf outer limits are located allows coastal States and other international actors to determine the geographical area in which various international legal rights and responsibilities apply. The location of the outer limits of the continental shelf also raises an international community concern. The Area, which constitutes the “common heritage” of the humankind, begins where the continental shelf ends”².

² John E. Noyes. “Judicial and Arbitral Proceedings and the Outer Limits of the Continental Shelf”. *Vanderbilt Journal of Transnational Law*. Volume 42, No 4, October, 2009, p. 1225.

In the third chapter, we will present the operational methods and constraints (limits based on foot of slope plus 60 miles, limits based on foot of the slope and sediment thickness, limits based on 350 miles from the baseline or the 2500-m isobaths-plus-100 miles) for the purposes of delineating the continental shelf's outer limits beyond 200 nautical miles contained in Article 76 paragraphs 4-7 of the Convention.

According to Article 76, there are just two possible scenarios: first, when the continental shelf of a coastal state does not extend beyond 200 nautical miles measured from the baselines; and second, when the continental shelf extends beyond that limit. In the first case, the maximum distance that a coastal State can claim will be 200 nautical miles calculated from the baselines. In the second case, a coastal State that decides to delineate the outer limits of its continental shelf beyond the 200 nautical miles must follow the procedure provided for Article 76 in paragraph 8: the coastal State must present a submission to the CLCS in order that the outer limits of its continental shelf "*shall be final and binding*".

Finally, the last chapter of this research will focus on the CLCS which is technical body established by the Convention to verify the correct application of Article 76 on the outer limits of the continental shelf beyond 200 nautical miles measured from the baselines, to assist a coastal State in the process of delineation of their outer limits, and to make recommendations based on Article 76 about the outer limits proposed by a coastal State in its submission.

2. THE CONTINENTAL SHELF BEFORE THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA

2.1 The Legal Status, uses of the Seabed before 1945

2.1.1. The origin of the concept

During the XIXth century, the concept of continental shelf was only familiar to oceanographers and geologists. They established a relationship between coastal states and the resources of seabed and subsoil beyond territorial sea. As an example, Raynebal argued in 1803 on the basis of geological criteria that: *“le fond de la mer, le long des côtes, peut être considéré comme ayant fait partie du continent, et qu’il est pour cela considéré comme en faisant encure partie”*³. In addition, the first notion of continental shelf was given by the Spanish oceanographer, Odon de Buen who in 1918⁴ proposed to a National Congress of Fisheries, to *“d’ajouter a la mer territoriale une portion dans laquelle les especes les plus comestibles ont choisi de vivre”*⁵

For a long time, there was a theoretical distinction between the deep ocean floor and the continental shelf⁶, which was not an independent term. As an example, the British jurist Sir Cecil Hurst published in 1923 a pioneering article, entitled “Whose is the bed of the Sea?”, in which he concluded, essentially in relation to sedentary species, not in relation to minerals, *“that a state could make a claim to ownership of a portion of the continental shelf only where it could demonstrate effective and continuous occupation for a long period of time. He contemplated that this would usually be*

³ Gérard de Rayneval. *Institutions de droit de la Nature et des Gens*, Seconde Edition, Paris, An. XII, 1803, p. 161. See Martinis Willem Mouton. *The Continental Shelf* (The Hague: Martinus Nijhoff, 1952), p. 33.

⁴ José Luis Ascarraga y de Bustamante. *La plataforma submarina y el derecho internacional*. Instituto Francisco de Vitoria, Madrid, 1952, p.137

⁵ Charles Vallée. *Le Plateau Continental dans le droit positif actuel*, (Paris: Pedone, 1971), p. 26.

⁶ Tomas H. Heidar. *Legal Aspects in Continental Shelf Limits*. In: Myron H. Nordquist, John Norton Moore and Tomas H. Heidar. *Legal and Scientific Aspects of Continental Shelf Limits* (Leiden/Boston: Martinus Nijhoff Publishers, 2004), p. 20

*shown by exclusive exploitation of bottom species such as oysters, sponges, or coral”.*⁷

Besides, the Argentinian member of the Committee of Experts for the Progressive Codification of International Law in 1925-1926, José León Suárez, also referred to the continental shelf, in connection with the exploitation of the living resources of the sea (fishery).⁸ In fact, Suarez noted in 1918:

*“that what determined the presence of fishery resources was not distance from the coast but rather existence of the continental shelf; it was in this area that the needs of fish for food and appropriate light, temperature, and oxygen levels were met and, thus, it was there that the vast bulk of the fish was found. For fishery purposes, then, the continental shelf, the large parte of which was found beyond the territorial sea, was the key variable”*⁹.

In this context, it was fairly common practice in the first decades of XXth century for States to claim rights over the resources of the sea bed and subsoil in connection with two types of activities: exploitation of sedentary fisheries, and mining through tunnelling. The United Kingdom, as an example, adopted an ordinance on pearl and chank fishing of Ceylon in 1925 that supplemented a previous legislation applied since 1811; France established sponge fisheries in the Tunis Bay and oyster fisheries in the bay of Granville.¹⁰

⁷ Cecil J. B. Hurst, *Whose is the bed of the sea?*, 4 BYL 34 (1923) p. 43. Louis B. Sohn and John E. Jones, *Cases and Materials of the Law of the Sea*. (Ardsley, NY : Transnational Publishers, 2004). p. 495.

⁸ Rossene (ed.) *League of Nations Committee of Experts for the progressive Codification of International Law (1925-1928)*, II, Dobbs Ferry, 1972). Shabtai Rosenne. *The Reconciliation of the old and new law of the sea*, in Choon-ho Park. *The Law of the Sea in 1980s*, Law of the Sea Institute. University of Hawaii, 1983, p. 72

⁹ Lawrence Juda. *International Law and Ocean Use Management.: The evolution of ocean governance*. Ocean Management and Policy Series (London and New York: Routledge, 1996), p. 51.

¹⁰ Suzzete V. Suarez, *The Outer Limits of the Continental Shelf* (Max Planck Institute for Comparative Public Law and International Law in the series, Contributions on Comparative Public Law and International Law, 2008), p. 22.

Similarly, mining from the coast was one way of achieving effective occupation over seabed and subsoil, which was sufficient to give rights to States over their resources¹¹. For example, the United Kingdom claimed rights to all mines and minerals lying below low water under the open sea, adjacent to but not being part of the County of Cornwall through the Cornwall Submarines Act of 1858¹². These claims did not affect the legal regime of the high sea which allowed the freedoms of fishing and navigation in the superjacent waters.¹³

2.1.2. The historical evolution of the legal status of the continental shelf.

Russian Notification (September 20, 1916) and the Soviet Memorandum (November 4, 1924).

Historically, the first coastal State to look for recognition of its rights over the continental shelf was Russia, through a Notification made by the Czar Nicholas II in 1916. According to W. Latkthine, the Russian Minister of Foreign Affairs, B. Sturmer, on September 20, 1916, based on the discoveries made in the Artic regions by Russian Captain Vilkitski on behalf of the Russian Empire in the years 1913 - 1914, notified:

“the governments of all the allied and friendly Powers of the fact that Vilkitski Island, the land of the Czar Nicholas II, the island of the Tsesarevitsh Alexsei, Starokadomski and Novopashenni had been incorporated within the territory of the Russian Empire, as well as the islands Henriette, Jeanette, Bennet, Herald and Quedinenie, which, together with the islands of New Siberia, Wrangler, and other situated near to Asian coast of the Empire, form a northern extension of the Siberian continental upland”¹⁴.

¹¹ Robin Rolf Churchill and Alan Vaughan Lowe. *The Law of the Sea* (New Hampshire: Manchester University Press, 1983) p. 109

¹² Cornwall Submarine Act, 1958.

¹³ Churchill and Alan Vaughan, *op. cit.*, p. 109.

¹⁴ The text of the from the Embassy of the Russian Empire to the Spanish Government, Madrid, October 25th, 1916. See W. Lakhtine, “Rights over the Artic “, *The American Journal of International Law*, Vol. 24, No. 4 (Oct., 1930), p. 708.

In addition, the same Notification reaffirmed the rights of the Russian Empire over a group of small islands located near to the coast (Novaia Zembla, Kolgonev and Waigatha) which had been recognized by the international community as a part of its territory per decades¹⁵.

After the Russian civil war and revolutionary period, in order to give a new legal protection for its islands, the Peoples Commissariat for Foreign Affairs of the U. S. S. R. replaced the notification of 1916 and avoided attempts to appropriate these territories by other foreign Powers, by addressing on November 4, 1924¹⁶, a special memorandum to the governments of all States, repeating in general the purpose of the previous notification and establishing the eastern boundaries between Russia and the United States of America fixed by the Washington Convention of March 30, 1867.¹⁷

Hague Codification Conference (March 3 – April 12, 1930)

Under the auspices of the League of Nations, the Hague Codification Conference of 1930 was organized as the first great attempt at codification in peace times¹⁸, in which 45 countries were represented in the Conference. And as Churchill and Lowe observe, during the period heading up to the Conference “*it was generally accepted that possession of a territorial sea gave on the coastal State proprietary rights over the resources of that sea, including its bed and subsoil*”¹⁹.

The Assembly of the League of Nations adopted a Resolution on 22 September of 1924 which created a Committee of Experts to “prepare a provisional list of the

¹⁵ *Ibidem*.

¹⁶ W. Lakhtine, *ibid.*, p. 708.

¹⁷ Shabtai Rosenne says that after 1924, this memorandum lost importance to the Soviet Government which preferred to focus its practice in defending particular claims. See Shabtai Rosenne. *The reconciliation of the old and the new law of the sea*. In: Choon-Ho Park. *The Law of the Sea in the 1980s*. (EEUU: Law of the sea institute - University of Hawaii, 1983), p.75

¹⁸ Juan Antonio Carrillo Salcedo. *Curso de Derecho Internacional Público* (Madrid: Tecnos, 1994) p. 270.

¹⁹ Churchil and Lowe, *ibid.*, p. 109.

subjects of International Law the regulation of which by international agreement would seem to be most desirable and realisable at the present moment...”²⁰.

With this mandate, the Committee of Experts decided to focus on an old and controversial topic, such as the size and limits of the territorial waters, in order to establish a first step before determining or defining a legal regime for others maritime areas and the limits for activities of fisheries and mining.

However, the main doctrinal discussion during the conference took place in the second commission in charge of territorial waters and “the question of jurisdiction and property rights over marine resources was proposed by examination by the Hague conference, but not discussed...”²¹. Thus, this Conference was only indirectly relevant for the development of the regime of the continental shelf.

Unfortunately, the Hague Conference failed because of its inability to find final agreement on the breadth of the territorial waters²². Later, the worldwide economic depression of the 1930s and the beginning of the World War II precluded new initiatives of codification of the legal regime for marines spaces based on an international consensus. As a result, a period of unilateral statements and bilateral agreements between States started and “*gradually altered the legal status of the continental shelf from being part of the high seas and available for exploitation by all states until its current recognition as exclusive to the coastal state*”²³.

²⁰ Resolution adopted by the Fifth Assembly of the League of Nations dated 22 September 1924. In: 20 American Journal of International Law (1926), Special Number, p. 2-3.

²¹ Churchil and Lowe, *op. cit.*, p. 110.

²² Although the work of the Conference was recognized as a contribution by the International Law Commission in the following terms: “*The Commission was assisted by the work done at the Conference for the Codification of International Law held at The Hague in March and April 1930, which had amongst other subjects considered the regime of the territorial sea. Owing to differences of opinion concerning the extent of the territorial sea, it had proved impossible to conclude a convention relating to this question; nevertheless, the reports and preparatory studies of that Conference were a valuable basis on which the Commission has largely relied*” .See Yearbook of International Law Commission (1954) Vol II A/2693, 152, para 56.

²³ Malcolm N. Shaw. *International Law* (United Kingdom: Cambridge University Press, 2003), p. 522

Anglo-Venezuelan Treaty of the Gulf of Paria (February 26, 1942).

In 1942, the United Kingdom, on behalf of Trinidad and Venezuela signed in Caracas a treaty “to make provision for and to define as between themselves their respective interests in the submarine areas of the Gulf of Paria”, which separated the British Island of Trinidad from the mainland of Venezuela outside their territorial waters.

At this point, it is necessary to say that this treaty marked a departure from earlier State practice. Even though the treaty referred only to “submarine areas” and the term “continental shelf” was not used, there was a direct reference of it in art. 1 which read “*submarine areas of the Gulf of Paria denotes the sea-bed and sub-soil outside of the territorial waters*”. In this way as Churchill and Lowe noted, this treaty was relevant because it divided the continental shelf as a new marine space before the continental shelf was legally defined²⁴.

According to articles 2 and 3 of the Treaty, the parties “set out what was in effect a modified median line boundary”²⁵ to divide the gulf in two sections and to establish their respective spheres of interest: in the first one, the United Kingdom agreed not to claim to sovereignty or control and to recognize any rights of sovereignty or control lawfully acquired hereafter by Venezuela; and Venezuela gave a similar recognition of rights to the United Kingdom in the other section of the gulf.

Therefore, as Shallowitz stated: “*the treaty was not an assertion of jurisdiction by either party over the continental shelf but rather an agreement by each party not to claim rights in the submarine areas on the other side of the dividing line between countries*”²⁶. In fact, it seems clear that the treaty does not assert sovereignty which “still had to arise from occupation”²⁷. The treaty encourages the parties to claim and occupy legally some parts of the seabed, because as Jewett comments, the “*automatic*

²⁴ Churchil and Lowe, *op. cit.*, p. 110.

²⁵ M. L. Jeweet. “The Evolution of the Legal Regime of the Continental Shelf” 22 *Canadian Year book of International Law*, 1984, p. 162.

²⁶ Aaron L. Shalowitz. *Shores and Sea Boundaries with special reference to the interpretation and use of coast and geodetic survey data.* in Vol 1. (Washington D.C.: U.S. Department of Commerce, 1962), p. 187.

²⁷ Churchil and Lowe, *op. cit.*, p. 110.

attachment of the shelf to the coastal state, ownership by inherent rights (...), was in no way assumed”²⁸.

Additionally, the Treaty established some limits to the parties: first, that the Treaty is just applicable to the Gulf of Paria outside the territorial waters and does not affect the status of islands, islets or rocks above the surface of the sea (art. 5); second, does not affect the rights of passage or navigation outside the territorial waters (art.6); and third, it does not allow any works or installations erected if they close, impede the navigation or constitute a danger or obstruction to shipping (art. 6).

Finally, the treaty considers some rules related to the exploitation of any submarine areas in the gulf: according to the first one, each contracting parties must take the most effective measures to prevent any kind of pollution or contamination by oil, mud, any fluid or substance in the territorial waters of the other (art. 7); and the second one, each contracting parties which is inserted in any concession for the exploitation of submarine area in the gulf, must ensure that the operation of the concession respect the stipulations provided by articles 6 and 7, including the requirement for the concessionaire to use modern equipment during their activities.

2.2. The 1945 Truman Proclamation and other Unilateral State Declarations.

Immediately after the Second War, as a consequence of the lack of an agreement achieved by the international society in order to establish a legal regime which provides rights of control and jurisdiction to the States over the oceans, many of them started to claim rights over the marine space next to their coasts. In fact, Mounon refers to this period as the *age of the continental shelf*, because in some States, documents and publications and discussions referred to what we now consider as continental shelf as “submerged land”, and this term was used to strengthen the thesis

²⁸ M. L. Jeweet, *op. cit.*, p. 163.

that a State was able to claim control and jurisdiction over the resources in the shelf, or even sovereignty over the shelf²⁹.

Ironically, this practice was influenced by the government of the United States of America, who later became the greatest opponent of unilateral claims over the oceans.³⁰ Thus, on September 28, 1945, the U.S. President Harry S. Truman “gave birth to the modern concept of continental shelf”³¹ when he issued Proclamation No. 2667, commonly known as the “Truman Proclamation”, announcing the policy of his government with respect to the natural resources of the seabed and subsoil of the continental shelf. In fact, the proclamation stated its general purpose in these terms:

“The Government of the United States regards the natural resources of the subsoil and sea bed of the continental shelf beneath the high seas but contiguous to the coasts of the United States as appertaining to the United States, subject of its jurisdiction and control”³².

According to the Proclamation, the Government of the United States of America took this “reasonable and just” measure based on its necessities of new supplies of offshore petroleum and other minerals. This measure was based on the precept that consider that these resources were located over and along the continental shelf of United States of America beyond the territorial sea limits, which at this time extended up to 3 miles. In other words the Proclamation was based on the idea of “contiguity”.

About the reasons which motivated the Proclamation, Shaw noted that the U.S Government considered that each coastal State was entitled to jurisdiction over those resources....:

²⁹ Martinis Willem Mouton. *The Continental Shelf*, The Hague: M. Nijhoff, 1952, p. 34.

³⁰ Ken Booth. *Law, Force and Diplomacy at Sea* (London: George Allen&Unwin, 1985), p.16

³¹ Suzette Suarez, *op. cit.*, p. 25.

³² A. V. Lowe and S.A.G. Talhom. *The Legal Order of the Oceans Basic Documents on the Law of the sea. (Oxford and Portland, Oregon: Hart Publishing, 2009)*, p. 19.

*“first, because utilization or conservation of the resources of the subsoil and seabed of the continental shelf depended upon co-operation from the shore; secondly, because the shelf itself could be regarded as an extension of the land mass of the coastal state, and its resources were often merely an extension into the sea of deposits lying within the territory; and finally, because the coastal state, for reasons of security, was profoundly interested in activities off its shores which would be necessary to utilise the resources of the shelf”*³³.

The Truman Proclamation as any unilateral action, had a multilateral aspect³⁴, for example, it broke the traditional vision which considered the ocean as a space reduced to only two maritime zones: territorial waters and high seas.

Different interpretations exist with regard to the legal meaning of the Proclamation. According to some, it was designed to achieve a new acquisition. Others believed that it asserted pre-existing rights in favor the U.S government. According to M.L. Jewitt, the answer can be found in the United States practice which demonstrated how the United States “was consciously moving towards a new policy and a new theory”³⁵. Whereas in 1918 the United States Department of State had asserted: *“The United States has no jurisdiction over the ocean bottom of the Gulf of Mexico beyond the territorial waters adjacent to the coast”*³⁶, in 1945, the U.S. Secretary of Interior in his Annual Report referred to the Truman Proclamation as an “acquisition”, saying “We have acquired jurisdiction over the Continental Shelf...” and further referred to “this new acquisition...”³⁷.

³³ Malcolm N. Shaw. *International Law* (United Kingdom: Cambridge University Press, 2003), p. 522.

³⁴ Ian Brownlie. *Recommendations on the Limits of the continental shelf and related matters: a commentary*. In: Lewis M. Alexander (ed.). *The Law of the Sea: National Policy Recommendations. Proceedings of the Fourth Annual Conference of the Law of the Sea Institute, June 23 - 26, 1969*. Kingston, (Rhode Island: University of Rhode Island, 1970), p. 133.

³⁵ M. L. Jewett. “The Evolution of the Legal Regime of the Continental Shelf” 22 *Canadian Year book of International Law*, 1984, p. 159

³⁶ *Ibidem*.

³⁷ United States, Annual Report of the Secretary of the Interior, 1945, PP. vi, ix-x., See, M. L. Jewett. *op. cit.*, p. 159. The proclamation also caused a conflict in domestic politics of the United States. As Suarez refers, in 1945, there were at least three states (California, Louisiana and Texas) in the United States federation that exercised jurisdiction over the seabed beyond the 3 mile-limit of the territorial waters of the United States, in a clear opposition to the federal government and its proclamation. All

The Truman Proclamation was an important step in the evolution of the legal regime of the continental shelf and the first unilateral claim by a major maritime power³⁸. Other States did not and could not react against the proclamation, on the contrary, the majority of them, preferred to focus on the advantages of it, especially, those States that have long stretches of continental shelf.³⁹

The proclamation was followed by similar claims on the part of many other States. By 1956, approximately twenty-five states had unilaterally claimed exclusive coastal control over mineral resources in the adjacent continental shelf or over the shelf as such in terms of “sovereignty” or “jurisdiction”⁴⁰. As McDougal and Burke noted, this number of diverging claims expressed “universal consensus on the desirability of exclusive coastal control, coupled with the lack of protest in relation to the control over mineral resources”⁴¹.

However, the changes in the early practice of States outlined in section 2.1.2-2.2.above did not give rise to establish customary rule of the international law. For instance, Lord Asquith, in the arbitration between the Petroleum Development Ltd and the Sheik of Abu Dhabi in 1951 declared his inability to agree that the doctrine of the continental shelf was already part of the international law⁴².

the cases were subsequently referred to the United States Supreme Court where the United States federal government reiterated and strengthened its position, which was that the issue was international and not domestic. See *Suzete V. Suarez, The Outer Limits of the Continental Shelf* (Max Planck Institute for Comparative Public Law and International Law in the series, Contributions on Comparative Public Law and International Law, 2008), p. 27.

³⁸ Barry E. Carter and Philip R. Trimble. *International Law*. (Nueva York: Aspen Law&Business, 1990), p. 967

³⁹ Enrique García Sayán. “La Doctrina de las 200 millas y el Derecho del Mar”. *Revista Derecho PUCP*, (Nº32, 1974), p.13.

⁴⁰ Myres McDougal and William Burke. *Public Order of the Oceans: A Contemporary International Law of the Sea* (New Haven, CT: Yale University Press. 1962) p. 637.

⁴¹ *Idem*.

⁴² McDougal and Burke, *op. cit.*, p. 639.

2.3. Codification Work of the United Nations Convention on the Continental Shelf

On November 21, 1947, the United Nations, founded two years before to replace the League of Nations, which had been established the International Law Commission by Resolution No 174 of its General Assembly, to continue the codification work of the Committee of Experts of the League of Nations interrupted during the Second World War II. The following subsections will introduce the work of the ILC related with the Continental Shelf, and all the aspects considered in the first and second United Nations Conference of the Law of the Sea.

2. 3.1. The work of the International Law Commission (1949-1956)

In 1949, the ILC at its first session appointed professor J.P.A. François as special Rapporteur to study the regime of the high seas as one of the topics selected by the ILC from a provisional list⁴³. In his first Report of 1950, professor François, included a section on the continental shelf as a sub-topic of the regime of the high sea and posed the following question to be discussed:

*Le droit international reconnaît-il le principe que le contrôle et la juridiction, ou même la souverainete, en ce qui concerne le sol et le sous-sol du plateau continental, ainsi que des eaux au-dessus de ce plateau, au-delà des eaux territoriales, reviennent à l'Etat riverain?*⁴⁴

However, the ILC had to face a new international situation, where the number of claims by States over the continental shelf was increasing. As a result, the ILC noticed the necessity of a legal regime which establishes that a “coastal nation exercises sovereign rights over the shelf for the purpose of exploring and exploiting its natural resources”⁴⁵.

⁴³ M. L. Jewett. “The Evolution of the Legal Regime of the Continental Shelf” 22 Canadian Year book of International Law, 1984, p. 164.

⁴⁴ Yearbook of the International Law Commission, vol.2, (1950), p. 50.

⁴⁵ Aaron L. Shalowitz. *Shores and Sea Boundaries with special reference to the interpretation and use of coast and geodetic survey data.* in Vol 1. (Washington D.C.: U.S. Department of Commerce, 1962), p. 188.

The legal basis used by the ILC to recognize rights of the coastal states over the continental shelf, was not the doctrine of *res communis* (the property of all the nations) or the doctrine of *res nullius* (the property of no one and therefore capable of being appropriated by the first occupier). On the contrary, ILC adopted the doctrine of the *ipso iure* (by the law itself) that provided rights to states which are independent of occupation, actual or fictional, and of any formal assertion of such rights⁴⁶ and stated that the 200 metre isobath was the limit of the geological continental shelf and “that technology at that time was capable of exploiting the shelf up to this depth”⁴⁷

The work of the ILC started in 1949 and one of the most controversial issues during the discussion of the ILC concerned the definition of the continental shelf. At the end of its third session in 1951, professor J.P.A. François submitted the first draft of articles related to the continental shelf. Article 1 proposed a legal definition of the continental shelf based “on the geographical unity of the submerged areas with the non submerged contiguous land” and an exploitability criterion⁴⁸, which included all the sea bed contiguous to the coastal state in the followed terms:

*“the ‘continental shelf’ refers to the sea bed and subsoil of the submarine areas contiguous to the coast, but outside the area of territorial waters, where the depth of the superjacent waters admits of the exploitation of the natural resources of the sea bed and subsoil”*⁴⁹

In 1953, the ILC replaced the exploitability criterion with the 200 metre isobath to mark the end of state jurisdiction to exploit resources of the sea bed.

However, taking into account the resolutions of the Inter-American Specialised Conference on Conservation of Natural Resources, held at Ciudad Trujillo, Dominican Republic, in 1956; the ILC established a dual criterion that reintroduced

⁴⁶ Aaron L. Shalowitz, *op. cit.*, p. 190

⁴⁷ Suzzete V. Suarez, *op. cit.*, p. 32

⁴⁸ Aaron L. Shalowitz, *op. cit.*, p. 190.

⁴⁹ See: Report of the International Law Commission Covering the Third Session May 16-July 27, 1951, U. N. General Assembly, Official Records, 6th Sess., Supp. No9, Doc. A/1858.

the exploitability criterion with the 200 metre isobath limit⁵⁰. Considering the limits of the geological shelf and the recent technology which at that time made it possible to exploit the resources of the shelf up to this depth. In addition, the ILC recognized the rights of States without a geological continental shelf over submarine areas up to the same limit of 200 metres of depth.

2.3.2. The First and Second United Nations Conferences on the Law of the Sea

In 1958, the ILC addressed its final report to the United Nations General Assembly. Following a thorough consideration of this report, General Assembly by Resolution No. 1105 (XI), requested to the Secretary- General of the United Nations to organize the First United Nations Conference on the law of the sea (UNCLOS I), which took place in Geneva from 24 February to 27 April of 1958, with the participation of 86 States and some international organizations⁵¹.

During UNCLOS I, the decision of the conference to deal with all the aspect of the law of the sea, the majority of them closely interdependent, made it “extremely difficult to deal with only one part and leave the others aside”⁵² As a result, there was not just a single convention as was submitted by the ILC, on the contrary, the UNCLOS I adopted four conventions: the Convention on the Territorial Sea and Contiguous Zone, the Convention on the High Seas, the Convention on Fishing and Conservation of the Living Resources of the High Seas and the Convention on the Continental Shelf. The draft of the International Law Commission relating to the continental shelf was adopted with some relatively minor changes.

⁵⁰ Robin Rolf Churchill and Alan Vaughan Lowe. *The Law of the Sea* (New Hampshire: Manchester University Press, 1983) p. 112.

⁵¹ For example, one of the regional organizations that participated during the Conferencia was the Permanent Commission for the South Pacific, created by Chile, Ecuador and Peru in 1952. *Vid.* Juan Miguel Bákula, *El Dominio Marítimo del Perú* (Lima: Fundación M. J. Bustamante De la Fuente, 1985), p. 117.

⁵² Shabtai Rossene. *The reconciliation of the old and the new law of the sea*. In: *The Law of the Sea in the 1980s*. (Hawaii.:Law of the Sea Institute, 1983), p. 78.

2.3.3. The 1958 Convention on the Continental Shelf.

In particular, the definition of the continental shelf contained in article 1 of the 1958 Convention on the Continental Shelf was adopted with minor changes to the language contained in Article 67 of the ILC's report. For instance, the term continental shelf was specifically extended to include the seabed and subsoil of submarine areas adjacent to the coasts of islands. As a result, a State composed of one or more islands has exclusive rights to exploit the seabed and subsoil of its insular shelf or shelves.

At the end of the Conference, States could become party of just one of the four conventions and not necessarily be part of all of them⁵³. This mechanism of becoming party produced later "serious doubts about the value of the whole work of the conference,"⁵⁴

The exploitability criterion, "the strength and weakness of the 1958 Convention"⁵⁵, was criticized by a number of governments as lacking precision, vague, and subject to different interpretations"⁵⁶. However, it was finally adopted in order not to hamper states who might acquire scientific advantages and technology in the future to exploit the continental shelf beyond 200 metres"⁵⁷; and it became part of the dual approach to establish the outer limits of the continental shelf that include the 200 metres, as an alternative limit, because "it was a fairly accurate statement of the limits to which it was technically possible to drill in 1958"⁵⁸.

⁵³ Months later, the General Assembly convened by UN resolution N° 1307 of December 10, 1958, a Second Conference on the Law of the Sea. UNCLOS II took place between March 17 and April 26, 1960, and even the modest expectations of the 88 participating States, failed to take up issues that were pending in 1958, being the most important of them, the issue concerning the determination of a uniform breadth for the territorial sea, however, the conference ended without agreement on this issue.

⁵⁴ Alejandro Rodríguez Carrión, *Lecciones de Derecho Internacional Público* (Madrid: Tecnos, 2001), p. 460

⁵⁵ Suzzete V. Suarez, *The Outer Limits of the Continental Shelf* (Max Planck Institute for Comparative Public Law and International Law in the series, Contributions on Comparative Public Law and International Law, 2008), p. 34

⁵⁶ See D.W Bowett, *The Law of the Sea*. Frome-London: Manchester University Press, 1967, p. 34. For instance, Bowett stated the exploitability criterion could lead to extravagant State's claims or that the claimant State could have to show that the exploitation under the terms of article 1, was feasible.

⁵⁷ Janusz Symodes, *op. cit.*, p. 872

⁵⁸ D.W Bowett, *The Law of the Sea*. Frome-London: Manchester University Press, 1967, p. 34.

Article 1 of the 1958 Convention stated that “the term continental shelf” is used as referring: (a) the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas; (b) to the seabed and subsoil of similar submarine areas adjacent to the coasts of islands”.

The 1958 Convention contained 15 articles and introduced the first legal definition of the continental shelf. As Symodes observed, “the participants in the work on the convention had no relevant customary norm at their disposal,...(the 1958 Convention) constituted rather a step in the gradual development of international law than a codifying set of rules”⁵⁹.

The 1958 Convention established in article 2 the sovereign rights of a coastal State over its continental shelf for the purpose of exploring it and exploiting its natural resources. In addition, three new paragraphs were added to the Commission’s original text (ILC’s Article 68):

2. The rights referred to in paragraph 1 of this article are exclusive in the sense that if the coastal State does not explore the continental shelf or exploit its natural resources, no one may undertake these activities, or make a claim to the continental shelf, without the express consent of the coastal State.

3. The rights of the coastal State over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation.

4. The natural resources referred to in these articles consist of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil.

⁵⁹ Janusz Symodes. *The Continental Shelf*. In: Mohammed Bedjaoui (ed.), *International Law: Achievements and prospects* (Paris: UNESCO, 1991), p. 872

Paragraphs 2 and 3, recognized that a coastal State's rights over its continental shelf are *per se* exclusive and do not require acquisition by occupation, or on any explicit statement. Moreover, those rights did not affect the legal status of the superjacent waters; however the same rights are related to two specific activities: the exploration and the exploitation of natural resources which are defined in art. 2, paragraph 4 of the Convention as "the minerals and other non-living resources of the sea-bed and subsoil together with living organisms belonging to sedentary species..."

It should be noted that, the ILC draft of 1951 just referred to the exploitation of mineral resources over the continental shelf. It was in 1953, that the article was changed including the reference to sedentary fisheries respecting existing rights of nationals of other states.

During UNCLOS I, article 2, paragraph 4 was the subject of debate between developed and developing countries. The first group of countries favoured a concept of natural resources that would exclude living resources "since these, from the very nature of the things, appertained to the resources of the high seas with the freedom of fishing"⁶⁰. The developing countries considered that the proposal would be the origin of future disputes and fishing conflicts, consequently, they were against the proposal. Finally, the Conference omitted that proposal and recognized exclusive rights over the natural resources.

Article 2, paragraph 4 stipulated that "natural resources" consist of the "mineral and other non-living resources". The text adopted was criticized by States because it included "mineral resources" within the concept of "natural resources". Also, D.W Bowett stated the inclusion of "sedimentary living organisms" produced doubts and criticism "since it has been felt that to distinguish these from the other forms of fisheries - which on the High Seas are *prima facie* available to all - is highly artificial"⁶¹. In that sense, according to the same author, art. 2, paragraph 4, could be

⁶⁰ Janusz Symodes, *op. cit.*, p. 873.

⁶¹ D.W Bowett, *op.cit.*, p. 35.

considered “just one more way of giving the coastal State exclusive claims to fishery resources⁶²”.

On the other hand, there were not objection against article 3 which stated that the rights of the coastal States over the continental shelf did not affect the legal status of the superjacent waters, as appertaining to the high seas, or of the air space above those waters:

Article 3

The rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters as high seas, or that of the airspace above those waters.

In addition, Article 4 established that State’s rights to explore and exploit may not interfere the laying or maintenance of submarine cables or pipelines on the continental shelf:

Article 4

Subject to its right to take reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources, the coastal State may not impede the laying or maintenance of submarine cables or pipelines on the continental shelf.

In a similar sense, Article 7 made it clear that nothing in the Convention prejudices the right of a coastal State to explore and exploit the natural resources of submarine areas by tunnels driven from the land:

Article 7

The provisions of these articles shall not prejudice the right of the coastal State to exploit the subsoil by means of tunnelling irrespective of the depth of water above the subsoil.

⁶² *Ibidem.*

Article 5 of the Convention provided that subject to other provisions of paragraphs 1 and 6 of that article, the coastal State “is entitled to construct and maintain or operate installation and other devices necessary for the exploration and exploitation of the natural resources”(paragraph 2) of its continental shelf. The Convention specified that those installations did not have the status of islands or possess territorial sea. Besides, the Convention allowed coastal States to establish safety zones around the installations and to take the measures necessary to protect them:

Article 5

1. The exploration of the continental shelf and the exploitation of its natural resources must not result in any unjustifiable interference with navigation, fishing or the conservation of the living resources of the sea, nor result in any interference with fundamental oceanographic or other scientific research carried out with the intention of open publication.

2. Subject to the provisions of paragraphs 1 and 6 of this article, the coastal State is entitled to construct and maintain or operate on the continental shelf installations and other devices necessary for its exploration and the exploitation of its natural resources, and to establish safety zones around such installations and devices and to take in those zones measures necessary for their protection.

3. The safety zones referred to in paragraph 2 of this article may extend to a distance of 500 metres around the installations and other devices which have been erected, measured from each point of their outer edge. Ships of all nationalities must respect these safety zones.

4. Such installations and devices, though under the jurisdiction of the coastal State, do not possess the status of islands. They have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea of the coastal State.

5. Due notice must be given of the construction of any such installations, and permanent means for giving warning of their presence must be maintained. Any installations which are abandoned or disused must be entirely removed.

6. Neither the installations or devices, nor the safety zones around them, may be established where interference may be caused to the use of recognized sea lanes essential to international navigation.

7. The coastal State is obliged to undertake, in the safety zones, all appropriate measures for the protection of the living resources of the sea from harmful agents.

8. The consent of the coastal State shall be obtained in respect of any research concerning the continental shelf and undertaken there. Nevertheless, the coastal State shall not normally withhold its consent if the request is submitted by a qualified institution with a view to purely scientific research into the physical or biological characteristics of the continental shelf, subject to the proviso that the coastal State shall have the right, if it so desires, to participate or to be represented in the research, and that in any event the results shall be published.

The 1958 Convention established in article 6 a method of maritime delimitation when a physical continental shelf is shared between opposite and adjacent States. This method is based on a median or equidistance line from the nearest points from which the breadth of the territorial sea of a state is measured. This line is also subject to the existence of the special circumstances (equidistance-special circumstance rule):

In short, UNCLOS I was successful in producing four conventions of international law of the sea. Unfortunately, the impact of these conventions was limited due some particular reasons⁶³: 1) Besides developing some new criteria about the use of some maritime zones such as the continental shelf, they mostly codified existing rules which means that they were based in the past rather than current State practice, 2) The conventions entered into force between 1962 and 1966, a period of time when the international political, scientific and technological situation was dramatically changing.

The Convention on the Continental Shelf was approved by the Conference by the vote of 57 in favour, 3 opposed, and 8 abstentions; and is not universally binding. The Convention entered into force on September 10, 1964. Even though, it still has legal effects for States parties to it that are not part of the 1982 United Nations Convention of the Law of the Sea (which prevails over).

⁶³ Peter J. Cook and Chris M. Carleton (Ed). Continental shelf limits: the scientific and legal interface. Nueva York:Oxford University Press, 2000. p. 8.

3. THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA: THE NEW JURIDICAL REGIME OF THE CONTINENTAL SHELF

3.1. The Third United Nations Conference of the Law of the Sea

The progress in science and technology during the 1960s determined a change in the general perspective of the uses of the sea, especially related with regard to the mineral resources such as the manganese and polymetallic nodules which had been discovered in the deep sea and to the potential economical benefits that could be derived.

Ambassador Arvid Pardo of Malta, advocated in front of the United Nations General Assembly that the mineral resources of the seabed beyond the limits of national jurisdiction must be considered “common heritage of the mankind” on September 1, 1967⁶⁴.

In addition, as a result of the second phase of decolonization process in Africa and Asia, new States appeared in the international system which challenged the old regime of the Geneva Conventions of 1958, “in whose drafting they did not participate and that they considered against their interests and aspirations”⁶⁵.

In this context, the General Assembly convened the Third United Nations Conference on the Law of the Sea (UNCLOS III) by resolution 2750 (XXV) in 1970. The Conference began on 15 March 1973, with the participation of representatives of 160 States, as well as a number of governmental and nongovernmental organizations.

⁶⁴ This initiative started the international movement that considered essential to hold a new conference on the Law of the Sea in the early 70's. See Julio D. González Campos, *Derecho Internacional Público* (Madrid: Civitas, 1999) p. 598.

⁶⁵ José Antonio Pastor Ridruejo, *Curso de Derecho Internacional y Organismos Internacionales* (Madrid: Tecnos, 2008) p. 344.

This Conference differed from the previous ones under several aspects:

- I) The 1958 Conference was convened after more than six years of preparations.
- II) Before the Conference, there was a draft prepared by experts, reviewed by them several times, and also reviewed by governments which provided comments.
- III) The Geneva Conventions were declaratory of existing law; in so far as States developed new law⁶⁶, such as the regime of the continental shelf.

UNCLOS III was different:

- I) There was not a single draft before to start the Conference.
- II) There were many States which were represented and divided in committees (a) sea bed, b) main issues of the law of the sea and, c) the preservation of the marine environment and scientific research) and working groups which made it more difficult to achieve agreement.
- III) Many and complex issues were negotiated (covering about 100 separate items)⁶⁷.
- IV) This Conference took place during more than a decade and was "a mirror of an equal international society"⁶⁸, in which developed and developing States were forced to reach compromises. For instance, since the beginning of the Conference, the developed States "wanted a conference to address specific aspects that interested them such as the limits of the territorial sea and the freedom of navigation, on the contrary, developing States opted for a global conference, which comprehensively covers all aspects related to the ocean"⁶⁹. The victory the

⁶⁶ Louis Henkin. *Old Politics and New Directions*. In: Robin Churchill, K.R. Simmonds and Jane Welch (ed.). *New Directions in the Law of the sea*. Collected Papers – Volume III (London: the British Institute of International and Comparative Law, 1973), p.3

⁶⁷ Edward Milles. *An Interpretation of the Caracas Proceedings*. In: *Law of the Sea: Caracas and Beyond: Proceedings* (Kingston, Rhode Island: Law of the Sea Institute, 1975), p. 41

⁶⁸ Juan Miguel Bákula. "*El Dominio Marítimo del Perú*". Lima: Fundación M. J. Bustamante De la Fuente, 1985. p.107.

⁶⁹ However, because of the complexity of the issues, were not very rigid state blocks (between the developed and developing States). See: Francisco Orrego Vicuña. *El Estado Actual de las negociaciones en la Tercera Conferencia de las Naciones Unidas sobre el Derecho del Mar*. In: *Quinto Curso de Derecho Internacional Organizado por el Comité Jurídico Interamericano* (Washington D.C.: Secretaría General de la Organización de los Estados Americanos, 1979), p. 374.

second approach produced a long process of the negotiations related to all the issues related to the sea”⁷⁰.

V) The Conference adopted a procedure of the negotiation with two characteristics which were relevant to its success:

- **The consensus.** Unlike unanimity which requires the affirmative vote of all negotiating states, “consensus simply requires that there is a very considerable convergence of opinions and the absence of any delegations in strong disagreement”⁷¹. During the Conference, there were certain conflicting interests which had to be reconciled: on the one hand, the security interest of coastal States and the need to protect the mainly resource-oriented interests of developing coastal States and on the other hand, the necessity of preserving the freedom of navigation of ships and aircraft⁷². By having to proceed on the basis of consensus, many States did not try to impose their national interests during the Conference.

- **The "package deal" approach.** This negotiation principle meant that States manage all the issues of the ocean as a unit. This meant that there was criterion of indivisibility of all issues related to ocean space during the conference which prevailed during the negotiation process, consequently, the Convention was adopted as "a whole".

After eleven sessions, the Conference approved the final text amended by the drafting committee on September 24, 1982 and the United Nations Convention on the Law of the Sea was signed by 59 states in Montego Bay, Jamaica, on December 10, 1982.

⁷⁰ Eduardo Ferrero Costa, *El Perú, la Convención y el Derecho del Mar*. In: Academia Diplomática del Perú., *El Derecho del Mar*, (Lima: Fundación Academia Diplomática del Perú, 1984) p. 82.

⁷¹ Daniel Vignes, "Will the Third Conference on the Law of the Sea Work According to Consensus Rule?" *American Journal of International Law*, ASIL, 69, 1975, p. 124.

⁷² Satya Nandan. Introduction to the Law of the Sea. In: Mohammed Bedjaoui (ed.), *International Law: Achievements and prospects* (París: UNESCO, 1991), p. 839

3.2. The United Nations Convention of the Law of the Sea

The United Nations Convention on Law of the Sea (UNCLOS), often referred to as "the Constitution of the Oceans,"⁷³ is one of the most important legal and political agreements adopted under the auspices of the United Nations⁷⁴ which established in its 320 articles and nine annexes, a new internationally recognized regime in order to regulate all aspects of the oceans. It has received "almost global acceptance"⁷⁵ having 162 States parties.

The Convention was opened to signature in 1982. However, the opposition of the majority of developed countries about the text of the Convention related to the exploitation of the Area, delayed the Convention's entry into force.

In 1990, at the initiative of United Nations Secretary General, Javier Perez de Cuellar, informal consultations in order to start a negotiation process that would overcome the opposition of certain countries to UNCLOS began. The negotiations culminated in the adoption by consensus by the General Assembly of the Agreement on Implementation of Part XI of the United Nations Convention on the Law of the Sea, July 28, 1994. The Agreement was in practice, "an amendment to essential legal regime of the seabed and ocean floor."⁷⁶ Shortly after the adoption of the Part XI Agreement, the Convention reached the required number of 60 ratifications (art.38 of the Convention) and entered into force on November 16, 1994.

3.3. Importance of the Convention

Before the Convention was adopted, there was international concern especially related to the exploitation of seabed resources because "it was clear that the exploitation of these resources of the continental shelf by the developed states not only would

⁷³ Juan Antonio Escudero Lobato. "Evolución del moderno Derecho del Mar". *Política Internacional* (Nº 49, Julio- Setiembre, 1997), p. 10.

⁷⁴ Vid. Alfonso Arias Schreiber Pezet, "El Derecho del Mar y el Desarrollo". *Revista Peruana de Derecho Internacional* (Tomo 36, Nº91, enero-marzo, 1984), p. 7.

⁷⁵ Currently, this instrument is binding for 162 States and the European Community. UNCLOS ratifications in: Division for oceans affairs and the law of the sea: http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm.

⁷⁶ Vid., Alejandro Rodríguez Carrión. *Lecciones de Derecho Internacional Público* (Madrid: Tecnos, 2001), p. 464.

determine the economic supremacy of them (...), it would constitute a serious threat to developing countries"⁷⁷.

The Convention was not an answer to a single topic; in contrast, the Convention provided a “legal framework within which all activities in oceans and seas must be carried out”⁷⁸ and is considered the “ultimate source of the law of the sea”⁷⁹.

In general, the Convention established the rights and duties for States over the sea. It tried to balance the interests of a state:

- (1) by giving it an its nationals freedom to act in pursuit of those interests (for example, navigation rights and highs seas freedoms); and
- (2) by limiting the freedom of others to act in a manner adverse to those interests
 - (a) by imposing a duty on foreign states and their nationals to act in a prescribed manner (for example, safety and environmental restrictions), or
 - (b) by giving a state the rights to prevent or control activities of foreign states and their nationals (for example, territorial sovereignty or coastal state jurisdiction over mining of fishing)⁸⁰.

Among the other important achievements, the Convention established a generally accepted limit: 12 nautical miles measured from the baselines, introduced a new maritime zone such as the Exclusive Economic Zone (EEZ) and the procedure to establish the outer limits of the Continental Shelf, assigned rules of delimitation for each of maritime zone, provided a body of rules on marine scientific research, and the protection and preservation of the marine environment; introduced the concept of archipelagic State and the regime of transit passage trough Straits used for

⁷⁷ Jaime Cáceres Enríquez. “Las Naciones Unidas y el Derecho del Mar”. *Revista Peruana de Derecho Internacional* (No 109, Tomo XLVII, enero-julio, 1997), p. 111

⁷⁸ UNCLOS, supra note 1, pt. XVIII, art. 305(2).

⁷⁹ Vladmir Jares, “The Continental Shelf beyond 200 nautical miles: the work of the Commission on the Limits of the Continental Shelf and the Artic”. *Vanderbilt Journal of Transnational Law*. Volume 42, No 4, October, 2009, p. 1267.

⁸⁰ Louis B. Sohn and John E. Jones, *Cases and Materials of the Law of the Sea*. (Ardsley, NY: Transnational Publishers, 2004), p. 7.

international navigation, set out a comprehensive system for the peaceful settlement of disputes and created three international bodies: the International Seabed Authority (ISA), the International Tribunal for the Law of the Sea (ITLOS) and the Commission on the Limits of the Continental Shelf (CLCS).

Twenty years later, UNCLOS has become the primary source of modern international law for maritime issues. Annually the General Assembly emphasizes “the universal and unified character of the Convention”⁸¹. The influence of the Convention can be seen in current State practice and is accepted even by States that are not parties to the Convention which consider it as a part of the customary international law applicable in bilateral agreements, in subregional, regional and global cooperation arrangement on maritime issues, and in the decisions and opinions of the International Court of Justice, arbitral tribunals, an other forums for disputes settlement⁸².

3.4. The Legal Regime of the Continental Shelf –UNCLOS

UNCLOS incorporated some changes to the regime of the continental shelf embodied in the 1958 Geneva Convention on the Continental Shelf and as L. Dolliver M Nelson noted, it “has brought an element of precision on the boundary which separates the seabed areas falling under national jurisdiction and the (...) sea bed area”⁸³.

The regime of the Continental Shelf contained in Part VI (art. 76 - 85) and Annex II of the Convention (together with Annex II of the Final Act). The regime of the continental shelf is not treated separately as it was in 1958 Convention on the Continental Shelf. On the contrary, it is embodied into the Convention and the law of the sea as a whole.

⁸¹ Jares, *op cit.*, p. 1268.

⁸² Sayta Nandan, *The Efforts Undertaken by the United Nations to Ensure Universality of the Convention*. In: Edward L. Miles y Tullio Treves (ed.) *The Law of the Sea: New Worlds, New Discoveries* (Honolulu, Hawaii: The Law of the Sea Institute. University of Hawaii, 1993), p. 349.

⁸³ L. Dolliver M Nelson. *Reflections on the 1982 Convention on the Law of the Sea*. In: *The Law of the Sea. Progress and prospects* (Nueva York: Oxford University Press, 2009), p. 30.

This new regime contains a legal definition of the continental shelf, provides the rules which allow coastal states to claim continental shelves beyond 200 mile limit and the methods in order to establish their outer limits under specific conditions, and introduced a new international body: the Commission on the Limits of the Continental Shelf (art.76).

Part VI also sets out the rules which regulate the exploration and exploitation of resources over the continental shelf (art.77), that entitled the States to lay submarine cables and pipelines on the continental shelf (art. 79) and the provisions for contributions to be made by the coastal State in respect the exploitation of the nonliving resources of the continental shelf beyond 200 nautical miles (art. 82), also includes provisions relating to delimitation of the continental shelf between State with opposite or adjacent coasts (art. 84).

3.4.1. The definition of the Continental Shelf and Article 76 of UNCLOS

The Geneva Convention of 1958 had defined the continental shelf in terms of its exploitability rather than a geological definition⁸⁴ (article 1) as the seabed and subsoil of the submarine areas adjacent to the coasts, outside the area of the territorial sea to a depth of 200 meters or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of natural resources in those areas. As we have set up before, this provision was criticized, since developing technology was rapidly able to extract resources to a much greater depth than 200 metres. As a result the outer limits of the shelf, under to the jurisdiction of the coastal state, were very unclear⁸⁵. This situation motivated the legal change of this definition during the Third Conference of the Law of the Sea.

At the beginning of the Third Conference, the question about the right of States to extend their outer limits of the continental shelf beyond 200 nautical miles became

⁸⁴ Malcolm N. Shaw. *International Law* (United Kingdom: Cambridge University Press, 2003), p. 523.

⁸⁵ *Ibidem*.

one of the main topics of dispute. By 1975, the first negotiation text already included the definition of the continental shelf. It was embodied without any changes in article 76, paragraph 1 of the 1982 Convention⁸⁶.

In 1978, the Conference focused on seven specific central topics that were proving difficult to resolve⁸⁷. One of them was the outer limits of the continental shelf. The Conference created the Negotiation Group 6 in order to reach a compromise about this topic. The working groups discussed these issues and prepared a final text which was adopted by the Conference.

At this point, it is necessary to distinguish the concept of continental shelf from the concept of continental margin which is also included in the Convention.

The continental margin consists of a relatively shallow plateau of land adjacent to the coast, followed by a steep slope (continental slope) and then by a sedimentary area going area near the deep ocean floor, that is the continental rise. Consequently, from a scientific point of view, the continental shelf as a geomorphologic expression is part of the continental margin.

The regime of UNCLOS modified the approach of the Geneva Convention and provided a legal definition of the continental shelf which is based on the concept of the scientific continental margin (not to the scientific continental shelf), is described in article 76:

1. The continental shelf of a coastal State comprises the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the

⁸⁶ Janusz Symodes. *The Continental Shelf*. In: Mohammed Bedjaoui (ed.), *International Law: Achievements and prospects* (Paris: UNESCO, 1991), p.874.

⁸⁷ Three of this topics were related to seabed matters, and the others related to the rights of land-locked and so-called geographically disadvantaged states, the settlement of disputes relating to the exercises of the sovereign rights of coastal states in the exclusive economic zone, the outer limits of the continental shelf, and the delimitation of maritime boundaries between states

breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance.

2. The continental shelf of a coastal State shall not extend beyond the limits provided for in paragraphs 4 to 6.

3. The continental margin comprises the submerged prolongation of the land mass of the coastal State, and consists of the seabed and subsoil of the shelf, the slope and the rise. It does not include the deep ocean floor with its oceanic ridges or the subsoil thereof.

According to Article 76, The continental shelf, continental slope and continental rise constitute the “continental shelf” from a legal point of view. Therefore, it is clear at this point, that the legal definition of the continental shelf does not correspond with its scientific definition. It was included to satisfy the interests of two categories of both⁸⁸, States with very large continental shelves and States with small continental shelves⁸⁹.

As a conclusion, to understand the legal basis of the definition of the continental shelf, three characteristics of the shelf should be taken into account:

- “1. It is a land mass that underlies the marginal sea and the high seas.
2. It is a worldwide feature that varies considerably in extent, and
3. It is the submerged extension of the continents⁹⁰”

⁸⁸ It has taken into account the interests of coastal States that did not have continental shelf geological sense or had low dimension (eg, the South American states bordering the Pacific Ocean). For these countries are now recognizing the power to exercise sovereign rights to explore and exploit leg natural resources of the seabed and subsoil up to 200 miles, regardless of depth and that these spaces are or no geological sense platform . On the other hand, states with broad platform called extension or superior to 200 miles (Argentina, Australia, Canada, India, etc).

⁸⁹ Division for Ocean Affairs and the Law of the Sea. Office of Legal Affairs. The Law of the Sea. 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. (New York: United Nations, 2006), p. I-10.

⁹⁰ Aaron L. Shalowitz. *Shores and Sea Boundaries with special reference to the interpretation and use of coast and geodetic survey data.* in Vol 1. (Washington D.C.: U.S. Department of Commerce, 1962), p. 186.

3.4.2. Limits of the outer continental shelf

Article 76 of the Convention sets up that the continental shelf can be extended beyond the national jurisdiction of 200 nautical miles.

This article contains in paragraphs 4 and 5 a complex set of scientific and technical criteria to be considered in order to establish the outer limits of the continental shelf that in any event shall not exceed either 350 miles from the baselines or 100 miles from the 2,500- metre isobaths.

In the case of a shelf that does not extend as far as 200 miles from the coast, “natural prolongation is complemented as a guiding principle by that distance”⁹¹. When the shelf extends beyond the 200 miles-limit, a set of complex formulations, used as a part of a process described in art. 76 must be followed by states, presenting a submission (with supporting scientific and technical data) to the Commission on the Limits of the Continental Shelf (CLCS), one of the 3 institutions established by LOSC.

The CLCS was established in 1997 and has adopted a number of documents that are relevant for the implementation of article 76 by coastal states. The first submission to the CLCS was made by the Russian Federation on 20 December 2001. Since that day, the number of submissions by states has increased each year.

One of the two functions of the Commission is to make recommendations to the coastal State. According to article 76, the Commission will make, under a technical perspective, recommendations to the coastal state about the limits presented. The limits of the shelf established by a coastal state on the basis of these recommendations are final and binding.

⁹¹ Malcolm N. Shaw, *op. cit.*, p. 524..

In chapter 4 we will examine the criteria for the establishment of the outer limits of the continental shelf in more detail and in chapter 5 the procedure to be followed for this purpose.

3.4.3. Rights of States over the Continental Shelf

To better understand the UNCLOS regime it may be useful to recall: the North Sea Continental Shelf cases between Federal Republic of Germany, Denmark and Netherlands in 1969. In this case, the Court declared that:

“The submarine areas concerned may be deemed to be actually part of the territory over which the coastal state already has dominion in the sense that although covered with water, they are a prolongation or continuation of that territory, an extension of it under the sea”⁹²

“(…)The rights of the coastal states in respect of the area of continental shelf that constitutes a natural prolongation of its land territory into and under the sea exist ipso facto and ab initio by virtue of its sovereignty over the land, and as an extension of it in an exercise of sovereign rights for the purpose of exploring the seabed and exploiting its natural resources. In short there is here an inherent right”⁹³

This principle is reflected in article 77 of the Convention, which accepts that the title and rights over the continental shelf are “inherent”⁹⁴ to each state, just for the particular fact of have coast or water adjacent to the coast, as an extension of the statehood of the coastal state (geographical criterion); and no reliance upon, occupation or effective control or on any express proclamation.

⁹² ICJ Reports 1969, p. 31; 41 IRL, p. 60.

⁹³ ICJ Reports, 1969, pp 3, 22; 41 IRL, pp. 29,51

⁹⁴ Martin Dixon. Textbook on International Law. (London: Blackstone Press Limited, 2002), p. 208.

States do not have complete sovereignty over the shelf, on the contrary, this type of sovereignty is just for the purpose of exploring and exploiting its natural resources (art. 77, LOSC).

The Convention establishes that every coastal state has a title of exclusive rights just to explore and exploit its natural resources of the continental shelf in article 77:

"2. The rights referred to in paragraph 1 are exclusive in the sense that if the coastal State does not explore the continental shelf or exploit its natural resources, no one may undertake these activities without the express consent of that State.

3. The rights of the coastal State over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation. "

4. The natural resources referred to in this Part consist of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil"

The Convention also indicates that these rights of exploration or exploitation may not "result in any unjustifiable interference with freedom of navigation or fishing". Besides, as an exception, other states can explore and exploit the resources but in that case, it is necessary to obtain the authorization of the coastal state which must to establish the conditions under the foreign exploration and exploitation will be done.

The "natural resources" were defined in the 1982 UNCLOS as all the "mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species" (Article. 77, para. 4).

Oil and gas are examples included under the concept examples of non-living resources, as the sedentary species which are consider as living organisms under the

sea floor, unable to move, except in constant physical contact with sea the sea floor, such as oysters, coral, sponges and clams.

3.4.4. The Continental Shelf and the Exclusive Economic Zone compared.

Part VI and Part V of the Convention set up the regime of the Continental Shelf and the Exclusive Economic Zone (EEZ) respectively. Both coexist in the sphere of the customary law and the Law of the Sea Convention of 1982⁹⁵ and together establish the rules governing the rights and duties of the coastal in respect all the economic activities (such as exploitation of natural resources) in the maritime zones under national jurisdiction beyond the outer limits of the territorial sea.

This situation may arise:

- When a Coastal State has established an exclusive economic zone, regime of both the continental shelf and EEZ are applicable.
- When a coastal State has not established an exclusive economic zone, only the regime of the Continental Shelf is applicable
- When a coastal State establishes the outer limits of its continental shelf, both the Continental Shelf and EEZ regimes apply in the first 200 nautical miles, and only the Continental Shelf Regime applies beyond that distance.

It's important to emphasize that there are significant points of distinction between these two regimes:

1. The geographical extent to the shelf may be different from that of the 200-mile economic zone⁹⁶.within the 200-mile limit where the EEZ regime will operate.
2. Under the concept of the EEZ (article 56 of the Convention) a coastal State has sovereign rights primarily, but not exclusively, concerned with the living resources of its exclusive economic zone until a maximum distance from the baselines. On the

⁹⁵Ian Brownlie. *Principles of Public Internacional Law* (Nueva York: Clarendon Press, 1990), p. 224.

⁹⁶Malcolm N. Shaw. *International Law* (United Kingdom: Cambridge University Press, 2003), p. 523

other side, the Continental Shelf Regime is concerned with the natural resources defined as “mineral and other non-living resources” of the seabed and subsoil beyond the outer limits of the territorial sea, to the outer edge of the continental margin or to a distance of 200 nautical miles.

3. In the case of the Continental Shelf Regime, the rights of a coastal state do not “depend on occupation, effective or notional, or on any express proclamation”, in contrast, an state has to proclaim its EEZ.

On the other hand, there are several aspects which are common to the regime of the EEZ and the Continental Shelf. For instance, similar provisions are included in Part VI and V of the convention about the seabed and the subsoil; artificial islands, installations and structures; exploitation of natural resources and sedentary species; freedom to lay submarine cables and pipelines; maritime delimitation; and duty to deposit *charts and lists of geographical coordinates* as we present in the following chart:

PROVISIONS OF THE LOSC	PART V (EEZ REGIME)	PART VI (CS REGIME)
<i>Artificial islands, installations and structures in the exclusive economic zone</i>	Article 60	Article 80
<i>Sedentary species</i>	Article 68	Article 77, paragraph 4.
<i>State’s rights to lay submarine cables and pipelines</i>	Article 58, paragraph 1	Article 79
<i>Maritime delimitation</i>	Article 74	Article 83
<i>Charts and lists of geographical coordinates</i>	Article 75	Article 84

3.4.5. Legal status of the superjacent waters and airspace and the rights of other states to establish submarine cables and pipelines on the shelf.

As we said before, the Coastal state has sovereign rights for the purpose of exploring and exploiting its natural resources, although, its rights are not unlimited. The Convention in article 78 expresses that the superjacent waters above the continental shelf retain *prima facie*⁹⁷ their status as high seas. It is the same with the status of the airspace above the superjacent waters, which according to art.78 is not affected by the states rights over the continental shelf:

Article 78

1. The rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters or of the air space above those waters.

2. The exercise of the rights of the coastal State over the continental shelf must not infringe or result in any unjustifiable interference with navigation and other rights and freedoms of other States as provided for in this Convention.

Based on article 79, coastal states can establish cables or pipelines on the continental shelf and may not impede the laying or maintenance of cables or pipelines by others on the shelf.

Article 79

1. All States are entitled to lay submarine cables and pipelines on the continental shelf, in accordance with the provisions of this article.

2. Subject to its right to take reasonable measures for the exploration of the continental shelf, the exploitation of its natural resources and the prevention, reduction and control of pollution from pipelines, the coastal State may not impede the laying or maintenance of such cables or pipelines.

3. The delineation of the course for the laying of such pipelines on the continental shelf is subject to the consent of the coastal State.

⁹⁷ Martin Dixon. Textbook on International Law. (London: Blackstone Press Limited, 2002), p.208.

4. Nothing in this Part affects the right of the coastal State to establish conditions for cables or pipelines entering its territory or territorial sea, or its jurisdiction over cables and pipelines constructed or used in connection with the exploration of its continental shelf or exploitation of its resources or the operations of artificial islands, installations and structures under its jurisdiction.

5. When laying submarine cables or pipelines, States shall have due regard to cables or pipelines already in position. In particular, possibilities of repairing existing cables or pipelines shall not be prejudiced.

3.4.6. Installations, structures and drilling on the continental shelf

The Coastal State's right to establish and maintain drilling platforms and other installations for the exploitation of offshore resources is expressly allowed by the Convention (article 80-81):

Article 80

Artificial islands, installations and structures on the continental shelf Article 60 applies mutatis mutandis to artificial islands, installations and structures on the continental shelf.

Article 81

Drilling on the continental shelf The coastal State shall have the exclusive right to authorize and regulate drilling on the continental shelf for all purposes.

UNCLOS provides that article 60, "applies mutatis mutandis to artificial islands, installations and structures on the continental shelf", consequently, States are entitled to establish safety zones around such installations until the limit of 500 metres, which must be respected by ships of all nationalities. States, with full rights of control and jurisdiction over these zones, are able to take the necessary measures to protect them.

3.4.7. Payments and contributions with respect to the exploitation beyond 200 nautical miles

In addition, article 82 of the Convention provides restrictions to the exploitation of non-living resources where the continental shelf of a state extends beyond 200 miles. The Convention recognizes the state's exclusive rights to engage in such exploitation⁹⁸ and establishes that the coastal state must make annually payments of contributions (value or volume of the production) to the International Sea Bed Authority (ISA). After five years of exploitation, these payments will be 1 per cent of the value or volume of the production the value or volume of the production on a sliding scale up to the twelfth year, after which these payments are to remain at 7 per cent the following years.

The Authority shall distribute any such payments amongst state parties on the basis of "equitable" sharing criteria and "taking into account the interests and needs of the developing states particularly the least developed and the landlocked among them" (art82. 4).

3.4.8. Maritime delimitation of the continental shelf between opposite or adjacent States.

Unlike article 6 of the 1958 Convention on the Continental Shelf, article 83 of UNCLOS does not provide any method of delimitation as obligatory. The Convention "leaves this issue of delimitation to the rules of general or customary international law"⁹⁹ and stipulates that the maritime boundary shall be determined by agreement based on international law (article 38 of the Statute of the International Court of Justice) in order to achieve an equitable result.

⁹⁸ Robin Rolf Churchill and Alan Vaughan Lowe. *The Law of the Sea* (New Hampshire: Manchester University Press, 1983) p. 121.

⁹⁹ Ian Brownlie. *op. cit.*, p. 226.

The development of the jurisprudence, especially from the International Court of Justice since 1969¹⁰⁰, has covered the lack of methods of delimitation (such as median line and the perpendicular line to the general direction the coast) in the text of the convention. The Court in several cases has established, as a rule of maritime delimitation, the use of equitable principles when the existence of “relevant circumstances” or “factors to be taken into account”¹⁰¹ (for instance, the general configuration of the coast) do not produce an equitable solution.

3.4.9. Charts and lists of geographical coordinates.

Article 84 requires that States deposit with the Secretary General of the United Nations a set of charts or lists of geographical coordinates which demonstrate the outer limit of the continental shelf (article.76) and draw the lines of delimitation established according article 83.

The Convention also allows the substitution of lists of geographical coordinates of points in place of charts, specifying the geodetic information which provides a standard point of reference for determining the exact location of the outer limits of the continental shelf and the precise lines of delimitation between States.

In addition, the coastal States must give publicity to such information and in the case of the information related to the outer limits of the shelf, states also required to deposit it with the Secretary General of the ISA

3.4.10. Tunneling

Article 85 of the Convention states that its Part VI does not interfere with the rights of coastal State to exploit the subsoil by tunnelling when the exploitation occurs from above the shelf whatever the depth of water above the subsoil.

¹⁰⁰ North Sea Continental Shelf Cases, ICJ, 1969.

¹⁰¹ Ian Brownlie. *op. cit.*, p. 227.

3.4.11. Regime of the islands

Under LOSC, islands are considered as an extension of “land territory” (article 21) and generate continental shelves, unless they consist of no more than rocks which are defined in art. 121, para. 3: “*Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf*”.

As Ian Brownlie said “islands may constitute a relevant circumstance for the purpose of delimiting areas of continental shelf or exclusive economic zone between opposite or adjacent states and in this context they may be given full effect or half-effect, or they may be snubbed and enclaved”¹⁰²

¹⁰² Ian Brownlie. *op. cit.*, p. 231.

4. THE ESTABLISHMENT OF THE OUTER LIMITS OF THE CONTINENTAL SHELF

4.1. Operational Definition of the Continental Shelf

Article 76 paragraphs 4-7 established the operational methods and constraints for the purposes of delineating the continental shelf's outer limits beyond 200 nautical miles in the following terms:

4. (a) For the purposes of this Convention, the coastal State shall establish the outer edge of the continental margin wherever the margin extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, 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.

(b) 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.

5. The fixed points comprising the line of the outer limits of the continental shelf on the seabed, 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.

6. 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.

7. The coastal State shall delineate the outer limits of its continental shelf, where that shelf extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by straight lines not exceeding 60 nautical miles in length, connecting fixed points, defined by coordinates of latitude and longitude.

As described above, two scenarios are considered in Article 76: first, when the continental shelf of a coastal state does not extend beyond 200 nautical miles measured from the baselines; and second, when the continental shelf extends beyond that limit.

In the first case, the maximum distance that a coastal State can claim will be 200 nautical miles calculated from the territorial sea baselines. Consequently, there is no need for delimitation with neighboring States. Article 76 provides for the automatic entitlement to the continental shelf extending at least 200 nautical miles.

In the second case, a coastal State that decides to delineate the outer limits of its continental shelf beyond the 200 nautical miles must follow the procedure provided for Article 76 in paragraph 8:

8. Information on the limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured shall be submitted by the coastal State to the Commission on the Limits of the Continental Shelf set up under Annex II on the basis of equitable geographical representation. The Commission shall make recommendations to coastal States on matters related to the establishment of the outer limits of their continental shelf. The limits of the shelf established by a coastal State on the basis of these recommendations shall be final and binding.

As we seen above, States submit all data and information based on paragraph 4, (a-b) (limits based on foot of slope plus 60 miles, limits based on foot of the slope and sediment thickness) and Article 76, paragraph 5 and 6, (limits based on 350M miles from the baseline or the 2500-m isobaths-plus-100M), to the CLCS which makes recommendations to the coastal States. Only if the coastal States follow the recommendations, the outer limits of their continental shelf “shall be final and binding”.

The operational definition of the continental shelf, mentioned above, applies only beyond the 200 nautical miles limit because it is primarily directed at defining the extent of the continental shelf beyond that limit. The selection of the foot of slope as the point of reference for the procedure of the delineation of the limits of the continental shelf is basically the contribution of Article 76.

4.2. States and the Commission on the limits of the continental shelf in the establishment of the outer limits of the continental shelf

As we explained before, the Convention refers to a “procedure” (not directly) of a number of specific steps that every coastal State should follow to establish the outer limits of its continental shelf. In that sense, Article 76 refers to some elements of this “procedure”: rules, methods and principles that make it possible for each state to delineate the outer limits of its continental shelf.

In addition, Article 76 distinguishes two main actors as part of this process: coastal States and the Commission. In the case of States, they are the principal actors (as subjects of the international law), with the sovereign right, as State parties to the Convention, to establish the limits of their continental shelf under its own interpretation of Article 76.

The Commission, as we will see in the next chapter, has a completely different nature. The Convention provides a technical role for to the Commission with a specific mandate which is established in Article 76, paragraph 8, and also in Annex II, Article 3:

(a) to consider the data and other material submitted by coastal States concerning the outer limits of the continental shelf in areas where those limits extend beyond 200 nautical miles, and to make recommendations in accordance with Article 76 and the Statement of Understanding adopted on 29 August 1980 by the Third United Nations Conference on the Law of the Sea;

(b) to provide scientific and technical advice, if requested by the coastal State concerned during the preparation of the data referred to in subparagraph (a).

As a result, the Commission does not have the power to modify a coastal State's submission. The Commission just can make technical and scientific recommendation based on the Convention.

4.3. Delineation Process of the outer limit of the continental shelf

In order to delineate the outer limit of its extended continental shelf, 4 steps must be taken into account:¹⁰³

1. The coastal States must delineate the outer edge of their continental margin using the complex of rules provided by article 76, paragraph 4.
2. To apply the test of appurtenance. It must demonstrate the continental shelf extends throughout the natural prolongation of its submerged land territory to the outer edge of the continental margin beyond 200 nautical miles.
3. As soon as, the Test of appurtenance was satisfied, it must verify that the lines established in step 1 do not exceed the limits provided by article 76, paragraphs 5 and 6.
4. The outer limits must be delineated using the rules described in step 1 and the limits provided in step 3 of this process.

¹⁰³ Division for Ocean Affairs and the Law of the Sea. Office of Legal Affairs. The Law of the Sea. 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. (New York: United Nations, 2006), p. I.26.

4.4. Baselines

According to Article 76, paragraph 1, the continental shelf of a coastal State extends beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines.

Before starting to calculate the formulas to establish the outer limits of the continental shelf, it is convenient to describe the fundamental reference for the measurements of all maritime zones: the baselines.

The baseline is the line from which the territorial sea is measured. It is also the line which separates the internal water and the territorial sea.

There are two kinds of baselines: the normal baseline and the straight baseline. The normal baseline may be used when the coastlines is relatively straight and unindented. Article 5 of the Convention, define the baseline:

Except where otherwise provided in this Convention, the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large scale charts officially recognized by the coastal state.

The straight baselines are lines joining appropriate points selected as a base points used when the coastline is deeply indented and cut into.

4.5. Procedure and formulas to the establishment of the outer limits of the continental shelf

Article 76, paragraph 4, of the Convention contains the methodology that each coastal State must to use in order to establish the outer limits of the continental shelf:

4. (a) For the purposes of this Convention, the coastal State shall establish the outer edge of the continental margin wherever the margin extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, 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.

(b) 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.

In order to explain the two formulas included in this Article, it will be necessary to define before the following terms.

4.5.1. The Foot of the Slope

The foot of the slope is defined in the Convention in these terms: *“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”*.

The foot of slope is defined as a point within the landward edge and the seaward edge of the base of the slope, which is taken as point of reference to identify the fixed points referred to paragraphs 4 (a) (i) and (ii) of article 76.

Considering the difficulties presented to identify the exact place of the foot of slope because of the complexity of the seabed, paragraph 4, b, of the Convention, provides a “dual regime”¹⁰⁴ for the determination of the foot of slope.

Following the provisions contained in the Scientific and Technical Guidelines of the Commission on the Limits of the Continental Shelf, as a general rule the foot of

¹⁰⁴ Tomas H. Heidar. *Legal Aspects of Continental Shelf Limits*. In: Myron H. Nordquist, John Norton Moore and Tomas H. Heidar. *The Legal and scientific aspects of the continental shelf*. Leiden/Boston: Martinus Nijhoff Publishers, 2004, p. 25

slope shall be determined finding the point where the gradient changes the most¹⁰⁵ at its base based on morphological evidence.¹⁰⁶ However, considering that there is a number of points with similar changes in gradient, the Convention establishes a process of three steps¹⁰⁷:

- 1) *To determine the area of the slope,*
- 2) *To calculate the gradient changes inside the bases of slope,*
- 3) *To identify the maximum change in gradient.*

As another point of view, some authors such as Chris Carleton, Steve Shipman, David Monahan and Lindsay Parson, introduce another process to detect and map the foot of the slope of four steps¹⁰⁸:

1. *Determine the change in slope from contour maps and/ or profiles derived from them.*
2. *Select a candidate foot –of- the- slope points on profiles measured directly by echo-sounding and seismic profiling techniques.*
3. *Produce slope maps from multibeam surveys.*
4. *Use statistical techniques based on raw sounding data, on gridded data, or on contour maps.*

Sometimes the maximum change in the gradient (geomorphological evidence), does allow to locate reliably the foot of the slope at its base (CLCS Guidelines paragraphs 6.3.2 and 6.3.3) because:

- the curvature of the seabed along the base of the continental slope is constant
- irregular seabed topography reveals a number of local maxima in the change of the gradient at the base of the continental slope..¹⁰⁹

¹⁰⁵ Gradient is defined as a measure of slope in units of rise or fall per unit of horizontal distance. See Division for Ocean Affairs and the Law of the Sea. Office of Legal Affairs. The Law of the Sea. 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. (New York: United Nations, 2006), p. I-27.

¹⁰⁶ Chris M. Carleton, Steve Shipman, David Monahan, Lindsay Parson. *The Practical Realization of the Continental Shelf*. In: Peter J. Cook and Chris M. Carleton. *Continental Shelf Limit: The Scientific and legal interface*, Oxford: Oxford University Press., 2000, p.271

¹⁰⁷ *Ibidem*.

¹⁰⁸ Chris M. Carleton et al., *op. cit.*, p. 271.

In those cases, coastal States are allowed to use evidence to the contrary to the general rule according Article 76, paragraph 4, (b) of the Convention:

“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”.

The “evidence to the contrary” is not defined in the Convention and in general terms it is used as an alternative to general rule, which overrule the gradient determination and the geomorphologic characteristics, and opens the door to other scientific or technical arguments like geological and geophysical evidence available to locate the foot of the continental slope at its base¹¹⁰ (CLCS Guidelines 6.1.2.).

According to the CLCS Guidelines paragraphs 5.2.1 and 5.4.7, “when the foot-of-the-slope cannot be located reliably using geomorphological or mathematical analysis, the geological evidence aimed at identifying the foot of the continental slope at its base may be presented in favor of a specific location under the mechanism of the evidence-to-the-contrary”¹¹¹.

In the case that a coastal State elects to rely on evidence to the contrary rule based on the foot of the continental slope, the Commission will be the body which will request and evaluate the evidence in order to determine the location of the foot of the continental slope that must be accompanied by the results of applying the general rule of maximum change in the gradient of Article 76, 4, b.

In short, this provision complements the general rule established by the determination of the foot of the continental slope as the point of maximum change in the gradient at its base” (CLCS Guidelines 6.1.2), introducing the geological evidence

¹⁰⁹ Division for Ocean Affairs and the Law of the Sea, *op. cit.*, p. I-28.

¹¹⁰ Tomas H. Heidar. *op.cit.*, p. 25

¹¹¹ Steinar Thor Gudlaugsson. *Natural Prolongation and the Concept of Continental Margin for the purposes of article 76*. In: Myron H. Nordquist, John Norton Moore and Tomas H. Heidar. *The Legal and scientific aspects of the continental shelf*. Leiden/Boston: Martinus Nijhoff Publishers, 2004, p. 83

as an alternative for determining the location of the foot of the continental slope at its base.

4. 5. 2. Determination of the outer edge of the continental margin using the two alternative formulae lines set out in paragraph 4, (a)

According to paragraph 4, a, two formulas are included to delineate the outer edge of the continental margin and are established with reference on the position of the foot of slope:

4. (a) For the purposes of this Convention, the coastal State shall establish the outer edge of the continental margin wherever the margin extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, 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.

Any coastal State can apply one or the two formulas alternatively (combination), it may use the Sediment Thickness formula (paragraph 4, (a), (i)) in certain areas of its continental shelf and the Distance formula in the other areas (paragraph 4, (a), (ii)), in a manner to maximize its entitlement.¹¹²

4.5.2.1. Sediment Thickness Formula

The first formula (Article 76, paragraph 4, a, i), known as the Gardiner Line¹¹³ (because of the name of the geologist Piers R.R. Gardiner who proposed it) or Irish

¹¹² Tomas H. Heidar. *Legal Aspects of Continental Shelf Limits*. In: Myron H. Nordquist, John Norton Moore and Tomas H. Heidar. *The Legal and scientific aspects of the continental shelf*. Leiden/Boston: Martinus Nijhoff Publishers, 2004, p. 27.

¹¹³ Because of the name of the geologist who proposed during UNCLOS III.

formula, requires the identification of fixed points where the sediment thickness is at least 1 percent of the shortest distance from such point to the foot of the slope.

When this paragraph was included in the convention, the general purpose of this formula was to ensure for the benefit of coastal State, sovereign rights in order to extend to a major portion of the continental rise where significant hydrocarbon resources were deemed to exist¹¹⁴. However, it is necessary to set up that not all coastal States have sedimentary areas (sedimentary rocks¹¹⁵) from which they would benefit through this criterion.

To use this criterion, two aspects have to be calculated:

- a. The measure of the thickness of sediment in deepwater beyond the slope¹¹⁶.
- b. The distance from the closest foot of slope point to the fixed point. This section serves to clarify the required information and how it may be obtained, verified, and used in defining an extended continental margin under the provisions of the 1% rule¹¹⁷.

¹¹⁴Tomas H. Heidar. *Legal Aspects of Continental Shelf Limits*. In: Myron H. Nordquist, John Norton Moore and Tomas H. Heidar. *The Legal and scientific aspects of the continental shelf*. Leiden/Boston: Martinus Nijhoff Publishers, 2004, p. 26

¹¹⁵In general, a conventional rock type classification distinguishes: sedimentary rocks (derived from physical and chemical weathering and transportation or from biological process), igneous rocks (of intrusive or extrusive origin) and metamorphic rocks (originally igneous or sedimentary rocks that were subsequently changed by the effect of temperature or pressure or both). See Chris M. Carleton, Steve Shipman, David Monahan, Lindsay Parson. *The Practical Realization of the Continental Shelf*. In: Peter J. Cook and Chris M. Carleton. *Continental Shelf Limit: The Scientific and legal interface*, Oxford: Oxford University Press., 2000, p. 275.

¹¹⁶The calculation of the thickness of the sediment is not easy. It requires the use of technical and scientific protocols in order to support data coverage and quality requirements, velocity-depth function standards. In general, the uncertainty in sediment thickness estimates for delimitation purposes arrives from:

- lack of adequate seismic profile coverage.
- poor seismic resolution and penetration.
- the velocity function used in depth conversion
- an absence or shortage of drill holes for depth calibration
- a high-relief oceanic basement surface causing considerable local thickness variation. See Olav Eldhom and Fillipos Tsikalas. *Scientific Aspects of the Continental Shelf*. In: Myron H. Nordquist, John Norton Moore and Tomas H. Heidar. *The Legal and scientific aspects of the continental shelf*. Leiden/Boston: Martinus Nijhoff Publishers, 2004, p.56

¹¹⁷ Tomas H. Heidar. *op. cit.*, p. 28.

In order to draw the line described in this paragraph, the coastal States must to connect the fixed points previously identified where “the sediment rocks is at least 1% of the shortest distance from such point ant the foot of slope”.

The “Bengal Rule”¹¹⁸,

The rule related to the formulae line described in Article 76, paragraph 4, (a), (i), has an exception in the Annex II, Final Act of the UNCLOS III referred to “the Statement of Understanding Concerning a Specific Method to be Used in Establishing the Outer Edge of the Continental Margin” which applies when:¹¹⁹

- *The average distance at which the 200-metre isobath occurs is not more than 20 M; and*
- *The greater proportion of the sedimentary rock of the continental margin lies beneath the rise.*

In these cases, the outer edge of the continental margin is established by a “modified sediment thickness formula”¹²⁰: by straight lines not exceeding 60 M in length connecting fixed points, defined by latitude and longitude, at each of which the thickness of sedimentary rock is not less than 1 kilometre.

4.5.2.2. Distance Formula

The second formula contained in paragraph 4, (a), (ii), also knows as the “Hedberg Line” (name of its author Hollis H. Hedberg) can be delineated “by reference to fixed points not more than 60 nautical miles from the foot of the continental slope”.

The Hedberg formula entails drawing a line where points are not more than 60 M from the foot of the slope. Having identified the outer edge of the continental margin by using one or both formulas it is possible to do the Test of Appurtenance and verify if the outer edge extends beyond 200 nautical miles.

¹¹⁸ This exception was drafted based on the special characteristics of the Bay of Bengal.

¹¹⁹ Division for Ocean Affairs and the Law of the Sea, *op. cit.*, p. I-34

¹²⁰ *Ibidem.*

Test of Appurtenance

The test of Appurtenance is the process in which the coastal State must demonstrate entitlement to delineate the outer limit of the continental shelf beyond the 200 nautical miles throughout the natural prolongation of its land territory.

In order to outcome the test of appurtenance, the coastal State has to present evidence that the natural prolongation of its land territory to the outer edge of its continental margin extends beyond the 200 nautical mile limit.

However, if a coastal State can not prove that the outer limits of its continental shelf lies beyond that limit, they are automatically delineated up to 200 nautical miles according article 76, paragraph 1.

Notion of Natural prolongation

The Convention, Article 76 paragraph 1 provides a definition of the continental shelf that establishes the right of a coastal State to determine the outer limits of that maritime space based on natural prolongation and consider a minimum distance of 200 nautical miles which is recognized for the benefit of a state when the natural prolongation does not reach that limit.

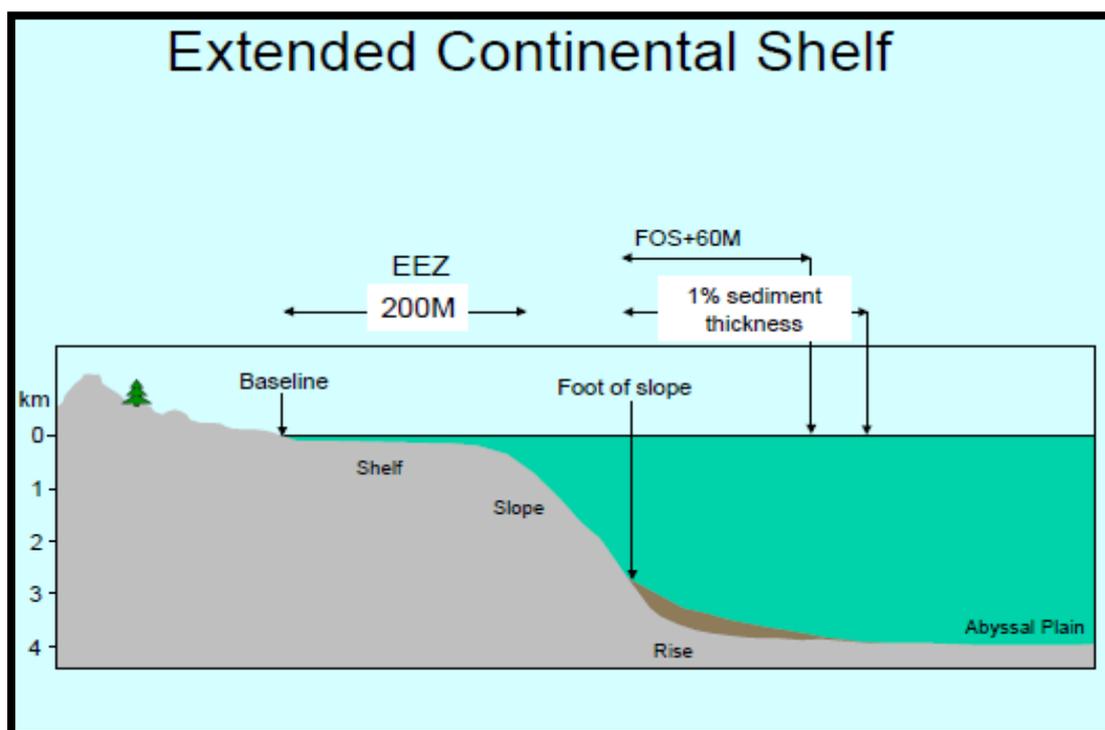
Even though the Convention just refers to “natural prolongation” and omits any definition of it, some authors such as Tomas H. Heidar considers that natural prolongation consists in that “the submerged prolongation of the landmass of a coastal State, regardless of its characteristics, comprises its continental margin and creates its entitlement to a continental shelf”¹²¹.

In this sense, natural prolongation refers to the “*unbroken continuity*”¹²² of the land territory submerged which is precisely “*the property that allows a coastal State to extend entitlement over its continental shelf beyond 200 nautical miles*”¹²³.

¹²¹ Tomas H. Heidar. *Legal Aspects of Continental Shelf Limits*. In: Myron H. Nordquist, John Norton Moore and Tomas H. Heidar. *The Legal and scientific aspects of the continental shelf*. Leiden/Boston: Martinus Nijhoff Publishers, 2004, p. 25

¹²² Tomas H. Heidar , *ibid.*, p. 20.

Figures I: Formulae lines – Article 76, paragraph 4, a.- UNCLOS



Source: National Oceanography Centre (NOC), Southampton University.

4.5.3. Constraints.

In paragraph 5 of Article 76, constraint lines are described as follows:

5. The fixed points comprising the line of the outer limits of the continental shelf on the seabed, 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.

According to this paragraph, the fixed points comprising the line of the outer limits are constrained by either a line lying at a distance of 350 nautical miles from

¹²³ Steinar Thor Gudlaugsson. *Natural Prolongation and the Concept of Continental Margin for the purposes of article 76*. In: Myron H. Nordquist, John Norton Moore and Tomas H. Heidar. *The Legal and scientific aspects of the continental shelf*. Leiden/Boston: Martinus Nijhoff Publishers, 2004, p. 67

the baselines or by a line lying at a distance of 100 nautical miles from the 2500 metre isobath. As with the formulas, each State can select one or both of these constraints, and alternatively the most advantageous limit.

4.5.3.1. The 350 Nautical Miles Constraint Line

Of the two aforementioned constraints, the 350M this is by far the easier of the two to construct. The baselines from which this limit is measured already have been established as the baseline from where territorial sea and the 200 miles limit lines are measured. The coastal State must select the points on the baselines from which to define the 350 M limit, that most advantageously enclose the subsequent continental shelf.

4.5.3.2. The 2500 Metre isobath Plus-100 M Constraint Line

The first constraint of paragraph 5 is based purely on a distance criterion, whereas the second is based on a depth-cum-distance criterion (2500 Metres isobaths). There are two aspects to be considered in order to establish this limit: the location of the 2500 metre isobath and the establishment of the line that lies 100 M seawards from that isobath.

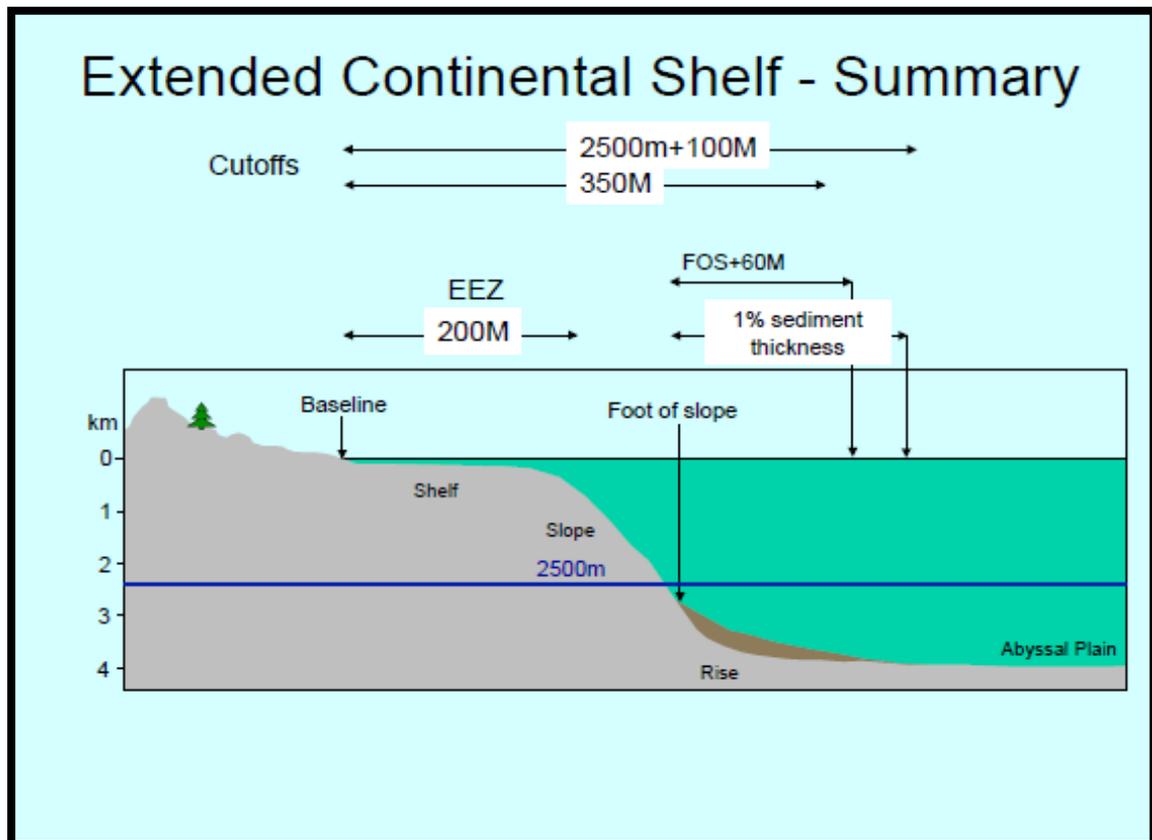
According to paragraph 5 of Article 76, the fixed points comprising the line of the outer limits of the continental shelf shall either not exceed 350 M from the baseline of the territorial sea or shall not exceed 100 M from the 2,500 metre isobath.

It should be emphasized, however, that the constraints do not provide *per se* the basis for entitlement to an extended continental shelf. They are solely constraints to the lines produced by the Irish and Hedberg formulas in order to delineate the outer limits of the continental shelf.

Besides, a specific aspect described in paragraph 6 of Article 76, where the 100 M from the 2,500 meter isobath constraint may not be used on submarine ridges – the maximum limit on such ridges is fixed at 350 nautical miles. This exception does not

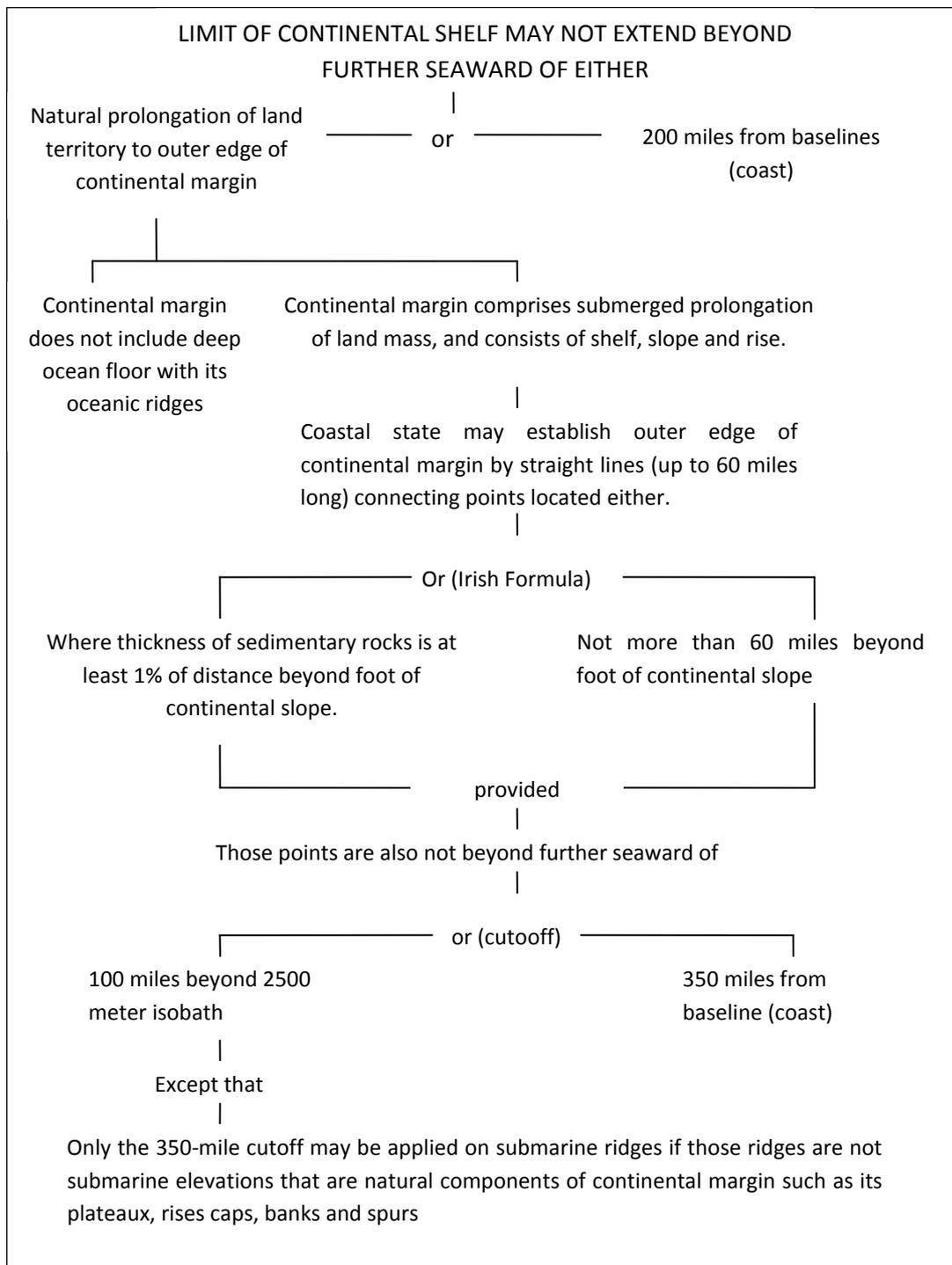
apply to submarine elevations that are natural components of the continental margin, such as its plateaux, rises, caps, banks, and spurs.

Figure II: Constraints – Article 76, paragraph 5-UNCLOS.



Source: National Oceanography Centre (NOC), Southampton University.

Table 1: Article 76 of the Convention.



Source: Bernard H. Oxman, “The Third United Nations Conference on the Law of the Sea: The Ninth Session (1980)” 75 AJIL 211, 229 (1981).

Table II: Applications of formulae and constraints-Article 76-UNCLOS.

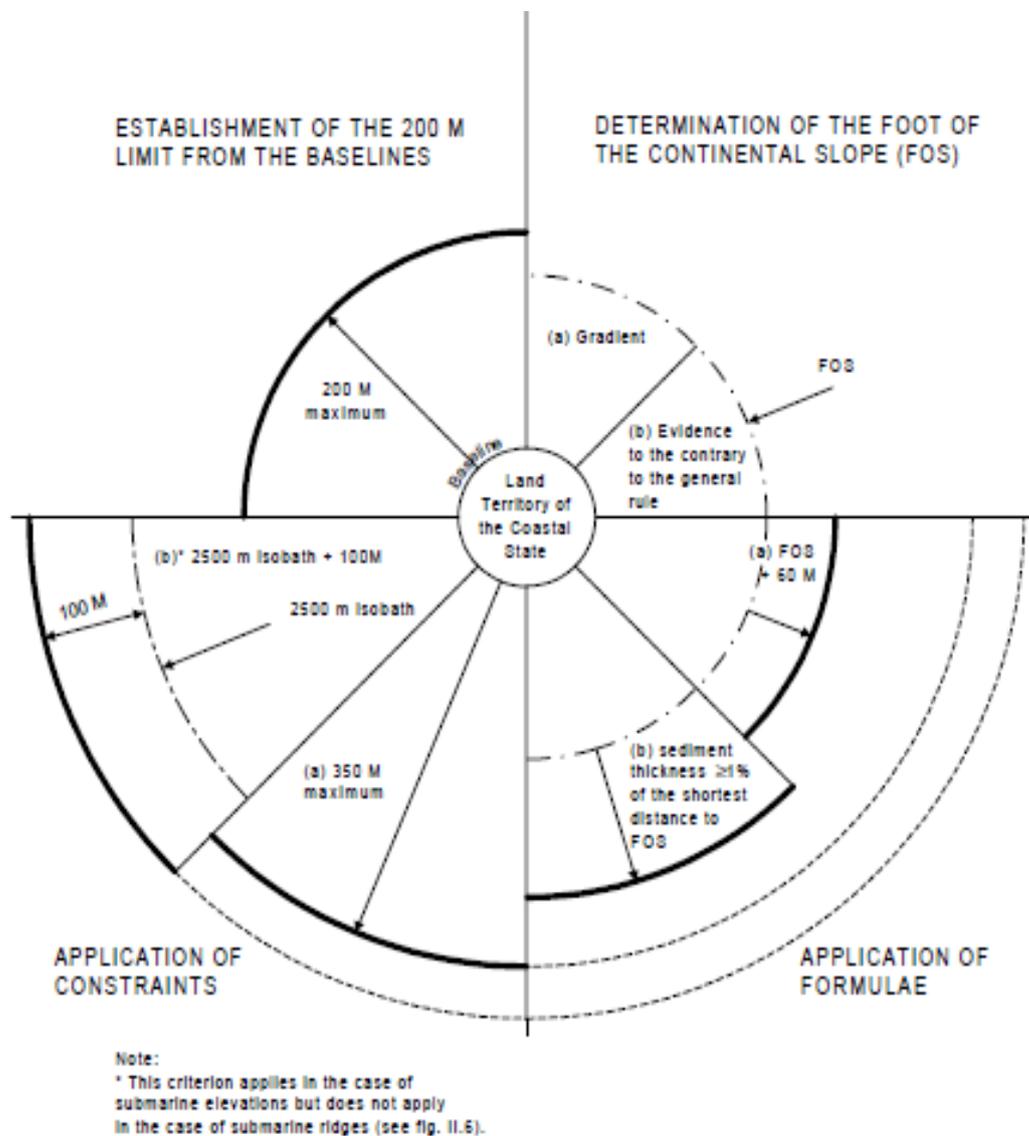


Figure II.7. Illustration of the application of various formulae and constraints for establishing the outer limits of the continental shelf.

Source: Scientific and Technical Guidelines of the CLCS. Annex II, fig. II. 17, U.N. Doc. CLCS/11/Add.1. (Sept.3, 1999).

4.6. Problems and difficulties related to the interpretation of Article 76.

In general, the main sources of interpretational difficulty associated with the definition of the continental shelf of Article 76 are the followings¹²⁴:

- The technical and scientific complexity of the formulas provided by Article 76 paragraph 4, a (i), (ii) which sometimes produces difficulties in the determination of the outer edge of the continental margin and thus of the outer limit of the continental shelf.
- Differences of opinion between coastal States and the Commission about the relevance of the geological evidence in determining the outer edge of the continental margin.
- Specific terms such as “natural prolongation”, “evidence on the contrary” and “foot of the slope” are even today (almost 20 years later after the convention), objects of doctrinal debate because of their ambiguity¹²⁵.

In spite of these difficulties, the Commission has worked steadily over recent years, adopting recommendations in regard 14 submission since 1997 (when the Commission started its work). It will be facing new challenges, considering that the number of submission is increasing.

¹²⁴ Steinar Thor Gudlaugsson, *op. cit.*, p. 80

¹²⁵ *Ibidem.*

5. THE ROLE OF THE COMMISSION ON LIMITS OF THE CONTINENTAL SHELF OF UNITED NATIONS

5.1. The Commission on the Limits of the Continental Shelf in UNCLOS

The Commission on the Limits of the Continental Shelf (CLCS) is a technical body established by UNCLOS to verify the correct application of Article 76 on the outer limits of the continental shelf beyond 200 nautical miles measured from States' territorial sea baselines.

The CLCS was established in June 1997. The work of the CLCS and its own mandate are based on Article 76 and Annex II of the Convention. According to Ted McDormann, the CLCS “*was an integral and useful component in the crafting of the diplomatic compromise respecting Article 76 of UNCLOS and the formula for determination of the outer limits of the continental shelf contained therein*”¹²⁶.

Vladimir Jares states that “*the need for an independent verification by a group of experts of a coastal State's delineation of its continental shelf beyond 200 M, an otherwise unilateral act of a coastal State, is due to two factors: (i) the scientific and technical complexities of the criteria contained in article 76; and (ii) the seabed, ocean floor, and subsoil thereof beyond the outer limit of the continental shelf has been declared, together with its resources, as “common heritage of mankind*”¹²⁷

During the last 15 years, the CLCS has played an important role in regard the rights of coastal States over their continental shelves beyond 200 nautical miles. Now, the CLCS is considered as “*the policeman who oversees the application of article 76*

¹²⁶ Ted L. McDorman. “The Role of the Commission on the Limits of the Continental Shelf: A technical body in a political world”. *The International Journal of Marine and Coastal Law*. Vol 17, No3, Kluwer Law International, 2002, p. 301.

¹²⁷ Vladimir Jares, “The Continental Shelf beyond 200 nautical miles: the work of the Commission on the Limits of the Continental Shelf and the Arctic”. *Vanderbilt Journal of Transnational Law*. Volume 42, No 4, October, 2009, p. 1276.

and a watchdog”¹²⁸ that prevents excessive coastal State claims, have a certification function and provide technical advice if it is requested by States.

As it was explained in chapter III, Article 76 of the Convention contains clearly the rules for establishing the outer limit of the continental shelf and the Commission’s role, in particular with regard to issuance of a submission.

According to Article 76, paragraph 8 and 10:

8. Information on the limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured shall be submitted by the coastal State to the Commission on the Limits of the Continental Shelf set up under Annex II on the basis of equitable geographical representation. The Commission shall make recommendations to coastal States on matters related to the establishment of the outer limits of their continental shelf. The limits of the shelf established by a coastal State on the basis of these recommendations shall be final and binding....

(...)

10. The provisions of this article are without prejudice to the question of delimitation of the continental shelf between States with opposite or adjacent coasts.

At this point, Anna Cavnar states that Article 76 of the Convention establishes a “mechanism to fulfill to safeguard against excessive claims on the part of wide-margin states while ensuring that those states could fully realize their rights to the shelf; and to legitimate proposed boundaries with an independent stamp-of-approval in order to mitigate disputes between States”¹²⁹. According to this point of view, the

¹²⁸ Peter F. Croker. *The Commission on the Limits of the Continental Shel: Progress to date and future challanges*. In: Myron H. Nordquist, John Norton Moore and Tomas H. Heidar. *The Legal and scientific aspects of the continental shelf*. Leiden/Boston: Martinus Nijhoff Publishers, 2004, p. 221.

¹²⁹ Anna Cavnar. *Accountability and the Commission on the Limits of the Continental Shelf: deciding who owns the ocean floor*. IILJ Emerging Scholar Papers 15(2009), p. 12.

Commission appears to clarify Article 76 and as a central source of “*promulgation*”¹³⁰ of recommendations to any State interested in establishing the outer limits of its continental shelf beyond the 200 nautical miles.

In addition, Annex II to the Convention regulates the functioning of the Commission in detail. It contains provisions related to the establishment, renewal and draying of the costs of the Commission (article 2), Commission’s functions (article 3), deadline for the submission by coastal state (article 4); and the process of preparation, adoption and submission of the recommendations of the Commission (article 6).

In this chapter, we will explore the role played by the Commission according to Article 76 of the Convention and how it interacts with the coastal State during the process of establishment of the outer limits of the continental shelf.

5.2. Structure and role of the CLCS

The CLCS is an independent body composed by twenty-one experts in geology, geophysics and hydrography in charge of reviewing the submissions presented by the coastal State based on Article 76.

These members are elected for a five-year term by States Parties to the Convention from among their nationals, taking into account an equitable geographical representation and serving in their personal capacities (article 2(1), 2(4) of Annex II). They have established duties such as performing honourably and impartially, acting with independency and preserving confidentiality (Rules 10-11, Rules of Procedure).

Article 3 of Annex II to the Convention establishes that the CLCS has the following functions:

¹³⁰ Peter F. Croker. *op. cit.*, p. 219.

- a) *To consider the data and other material submitted by coastal States concerning the outer limits of the continental shelf in areas where those limits extend beyond 200 nautical miles, and to make recommendations in accordance with Article 76 and the Statement of Understanding adopted on 29 August 1980 by the Third United Nations Conference on the Law of the Sea.*
- b) *To provide scientific and technical advice, if requested by the coastal State concerned during the preparation of the data referred to in subparagraph¹³¹.*

As we seen above, the CLCS works as a “technical review” body in charge of making sure that coastal States have applied article 76’s technical and scientific requirements¹³², assisting them in the process of delineation of its outer limits, and making recommendations based on article 76 and the Statement of Understanding about the proposed establishment of their outer limits.

The CLCS regularly meets in March/April and August/September of every year, at the United Nations Headquarters in New York. Its sessions consist of periods of plenary meetings and periods used by the subcommissions for the technical examination of submissions at the Geographic Information System laboratories and other technical facilities of the Division for Ocean Affairs and Law of the Sea of the United Nations Office of Legal Affairs¹³³.

Article 4 of Annex II said that within 10 years of entry into force of the Convention States which intend “to establish... the outer limits of their continental shelf beyond 200 nautical miles are to submit to the CLCS scientific and technical data to support their proposed establishment of such limits”. Consequently, the Commission’s role in the delineation process is clear, the Commission does technical work, focusing its work in objective scientific facts, and following a procedure with certain minimum standards established in the Convention.

¹³¹ According to rule 55 of the Rules of Procedure, a subsidiary body of the Commission (the Scientific and Technical Advice Committee) will attend the request of advice from the coastal State.

¹³² Anna Cavnar. *op. cit.*, p. 14.

¹³³ Vladimir Jares, *op. cit.*, p. 1278

However, the Commission does not simply identify scientific facts. Article 76 provides a technical mandate to the CLCS to incorporate those geological and geomorphologic facts into a delineation process in order to establish the outer limits beyond 200 nautical miles.

5.3. The Rules of Procedure of the Commission

The rules of procedure determine “the day-to day operation”¹³⁴ of the CLCS. The Commission adopted its rules of procedure on September 12, 1997. The Rules of procedure were subsequently amended and the current version is CLCS/40/Rev.1.

There are three annexes to the Rules of procedures: Annex I on submission in case of a dispute between States with opposite or adjacent coasts or in other cases of unresolved land or maritime disputes; Annex II related to issues of Confidentiality; and Annex III to establish the modus operandi for the consideration of a submission made to the Commission.

The Rules of procedure applied to regulate: a) the internal work of the CLCS and its subcommissions related to specific issues such as: meetings, voting, languages used, confidentiality, adoption of regulation, and amendments to the Rules of procedure; and, b) the way how the CLCS interact with coastal States, performing its duties such as examination of submissions and provide technical advice.

By applying the provisions of the Convention in its routine work and adopting its operational documents and Rules of Procedure, the CLCS also started to develop its own practice.

¹³⁴ Division for Ocean Affairs and the Law of the Sea. Office of Legal Affairs. The Law of the Sea. 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. (New York: United Nations, 2006), p. I-47.

5.4. Scientific and Technical Guidelines

The Scientific and Technical Guidelines (CLCS/11) were adopted on May 13, 1999. The Guidelines are the first authoritative and detailed scientific and technical interpretation of article 76¹³⁵. For instance, if a coastal State offers an alternative interpretation, the CLCS will naturally compare it against the Guidelines in order to determine its validity.

The purposes of the guidelines are: to assist coastal States to prepare their submission, to render more transparent the scientific and technical terms that exist in the Convention, and to clarify the scope and depth of admissible scientific and technical evidence to be considered by the CLCS after a submission was presented¹³⁶.

The Rules, together with the Guidelines, provide insight into the basic functions of the CLCS engaged in article 76 review.

5.5. Procedure to make a submission

Article 4 of Annex II to the Convention provides that a coastal State shall make its submission to the CLCS as soon as possible or within a 10-year period for after the date when the Convention enters in to force for that State.

As we seen above, the Convention did no enter into force until 16 November 1994 and the Commission started its work in 1997. At the Eleventh Meeting of the State Parties of the Convention in 2001, the states parties decide that the ten-year time period would commence as of 13 May 1999, for those States that ratified the Convention before that date. Consequently, the 10-year period for this first group of States Parties expired on 13 May 2009.

¹³⁵ Peter F. Croker. *The Commission on the Limits of the Continental Shelf: Progress to date and future challanges*. In: Myron H. Nordquist, John Norton Moore and Tomas H. Heidar. *The Legal and scientific aspects of the continental shelf*. Leiden/Boston: Martinus Nijhoff Publishers, 2004,p. 216.

¹³⁶ Division for Ocean Affairs and the Law of the Sea. Office of Legal Affairs. *op. cit.*, p. I-52.

According to the Convention, when a State decides to present a submission to the Commission, it must provide information about these limits. The submission must include extensive geological and geomorphologic data and information in order to test and establish its limits according to the article 76 formula. Then the CLCS reviews it for compliance with article 76 and makes recommendations to the coastal state.

If the coastal State agrees with the recommendations provided by the CLCS and establishes the outer limits based on the recommendation, the limits are “final and binding”. In contrast, if the coastal State does not agree with them, it can resubmit its claim to the CLCS for a new set of recommendations.

But, if the procedure is clear in article 76, the Convention does not explain what the CLCS’ recommendations should consist of, how many times a state can resubmit its claim, “or what happens if a state establishes boundaries without the Commission’s approval”.

Considering the sovereignty of each State to establish its continental shelf limits, the CLCS can not do its work independently and is limited to “making recommendations” about article 76. In fact, the State keep the right to define its boundaries, but must do so “on the basis” of the CLCS recommendations.

A coastal State can stop making submissions and establish the outer limits whenever they want, even without the Commission’s approval. But if they want that the outer limits of the continental shelf become “final and binding,” it must continue working with the Commission until they determine mutually acceptable limits.

Resubmission allows a State to confront the Commission’s recommendations, but the CLCS is not likely to accept a state’s claim simply because the state asserts it repeatedly. States can question the Commission’s interpretation, but they cannot necessarily force it to modify its final decision.

The Commission drafted the Guidelines in order to facilitate this process. Once the tests and measurements are complete, the state must establish proposed boundaries and prepare a report for the Commission explaining how it arrived at them.

Besides, under confidentiality rules developed by the CLCS (Annex II to the Rules of Procedure), a coastal state can declare since the beginning of the procedure that any of the information and data is submitted confidentially, so that only Commissioners have access to it.

According to Rule 50 of the Rules of Procedure:

The Secretary-General shall, through the appropriate channels, promptly notify the Commission and all States Members of the United Nations, including States Parties to the Convention, of the receipt of the submission, and make public the executive summary including all charts and coordinates referred to in paragraph 9.1.4 of the Guidelines and contained in that summary, upon completion of the translation of the executive summary referred to in rule 47, paragraph 3.

After three months, CLCS begin reviewing the submission in order to give interested states time to examine the executive summary (Rule 51, paragraph 1 of the Rules of Procedure). The submissions can receive comments from coastal States, specially neighboring states disputing a specific boundary and other states with broader concerns

Later, the entire Commission holds a meeting with the submitting State, during which the state presents the submission and answers preliminary questions. Then, the Commission regularly appoints a sub-commission to carry out a detailed technical and scientific review (Rule 51, paragraph 2-4, of the Rules of Procedure). The meetings of the Commission and its subcommissions are held in private, unless the Commission decides otherwise (Rule 23, Rules of Procedure).

The sub-commission is created with seven Commissioners, who are chosen taking into account geographical representation. Commissioners who are nationals of the

submitting State or of States with whom the submitting State has a boundary dispute and commissioners who advised the submitting State; are excluded of the sub-commission (Rule 42, paragraph 1-2, of the Rules of Procedure).

During this process, the sub-commission determines if the submission is complete, may request further information or clarification from the submitting state whenever it has questions regarding the claim, as many times as necessary to complete a full technical and scientific review, which involves examining the data and methodology underlying each element of the article 76 formula, and determining whether the data submitted is sufficient in quality and quantity to justify the proposed outer limits (point 6, Annex III to the Rules of Procedure). Since 2006, sub-commissions have met with the submitting state late in the sub-commission process to present their preliminary recommendations and take the State's comments.

Finally, the sub-commission's recommendations go to the entire CLCS, which can accept or modify them. The submitting State cannot attend these meetings. Then, the CLCS forwards the final recommendations to the State, which can either establish final and binding outer limits based on them or make a new submission and start the process all over again. The State can decide to make a new or revised submission. The Commission also provides a summary of the recommendations to the Secretary-General who due publicity to it among the UNCLOS Parties (Rule 53, Rules of Procedure).

5.6. Publicity of the recommendations

One of the important issues about the recommendations adopted by the CLCS is if the recommendations should be publicized or not.

To satisfy the requirements of article 76, a coastal State must to present scientific and technical evidence to the CLCS of its continental shelf. The data and information obtained during a survey¹³⁷ conducted by each costal State. The coastal

¹³⁷ Alex A. Zinchenko, *op. cit.*, p. 227.

State is the owner the data and information. The recommendations of the CLCS given to the coastal State about its submission “*may contain an analysis of that data and information that reveals their content, and relevant for the purposes of the recommendations*”¹³⁸.

At this point, Alex A. Zinchenko states:

“publicizing the recommendations would go against such proprietary and therefore exclusionary – prerogatives of the coastal State. In addition, the reading of the recommendations would make it possible to draw conclusions on the level of the technology and scientific knowledge possessed by the coastal State with regard to something it considers- ‘its own’ – the underwater area that the State claims to be the natural prolongation of its land territory and that extends beyond 200 nautical miles.

*....the circulation given to the recommendations would publicize the data and information contained in the submission by the coastal State. The publicity of such data and information is a coastal State’s prerogative which derives from its proprietary rights.”*¹³⁹.

As a solution, the CLCS established in Annex III to its Rules of Procedure, a *modus operandi* for the examination of submission. According to Annex II, the recommendations should include an executive summary, which would contain a general description of the extended continental shelf, and the information related to the line describing the outer limits recommended by the CLCS. This summary would not contain information that might be of a confidential nature. Then the Secretary-General of the United Nations is able to publicize the summary without causing any prejudice to the requirements of confidentiality as established in Annex III to the Rules of Procedure.

¹³⁸ Alex A. Zinchenko. *op. cit.* , p. 228.

¹³⁹ *Ibidem.*

Conclusion

The research presented the general aspects of the regime of the continental shelf, reviewed the historical evolution of the definition of continental shelf and described the legal regime of the continental shelf established in the Convention of the Law of the Sea (Part VI and Annex II)

According to Article 76 of the Convention, the continental shelf, continental slope and continental rise constitute the “continental shelf” (legal definition of the continental shelf). Based on the legal definition of the continental shelf, the Convention accepts that the title and rights over the continental shelf are “inherent” to each State. Consequently, a coastal State does not need effective control or on any express proclamation in order to have rights over its shelf. However, States do not have complete sovereignty over the shelf, on the contrary, this type of sovereignty is just for the purpose of exploring and exploiting its natural resources (art. 77 of the Convention).

In addition, the research has explained the operational methods and constraints for the purposes of delineating the continental shelf’s outer limits beyond 200 nautical miles. Any coastal State can apply one or the two formulas, alternatively (combination). For example, a coastal State may use the Sediment Thickness formula (paragraph 4, (a), (i)) in certain areas of its continental shelf and the Distance formula in the other areas (paragraph 4, (a), (ii)), in order to maximize its entitlement. As with the formulas, each State can select one or both of these constraints, and alternatively the most advantageous limit.

The research also described the role played by the Commission on the Limits of the Continental Shelf during the process of establishment of the outer limits of the continental shelf. The Convention (Article 76, paragraph 8) provides that a coastal State shall make its submission to the CLCS. According to the Convention, when a

State decides to present a submission to the Commission, the State must provide geological and geomorphologic data and information in order to test and establish its limits according to the article 76 formula. Then the CLCS reviews it for compliance with article 76 and makes recommendations to the coastal state. In the case that a coastal State agrees with the recommendations provided by the CLCS and establishes the outer limits based on the recommendation, the limits are “final and binding”. In contrast, if the coastal State does not agree with them, it can resubmit its claim to the CLCS for a new set of recommendations.

Finally, the research is a general analysis of the legal regime of the continental shelf, however, the research is not necessary focused in technical aspects which are defined in other type research under a geologic or scientific perspective. Another future research could include all this aspect required to present a complete perspective of the Continental Shelf issues.

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