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International Law of the Sea and Energy
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International Law of the Sea and Energy

Derek Smith[1] and Martin Pratt[2]

1. Introduction

Under the 1982 United Nations Convention on the Law of the Sea coastal states are entitled to claim rights over the resources of the sea and seabed out to at least 200 nautical miles (nm[3]) from their coasts and, in the case of the seabed, potentially much further.[4] As a result, more than 30% of the world's oceans now fall under state jurisdiction, with overlapping maritime zones creating the need for some 430 international maritime boundaries – fewer than half of which have been agreed or partially agreed.

With the oil and gas industry operating in ever-deeper waters, exploration and production companies increasingly find themselves interested in areas over which two or more states claim jurisdiction. The purpose of this paper is to provide an overview of the international legal regime governing maritime jurisdiction and boundary delimitation and discuss recent developments in maritime boundary dispute resolutions relevant to those with an interest in international energy law.

The paper begins with an overview of the law of the sea relating to maritime jurisdiction and boundary delimitation. It then examines the types of situation in which boundary disputes arise and the options available for resolving such disputes with reference to specific cases.

2. The Law of The Sea and Maritime Jurisdiction

2.1. The Creation of UNCLOS

The United Nations Convention on the Law of the Sea (UNCLOS), also called the Law of the Sea Convention, is the comprehensive international agreement that resulted from the third United Nations Conference on the Law of the Sea (UNCLOS III), which took place between 1973 and 1982. In 1956, the United Nations held its first Conference on the Law of the Sea (UNCLOS I) at Geneva, Switzerland, which gave birth to four treaties that concluded in 1958: Convention on the Territorial Sea and Contiguous Zone, Convention on the Continental Shelf, Convention on the High Seas, and Convention on Fishing and Conservation of Living Resources of the High Seas. Although UNCLOS I was considered a success, it didn't resolve the issue of breadth of territorial waters. The second Conference on the Law of the Sea (UNCLOS II) in 1960 did not result in any new agreements. Consequently, the UNCLOS

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[3] 1 nautical mile = 1,852 metres. There is no internationally agreed symbol for a nautical mile. As well as nm, M, NM, Nm and nmi are all widely used.
[4] A coastal state has sovereign rights over the resources of the continental shelf throughout the natural prolongation of its land territory to the outer edge of the continental margin, subject to certain geographical constraints. The definition of the outer limit of the continental shelf is discussed in section 2.2.3.

replaced the four treaties from 1958 and established a comprehensive regime for the world's oceans.

UNCLOS is one of the most wide-ranging and sophisticated treaties ever agreed by the international community. Comprising 320 articles and nine annexes, UNCLOS not only codifies the principles of maritime jurisdiction and boundary delimitation; it also provides the international legal framework governing issues such as navigation, marine scientific research, the utilization of living and non-living resources, the protection and preservation of the marine environment, and the settlement of ocean-related disputes. Although UNCLOS was signed by 119 states when it was opened for signature in 1982, it did not enter into force until November 1994, when the sixtieth instrument of ratification or accession was deposited with the United Nations. At the time of writing (May 2007) there are 152 states parties to UNCLOS[5] and many of its provisions are widely considered to have become customary international law, and therefore binding on all states. As of now, 167 countries and the European Union have joined the Convention. The United States is not a party to UNCLOS.

Although UNCLOS is undoubtedly a major achievement, its negotiation – like all agreements between a large number of parties with diverse interests – involved numerous compromises. As a result, many of its provisions, not least those relating to maritime jurisdiction, are somewhat vague and open to differing interpretations. The following sections highlight the key elements of the convention relating to maritime jurisdiction and examine issues that are likely to be of particular relevance to international energy lawyers.[6]

2.2. Zones of Maritime Sovereignty and Jurisdiction

2.2.1. Territorial Sea

The sovereignty of a coastal State extends beyond its land territory and internal waters to an adjacent belt of sea known as the territorial sea. This sovereignty extends to the air space over the territorial sea as well as its bed and subsoil.[7] The maximum breadth of the territorial sea is 12 nm, measured from the low-water line and other baselines allowed under UNCLOS (see section 2.2.5).[8] A small number of states claim territorial seas narrower than 12 nm and a few claim territorial seas wider than 12 nm; the former practice is perfectly permissible, the latter is no longer defensible under international law.

A state's sovereignty over its territorial sea has all the attributes of its sovereignty over its land territory, with one significant exception. Under Article 17 of UNCLOS, "ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea".

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[5] The European Union has also ratified UNCLOS. The USA is the most notable non-party to the convention, although the Bush administration now supports ratification.

[6] The full text of UNCLOS is available online from the UN Division of Ocean Affairs and the Law of the Sea at http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindx.htm. Readers with an interest in maritime boundary delimitation should familiarize themselves at least with Parts II (Territorial Sea and Contiguous Zone), V (Exclusive Economic Zone), VI (continental shelf) and VIII (Regime of Islands). The convention is written in plain language that should be as easily understood by lay readers as by international lawyers.

[7] UNCLOS Article 2.

[8] UNCLOS Article 3.

Innocent passage is defined as passage which is "not prejudicial to the peace, good order or security of the coastal state".

In the territorial sea the coastal state's rights over hydrocarbon resources and oil and gas infrastructure are absolute.

2.2.2. Contiguous Zone

The contiguous zone is a zone adjacent to the territorial sea in which a state may exercise control necessary to: (i) prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea; and (ii) punish infringement of the above laws and regulations committed within its territory or territorial sea.[9] The outer limit of the contiguous zone may not extend more than 24 nm from the state's baseline.

With the introduction of the exclusive economic zone in UNCLOS, the significance of the contiguous zone has been somewhat reduced. Since the contiguous zone overlaps the exclusive economic zone, it rarely figures prominently in boundary delimitation and is not of practical importance to international oil and gas companies.

2.2.3. Continental Shelf

The 1958 Geneva Convention on the Continental Shelf gave states parties the right to explore and exploit the resources of the seabed and subsoil of the submarine areas adjacent to the coast, but only out to "a depth of 200 meters or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas".[10] In acknowledgement of technological advances that increased the potential of states to exploit the resources of the continental shelf in much deeper waters than would have been anticipated in 1958, UNCLOS established more clearly-defined limits to the continental shelf areas over which states could exercise sovereign rights. Article 76 of UNCLOS defines the continental shelf of a coastal state as "the sea-bed 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".[11] This is represented by the more seaward of two lines: (i) a line connecting points at which the thickness of sedimentary rocks is at least 1% of the shortest distance from the point to the foot of the continental slope; or (ii) a line connecting points located no more than 60 nm from the foot of the continental slope.[12] In both cases, the limit may not exceed the more seaward of (i) a line 350 nm from the baseline, or (ii) a line 100 nm beyond the 2,500 m isobath.[13]

Regardless of the physical dimensions of the continental margin, Article 76 of UNCLOS gives all coastal states rights over the resources of the seabed and subsoil out to 200 nm from their baselines. Moreover, these rights do not need to be confirmed by occupation or express proclamation.[14] However, states with continental shelves extending beyond 200 nm must define the outer limits of the shelf and submit them for approval by the United Nations

[9] UNCLOS Article 33.
[10] Geneva Convention on the Continental Shelf, Articles 1 and 2.
[11] UNCLOS Article 76(1).
[12] UNCLOS Article 76(4).
[13] UNCLOS Article 76(5).
[14] UNCLOS Articles 76(1) and 77(3).

Commission on the Limits of the Continental Shelf (CLCS). States for which UNCLOS entered into force before 13 May 1999 had until 12 May 2009 to submit details of their claimed outer limits to the CLCS; states for which UNCLOS entered into force after 13 May 1999 had ten years from the date on which UNCLOS entered into force for those states. Many states submitted materials for approval.[15]

The Russian Federation was the first coastal state to submit details of their claimed outer limits relating to four sea areas in December 2001, and CLCS adopted recommendations by consensus in June, 2002, whereby it requested a revised submission on certain areas.[16] In May, 2004, Brazil made a submission to the CLCS with information regarding its extended continental shelves in four geographical regions.[17] Following a series of back-and-forth with the sub-commission, Brazil submitted additional materials, and the CLCS adopted recommendations concerning the Brazilian submission in April, 2007 by a vote of 15 to 2, with no abstentions.[18] Australia submitted information concerning the extended continental shelf of ten regions in November, 2004, to which eight states reacted to. The CLCS adopted recommendations concerning the nine regions in April, 2008.[19] While CLCS accepted the application of Australia of the formulae and constraint rules in establishing the outer limits of the regions, it disagreed with Australia over the method it employed and therefore made specific recommendations including the replacement of points and lines in order to comply with Article 76. As for the Three Kings Ridge region, CLCS noted that the final outer limits may depend on the delimitation between New Zealand because it is located within the New Zealand maritime space pursuant to a treaty,[20] Other countries that submitted materials included Ireland; New Zealand; France, Ireland, Spain and the United Kingdom of Great Britain and Northern Ireland (joint submission), Norway, France, Mexico, among others. Depending on the complexity of a submission, the Commission spends two to four years on each submission before recommendations are adopted.[21] Assessments concerning the achievements of the CLCS have been largely positive..[22] The submission process, as designed by the UNCLOS, allows the submitting Coastal State and the CLCS to have an interaction, which many states have found helpful.[23] On substantive matters, CLCS has contributed to the development of the law on the establishment of the outer limits of the continental shelf beyond 200 nm and has given life to the provisions of Article 76 in the recommendations that it has adopted. For example, the international community now has a good sample of the types of ridges and the features of submarine elevations that would be considered in the context of Article 76 para. 6. The CLCS has also shown willingness to consider new approaches used by

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[15] As of 30 October 2009, 51 Coastal States have submitted information and the particulars of the outer limits of the continental shelves beyond 200 nm to the CLCS. Detailed information about the CLCS, including summaries of submissions by states, is available from the UN Division of Ocean Affairs and the Law of the Sea website at http://www.un.org/Depts/los/clcs_new/clcs_home.htm.

[16] Statement by the Chairman of the CLCS on the progress of work in the Commission – 11th Sess., Doc.CLCS/34,4, para.33.

[17] <http://www.un.org/Depts/los/clcs_new/submissions_files/bra04/bra_exec_sum.pdfExecutive Summary>

[18] Doc. CLCS/54, 6, para. 22, see note 40.

[19] http://www.un.org/Depts/los/clcs_new/submissions_files/aus04/aus_summary_of_recommendations.pdf, Summary of the Recommendations of the Commission on the Limits of the Continental Shelf (CLCS) in regard to the submission made by Australia on 15 November 2004, 1, para. 3.

[20] Id., 33, para. 117.

[21] Suzette V. Suarez, "Commission on the Limits of the Continental Shelf," Max Planck UNYB 14 (2010).

[22] Detailed information about the CLCS, including summaries of submissions by states, is available from the UN Division of Ocean Affairs and the Law of the Sea website at http://www.un.org/Depts/los/clcs_new/clcs_home.htm.

[23] Suarez, p. 166.

Costal States in determining the outer limits, as shown through the case of Norway in the area in the Banana Hole.[24] CLCS also often made cross-references in submissions which involve the same or adjacent areas of the continental shelf, promoting internal consistency.[25]

2.2.4. Exclusive Economic Zone

The exclusive economic zone (EEZ) is a jurisdictional zone introduced under UNCLOS. Within the EEZ, which extends from the outer limit of the territorial sea to a maximum distance of 200 nm from the baseline, the state has:

> (a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds;
>
> (b) jurisdiction as provided for in the relevant provisions of this Convention with regard to:
>
> > (i) the establishment and use of artificial islands, installations and structures;
> >
> > (ii) marine scientific research;
> >
> > (iii) the protection and preservation of the marine environment;
>
> (c) other rights and duties provided for in this Convention.[26]

Although claiming an EEZ gives a state rights over the resources of the seabed and subsoil within the zone, paragraph 3 of Article 56 of UNCLOS indicates that the rights with respect to the seabed and subsoil shall be exercised in accordance with Part VI of the convention, which concerns the continental shelf. It could therefore be argued that, to a large extent, the EEZ is of little direct relevance to the oil and gas industry. However, since the vast majority of EEZ and continental shelf boundaries coincide, the distinction between the two zones is usually of little practical significance.[27] To date 151 entities, including dependent territories within sovereign states, have established an EEZ.

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[24] Norway attempted to claim an area of the continental shelf by enclosing it from two opposite references. The CLCS agreed with Norway's approach and confirmed its entitlement as well as Norway's method. See Sezette. p.167,

[25] In the case of the Norwegian submission, the CLCS referred to the earlier submission of the Russian Federation for the Loop Hole in the Barents Sea. The CLCS made reference to the relevant parts of the Australian submission when it considered and made recommendations in the submission made by New Zealand. See Suarez, pp. 167-168.

[26] UNCLOS Article 56.

[27] One significant exception is the Australia-Indonesia boundary in the Timor Sea, where there the continental shelf boundary lies significantly to the north of the EEZ (water column) boundary. The different location of the two lines is largely due to the fact that the continental shelf boundary was agreed in the early 1970s, when the geomorphology of the seabed was considered to be a significant factor in determining an equitable division of

As in the territorial sea, the rights of the coastal state over oil and gas resources under the seabed of the continental shelf and EEZ are absolute. They can only be exploited by the coastal state or under agreement with the coastal state. Similarly, the coastal state has complete jurisdiction over the construction of infrastructure for the development of oil and gas resources. However, there is a difference in the regimes for the continental shelf/EEZ and the territorial sea with regard to transiting pipelines. The coastal state's complete jurisdiction extends to pipelines that merely transit the territorial sea. However, the coastal state's rights are much more limited with respect to the continental shelf/EEZ. Article 79 of UNCLOS states that:

> 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.
>
> 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.

UNCLOS thus creates juxtaposing rights as between a state (or its international company) that wishes to lay a transiting pipeline and the coastal state. The practical effect is to force negotiations regarding the laying of transiting pipelines. No tribunal has yet determined whose rights prevail if the coastal state refuses to consent to the course of the pipeline and the state constructing the pipeline insists on its "entitlement" to lay the pipeline.

2.2.5. Baselines

As noted above, all maritime zones are measured from a baseline. The normal baseline is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal state.[28] However, where the coastline is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity, or the coastline is highly unstable, straight baselines may be defined joining appropriate points on the low-water line.[29] Such baselines may not depart to any appreciable extent from the general direction of the coast, and the sea areas lying within the lines "must be sufficiently closely linked to the land domain to

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maritime space, while the EEZ boundary was only agreed in 1997, when geomorphology was no longer relevant to boundary delimitation between coasts lying less than 400 nm apart (see section 3.3.3).

[28] UNCLOS Article 5.

[29] UNCLOS Article 7(1) and 7(2).

be subject to the regime of internal waters".[30] Straight lines may also be used to close river mouths and certain bays.[31] Archipelagic states may draw straight archipelagic baselines around the outermost points of the outermost islands and drying reefs of the archipelago, subject to certain geographical constraints.[32]

Because UNCLOS does not define exactly what is meant by terms such as "deeply indented", "fringed with islands", or the "immediate vicinity" and "general direction" of the coast, states which object to extravagant baselines can do little about them except make their objections known. Although straight baselines are usually ignored in the final construction of a maritime boundary, disputed baseline regimes can certainly complicate boundary negotiations. They can also make it difficult to determine whether exploration blocks licensed by a coastal state close to a claimed continental shelf or EEZ limit are legitimately under that state's jurisdiction.

2.2.6. The Regime of Islands

An island is defined in UNCLOS as a "naturally formed area of land, surrounded by water, which is above water at high tide".[33] This excludes reefs, low-tide elevations[34], artificial islands and man-made structures such as drilling platforms. Islands are generally entitled to a full suite of maritime zones in the same manner as the mainland territory. However, "rocks which cannot sustain human habitation or economic life of their own" are not entitled to continental shelf or an exclusive economic zone.[35]

The provision concerning rocks has probably given rise to more controversy between states than any other aspect of the convention. UNCLOS provides no further guidance concerning what constitutes an ability to sustain human habitation and economic life. Since even a tiny island can theoretically generate more than 125,000 nm^2 of continental shelf and EEZ, most states have been extremely reluctant to admit that any of their insular features are in fact (at least in legal terms) rocks, which only generate a relatively small area of territorial sea. Due to the uncertainty over the distinction between a rock and a fully-fledged island, continental shelf and EEZ claims based on small, uninhabited and/or barren islands frequently provoke protests from neighboring states and can cause serious difficulties in maritime boundary negotiations.

The award on the merits in *Philippines v. China* provides the first thorough review of the interpretation and application of Article 121 by the international tribunal. The tribunal notes that the use of the term "rock" is not intended to limit the scope of application to certain islands only, for example, features composed of rock,[36] and to exclude islands composed of sand, for example. Furthermore, the tribunal also clarifies that an article 121(3) "rock cannot be

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[30] UNCLOS Article 7(4). Waters landward of straight baselines are considered internal waters, in which there is no right of innocent passage. In archipelagic waters enclosed by archipelagic baselines there is a right of innocent passage, although archipelagic states may designate sea lanes and air routes suitable for the "continuous and expeditious" passage of foreign ships and aircraft through or over their archipelagic waters (UNCLOS Articles 52 and 53).
[31] UNCLOS Articles 9 and 10.
[32] UNCLOS Article 47.
[33] UNCLOS Article 121(1).
[34] A low-tide elevation is a naturally formed area of land which is surrounded by and above water at low tide but submerged at high tide (UNCLOS Article 13).
[35] UNCLOS Article 121(3).
[36] South China Sea Arbitration (Republic of Philippines/People's Republic of China), PCA Case No. 2013-19, Award, 12 July 2016, paragraphs 479-482.

transformed into a fully entitled island through land reclamation."[37] While current technology can transform any feature into fit for human habitation, the tribunal notes that if such an approach were to be allowed, "the purpose of Article 121(3) as a provision of limitation would be frustrated."[38] The tribunal also observes that "size cannot be dispositive of a feature's status as a fully entitled island or rock and is not, on its own, a relevant factor."[39]

Furthermore, the tribunal also offers a clarification of the phrase "economic life of their own." The tribunal states: "the phrase 'economic life of their own' is linked to the requirement of human habitation, and the two will in most instances go hand in hand… The Tribunal considers that the 'economic life' in question will ordinarily be the life and livelihoods of the human population inhabiting and making its home on a maritime feature or group of features. Additionally, Article 121(3) makes clear that the economic life in question must pertain to the feature as 'of its own.' Economic life, therefore, must be oriented around the feature itself and not focused solely on the waters or seabed of the surrounding territorial sea. Economic activity that is entirely dependent on external resources or devoted to using a feature as an object for extractive activities without the involvement of a local population would also fall inherently short with respect to this necessary link to the feature itself."[40] Ultimately, the tribunal in its award concludes that none of the Spratly Islands and Scarborough Reef can sustain human habitation or economic life of their own, implying that they do not have a continental shelf and exclusive economic zone.[41]

3. Maritime Boundary Delimitation

Since the UNCLOS provisions concerning continental shelf and EEZ boundaries are identical, the convention effectively only contains five paragraphs of guidance concerning maritime boundary delimitation.

3.1. Territorial Sea Boundaries

The delimitation of boundaries between states with overlapping territorial seas is governed by Article 15 of UNCLOS which repeats, almost verbatim, the text of Article 12(1) of the 1958 Convention on the Territorial Sea and Contiguous Zone. Article 15 provides that, unless the states agree otherwise or there exists "historic title or other special circumstances" in the area to be delimited, neither state is entitled to extend its territorial sea beyond the equidistance line.

3.2. Continental Shelf and EEZ Boundaries

In the 1958 Geneva Convention on the Continental Shelf very similar rules were established for continental shelf boundaries as for territorial sea boundaries, with the equidistance line forming the default boundary in the absence of special circumstances or agreement to the contrary.

[37] SCSA, para. 508.
[38] SCSA, para. 509.
[39] SCSA, para. 538.
[40] SCSA, para. 543.
[41] SCSA, para. 626.

UNCLOS, however, is considerably less restrictive in its approach to boundary delimitation beyond the territorial sea. Articles 74(1) (concerning the EEZ) and 83(1) (concerning the continental shelf) both simply state that:

> The delimitation of the exclusive economic zone [continental shelf] between States with opposite or adjacent coasts shall be effected by agreement on the basis of international law, as referred to in Article 38 of the Statute of the International Court of Justice, in order to achieve an equitable solution.

The convention is completely silent about what might constitute an "equitable solution", and the term is clearly open to widely varying interpretations depending on the interest of the states involved. In such a context, the decisions of International Court of Justice (ICJ) and international arbitration tribunals have provided significant guidance on the application of the UNCLOS delimitation provision.

3.3. Identifying an Equitable Solution

Judicial decisions are one of the sources of international law cited in Article 38 of the Statute of the International Court of Justice (ICJ) and a significant number of maritime boundaries have been delimited by the ICJ and arbitral tribunals (hereafter referred to collectively as 'tribunals'). While tribunals have not been totally consistent in their approach to determining an equitable division of maritime space, in recent years they have generally followed a three step analysis known as the equidistance/relevant circumstances methodology: first they have identified the equidistance line between the two coasts, second, they have examined whether any circumstances exist which justify a departure from the equidistance line in order to produce an equitable solution, finally, they under take the "disproportionality test discussed below. While such an approach does not eliminate uncertainty over the future alignment of a boundary, it rationalizes and somewhat simplifies the analysis of undelimited boundaries. There is, of course, no obligation for states to follow the same procedure in negotiations − states are free to agree any boundary that they wish as long as both sides have a legitimate claim to the area through which the boundary runs and the rights of other states are not affected − but the more consistent the jurisprudence becomes, the harder it will be to justify alternative approaches in the event of disagreement.

What circumstances might justify a departure from the equidistance line? Over the years a wide range of economic, security and environmental issues have been cited as relevant factors in maritime delimitation. However, in general it is coastal geography − in particular the length and configuration of the coastlines involved, and the location and size of islands − that is the central factor in what might be termed the 'equitability equation'.

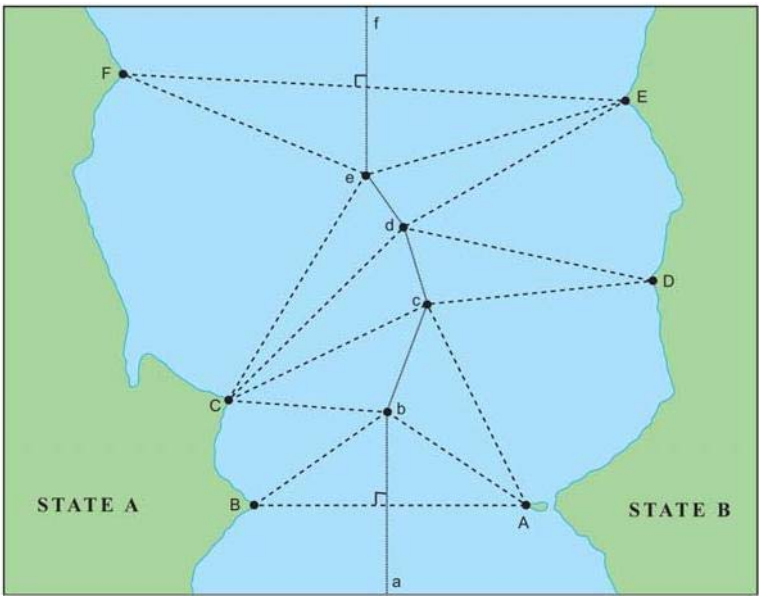

Figure 1: Schematic illustration of a equidistance line between opposite coastlines

3.3.1. Coastal Length and Proportionality

Tribunals charged with delimiting maritime boundaries have consistently endorsed the opinion of the International Court of Justice in the North Sea Continental Shelf cases that an equitable delimitation requires "a reasonable degree of proportionality...between the extent of the continental shelf areas appertaining to the coastal State and the length of its coast measured in the general direction of the coastline".[42] This means that if the relevant coastlines of two states are of a similar length, they should expect to receive a broadly similar area of continental shelf; and if the relevant coastline of one state is significantly longer than that of its neighbor, it should expect to receive more of the area being delimited.

However, while tribunals have regularly used proportionality to test the equitability of a proposed boundary, they have always made it clear that it should not be used as a basis for determining the boundary. The fact that State A's coastline is four times longer than State B's does not mean that State A should automatically get four times as much continental shelf or EEZ as State B. Thus, while the principle of proportionality makes it possible to identify geographic circumstances in which a equidistance line might produce an inequitable division of maritime space, it is difficult to predict exactly what kind of adjustment might be made in order to achieve an equitable outcome. The tribunals now tend to use a "disproportionality test" to determine if a maritime boundary determined by the method applied in the case creates a significant disproportionality so as to require adjustment of the line. Much is still left to the discretion of the judges and arbitrators tasked with delimiting the boundary in each particular geographical setting, and generally no adjustment will be made unless there is very significant disproportionality.

In both the Libya/Malta continental shelf boundary case (1982-85) and the Denmark v. Norway case concerning the boundary between Greenland and Jan Mayen island (1988-93) the ICJ

[42] North Sea Continental Shelf (Federal Republic of Germany/Denmark; Federal Republic of Germany/Netherlands) Judgment, 1969, paragraph 98.

moved the boundary away from a provisional equidistance line primarily due to the significant disparity in the lengths of the relevant coastlines: 8:1 in the case of Libya-Malta and 9:1 in the case of Denmark-Norway. The methodology used to determine the shift in the two cases was quite different; however, in neither case did the state with the longer coastline receive anything like eight or nine times as much maritime space as the state with the shorter coastline.[43] More recently in Nicaragua v. Colombia, the ICJ did not adjust the delimitation line, despite the fact that the ratio of the relevant costs was 8.2:1 in Nicaragua's favor and the provisional delimitation divided the relevant area with a ratio of only 3.44:1 in Nicaragua's favor.[44]

3.3.2. Coastal Configuration

Tribunals has also determined that certain coastal configurations render a provisional equidistance line inequitable, requiring adjustment, or impractical, requiring the use of an alternate method. In the North Sea Continental Shelf cases (1967-69) Germany argued that the concave configuration of the North Sea coastlines of Denmark, Germany and the Netherlands meant that equidistance line boundaries would be inequitable. Although the relevant coastlines of all three states were of a similar length, the configuration of those coastlines meant that Germany, as the middle of the three states, would receive a much smaller continental shelf area than its neighbors if equidistance line boundaries were applied. After the ICJ endorsed the view that such a scenario would be inequitable, Germany negotiated boundaries departing from the equidistance line with both Denmark and the Netherlands.

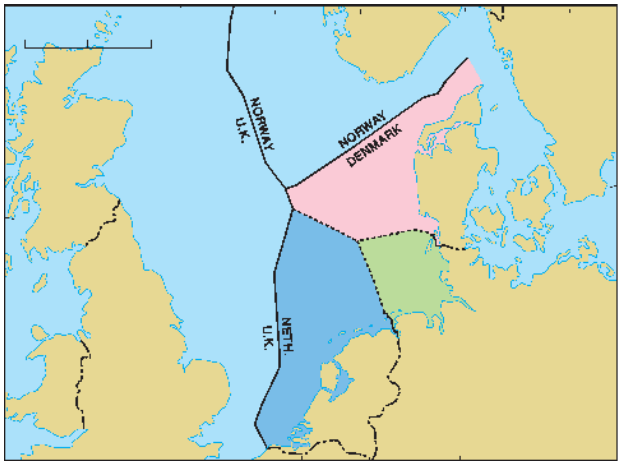

Figure 2a: North Sea continental shelf areas of Denmark, Germany and The Netherlands under a equidistance line delimitation scenario.

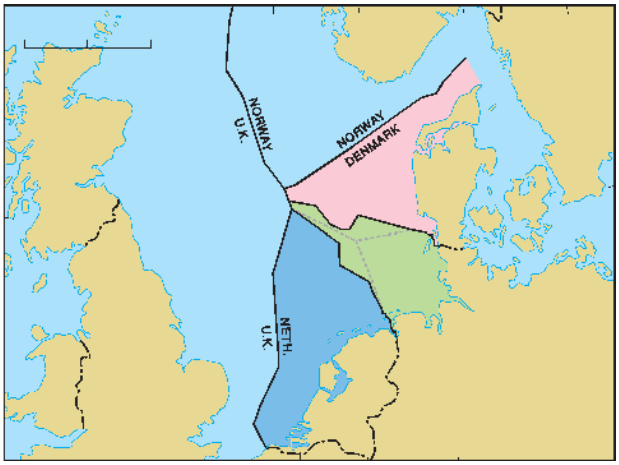

Figure 2b: Agreed North Sea continental shelf areas of Denmark, Germany and The Netherlands following the 1969 ICJ Judgment.

[43] In the Libya-Malta the Court simply transposed the Libya-Malta median line eighteen minutes of latitude northwards; this was three-quarters of the distance between the Libya-Malta median line and the median line between Libya and the Italian island of Sicily which lies to the north of Malta. In the Denmark v. Norway case the Court divided the area between the median line and the 200 nm line measured from the Greenland coast into three sectors and defined the boundary according to different criteria in each sector. The need for equitable access to fisheries resources was a key factor in determining the alignment of the boundary.

[44] Territorial and Maritime Dispute (Nicaragua v. Colombia), Judgment, I.C.J. Reports 2012, paragraphs 243-247.

In its March 2012 decision, the International Tribunal for the Law of the Sea (ITLOS) ruled on the long-standing Bangladesh/Myanmar maritime boundary dispute concerning the Bay of Bengal. It was the first dispute decided by the Tribunal, and also marked the second judgment of an international court or tribunal to address the question of delimitation of the continental shelf beyond 200 NM between two states. With regard to the delimitation of the territorial sea, the EEZ, and the continental shelf within 200 nautical miles, the Tribunal adopted the three stage equidistance/relevant circumstances methodology. At the first stage, it constructed a provisional equidistance line, and at the second stage, it determined whether there were any "relevant circumstances" meriting adjustment of the provisional equidistance line, and at the third stage, the Tribunal checked whether the line, as adjusted, resulted in any "significant disproportion" between the ratio of the respective coastal lengths and the ratio of the relevant maritime areas allocated to each party.[45]

Bangladesh argued that there were three relevant circumstances in the delimitation: the concave shape of Bangladesh's coastline, St. Martins Island, and the Bengal depositional system, which comprises "both the landmass of Bangladesh and its uninterrupted geological prolongation into and throughout the Bay of Bengal". Myanmar, by contrast, argued that there were no relevant circumstances in the delimitation and that the boundary should therefore follow an unadjusted equidistance line. While rejecting St. Martins Island and the Bengal depositional system as relevant circumstances, the Tribunal agreed with Bangladesh that the concavity of its coast constituted a relevant circumstance because an equidistance line boundary would produce a "cut-off" effect to the prejudice of Bangladesh. Accordingly, the Tribunal determined that an adjustment of the provisional equidistance line was required in favor of Bangladesh in order to safeguard its maritime entitlement.[46]

Similarly, in a parallel boundary dispute between Bangladesh and India in the Bay of Bengal, an arbitration tribunal constituted under Annex VII of UNCLOS, in July 2014, delimited the maritime boundary in the territorial sea, EEZ, and the continental shelf within and beyond 200 nautical miles between two states. While India favored a delimitation based on equidistance, Bangladesh argued that due to its position within the concavity of the Bay of Bengal, an equidistance approach would be inequitable, causing a cut-off effect, and that a provisional equidistance line should be adjusted. With regard to the territorial sea, the arbitral tribunal held that the concavity of the coast did not produce any significant cut-off effect and was not relevant to the delimitation of the territorial sea. Regarding the delimitation of the EEZ and the continental shelf, however, the arbitral tribunal determined that the provisional equidistance line must be adjusted in favor of Bangladesh due to the concavity of the coast of Bangladesh. The award solidifies jurisprudence on coastal concavity as a relevant circumstance in maritime delimitation.

In certain cases, tribunals have found that use of the equidistance method, even to draw a preliminary boundary, is impracticable due to specific geographical settings. For example, in the Honduras-Nicaragua judgment, the ICJ moved away from the conventional two-step equidistance analysis, where the Court first draws a provisional equidistance line giving full effect to the base points on all features, regardless of size, and then considers whether circumstances require that the line be adjusted in order to achieve an equitable result. In this

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[45] < http://www.volterrafietta.com/itlos-delimits-maritime-boundary-between-bangladesh-and-myanmar-in-the-bay-of-bengal/>

[46] < http://www.volterrafietta.com/itlos-delimits-maritime-boundary-between-bangladesh-and-myanmar-in-the-bay-of-bengal/>

case, the unusually difficult shape and instability of the coastline made it "impossible for the Court to identify base points and construct a provisional equidistance line."[47] The Court adopted an angle bisector delimitation method instead, which, according to the Court, provides an "approximation" of the equidistance method in certain circumstances.[48] The Court's use of the angle bisector method illustrates flexibility in the tribunal's choice of method in delimitations.[49]

3.3.3. The Treatment of Islands

Although islands are entitled to continental shelf and EEZ in the same manner as mainland territory, they are not always given the same weight in the construction of maritime boundaries. Stated another way, an island in the middle of the ocean will always get a full 200 nm continental shelf and EEZ, but islands within 400 nm of other land territory are sometime accorded relatively less maritime area than nearby continental territory. Reflecting the view of the International Court of Justice that "the equitableness of an equidistance line depends on whether the precaution is taken of eliminating the disproportionate effect of certain 'islets, rocks and minor coastal projections'"[50], small islands are often given reduced weight or even ignored altogether in boundary delimitation.

However, no consistent pattern has emerged either in state practice or in the jurisprudence of the ICJ and arbitration tribunals. Some very substantial islands have been given reduced weight in negotiated settlements − for example, the Swedish island of Gotland in the in the northern Baltic Sea, which has an area of over 3,000 km^2, received only 'three-quarters effect' on the boundary agreed between Sweden and the USSR in 1988. Conversely, many very small islands have been given full weight when islands of a similar size and situation relative to the mainland are located on both sides of the boundary.

In the ICJ judgment in Maritime Delimitation in the Caribbean Sea and the Pacific Ocean (Costa Rica v. Nicaragua) of 2018[51], the Court noted several islands and cays in the Caribbean Sea off the coast of Nicaragua, in particular, Corn Islands being the most prominent one. As for the delimitation of the territorial sea (paras. 90-106), the Court stated that it will construct the provisional equidistance line only on the basis of points situated on the natural coast, which may include points placed on islands or rocks. With regard to delimitation of the EEZ and the continental shelf (paras. 108-114), the Court said that the coasts of the Corn Islands that face the delimitation area also have to be included when determining the length of the relevant coasts. Moreover, when considering potential factors calling for the adjustment of the provisional equidistance line in order to achieve an equitable result, in the case of the Corn Islands, the "Court considers that, given their limited size and significant distance from the

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[47] Nicaragua v. Honduras, Para. 280.
[48] Id. Para. 287.
[49] "Territorial and Maritime Dispute between Nicaragua and Honduras in the Caribbean Sea" 102 The American Journal of International Law. <https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=2553&context=faculty_scholarship>
[50] *Continental Shelf (Libyan Arab Jamahiriya/Malta)* Judgment, paragraph 64. The importance of eliminating the disproportionate effect of such features was first noted in the Judgment in the *North Sea Continental Shelf* cases (1969) and was repeated in the 2001 Judgment in the *Maritime Delimitation and Territorial Questions between Qatar and Bahrain* (Qatar v. Bahrain) case.
[51] https://www.icj-cij.org/files/case-related/157/157-20180202-SUM-01-00-EN.pdf

mainland coast, it is appropriate to give them only half effect."[52] It adjusted the provisional equidistance line accordingly.

3.3.4. The Relevance of Geomorphology

In its 1969 Judgment in the *North Sea Continental Shelf* cases the International Court of Justice ruled that boundary delimitation should leave each party as large an area as possible of the shelf which constitutes a natural prolongation of its land territory into the sea, without encroaching on the similar prolongation of the other party or parties. This ruling encouraged states with broad continental margins to claim seabed jurisdiction right to the edge of the shelf, even if the edge of the shelf lay well beyond the equidistance line with neighboring states. In 1971 Australia successfully employed the 'natural prolongation' thesis in maritime boundary negotiations, persuading Indonesia to accept a continental shelf boundary in the Timor Sea which lay more than twice as close to the Indonesian coast as to the Australian coast, almost entirely on the basis of the location of the Timor Trough.

Some states (most notably China *vis à vis* the East China Sea) continue to argue that geomorphology should be considered a relevant circumstance in boundary delimitation. However, with the introduction of the EEZ and the redefinition of continental shelf entitlement in UNCLOS, geomorphology has effectively become irrelevant to maritime boundary delimitation between coasts which are less than 400 nm apart. This was confirmed by the ICJ in its 1985 ruling on the Libya-Malta continental shelf boundary:

> ...since the development of the law enables a State to claim that the continental shelf appertaining to it extends up to as far as 200 miles from its coast, whatever the geological characteristics of the corresponding sea-bed and subsoil, there is no reason to ascribe any role to geological or geophysical factors within that distance either in verifying the legal title of the States concerned or in proceeding to a delimitation as between their claims.[53]

3.4. The Significance of Oil Practice

The fact that a state has licensed a particular area for oil and gas exploration beyond the equidistance line is often cited as a relevant circumstance that justifies a boundary which leaves the area in question under the jurisdiction of the licensing state (State A). Such arguments tend to be put forward with particular vigor when the neighboring state (State B) has refrained from licensing the same area. In instances where State B has licensed areas up to, but not beyond, the limits of the area licensed by State A, State A will often claim that State B has accepted the block boundaries as the jurisdictional boundaries between the two states. These arguments will be made with particular force if State A has undertaken significant exploration activities and begun oil and gas production.

Oil practice alone, however, may not be determinant of the course of the maritime boundary. On the subject, the ICJ stated that oil practice is only relevant when it is based on at least a tacit agreement between the two governments concerning the boundary between them:

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[52] Paras. 146-158.
[53] Continental Shelf (Libyan Arab Jamahiriya/Malta) Judgment, 1985, paragraph 39.

> Overall, it follows from the jurisprudence that, although the existence of an express or tacit agreement between the parties on the siting of their respective oil concessions may indicate a consensus on the maritime areas to which they are entitled, oil concessions and oil wells are not in themselves to be considered as relevant circumstances justifying the adjustment or shifting of the provisional delimitation line. Only if they are based on express or tacit agreement between the parties may they be taken into account.[54]

Furthermore, in a unanimous ruling on Ghana/Cote d'Ivoire boundary dispute delivered in 2017, a Special Chamber of the ITLOS clearly stated that oil practice cannot in itself establish the existence of a tacit agreement on a maritime boundary and referenced a ICJ case:

> The Special Chamber considers that the oil practice, no matter how consistent it may be, cannot in itself establish the existence of a tacit agreement on a maritime boundary. Mutual, consistent and long-standing oil practice and the adjoining oil concession limits might reflect the existence of a maritime boundary, or might be explained by other reasons. As the ICJ stated in *Territorial and Maritime Dispute between Nicaragua and Honduras in the Caribbean Sea (Nicaragua v. Honduras)*: 'A de facto line might in certain circumstances correspond to the existence of an agreed legal boundary or might be more in the nature of a provisional line or of a line for a specific, limited purpose, such as sharing a scarce resource. Even if there had been a provisional line found convenient for a period of time, this is to be distinguished from an international boundary. (*Judgment, I.C.J. Reports 2007 (II)*, p.659, at p. 735, para. 253) […] Thus the proof of the existence of a maritime boundary requires more than the demonstration of longstanding oil practice or adjoining oil concession limits.[55]

The Special Chamber concluded that there is "no tacit agreement between the Parties to delimit their territorial sea, exclusive economic zone and continental shelf both within and beyond 200 nm."[56] Then, based on the three-stage equidistance/relevant circumstances methodology,[57] the tribunal fixed the maritime boundary between Ghana and Cote d'Ivoire both within and beyond 200 NM from their coastlines as the equidistance line without adjustment. It thus delimited an area in the Gulf of Guinea that is rich in hydrocarbons.

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[54] Land and Maritime Boundary between Cameroon and Nigeria (Cameroon v. Nigeria: Equatorial Guinea intervening) Judgment, paragraph 304.

[55] Dispute Concerning Delimitation of the Maritime Boundary Between Ghana and Cote D'Ivoire in the Atlantic Ocean (Ghana/Cote D'Ivoire) Judgment, paragraph 215.

[56] Id. Paragraph 228.

[57] The tribunal first drew a provisional equidistance line and then determined that there was no relevant circumstance which would justify an adjustment of this provisional equidistance line. It also found that the proportionality test required no adjustment to the provisional equidistance line. See<http://www.fiettalaw.com/pil_news/itlos-special-chamber-delivers-its-judgment-on-the-delimitation-of-the-maritime-boundary-between-ghana-and-cote-divoire/>

4. Boundary Disputes and Their Resolution

The fact that a boundary has yet to be delimited does not necessarily mean that a dispute exists over its alignment. In many cases the states in question may simply not have begun the process of defining the boundary. However, it would not be unreasonable to suggest that although most governments support the principle that maritime boundaries should be delimited in a manner which produces an equitable division of maritime space, most governments are also keen to maximize the extent of the area of maritime space over which they exercise jurisdiction. Therefore, when negotiations do begin, it is highly unusual for both sides to propose the same (or even similar) boundaries. States also often genuinely disagree about the application of the legal principles of maritime boundary delimitation.

4.1. Options for Dispute Resolution

The peaceful settlement of disputes between states is one of the core aims of the United Nations, and over the years the international community has developed a sophisticated array of dispute resolution mechanisms. Article 33(1) of the UN Charter summarizes the options available to states:

> The parties to any dispute, the continuance of which is likely to endanger the maintenance of international peace and security, shall, first of all, seek a solution by negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice.

Dispute settlement is also an important aspect of UNCLOS, with the convention providing a range of options for states parties to follow.[58]

4.1.1. Negotiation

The vast majority of maritime boundaries are delimited by negotiation between governments. Boundary negotiations are usually led by representatives of the respective ministries of foreign affairs. Other ministries, including energy ministries if oil or gas reserves are located in the vicinity of the boundary, often participate in negotiations − or at least have input during the preparations for negotiations.

A few non-controversial boundaries have been settled purely through the exchange of diplomatic notes, but most negotiations involve numerous face-to-face meetings over a period of months or years − and a few maritime boundaries have taken several decades to agree. As boundary agreements are generally permanent, few governments are prepared to be pushed into making a quick deal which they may later regret. Territory remains an important component of national identity, and many governments fear the electoral consequences of being accused of 'giving away' territory. While resource zones at sea are clearly not directly equivalent to land territory, they nevertheless arouse a remarkable amount of nationalist sentiment when it is

[58] The settlement of disputes is the focus of Part XV of UNCLOS. Conciliation procedures pursuant to section 1 of Part XV are set out in Annex V. Annex VI contains the statute of the International Tribunal for the Law of the Sea and Annex VII provides the framework for binding arbitration proceedings. Annex VIII provides the framework for 'special arbitration' proceedings relating to fisheries, the protection and preservation of the marine environment, marine scientific research and navigation.

perceived that they may be lost to neighboring states. Such sentiments tend to be particularly strong in small island and archipelagic states, whose maritime territory is usually much larger than their land territory and perceived to be part of (in the words of UNCLOS Article 46) an "intrinsic geographical, economic and political entity".

4.1.2. Mediation

Mediation is a process in which an impartial third party facilitates negotiations between parties which have been unable to reach agreement in direct talks. It has been successfully employed to resolve a number of boundary disputes over the years. Perhaps the most famous example was the mediation by an envoy of the Pope in a dispute between Argentina and Chile concerning island sovereignty and the maritime boundary between the two countries in the Beagle Channel. The mediation not only prevented a war but ultimately, after six years of shuttle diplomacy, led to a boundary agreement in 1984. The United Nations Secretary-General has been involved in mediating a longstanding dispute between Equatorial Guinea and Gabon concerning island sovereignty and the maritime boundary between the two states in Corisco Bay. Press reports indicate that the mediation resulted in the parties signing a special agreement to submit the matter to the ICJ for resolution.[59]

For mediation to be successful, the mediator needs to be both a skilled negotiator and, most importantly, someone who is respected by the disputing parties. The process also requires patience, creativity and a willingness to compromise. Assuming that these preconditions are met, the great advantage of mediation over an adjudicated settlement is that it allows the parties to retain control over the decision-making process. However, a mediator, unlike a tribunal, cannot issue a binding decision and if the parties are unable to compromise and reach an agreement, mediation will not resolve the dispute.

4.1.3. Conciliation

Conciliation involves the creation of a commission (either permanent or ad hoc) to examine the claims of the parties and to propose terms for a settlement. Conciliation is distinct from a formal judicial settlement in that the parties are free to accept or reject the proposals of the commission, and it is sometimes said that conciliation is effectively a formalized form of mediation.

Conciliation is listed as an option for dispute resolution in Article 284 of UNCLOS. If both parties agree to pursue conciliation, they may either adopt their own procedure or follow the model procedural rules set out in Annex V of the convention.[60] There is no requirement for a party to accept an invitation to pursue conciliation. Under Article 298 of UNCLOS, members may make a formal declaration of exclusion from the compulsory and binding arbitration or adjudication procedures under UNCLOS any disputes concerning the interpretation or

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[59] https://www.standardmedia.co.ke/article/2001229384/top-court-set-to-arbitrate-in-gabon-equatorial-guinea-border-row

[60] While UNCLOS conciliation is not binding, its outcome can be significant. "The Convention requires the Commission to produce a report recording any agreements reached and, absent an agreement, its conclusions and recommendations on questions of fact or law relevant to the dispute. The two states then have the obligation to negotiate an agreement based on the conclusion and recommendations of the Commission. If the negotiation fails, they have the obligation to submit the dispute "by mutual consent" to binding adjudication or arbitration." See https://thediplomat.com/2018/05/australia-and-timor-lestes-landmark-maritime-boundary-conciliation-process/

application of Articles 15, 74, or 83 relating to maritime boundary delimitation, among other issues.[61] For example, Australia and China are two states who signed the Article 298 exception from compulsory dispute resolutions. However, "exemption within an exemption" exists under Annex V, Section 2 of the Convention, which subjects certain disputes to compulsory non-binding conciliation procedures, on the two conditions that the disputes in question arose "subsequent to the entry into force of this Convention" and the parties could not negotiate an agreement "within a reasonable period of time."[62]

Iceland and Norway established a conciliation commission in 1980 which was tasked with making recommendations on the division of the area of continental shelf between Iceland and Jan Mayen island. Following detailed investigations, the commission proposed the establishment of a joint development zone. This was accepted and incorporated into a treaty signed in 1981.

In April 2016, pursuant to Article 298 and Annex V of the UNCLOS, Timor-Leste initiated compulsory conciliation proceedings against Australia concerning the maritime boundary in the Timor Sea with their "Notification Instituting Conciliation under Section 2 of Annex V of UNCLOS."[63] A conciliation commission consisting of five members was established on 25 June 2016, with the Permanent Court of Arbitration acting as Registry in the proceedings.[64] Australia responded by challenging the competence of the Conciliation Commission, arguing that compulsory conciliation under the Convention was "precluded by other treaties entered into between the Parties." However, the commission ruled against Australia's objections in September 2016 and declared its competence to conciliate the dispute. Subsequently, the case proceeded to the negotiation phase over a 12-month period, during which the commission convened 13 rounds of meetings with the parties.[65] Because this maritime boundary delimitation had implications for oil rights to the Greater Sunrise Field, which is estimated to be worth $40 billion in oil and natural gas deposits,[66] the commission also met with oil and gas companies to facilitate arrangements on joint development of the resources and the sharing of the revenue.[67] Ultimately, an agreement was reached in September 2017, which was incorporated into a treaty signed on March 6, 2018, and the commission also issued its report on May 9, 2018.[68] This treaty involved the two states, as well as the Greater Sunrise Joint Venture partners.[69]

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[61] https://pellcenter.org/wp-content/uploads/2017/10/Morris-2017.pdf
[62] https://pellcenter.org/wp-content/uploads/2017/10/Morris-2017.pdf
[63] https://www.pcacases.com/web/view/132
[64] https://pca-cpa.org/wp-content/uploads/sites/175/2017/09/Timor-Sea-Conciliation-Press-Release-No.-9-EN.pdf
[65] https://pca-cpa.org/wp-content/uploads/sites/175/2017/09/Timor-Sea-Conciliation-Press-Release-No.-9-EN.pdf
[66] https://pellcenter.org/wp-content/uploads/2017/10/Morris-2017.pdf
[67] <https://pca-cpa.org/wp-content/uploads/sites/175/2017/09/Timor-Sea-Conciliation-Press-Release-No.-9-EN.pdf>; see also < https://thediplomat.com/2018/05/australia-and-timor-lestes-landmark-maritime-boundary-conciliation-process/>
[68] https://thediplomat.com/2018/05/australia-and-timor-lestes-landmark-maritime-boundary-conciliation-process/
[69] "The settlement treaty establishes a permanent and binding continental shelf and exclusive economic zone boundary between the opposite coasts, which is largely an adjusted median line. Some parts of the compromised lateral lines are provisional and subject to possible adjustments depending on the outcome of the ongoing maritime boundary negotiation between Timor-Leste and Indonesia. The treaty also establishes a special regime for the Greater Sunrise oil and gas fields. It provides that the ratio of revenue sharing will depend on the location of the

This case marks the first time that a member of UNCLOS invoked compulsory conciliation under the Convention's dispute resolution mechanisms. Compulsory conciliation can offer smaller states an arguably less contentious, non-binding mechanism to compel larger states to participate in a process to seek an equitable solution to maritime boundary disputes.[70]

4.1.4. Binding Dispute Resolution Mechanisms

Considering the flexibility that international law allows in the definition of maritime boundaries, it is perhaps rather surprising that states are willing to surrender decisions over something as important as the allocation of maritime space to a third party. However, a significant number of maritime boundary disputes have been resolved through adjudication procedures, and UNCLOS offers a range of options for states which cannot agree on the course of their maritime boundary.

Although submitting a boundary dispute to third-party adjudication requires States to cede control of the outcome to the adjudicators, , there are potential benefits which may outweigh the risks associated with binding adjudication. Firstly, it guarantees that a boundary will be delimited within a known timeframe; this may be appealing if negotiations have proved fruitless over a long period and there are exploitable resources in the area subject to competing claims. Secondly, some governments may feel it is politically preferable to have a third party to 'blame' for any lost territory rather than be open to accusations of having given away territory in a negotiated settlement. Thirdly, while the precise course of a boundary delimited by a court is difficult to predict, the approach taken in determining an equitable solution is now firmly established (see section 3.3) so the broad outcome can be anticipated with some confidence. Assuming that neither state makes a wholly unreasonable claim, the jurisprudence suggests that both sides can expect to secure at least part of the area of overlapping claims.

The International Court of Justice

The traditional forum for resolving international boundary disputes is the International Court of Justice, which was established under the Charter of the United Nations in 1945 and remains the UN's principal judicial organ. The ICJ's role is to settle, in accordance with international law, legal disputes submitted to it by States and to give advisory opinions on legal questions referred to it by authorized United Nations organs and specialized agencies. The Court has been asked to delimit many maritime boundaries. Recent judgments include Nicaragua v. Honduras (2007) [71], Romania v. Ukraine (2009) [72], Nicaragua v. Colombia (2012), Peru v. Chile (2014) [73], Costa Rica v. Nicaragua (2018) [74], and pending decisions in Nicaragua v. Colombia[75] and

pipeline." See https://thediplomat.com/2018/05/australia-and-timor-lestes-landmark-maritime-boundary-conciliation-process/

[70] https://pellcenter.org/wp-content/uploads/2017/10/Morris-2017.pdf

[71] Territorial and Maritime Dispute between Nicaragua and Honduras in the Caribbean Sea (Nicaragua v. Honduras), Judgment, I.C.J. Reports 2007, p. 659.

[72] Maritime Delimitation in the Black Sea (Romania v. Ukraine), Judgment, I.C.J. Reports 2009, p. 61.

[73] Maritime Dispute (Peru v. Chile), Judgment, I.C.J. Reports 2014, p. 3.

[74] Maritime Delimitation in the Caribbean Sea and the Pacific Ocean (Costa Rica v. Nicaragua) — Land Boundary in the Northern Part of Isla Portillos (Costa Rica v. Nicaragua), Judgement, I.C.J. Reports 2018.

[75] Alleged Violations of Sovereign Rights and Maritime Spaces in the Caribbean Sea (Nicaragua v. Colombia), I.C.J.

Somalia v. Kenya.[76] The ICJ is listed as one of the options for securing a binding decision on a maritime dispute in Part XV of UNCLOS.

The International Tribunal for the Law of the Sea

UNCLOS established a second standing judicial body with competence to resolve maritime jurisdictional disputes. The International Tribunal for the Law of the Sea (ITLOS) whose statute forms Annex VI of UNCLOS, is based in Hamburg and began its work in October 1996. The purpose of the Tribunal is to adjudicate disputes arising out of the interpretation and application of the convention. To date, two boundary disputes have been submitted to the Tribunal. As discussed in the earlier sections, ITLOS delivered its first ruling in 2012 Bangladesh v. Myanmar[77], and the ITLOS Special Chamber delivered its ruling in 2017 Ghana v. Cote d'Ivoire.[78]

Arbitration

A third option for an adjudicated settlement of a maritime boundary dispute is an arbitration tribunal. States may establish ad hoc arbitration tribunals by special agreement or they can choose to accept the arbitration procedures set out in Annex VII of UNCLOS. Examples of the former process include the France-UK arbitration concerning the continental shelf boundary in the English Channel (1975-78)[79], the Canada-France arbitration concerning the maritime boundary between Canada and the French islands of St Pierre and Miquelon in the northwest Atlantic Ocean (1988-92)[80] and the Eritrea-Yemen arbitration concerning sovereignty over islands and the maritime boundary between the two countries in the southern Red Sea (1996-99).[81] Three boundary disputes have been submitted to arbitral tribunals constituted under Annex VII of UNCLOS: Barbados-Trinidad and Tobago (2004-06)[82], Guyana-Suriname (2004-2007)[83], and Bangladesh-India (2009-2014).[84]

Even if the parties elect to follow the procedures set out in Annex VII of UNCLOS, arbitration is a rather more flexible process than adjudication through the ICJ or ITLOS. The parties are able to nominate arbitrators, select the venue for the arbitration and determine the rules of procedure and timeframe for the submission of pleadings. Due to the heavy caseload of the ICJ, arbitration is likely to produce a significantly quicker decision than if a dispute is submitted to the Court and, unlike disputes submitted to the ICJ or ITLOS, arbitration proceedings can remain confidential if the parties wish. There is, however, a price to pay for the flexibility

[76] Maritime Delimitation in the Indian Ocean (Somalia v. Kenya), I.C.J.
[77] Delimitation of the maritime boundary in the Bay of Bengal (Bangladesh/Myanmar), Judgment, ITLOS Reports 2012, p. 4.
[78] Information on the cases submitted to ITLOS to date can be found at http://www.itlos.org.
[79] Delimitation of Continental Shelf between the United Kingdom of Great Britain and Northern Ireland, and the French Republic, Decisions (30 June 1977, 14 March 1978), 18 UNRIAA 3.
[80] Delimitation of maritime areas between Canada and France, Decision (10 June 1992), 21 UNRIAA 265.
[81] Territorial Sovereignty and the Scope of the Dispute (Eritrea and Yemen), Decision (9 October 1998), 22 UNRIAA 209; Second stage of the proceedings between Eritrea and Yemen (Maritime Delimitation), Decision (17 December 1999), 22 UNRIAA 335.
[82] Arbitration between Barbados and the Republic of Trinidad and Tobago, relating to the delimitation of the exclusive economic zone and the continental shelf between them, Decision (11 April 2006), 27 UNRIAA 147.
[83] Arbitration regarding the delimitation of the maritime boundary between Guyana and Suriname, Award (17 September 2007), 30 UNRIAA 1.
[84] The Bay of Bengal Maritime Boundary Arbitration (People's Republic of Bangladesh/Republic of India), PCA Case No. 2010-16, Award, 7 July 2014.

associated with arbitration: all costs are borne by the parties, whereas the costs of the venue, judges and registry of the ICJ and ITLOS are met by the United Nations. The Permanent Court of Arbitration (based in the Peace Palace in The Hague) has provided administrative support to a number of boundary arbitration tribunals.

Consent to binding dispute resolution mechanisms

A prerequisite for any third-party adjudication of a dispute between sovereign states is that all interested parties consent to the process: a state cannot be taken to court if it has not consented to jurisdiction. However, consent can take a number of forms. As state may consent to submit a particular dispute to a specific tribunal. A state give consent more generally in advance of any dispute arising. For example, ratifying or acceding to UNCLOS includes an acceptance of the jurisdiction of a tribunal formed in accordance with Annex VII as a legitimate means of resolving disputes arising out of the interpretation and application of the convention.[85] States may also voluntarily accept the compulsory jurisdiction of the ICJ with regard to disputes relating to the interpretation of a treaty or any question of international law.[86] Where two states have reciprocally accepted jurisdiction generally, it is possible for a state to initiate binding dispute resolution mechanisms unilaterally. Both Barbados and Guyana adopted this approach in their boundary arbitrations with Trinidad and Tobago and Suriname respectively, when they unilaterally initiated arbitration pursuant to Annex VII of UNCLOS. Similarly, Cameroon took Nigeria to the ICJ to resolve their land and maritime boundary dispute based on the declarations that each state had filed with the Secretary-General consenting to its jurisdiction over a wide range of matters.

5. 'Provisional Arrangements of A Practical Nature'

Although UNCLOS calls for states to delimit maritime boundaries, it tacitly acknowledges that the delimitation process may take some time to complete. Articles 74 and 83 both indicate that:

> Pending agreement ... the States concerned, in a spirit of understanding and cooperation, shall make every effort to enter into provisional arrangements of a practical nature and, during this transitional period, not to jeopardize or hamper the reaching of the final agreement. Such arrangements shall be without prejudice to the final delimitation.

UNCLOS does not specify what form "provisional arrangements of a practical nature" should take, but the establishment of a joint development zone could be described as an example of such an arrangement.[87]

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[85] States may specify a preference to submit disputes to the ICJ or ITLOS rather than an Annex VII arbitration tribunal. However, arbitration is the default option if no preference is specified or if the parties to a dispute have specified different preferences.

[86] Statute of the International Court of Justice, Article 36. Acceptance of the Court's jurisdiction may come in the form of a declaration by the government or, in some cases, as a result of being party to a regional treaty such as the 1948 *American Treaty on Pacific Settlement*.

[87] It could be argued that joint development zones permanently dispose of the question of access to resources and therefore are not, in fact, truly provisional arrangements.

5.1. Joint Development Zones

Joint development zones (JDZs) have taken a variety of forms but they are usually zones in which two states agree to share resource revenues for a specified period of time, typically 30 to 50 years. There are more than twenty JDZs around the world, most of them offshore. The area of the zone often corresponds to the area of overlapping claims between which the states have tried and failed to agree a maritime boundary; however, the legal and fiscal regimes relating to the exploitation of resources within the zone vary considerably. Some are very simple: for example, the JDZ created by Bahrain and Saudi Arabia in 1958 was defined in a single article.[88] In contrast, the agreement between Australia and Indonesia establishing a JDZ in the Timor Gap in 1989 comprised 34 articles and four extensive annexes.

Proponents of joint development regimes praise them as a means of overcoming seemingly intractable maritime boundary disputes in which the parties concerned cling inflexibly to overlapping claims. JDZs have also been welcomed by commentators as evidence of the emergence of a broad-based, functionalist approach to ocean management, as opposed to more traditional legalistic (and thus confrontational) zero-sum approaches focusing on the arbitrary division of areas which don't naturally fall into discrete blocks. As one commentator noted in an influential article, if the parties agree to joint development:

> ...the focus would be placed where it belonged: on a fair division of the resources at stake, rather than on the determination of an artificial line, thus...eliminating competition over the ownership of resources...especially where the resources are unknown.[89]

Conversely, it is probably inappropriate to promote joint development simply because the parties to a dispute have proved unable to resolve their differences over overlapping maritime claims. In both practical and political terms establishing a joint zone can be a complex task and, as Stormont and Townsend-Gault have suggested:

> The conclusion of any joint development arrangement, in the absence of the appropriate level of consent between the parties, is merely redrafting the problem and possibly complicating it further.[90]

In fact, for a number of reasons, including an inability of the parties to cooperate and the high level of administrative complexity involved in operating within a JDZ, only a few of the JDZs establish to date have resulted in oil and gas production.

A unique alternative to a classic JDZ was created by Angola and the Republic of Congo in the area offshore of the Congo-Cabinda (Angola) land boundary terminus, where the maritime boundary has not been delimited.[91] Each side made a discovery in the undelimited area and the

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[88] The zone was located entirely on the Saudi side of an agreed boundary and Saudi Arabia retained full responsibility for developing the resources of the Fasht Abu-Sa'afa oilfield. In return, Bahrain secured rights to 50% of any revenue generated from the field.

[89] Richardson, E.L. (1988) 'Jan Mayen in Perspective', *American Journal of International Law* 82: 451-452.

[90] Stormont, W.G. and I. Townsend-Gault (1995) 'Offshore Petroleum Joint Development Arrangements: Functional Instrument? Compromise? Obligation?' in Blake, G.H. *et al*. (eds) *The Peaceful Management of Transboundary Resources*, London: Graham & Trotman: 52.

[91] Protocol of Agreement dated 10 December 2001 between the Republic of Congo and the Republic of Angola approving Offshore Unitization Zone 14K and A-IMI.

states and companies involved concluded that the discoveries “belong to the same geological structure.” Thus in there agreement of 10 September 2001, rather than creating a classic JDZ with a distinct, complicated legal and administrative regime, they agreed to unitize the field without establishing the location of the boundary. The states agreed to share the oil and gas produced equally. They further agreed that the companies with contracts in each state would form a consortium to exploit the field with the appointment of a single operator. The states further agreed to extend the legal, fiscal and economic conditions for the Angola contract to the entire unit area.