# THE EXTENDED CONTINENTAL SHELF IN ATLANTIC AFRICA

ABDESSALAM JALDI & LOUBNA EDDALLAL





This paper explores the evolving legal, geopolitical, and technical dynamics surrounding the extension of the coastal shelf of Atlantic African states beyond 200 nautical miles under the United Nations Convention on the Law of the Sea (UNCLOS). As several coastal states pursue rights over seabed areas beyond their exclusive economic zones, the paper highlights the growing strategic importance of these claims for resource access, particularly hydrocarbons and minerals, and maritime border delimitation in the region. While the Commission on the Limits of the Continental Shelf (CLCS) plays a technical role in assessing the scientific validity of claims, it does not resolve disputes between overlapping submissions, many of which remain pending or in active dispute. The paper also shows that a shift may be underway from geologybased entitlements to a geography and equity-driven approach in maritime boundary delimitation, reflecting recent international jurisprudence. The paper argues that without coordinated regional strategies and strengthened negotiation frameworks, overlapping claims risk fueling future disputes over offshore resources in an already sensitive geopolitical space. States are encouraged to resolve overlapping claims through bilateral agreements.

ABDESSALAM JALDI & LOUBNA EDDALLAL

#### INTRODUCTION

The delineation and extension of the continental shelf are fundamental aspects of modern maritime governance, rooted in the legal framework established by the 1982 United Nations Convention on the Law of the Sea (UNCLOS). Article 76 of the Convention grants coastal states sovereign rights over the seabed and subsoil of their continental shelf, extending up to 200 nautical miles from the baselines, irrespective of geological conditions. Where the natural prolongation of the landmass extends beyond this threshold, states may claim an extended continental shelf, subject to stringent scientific and legal criteria, and in accordance with the procedures set forth by the Commission on the Limits of the Continental Shelf (CLCS).

In the context of the African Atlantic coastline—stretching from Morocco to South Africa—questions of continental-shelf delimitation and extension are particularly complex. The region's diverse coastal geomorphology, combined with historical, legal, and political intricacies, makes the implementation of Article 76 both challenging and contentious. Multiple overlapping claims and unresolved maritime boundaries further exacerbate this complexity, often requiring adjudication or cooperative mechanisms to ensure equitable resource access and jurisdictional clarity. Meanwhile, the race for natural resources in this maritime region appears to be sowing the seeds of new territorial conflicts in the era of globalization and climate change.

This paper examines the application of Article 76 in Atlantic Africa, focusing on the legal and scientific processes by which coastal states delineate and assert claims to their extended continental shelves (ECS). It explores the methodologies employed in the preparation of submissions to the CLCS, the constraints imposed by international law, and the strategic use of geophysical and geological evidence. Special attention is paid to case studies from South Africa and Namibia, whose submissions exemplify the technical and geopolitical dimensions of ECS claims. Additionally, the paper evaluates the broader implications of continental-shelf extensions in the region, particularly in light of increasing competition for offshore hydrocarbons and other seabed resources, in a context of overlapping claims.

By analyzing both the legal principles and regional practices underpinning the extension of the continental shelf in Atlantic Africa, this Research Paper contributes to a deeper understanding of how international maritime law is operationalized in a resource-driven and geopolitically sensitive environment.

## 1. THE LEGAL CHALLENGES SHAPING THE EXTENSION OF THE CONTINENTAL SHELF IN ATLANTIC AFRICA

The legal study of continental shelf extension reveals a new relationship between states and their territories. After many years of debate and misunderstanding, the extension establishes the continental shelf as an ancillary territory of the coastal state. This type of territory differs from other maritime and terrestrial territories. It is negotiated, defined, or delimited before any occupation or use, without even the certainty that it will contain valuable resources, and without, for the time being, means to explore these depths. States measure and define these seabeds, pressured by the pace of the extension procedure. This growing awareness of the importance of this space leads states to demonstrate unprecedented sensitivity in defending and protecting their rights, transforming the extension process into one of negotiation and dialogue among all parties. Thus, the territorial focus expressed during the

creation and negotiation of the continental shelf zone is complemented by the relentless implementation of the extension procedure, marking a new chapter in the history of this space.

#### 1.1 The Extended Continental Shelf: Legal Regime

A common misconception in discussions on maritime boundaries, particularly in relation to the African Atlantic coastline, is the confusion between an extended continental shelf (ECS) and an extension of a coastal state's exclusive economic zone (EEZ). The legal distinctions are significant and foundational to understanding coastal state jurisdiction under UNCLOS.

## 1.1.1 Extended Continental Shelf in Atlantic Africa in the Framework of the Montego Bay Convention

According to UNCLOS, a coastal state's continental shelf comprises the seabed and subsoil that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of its continental margin. If a state does not possess a broad continental margin, the continental shelf may extend up to 200 nautical miles from the baselines used to measure the breadth of the territorial sea<sup>1</sup>. This provision recognizes that states with broad continental margins may have shelves extending beyond 200 nautical miles. However, such an extended continental shelf is subject to specific limits: it may extend no further than 350 nautical miles from the baselines, or 100 nautical miles from the 2,500-meter isobath, whichever is applicable<sup>2</sup>.

To determine the outer limits of the ECS, the UNCLOS provides two technical and complex methodologies: the 'Irish formula' (also known as the 1% sediment thickness criterion), and the 'Hedberg formula' (defined as the foot of the slope plus 60 nautical miles)<sup>3</sup>. A coastal state may employ both methods simultaneously in different parts of its ECS to maximize the area of its claim. The final boundary of the ECS beyond 200 nautical miles must be delineated by straight lines not exceeding 60 nautical miles in length, connecting a series of fixed points<sup>4</sup>.

The process of claiming this extension is defined in paragraphs 4 to 10 of UNCLOS Article 76. To determine the outer edge, which marks the final limit of the continental extension, paragraph 4 provides two main formulae:

- 1. The sediment thickness formula, by which the shelf may extend to points where the thickness of sedimentary rocks is at least 1% of the distance from the foot of the continental slope. The 1% thickness rule suggests that the area has been accumulating materials eroded from land over time, which reflects a real physical connection between the land territory and the seabed through not only proximity, but also geological continuity.
- 2. The distance formula, by which the shelf may also extend to a line 60 nautical miles from the foot of the slope, identified based on the greatest change in gradient. This is referred to as the Hedberg Rule and is used to identify the point on the seabed where the slope

<sup>1.</sup> Edwin Egede, E. (2012). Africa and the Extended Continental Shelf under the Law of the Sea Convention (1982). The Journal of Jurisprudence, Cardiff University, 2012, 176.

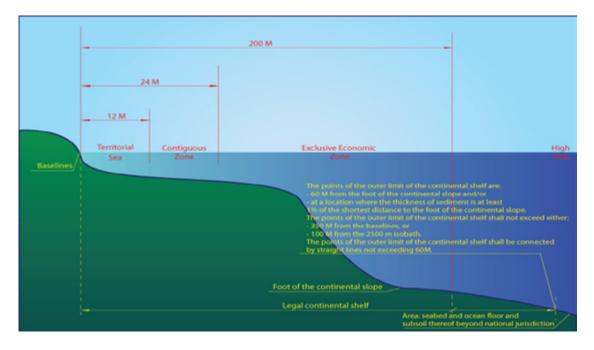
<sup>2.</sup> Ibid.

<sup>3.</sup> Ibid.

<sup>4.</sup> Ibid.

Figure 1

Maritime Zone Description, Commission on the Limits of the Continental Shelf



African States must meet the geological and geomorphological criteria described in Article 76 but must also ensure that their submissions to the CLCS respect the outer limits established in paragraph 5 of the article. According to the paragraph, there are two absolute constraints beyond which no claim is permitted. The first is the pure distance constraint: the condition by which a state may not extend its shelf more than 350 nautical miles from the baseline, regardless of geological evidence. The second is the depth and distance constraint, whereby the state may extend the shelf up to 100 nautical miles from the 2,500-meter isobath (the line connecting seabed points at 2,500 m depth), based on natural prolongation and supported by geological data.

The exclusive economic zone (EEZ), in contrast, extends 200 nautical miles from the baseline and includes sovereign rights over both the water column and the seabed for exploring and exploiting natural resources (Article 56, UNCLOS). Beyond the 200-nautical-mile limit, the high-seas regime applies to the waters, and freedom of navigation, overflight, and fishing (among other freedoms) prevail<sup>5</sup>.

#### 1.1.2 Sovereign Rights or Sovereignty?

The continental shelf regime is a functional regime that seeks to reconcile the competing interests of the 'sovereign rights' of coastal states to resource exploration and exploitation, with the rights of other states to exercise the freedoms of the high seas. The most glaring mistake in discussions about continental shelf extensions is the assumption that the extension expands a coastal state's EEZ and grants sovereignty. Indeed, the continental shelf/extended continental shelf always end at the water's edge. Waters located above the continental shelf beyond 200 nautical miles and 350 nautical miles for the extended continental shelf from the baseline, are considered part of the high seas, where states and foreign vessels enjoy the freedoms of the high seas.

<sup>5.</sup> Myron H. Nordquist, Shabtai Rosenne, Satya N. Nandan. United Nations Convention on the Law of the Sea: 1982. Martinus Nijhoff Publishers. 1985

Although the ECS would amount to new territory, it should be noted that a coastal state has rather limited rights over the continental shelf<sup>6</sup>. An ECS grants only sovereign rights over all resources on and beneath the seabed. In other words, the coastal state is not the 'owner' of the claimed area, but obtains sovereign rights for exploration and exploitation. Such rights do not affect the legal status of the sub-adjacent waters or the airspace above the waters, or the freedom of navigation and other rights and freedoms of other states. Consequently, the coastal state must share the continental shelf with any other state—coastal or not—that wishes to carry out activities under the freedoms of the high seas. This distinction was emphasized by Churchill and Lowe, who clarified that "the coastal state's rights over the extended continental shelf are limited to the seabed and subsoil and do not affect the legal status of the superjacent waters or the air space above"<sup>7</sup>.

A good example of this is UNCLOS Article 82, which establishes a process for equitable contribution and distribution in exchange for the right to extend the continental shelf. Thus, a coastal state exploiting its subsoil must pay an annual financial contribution. The coastal state must respect the freedom of other states to navigate and operate in the waters above, as well as comply with the financial obligations set forth in Article 82 of UNCLOS, which mandates annual payments to the International Seabed Authority (ISA) for resource exploitation beyond 200 nautical miles<sup>8</sup>. This means that by submitting an application to the Commission on the Limits of the Continental Shelf for extension of the continental shelf, a state may be granted sovereign rights over living and non-living resources within the ECS area, but not sovereignty itself.

### 1.1.3 Implications for African Atlantic Coastal States: From the Organization of African Unity to African Union

The interest that broad shelf African states have in continental shelf extension has been largely motivated by economic and territorial considerations based on the perception that there are immense mineral resources that could be exploited in this part of the sea. They are also motivated by the view that a claim to an extended CS would amount to extensions of their territories. Since the time of the Organization of African Unity (OAU), Africa had always engaged with law of the sea issues. For instance, during the third United Nations Conference on the Law of the Sea (UNCLOS III), which took place between 1973 and 1982, the OAU put together a reasonably to serve as a framework to guide the negotiating positions of African states during this groundbreaking Conference<sup>9</sup>. The Declaration from the conference dealt with diverse law of the sea issues, including offshore maritime boundaries.

The initial general position of African states was that a new concept EEZ, which would not exceed 200 nautical miles from the baseline establishing the territorial sea, should subsume the continental shelf concept<sup>10</sup>. However, during the course of the UNCLOS III ,African states conceded that the EEZ and continental shelf could exist side by side, resulting in

<sup>6.</sup> Edwin Egede, E. (2012). Africa and the Extended Continental Shelf under the Law of the Sea Convention (1982). The Journal of Jurisprudence, Cardiff University, 2012, 181.

<sup>7.</sup> Robin Churchill and Vaughan Lowe. The Law of the Sea. Manchester University Press. Third edition. 1999.

<sup>8.</sup> Myron H. Nordquist, Shabtai Rosenne, Satya N. Nandan. United Nations Convention on the Law of the Sea: 1982. Martinus Nijhoff Publishers. 1985

<sup>9.</sup> Edwin Egede, E. (2012). Africa and the Extended Continental Shelf under the Law of the Sea Convention (1982). The Journal of Jurisprudence, Cardiff University, 2012, 177.

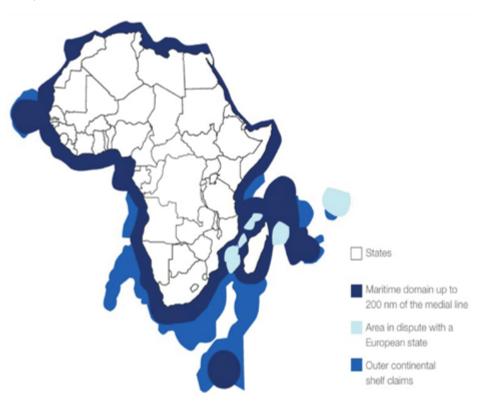
<sup>10.</sup> Ibid.

the concepts overlapping when the continental shelf falls with 200 nautical miles, with the opportunity for broad-shelf states to extend the continental shelf beyond 200 nautical miles, subject to a maximum limit of 350 nautical miles, when certain conditions are satisfied. The concession was given on the understanding that broad-shelf states would make contributions or payments from mineral resource production in the extended continental shelf to an international organization established to organize and control activities in this maritime area, on behalf of the international community<sup>11</sup>. This was eventually incorporated into the UNCLOS, along with provisions dealing with the extended continental shelf<sup>12</sup>.

The African Union, the successor to the now defunct OAU, also engages with issues related to the sea. In early 2008, the AU through its Assembly, at its 10<sup>th</sup> Ordinary Session, adopted a decision on the extended continental shelf of African coastal states<sup>13</sup>. This decision was made with a consciousness of the major geopolitical and strategic stakes linked to the African continental shelf and of its abundant mineral and biological resources, which constitute an important source of foreign currency earnings for the economic development of the continent<sup>14</sup>.

#### Figure 2

Vrancken and Tsamenyi: The Law of the Sea:the AU and its members states, Cap Town: Juta, 2017



<sup>11.</sup> Ibid.

<sup>12.</sup> Ibid.

<sup>13.</sup> Ibid.

<sup>14.</sup> Decision on the Extension of the African Continental Shelf and Climate Change, Doc. EX.CL/391 (XII), Decisions and Declarations of the Tenth Ordinary Session of the Assembly of the African Union, 31 January–2 February 2008. Available at: <a href="http://www.africaunion.org/root/au/Conferences/2008/january/summit/docs/decisions/Assembly\_Decisions\_171-191.pdf">http://www.africaunion.org/root/au/Conferences/2008/january/summit/docs/decisions/Assembly\_Decisions\_171-191.pdf</a>.

At the same time, and without prejudice to the maritime zones as established by the UNCLOS regime for individual nations, Africa would like to establish what is called the Combined Exclusive Maritime Zone for Africa (CEMZA), defined as a common maritime zone of all AU member states. The objective of the CEMZA is to be a stable, secure, and clean maritime zone in view of developing and implementing common African maritime affairs policies for the management of African oceans, seas, and inland waterways resources, as well as for its multifaceted strategic benefits. The establishing of the CEMZA will grant Africa enormous cross-cutting geostrategic, economic, political, social, and security benefits, while minimizing the risks of all transnational threats, including organized crime and terrorism in Africa. The same properties are stables as established by the UNCLOS regime of the CEMZA will grant Africa enormous cross-cutting geostrategic, economic, political, social, and security benefits, while minimizing the risks of all transnational threats, including organized crime and terrorism in Africa. The same properties are stables as estables as

Finally, the 2050 Africa's Integrated Maritime Strategy, adopted to develop and implement an integrated and coherent strategy in respect of Africa's oceans, seas, coastal regions, and maritime sectors, has defined Africa's Maritime Domain (AMD) as: "all areas and resources of, on, under, relating to, adjacent to, or bordering on an African sea, ocean, or African lakes, intra-coastal and inland navigable waterways, including all African maritime-related activities, infrastructure, cargo, vessels and other means of conveyance. It also includes the air above the African seas, oceans, lakes, intra-coastal and inland navigable waterways and to the oceans' electromagnetic spectrum as well" 17.

## 1.2 Settlement of Disputes Concerning the Extension of the Continental Shelf

The Commission on the Limits of the Continental Shelf (CLCS) plays a strictly technical role. It evaluates scientific data to recommend an outer limit for the continental shelf, without resolving territorial disputes. In Africa, states generally cooperate with the CLCS, but in cases of overlapping claims, a joint submission is required. The stakes are high because extending the shelf allows for the exploitation of resources such as hydrocarbons. Disputes must be resolved through negotiation or international legal recourse.

## 1.2.1 What Delimits the Extended Continental Shelf: The Commission on the Limits of the Continental Shelf or Negotiation?

The role of the CLCS has often been misunderstood, leading to misconceptions about its authority in maritime boundary delimitation, especially in regions with overlapping claims, such as the African Atlantic shelf. Contrary to some beliefs, the CLCS does not function as an adjudicative body resolving disputes between states. Instead, the CLCS operates under a strictly technical and scientific mandate, assessing submissions made by coastal states to determine whether the geological and geomorphological data support an extension of the continental shelf beyond the 200-nautical-mile EEZ. This limited scope is critical to maintaining the Commission's impartiality and objectivity.

From this perspective, to have an extension of the continental shelf recognized, a state must first submit a request to the CLCS. The request must be accompanied by scientific justification with a detailed file demonstrating that there is a scientific basis for the claim to extend rights. In other words, the continental shelf extension file must prove, using

<sup>15.</sup> Vishal Surbun. Africa's combined exclusive maritime zone concept. Institute for Security Studies (ISS). Africa Report. 2021. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://issafrica.s3.amazonaws.com/site/uploads/ar-32.pdf

<sup>16.</sup> Ibid

<sup>17. 2050</sup> Africa's Integrated Maritime Strategy (2050 AIM Stratregy). chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://au.int/sites/default/files/documents/30929-doc-2050\_aim\_strategy\_eng\_0.pdf

geological and geomorphological criteria, that the area in question indeed belongs to the continental shelf. When the state submits this request, it must comply with dual constraints of distance and depth. The area cannot exceed the limit of 350 nautical miles from the coast, nor can it extend beyond an imaginary line 100 nautical miles beyond the 2,500-meter isobath line, which marks the beginning of the abyssal plain. Once the scientific file is submitted, the Commission examines the country's request and issues recommendations. This triggers the third phase, during which the file returns to the state, which will establish the outer limit of its continental shelf by a unilateral act, but based on the recommendations of the CLCS. Thus, the Commission evaluates whether the scientific evidence and maps provided by states confirm the geological continuity between the national territory and the continental shelf.

In the African Atlantic context, states must navigate a complex interplay of scientific requirements and political negotiations. Indeed, while the CLCS's rules allow for joint submissions to address overlapping claims, few African States have engaged in this practice to date, often preferring bilateral negotiations or international dispute resolution mechanisms to settle disagreements<sup>18</sup>. The CLCS's procedural rules restrict it from making recommendations on the outer limits of continental shelves in the absence of agreement between overlapping claimants, thereby deferring to states' sovereign rights and diplomatic processes<sup>19</sup>.

Furthermore, the technical criteria set out in Article 76 of UNCLOS impose stringent scientific thresholds that coastal states must satisfy to justify the extension of their continental shelf claims. Churchill and Lowe (1999) underscored that these criteria include geological and geomorphological evidence, such as sediment thickness and the natural prolongation of land territory under the seabed<sup>20</sup>. The Commission's examination of these data ensures a standardized, law-based approach to continental shelf delimitation, preventing arbitrary or excessive claims<sup>21</sup>.

Nevertheless, the post-submission phase reveals limitations in the Commission's influence. States retain full discretion to publish the CLCS's recommendations or adjust their claims, as exemplified by the cases of Barbados, Russia, and Brazil. Werner argues that this discretion reflects the fundamental principle of state sovereignty in maritime affairs and raises questions about the binding nature of the CLCS's advice, potentially leading to inconsistencies in the international legal order.<sup>22</sup>

### 1.2.2 Atlantic Africa Strategies for Addressing Disputes Related to the Extended Continental Shelf

Maritime border disputes remain a reality in Africa<sup>23</sup>. Elferink (2017) predicted a rise in African Maritime boundary disputes<sup>24</sup>, based on a review of the UNCLOS status of the African EEZ and its extended continental shelf, using declassified military information,

<sup>18.</sup> Jouanet Emmanuel. International Maritime Boundaries. Brill. Second Edition. 2017.

<sup>19</sup> Ibid

<sup>20.</sup> Robin Churchill and Vaughan Lowe. The Law of the Sea. Manchester University Press. Third edition. 1999.

<sup>21.</sup> Ibid.

<sup>22.</sup> Wouter G. Werner (ed.), with Łukasz Gruszczynski, Deference in International Courts and Tribunals (OUP, 2014).

<sup>23.</sup> Majinge, C. R. (2012). Emergence of New States in Africa and Territorial Dispute Resolution: The Role of the International Court of Justice. Melbourne Journal of International Law, 13, 8-38.

<sup>24.</sup> O Elferink, A. O. (2017). Maritime Boundaries and Limits and Transboundary Cooperation (pp. 1-3). U:T/NILOS.

satellite images, and estimates of oil and gas reserves. Of the 100 maritime boundaries identified by Elferink (2017), only 32 are resolved, leaving 68 unresolved or contested<sup>25</sup>. Recent disputes involving, for example, Ghana and Ivory Coast have been sent to arbitration within the framework of the ICJ.

Moreover, challenges remain for Atlantic Africa in fully implementing geography-based delimitation. Coastlines with irregular shapes, presence of islands, and the existence of historic claims complicate strict equidistance application. Indeed, the negotiation of delimitation agreements requires political will, technical capacity, and often, external mediation or adjudication. African states, many with limited hydrographic and geological expertise, face the additional hurdle of mobilizing resources for comprehensive submissions to the CLCS and for negotiations<sup>26</sup>.

To address disputes, Atlantic African states increasingly consider various options, including direct negotiations, mediation, or recourse to international judicial bodies such as the International Tribunal for the Law of the Sea in Hamburg. This hybrid approach, combining scientific input from the CLCS with diplomatic and legal dispute resolution, aligns with the UNCLOS emphasis on peaceful settlement of maritime boundary issues<sup>27</sup>.

Meanwhile, the AU, in its continued efforts to promote the sovereignty and sustainable development of its member states, adopted a decision urging African coastal and island nations to expedite the process of preparing and submitting their claims for continental shelf extension beyond the 200 nautical mile limit, as permitted under Article 76 of the United Nations Convention on the Law of the Sea (UNCLOS). This call was formalized in the Decision on the Extension of the African Continental Shelf and Climate Change, Doc. EX.CL/391(XII), adopted on February 2, 2008, during the Twelfth Ordinary Session of the Executive Council of the AU<sup>28</sup>. The deadline for submitting these claims to the CLCS was set as May 12, 2009. The decision was prompted by the slow progress among African states in compiling the highly technical data required for submission, and was aimed at safeguarding the continent's maritime interests, ensuring access to offshore resources, and strengthening legal claims over extended seabed areas.

Further strengthening this position, the AU in 2014 adopted the 2050 Africa's Integrated Maritime Strategy (2050 AIMS), a comprehensive framework aimed at fostering sustainable and secure use of Africa's maritime domain. AIMS emphasizes the need for African states to assert their maritime claims, particularly over their EEZs and extended continental shelves. It specifically notes that: "Member States shall be encouraged to claim their respective maritime limits, including their extended Continental Shelf where applicable. Member States are urged to accept and fulfil all those responsibilities that emanate from the establishment of maritime zones as foreseen by UNCLOS and the IMO SOLAS Convention" (African Union, 2014, para. 59)<sup>29</sup>.

<sup>25.</sup> Ibid.

<sup>26.</sup> Okafor-Yarwood, O. A. Maritime Boundary Disputes in West Africa: Legal Challenges and Prospects for Regional Cooperation. African Journal of International and Comparative Law. Volume 27. Number 1. 2019. Pages 1-24.

<sup>27.</sup> Ibid.

<sup>28.</sup> African Union. Decision on the Extension of the African Continental Shelf and Climate Change, Doc.EX.CL/391(XII). 12th Ordinary Session of the Executive Council, 2008. 28–29 January 2008.

<sup>29.</sup> African Union. 2050 Africa's Integrated Maritime Strategy (2050 AIMS). 2014. Paragraph 59. Commission. <a href="https://au.int/sites/default/files/documents/30928-doc-2050\_aim\_strategy\_en.pdf">https://au.int/sites/default/files/documents/30928-doc-2050\_aim\_strategy\_en.pdf</a>

#### 1.2.3 CLCS Atlantic Africa Actual Submissions

Atlantic African States	Date of Submission	Position
Ghana	28 April 2009	<u>5 September 2014</u> : CLCS made recommendations
South Africa	5 May 2009	17 March 2017: The CLCS reviewed South Africa's submission and made recommendations on certain areas of the submission. However, the Commission did not substantively address several other areas. Consequently, the CLCS recommended that South Africa submit a revised submission for the areas not covered in its recommendations.  13 September 2017: South Africa filed a note verbale, formally communicating to the CLCS that it intended to proceed accordingly: that is, the country planned to prepare and submit a revised submission for those regions previously left unaddressed.
Nigeria	7 May 2009	17 February 2023: The subcommission prepared its recommendations and then prepared its presentation of the recommendations to CLCS.  6 March 2023: Nigeria noted a difference of views on some of the particulars of the outer limits of the continental shelf as recommended by the subcommission, notably in relation to the determination of the foot of the continental slope points. The delegation expressed its concerns and its views regarding the approach taken by the subcommission and stated a view that that approach was not consistent with the Convention.  23 August 2023: CLCS approved the recommendations of the subcommission with amendments.
Ivory-Coast	8 May 2009	Impact of Proceedings before the International Tribunal for the Law of the Sea on the Ghana/Ivory-Coast Case
Namibia	12 May 2009	28 June 2024: The Commission will make recommendations pursuant to Article 76 of the Convention upon completion of the consideration of the submission.
Gabon	10 April 1972	The CLCS decided to defer further consideration of the submission due to a potential dispute.

Angola	6 December 2013	CLCS decided to defer further consideration of the submission due to potential dispute
Joint Submission by Cabo Verde, The Gambia, Guinea, Guinea-Bissau, Mauritania, Senegal and Sierra Leone	25 September 2014	28 June 2024: CLCS shall make recommendations pursuant to Article 76 of the Convention
Joint Submission by Togo and Benin	21 September 2018	28 June 2024: CLCS shall make recommendations pursuant to Article 76 of the Convention
Liberia	23 October 2018	CLCS sub-commission still considering the submission

## 1.2.4 Preliminary Information Indicative of the Extended Continental Shelf

Atlantic Africa States	Date of Submission	Progress to Actual Submission
Angola	12 May 2009	Yes
Benin	12 May 2009	Yes
Benin and Togo	2 April 2009	Yes
Cameroun	11 May 2009	No
Cabo Verde	7 May 2009	Yes
Congo	12 May 2009	No
Democratic Republic of Congo	11 May 2009	No
Equatorial Guinea	14 May 2009	No
Gabon	12 May 2009	Yes
Gambia	4 May 2009	No
Guinea	11 May 2009	Yes
Guinea-Bissau	8 May 2009	Yes
Mauritania	11 May 2009	Yes
Morocco	3 August 2015	No
Nigeria	7 May 2009	Yes
Sierra Leone	12 May 2009	Yes
Sao Tome and Principe	13 May 2009	No
Senegal	12 May 2009	Yes
Sierra Leone	12 May 2009	Yes
Sao Tome and Principe	13 May 2009	No
Togo	8 May 2009	Yes

#### 1.3 The Delimitation of Extended Continental Shelf

The transition from a strictly geological approach grounded in the natural prolongation doctrine toward a more geography-focused delimitation method reflects evolving norms within international law, shaped by both state practice and judicial decisions. This shift responds to the complexities arising from overlapping continental shelf claims, particularly in regions where the continental margins of neighboring states converge closely, such as along the African Atlantic coast.

#### 1.3.1 From Geological to Geography-Based Delimitation

Historically, the natural prolongation principle, first articulated in early twentieth-century jurisprudence, posited that a coastal state's sovereignty over the continental shelf extended as far as the seabed was a geological extension of its landmass (North Sea Continental Shelf Cases, ICJ, 1969)<sup>30</sup>. Furthermore, according to Judge Shigeru Oda in the Case concerning the Continental Shelf (Libya/Malta), "...the concept of natural prolongation for the continental shelf was suggested with a view to defining the International Sea-bed [A] rea"<sup>31</sup>.

However, this geological criterion, while scientifically grounded, posed significant challenges in delimitation disputes because the geological features of the seabed often overlap or are difficult to delineate with precision. As Churchill and Lowe (1999) noted, reliance on natural prolongation could lead to inequitable results, especially where one state's coastline geometry placed it at a disadvantage<sup>32</sup>.

The equidistance principle, by contrast, offers a more pragmatic and equitable approach by drawing maritime boundaries based on equal distance from the nearest points of land territory of the competing states. This method prioritizes coastal geography and acknowledges the need for equitable solutions in complex maritime spaces. The increasing acceptance of this principle, codified in Article 15 of UNCLOS for territorial sea delimitation, and extended by judicial interpretation to continental shelf delimitation, reflects the international community's desire for predictable and just outcomes<sup>33</sup>.

In this context, the Bangladesh v. India arbitration case serves as a pertinent precedent illustrating how international tribunals reconcile scientific claims with principles of equity and geographic fairness. The tribunal rejected Bangladesh's attempt to base its claim on a natural prolongation of the continental shelf beyond the equidistance line, and instead applied geometric principles, coupled with equitable adjustments to account for relevant circumstances<sup>34</sup>. This pragmatic approach ensures that delimitation accords with both legal fairness and practical realities.

#### 1.3.2 Practical Implications for Atlantic African Coastal States

For African coastal states, the adoption of geography-based delimitation has practical

<sup>30.</sup> North Sea Continental Shelf (Federal Republic of Germany/Netherlands). International Court of Justice (ICJ). 1968. https://www.icj-cij.org/case/52.

<sup>31.</sup> International Court of Justice (ICJ). Tunisia/Libyan Arab Jamahiriya. Rep.1985, 13 at 154, para.55

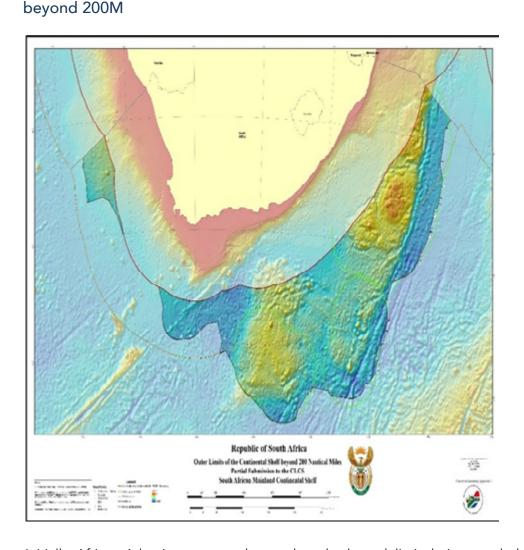
<sup>32.</sup> Robin Churchill and Vaughan Lowe. The Law of the Sea. Manchester University Press. Third edition. 1999.

<sup>33.</sup> Rothwell, D. R., & Stephens, T. The International Law of the Sea. Hart Publishing. Third Edition. 2016.

<sup>34.</sup> Permanent Court of Arbitration. Award in the Bay of Bengal Maritime Boundary Arbitration (Bangladesh v. India). 2014. <a href="https://pca-cpa.org/en/news/bay-of-bengal-maritime-boundary-arbitration-between-bangladesh-and-india-bangladesh-v-india/">https://pca-cpa.org/en/news/bay-of-bengal-maritime-boundary-arbitration-between-bangladesh-and-india-bangladesh-v-india/</a>

significance. The African Atlantic coastline is characterized by multiple adjacent and opposite states with narrow continental shelves, leading to highly overlapping claims. The emphasis on equidistance helps avoid protracted disputes that might arise from contentious geological arguments. Okafor-Yarwood stressed that this approach fosters regional stability by encouraging negotiations based on clear, measurable criteria rather than contested scientific evidence, which may be inaccessible or prohibitively expensive for many developing states<sup>35</sup>.

## Figure 3 Outer limits of the continental shelf of the Republic of South Africa



Initially, African Atlantic states used several methods to delimit their extended continental shelves under UNCLOS Article 76. The boundaries of the African continental shelves were primarily established through diplomatic negotiations as a first resort. When negotiations fail, judicial or arbitral decisions by courts such as the ICJ or the International Tribunal for the Law of the Sea settle disputes, citing the Cameroon-Nigeria case as an example. The primary scientific approach for delimitation is the equidistance method, which draws a median line

<sup>35.</sup> Okafor-Yarwood, O. A. Maritime Boundary Disputes in West Africa: Legal Challenges and Prospects for Regional Cooperation. African Journal of International and Comparative Law. Volume 27. Number 1. 2019. Pages 1-24.

equidistant from neighboring coastlines, notably used in the case of Cabo Verde-Senegal. In cases of bilateral agreement, some states establish a joint development zone to manage contested areas cooperatively, exemplified by Nigeria-Sao Tome and Principe<sup>36</sup>.

One of the most relevant cases of Atlantic African shelf extension is that of South Africa, which made its official submission to the CLCS in May 2009. The extension request was made on the basis of the natural prolongation of the South African landmass via the Agulhas plateau, where South Africa's continental shelf stretches around the southern tip of the continent, from the west to the east coast, and extends well beyond 200 nautical miles. According to South Africa's scientific submission, the country's continental landmass is complex in terms of bathymetric morphology. Based on both its geomorphological and geological structure, the entire margin around its coast is part of one continuous continental margin. Because of the complexity of the margin's morphology, the suggested outer limits of the continental shelf of the South African Mainland was generated from a combination of the Hedberg Line and the 1% Gardiner Line, a dual-method approach for a scientifically robust submission<sup>37</sup>.

In the same year, Namibia made a submission to the CLCS specifying the area of the extension of the shelf in the submarine region comprising a total of 1,062,935.85 km². The submission emphasized the morphological and geological continuity of the continental margin through the Walvis Ridge, asserting that the shelf is a natural prolongation of the land territory. It also included detailed bathymetric, physiographic, and geophysical data. Similarly to South Africa, Namibia determined its continental shelf's extent on the basis of Article 76's paragraphs 3 and 4. The foot of the slope was identified by the greatest change in seabed gradient, supported by geological and seismic data<sup>38</sup>.

As far as the maritime boundary with South Africa is concerned, Namibia has deliberately avoided the equidistance method for delimitation, though it previously applied it in determining the maritime boundary with Angola. In the case of its boundary with South Africa, using the equidistance approach would result in a significant loss of maritime space. This is due to the eastward curvature of Namibia's southern coastline near the mouth of the Orange River, which causes the equidistance line to shift in a south-westerly direction. As a result, substantial offshore areas, potentially rich in resources, would fall on the South African side, prompting Namibia to rely on the natural prolongation principle instead to determine its north-south aligned coastline<sup>39</sup>.

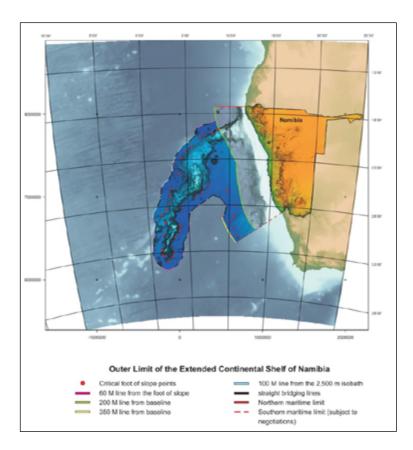
<sup>36.</sup> Kamga Maurice, The Delimitation of the Continental Shelf in Africa: Legal and Technical Challenges (presentation at the 3rd ADSR Project Workshop, International Seabed Authority, December 2022), <a href="https://www.isa.org.jm/wp-content/uploads/2022/12/03-Kamga.pdf">https://www.isa.org.jm/wp-content/uploads/2022/12/03-Kamga.pdf</a>.

<sup>37.</sup> Republic of South Africa, Executive Summary: Submission of the Republic of South Africa to the Commission on the Limits of the Continental Shelf, CLCS Submission No. 31 (United Nations Division for Ocean Affairs and the Law of the Sea, May 12, 2009)

<sup>38.</sup> Republic of Namibia, Continental Shelf Submission of Namibia: Executive Summary, CLCS Submission No. 50 (United Nations Division for Ocean Affairs and the Law of the Sea, May 12, 2009)

<sup>39.</sup> P. H. Vrancken, "Chapter Eight. Delimitation of Maritime Boundaries," in South Africa and the Law of the Sea, ed. Patrick H.G. Vrancken (Leiden: Brill, 2011), 195–206, https://doi.org/10.1163/ej.9789004210059.i-534.45.

Figure 4
Outer Limit of Extended Continental Shelf of Namibia



Nevertheless, the ascendancy of geographic delimitation principles over geological doctrines represents a significant evolution in international maritime law. For African states, embracing this shift offers an opportunity to resolve overlapping claims efficiently, unlock economic potential from seabed resources, and strengthen regional maritime governance. Assuming that African countries rely on peaceful negotiations or international courts, geography and not geology will be decisive in determining the boundaries of the extended continental shelf. Yet, this requires sustained commitment to diplomatic engagement, and full adherence to UNCLOS frameworks.

## 2. THE EXTENSION OF CONTINENTAL SHELF IN ATLANTIC AFRICA AS THE ORIGIN OF NEW TERRITORIAL CONFLICTS

The extension of the continental shelf in Atlantic Africa under the UNCLOS framework has emerged as a significant source of new territorial tensions among coastal states. The presence of valuable resources such as hydrocarbons and minerals in these extended zones has heightened strategic interest and heightened the stakes of maritime delimitation. Moreover, weak regional governance frameworks and limited legal harmonization in the subregion hinder cooperative approaches. There is potential for disputes when states proceed with unilateral exploration or exploitation of disputed seabed areas. As access to offshore resources becomes increasingly vital for economic development, the risk of maritime boundary disputes grows. Addressing these emerging conflicts requires robust

legal dialogue, transparent data sharing, and strengthened regional mechanisms for peaceful resolution.

## 2.1 Delicate configuration of African Atlantic Coasts: From Morocco to South Africa

The African Atlantic coastline, stretching from Morocco to South Africa, is characterized by a delicate configuration caused by the interplay of geographical, historical, legal, and political factors. These intersecting factors make the delimitation and the extension of the continental shelf highly complex and sensitive. The region's irregular and intricate coastal morphology, which include bays, capes, deltas, estuaries, and curved shorelines, makes it difficult to accurately define the outer limits of the continental shelf and apply the UNCLOS scientific delimitation methods. Along this extensive coastline, multiple neighboring states exist in proximity, many of which have longstanding historical and political disputes over their land and maritime boundaries, adding another layer of complexity to the issue of continental shelf extension in the region.

In this context, the example of the Gulf of Guinea region is revealing. The Gulf of Guinea encompasses a vast region, bounded in the northwest by Cape Palmas, located on the Liberia/Côte d'Ivoire border, and extending to Ponta Albina in southern Angola. This area includes twelve states: Côte d'Ivoire, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, São Tomé and Príncipe, Gabon, the Republic of the Congo, the Democratic Republic of the Congo, and Angola. Maritime delimitation in this region is particularly problematic because of the large number of states, significant disparities in their territorial sizes, and, above all, the shape of the coastline. Ortolland and Pirat (2010) referred to the delicate delimitation of the coasts because of their configuration, noting that the coastline forms virtually a right angle<sup>40</sup>.

<sup>40.</sup> Ortolland Didier and Pirat Jean pierre. 2010. Atlas géopolitique des espaces maritimes. Edition Technip. Paris. Page 52.

#### Figure 5

### Le Monde: le Golfe de Guinée, mer de tous les dangers et royaume de piraterie mondiale



Some states are disadvantaged by the configuration of their coastlines and end up with extremely limited maritime zones. This is the case, for example, for Togo, because of its narrow coastline, and, more notably, Cameroon. Cameroon is geographically disadvantaged under the law of the sea because of the concavity of the Gulf of Guinea in general and of the Cameroonian coastline in particular<sup>41</sup>. As a result, Cameroon finds itself constrained, with a very narrow maritime space, as it faces Bioko Island, which falls under Equatorial Guinean jurisdiction. This maritime confinement prevents Cameroon from accessing international waters. Bioko Island belongs to Equatorial Guinea and is located only 32 kilometers from the Cameroonian coast, meaning that the maritime boundary between Cameroon and Equatorial Guinea lies relatively close to Cameroon's shores.

On the other hand, the border between Cameroon and Nigeria was the subject of a ruling by the ICJ. The territorial dispute between Cameroon and Nigeria concerned the Bakassi Peninsula. The border was established in 1913 through an agreement between the Germans, who were then present in Cameroon, and the British, as Nigeria was a British colony. Following the independence of both countries, a dispute arose, and the peninsula was subsequently occupied by the Nigerian military. In 1994, Cameroon filed a request with the ICJ to prevent the conflict from escalating and to establish a definitive boundary

<sup>41.</sup> Kamga Maurice. 2016. Délimitation maritime sur la cote atlantique africiane. Bruxelles. Edition Bruylant. Brussels University Edition. Page 198

between the two states. Ultimately, the ICJ ruled in favor of Cameroon: "By thirteen votes to ten, the Court declared that sovereignty over the Bakassi Peninsula belongs to Cameroon"<sup>42</sup>.

Although Nigeria initially rejected the ICJ decision, it paved the way for negotiations. In 2002, the two countries formed a joint commission to resolve the dispute, and Nigeria withdrew its troops in 2006. The Bakassi Peninsula's subsoil is highly coveted because of its abundant oil reserves.

## 2.2 Race for Natural Resources on Extended Continental Shelf

Atlantic Africa occupies a key geostrategic position as a region endowed with significant hydrocarbon resources. Earney (1990) postulated that four primary categories of non-living resources are likely to be identified within the extended continental shelf (ECS): hydrocarbons; construction materials such as aggregates and sand; minerals found in placer deposits, including diamonds, gold, and ilmenite; and industrial chemicals such as sulfur and phosphate<sup>43</sup>.

Additionally, the extended ECS has significant potential for revenue generation through the exploitation of marine biodiversity, which may serve a broad range of industries, including pharmaceuticals, waste treatment, food processing, oil-well services, and paper manufacturing<sup>44</sup>.

Undeniably, the core driver behind overlapping claims and boundary disputes in Atlantic Africa is the desire to exploit and take advantage of offshore resources. States seek to secure access to oil, gas, and fisheries within the contested zones in order to maximize economic benefits, enhance energy security, and attract foreign investment through legal and sovereign clarity.

Despite its relatively low share of hydrocarbon production compared to other major oil-producing regions, Atlantic Africa remains a region of interest for oil markets, while Nigeria, as a the largest producer in the region, is a member of OPEC. As Ortolland and Pirat (2010) pointed out, this region offers three main advantages. First, its oil prospects remain promising. Second, it is strategically located—just a week away from North America and Europe—and tankers do not need to navigate risky routes or narrow straits. Third, offshore fields are generally unaffected by the political instability that often affects these states<sup>45</sup>.

Furthermore, several Atlantic African countries lack the financial, technical, and human resources to exploit their oil reserves, creating an opportunity for foreign oil companies—explaining the strong interest the region attracts<sup>46</sup>.

Offshore deposits represent significant sources of revenue, either through exploitation by national companies or through income generated by selling exploitation contracts to international oil companies. Furthermore, some resources are still to be discovered,

<sup>42.</sup> Labrecque George. 2004. Les frontières maritimes internationales : Géopolitique de la délimitation en mer. Paris. L'Harmattan. Page 45.

<sup>43.</sup> F.C.E. Earney, Marine Mineral Resources (1990) referred to in Prescott, Pages 66-71.

<sup>44.</sup> Edwin Egede, E. (2012). Africa and the Extended Continental Shelf under the Law of the Sea Convention (1982). The Journal of Jurisprudence, Cardiff University, 2012, 179.

<sup>45.</sup> Ortolland Didier and Pirat Jean Pierre. 2010. Atlas géopolitique des espaces maritimes. Edition Technip. Paris. Page 57.

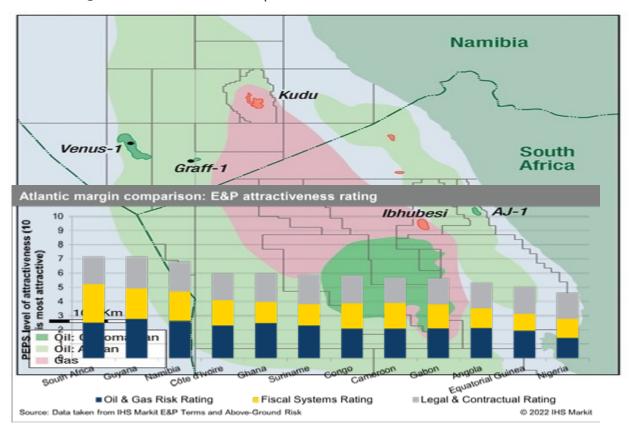
<sup>46.</sup> Sebille-Lopez Philippe. 2006. Géopolitique du pétrole. Paris. Armaud Collin. Page 131.

particularly beneath the continental shelf, which partly explains the keen interest of these states in extending the continental shelf. For this reason, the process of delimiting the continental shelf boundaries of Atlantic African states is a necessary tool to ensure regional stability by preventing conflicts over maritime boundaries aimed at securing ownership of oil deposits.

The Orange Basin in southern Atlantic Africa, which constitutes the disputed maritime area between Namibia and South Africa, has emerged as a zone of high economic and geopolitical interest since 2022 because of its considerable untapped hydrocarbon potential. Since 2022, the basin has attracted the attention of the major multinational energy companies, notably Shell, TotalEnergies, and QatarEnergy, for exploration and production<sup>47</sup>.

#### Figure 6

#### The Orange Basin Oil and Gas Map



Off the Namibian coast, major hydrocarbon discoveries have shifted the country into the spotlight. The two main landmark wells, Venus-1X, operated by TotalEnergies, and Graff-1X, drilled by Shell, have confirmed the existence of substantial oil reserves in deepwater areas. The Venus-1X well, located approximately 290 km offshore in Block 2913B, encountered an 84-meter thick reservoir of high-quality oil, with estimates of 5 billion barrels volume of in-place oil, in addition to 11 billion barrels of oil discovered so far in the Basin<sup>48</sup>.

<sup>47.</sup> Africa Oil & Gas Report, "The Orange Basin Deepwater Namibia: What's Going on with Its Resources, Reserves and Future Production of Natural Gas?" Africa Oil & Gas Report, September 2024, https://africaoilgasreport.com/2024/09/oil-patch-sub-sahara/the-orange-basin-deepwater-namibia-whats-going-on-with-its-resources-reserves-and-future-production-of-natural-gas/.

<sup>48.</sup> TotalEnergies, "Namibia – TotalEnergies Makes Significant Discovery in Offshore Block 2913B," TotalEnergies, February 24, 2022.

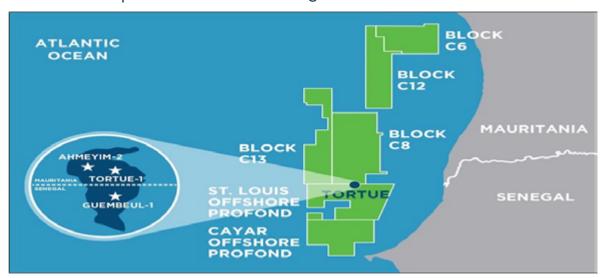
The discovered oil and associated gas volumes are large enough to position Namibia as a potential top oil producer in the continent, according to S&P Global 2030 projections. Currently, Namibia is the third most attractive country in Atlantic Africa for exploration and production by multinational companies after South Africa and Guyana<sup>49</sup>.

Meanwhile, the Brulpadda and Luiperd gas-condensate fields were discovered off the South African coast between 2019 and 2020, located 175 km off the country's southern coast near Mossel Bay. These findings, each reportedly containing over one billion barrels of gas condensate, have been described by legal and industry experts as game-changers for the national energy outlook<sup>50</sup>. Combined, Brulpadda and Luiperd are reported to hold about 3.4 trillion cubic feet of gas<sup>51</sup>. Currently, development of the two fields is stalled because TotalEnergies decided in mid-2024 to exit because of commercial viability concerns and the lack of gas markets to monetize the gas found in South Africa<sup>52</sup>.

Towards the north of Atlantic Africa, major offshore natural gas reserves have been discovered since 2014 in the maritime zone shared by Mauritania and Senegal. The most prominent field identified was named Greater Tortue Ahmeyim (GTA). The field is located in the ultra-deep cross-border waters, approximately 2800 meters below sea level. It is estimated to contain around 15 trillion cubic feet (Tcf) of recoverable gas and is considered one of the largest gas finds in Atlantic Africa, located 120 km offshore, meaning within the EEZs of both Senegal and Mauritania <sup>53</sup>. Technically speaking, the field spans across the C-8 block off the shore of Mauritania, and Senegal's Saint-Louis Profond offshore block<sup>54</sup>.

#### Figure 7

#### The GTA development area offshore Senegal and Mauritania



<sup>49.</sup> S&P Global Commodity Insights, "Orange Sub-basin Offshore Namibia: What's Going on with Its Resources, Reserves and Future Production of Natural Gas?" <a href="https://www.spglobal.com/commodity-insights/en/research-analytics/orange-subbasin-offshore-namibia">https://www.spglobal.com/commodity-insights/en/research-analytics/orange-subbasin-offshore-namibia</a>.

<sup>50.</sup> Daniel Silke, "The Gas Discoveries Off South Africa's Coast Could Be Game-Changers," BusinessTech, June 24, 2021, <a href="https://businesstech.co.za/news/business-opinion/467398/the-gas-discoveries-off-south-africas-coast-could-be-game-changers">https://businesstech.co.za/news/business-opinion/467398/the-gas-discoveries-off-south-africas-coast-could-be-game-changers</a>.

<sup>51.</sup> Offshore-Technology, "Luiperd & Brulpadda Gas Condensate Fields Development, South Africa," Offshore-Technology.com, <a href="https://www.offshore-technology.com/projects/luiperd-brulpadda-gas-condensate-fields-development-south-africa/">https://www.offshore-technology.com/projects/luiperd-brulpadda-gas-condensate-fields-development-south-africa/</a>.

<sup>52.</sup> https://www.reuters.com/business/energy/totalenergies-exited-south-africa-offshore-due-lack-gas-market-says-ceo-2024-10-31/

<sup>53.</sup> International Monetary Fund, "Senegal-Mauritania: Cooperation in Offshore Gas Development," IMF Working Paper No. 19/28 (March 2019), https://www.elibrary.imf.org/view/journals/002/2019/028/article-A001-en.xml

<sup>54.</sup> Offshore-Technology, "Greater Tortue Ahmeyim (GTA) LNG Project, Mauritania and Senegal," Offshore-Technology.com, <a href="https://www.offshore-technology.com/projects/greater-tortue-ahmeyim-gta-lng-project-mauritania-and-senegal/">https://www.offshore-technology.com/projects/greater-tortue-ahmeyim-gta-lng-project-mauritania-and-senegal/</a>.

The governments of Senegal and Mauritania signed an Inter-Governmental Cooperation Agreement for the development of the cross-border GTA field in 2018. The agreement serves as a framework for the joint development of the Tortue field through a cross-border unitization approach, initially splitting costs, production, and revenues equally between Senegal and Mauritania. It also includes mechanisms for future equity adjustments based on how the field performs over time<sup>55</sup>. Again, this form of partnership between the two is the optimal option for resource-sharing without resorting to legal arbitration. In fact, historic relations between Senegal and Mauritania have been strengthened by the discovery of gas on the maritime border since 2015, which has become a special case of cooperation instead of competition over resources within Atlantic Africa.

The GTA project is operated by British Petroleum in partnership with Kosmos Energy, under the production-sharing agreement. The hydrocarbon production structures include a floating LNG (FLNG) terminal for export, in addition to subsea wells and Floating Production Storage and Offloading systems, spanning the Senegalese and Mauritanian jurisdictions, yet managed as a single project. The FLNG terminal facility is designed to provide around 2.5 million metric tons of LNG per year on average<sup>56</sup>.

Finally, in the Gulf of Guinea, the largest gas producer is Nigeria, which operates several offshore fields. In 2024, the country produced 1.5 million barrels per day, accounting for 2.7% of global oil production. Angola is also a significant oil producer, planning to maintain its production at 1.1 million barrels per day, at least until 2027. Angola's case highlights the promising prospects for the region, as its production has doubled since 2007. Equatorial Guinea, Congo-Brazzaville, and Gabon are also significant oil producers in the region, with respective outputs of 14.6 Mt, 14.5 Mt, and 11.8 Mt. However, their production tends to stagnate because of the lack of new fields. That said, the International Court of Justice ruling on May 25, 2025, granting Equatorial Guinea sovereignty over the three disputed islands of Mbanie, Cocotiers, and Conga, previously contested with Gabon, is expected to boost oil production by Equatorial Guinea. Although Chad is not a coastal country, it is becoming an increasingly important player in the region's oil industry. While Chad does not produce offshore oil, it has constructed a pipeline from its production site in Doba to the Kribi terminal in Cameroon. Completed in 2003, this pipeline allows for the export of an additional 225,000 barrels per day into the Gulf of Guinea<sup>57</sup>. Other oil fields are still waiting to be discovered, particularly offshore in the waters of Côte d'Ivoire and Ghana.

## 2.3 Overlapping Extended Continental Shelf Claims in Atlantic Africa

The process of extending the continental shelves in Atlantic Africa is characterized by a large number of extension submissions and a large amount of preliminary information presented to the Commission on the Limits of the Continental Shelf. Overlapping claims create a particularly confusing situation that contains the seeds of new territorial conflicts.

<sup>55.</sup> Kosmos Energy, "Kosmos Energy Welcomes Approval of Inter-Governmental Cooperation Agreement Between Mauritania and Senegal Concerning Development of the Greater Tortue Ahmeyim Field," Kosmos Energy Investor Relations (February 6, 2019), https://investors.kosmosenergy.com/news-releases/news-release-details/kosmos-energy-welcomes-approval-inter-governmental-cooperation.

<sup>56.</sup> Offshore, "Greater Tortue Ahmeyim Presses the Ultra-Deepwater Envelope," Offshore Magazine, March 26, 2018, https://www.offshoremag.com/deepwater/article/14069065/greater-tortue-ahmeyim-presses-the-ultra-deepwater-envelope.

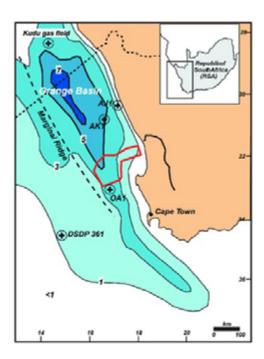
<sup>57.</sup> Philippe Sebille-Lopez. 2006. Géopolitique du pétrole. Paris. Armaud Collin. Page 139.

#### 2.3.1 Southern Atlantic Africa: The Orange Basin

In the fifth paragraph of its submission, South Africa has made it clear that parts of the current submission involve areas of dispute or unresolved matters, particularly citing the unresolved maritime boundary with Namibia in the west. The border between South Africa and Namibia has been subject to negotiations with South Africa since Namibia's independence. Article III (1) of the Agreement between Britain and Germany said that the border "starts at the mouth of the Orange River and ascends to the north back of this river", while Namibia's position remains that the border runs along the middle of the river. The dispute has, however, not escalated into open conflict<sup>58</sup>.

#### Figure 8

Orange Basin Location
Map with Superimposed
Isopach Distribution
of Post-Rift Strata.



The source of overlap in the claims of Namibia and South Africa concerns the maritime area beyond the two countries' EEZs, where there is a lack of a formal boundary, specifically in the deep offshore part of the Orange Basin. The Orange Basin is a shared sedimentary basin and a deep offshore area rich in hydrocarbon potential on the southwestern African margin. Both countries' ECS submissions overlap in the southern part of Namibia's margin and the northern part of South Africa's margin, where the Basin extends naturally<sup>59</sup>.

The complexity of the Orange Basin case stems from the fact that the natural continental margins of both countries extend into the same area of seabed<sup>60</sup>, making them both eligible to submit claims under Article 76 based on geological arguments. Both states submitted individual ECS claims to the CLCS in 2009 and both have opted for delimitation methods that are mostly advantageous to them, in terms of the size of the maritime area claimed.

<sup>58.</sup> Zongwe, Dunia Prince. (2022). The Law of the Sea in Namibia.

<sup>59.</sup> Douglas A. Paton, Rolando di Primio, Gesa Kuhlmann, David van der Spuy, and Brian Horsfield, "Insights into the Petroleum System Evolution of the Southern Orange Basin, South Africa," South African Journal of Geology 110, no. 2–3 (September 2007): 261–74, doi:10.2113/gssajg.110.2-3.261

<sup>60.</sup> Paton, Douglas & di Primio, Rolando & Kuhlmann, Gesa & Van der Spuy, David & Horsfield, B.. (2007). Insights into the Petroleum System Evolution of the southern Orange Basin, South Africa. South African Journal of Geology - S AFR J GEOL. 110. 261-274. 10.2113/gssajg.110.2-3.261.

This specific type of cases demonstrates the importance of the geological factor in reaching a final and binding delimitation between the two states, without resorting to decades of efforts and discussions at CLCS level. With clear scientific indications lacking, South Africa and Namibia are obliged to find a bilateral agreement, as suggested by UNCLOS Article 83. The Article indicates that delimitation of the continental shelves of states with adjacent borders should be affected by agreement and according to international law.

However, UNCLOS does not prescribe a specific scientific method for delimiting overlapping continental shelves beyond 200 nautical miles without the agreement of the states involved. Instead, it provides a legal framework for bilateral agreement, and allows resort to dispute settlement (e.g. the International Tribunal for the Law of the Sea, ICJ) if no agreement is reached<sup>61</sup>.

The two countries have been managing the overlapping area through a memorandum of understanding signed in 2009. The MoU facilitates cooperation and serves as a provisional arrangement that governs their collaboration, while awaiting a final and legally binding maritime delimitation agreement<sup>62</sup>.

For the time being, and according to the official progress report of the Chairperson for the 63<sup>rd</sup> session of March 2025 of the CLCS, Namibia's submission for an extended shelf is still under active examination. The sub-commission held two meetings with the Namibian delegation, where both sides presented and discussed the geological and geophysical evidence used to justify the proposed location of the base of slope. The process remains ongoing, with no final recommendations issued yet<sup>63</sup>.

### 2.3.2 Northern Atlantic Africa: Cabo Verde, The Gambia, Guinea, Guinea-Bissau, Mauritania, Senegal, and Sierra Leone

The role of interstate cooperation in continental shelf extension is undeniably important, since it is the first and last resort for states that have to find a final and legally binding solution to their disputes. Again, in cases of delicate geographic configuration and naturally shared continental margins, the most legally efficient option for adjacent states is to submit a joint submission to the CLCS. This was ultimately the case for Cabo Verde, The Gambia, Guinea, Guinea-Bissau, Mauritania, Senegal, and Sierra Leone. Given the overlapping and adjacent claims, the seven states have coordinated to avoid potential disputes, presenting a cohesive regional package to the CLCS as a form of regional cooperation, taking into account that six of them belong to the Economic Community of West African States (ECOWAS)<sup>64</sup>. In their 2014 joint submission, the seven states also relied on Article 76(1), (3), and (4) of UNCLOS to support their claims for extension. They employed two main geological formulae, the Hedberg and the Gardiner formula for outer limit determination. The joint submission followed Article 76 paragraph 7, indicating the connection of fixed points along the outer edge, using straight lines not exceeding 60 nautical miles. The approach integrated bathymetric and geophysical data to identify base points and construct the limit line in the whole area of the submission, which extends over

<sup>61.</sup> United Nations, United Nations Convention on the Law of the Sea (Montego Bay, December 10, 1982)

<sup>62.</sup> Zongwe, Dunia Prince. (2022). The Law of the Sea in Namibia.

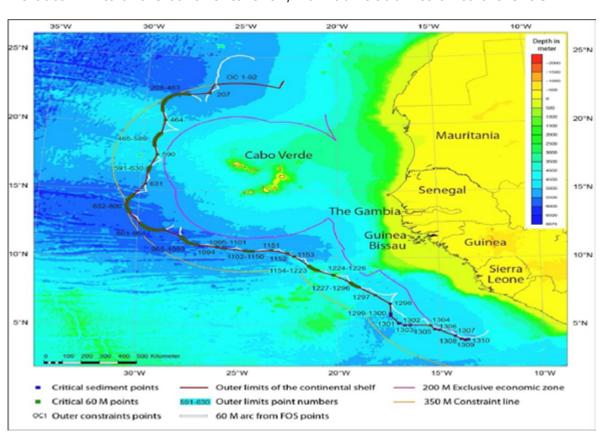
<sup>63.</sup> United Nations Commission on the Limits of the Continental Shelf (CLCS), Report of the Commission on the Limits of the Continental Shelf on its sixty-third session (New York: United Nations, 2023), <a href="https://docs.un.org/en/CLCS/63/2">https://docs.un.org/en/CLCS/63/2</a>.

<sup>64.</sup> United Nations, Joint Submission to the Commission on the Limits of the Continental Shelf in Respect of Areas of the Continental Shelf in the Atlantic Ocean Adjacent to the Coast of West Africa: Executive Summary (New York: United Nations, September 2014)

a total distance of 3000 km from the Saharan Seamounts in the north of Mauritania, to the Saint Paul Fracture Zone in the south of Sierra Leone<sup>65</sup>.

The continental margins of the seven coastal states are all parts of the Central and Equatorial Atlantic continental margin off West Africa, meaning their continental margins share similar natural and geological features. This means that in the hypothetical case of separate submissions to the CLCS, the seven countries would have been confronted with a similar situation to that of Namibia and South Africa, for which overlapping claims and differing interpretations of geological continuity have complicated maritime delimitation. This means that the joint submission was the most effective and strategic approach, allowing the states to collectively present their scientific data, ensure consistency in the interpretation of shared geological features, and avoid potential disputes. As such, agreement on extension projects ensures that no objection will be raised by any neighboring coastal state regarding the delimitation or outer limit of the shelf.

Figure 9
The outer limits of the continental shelf, from Joint Submission to the CLSC



The submission of a joint submission does not, however, imply the elimination of all the delimitation and overlapping claims issues. The joint submission's content emphasizes the fact that the seven countries are aware of the existence of unresolved maritime delimitation issues both within and beyond 200 nautical miles. In addition to the latter, the northernmost part of the continental margin, meaning the boundary between Mauritania and Morocco, and the southernmost part of the boundary between Sierra Leone and Liberia, are also subject to overlapping claims. According to the joint submission, the seven states

<sup>65.</sup> United Nations, Joint Submission to the Commission on the Limits of the Continental Shelf in Respect of Areas of the Continental Shelf in the Atlantic Ocean Adjacent to the Coast of West Africa: Executive Summary (New York: United Nations, September 2014)

maintain their legal positions and sovereignty claims without prejudice, signaling that final delimitation with neighboring countries will require further negotiation or dispute resolution. The overlapping claims among the seven submitting countries are mainly inherited from post-colonial ambiguous situations of unclear land and maritime delimitations.

In the intricate triangle of Senegal, Guinea-Bissau, and Cabo Verde, multiple boundary disputes have arisen at the level of arbitral tribunals since 1983. In the Senegal–Guinea-Bissau case, the maritime border was established based of the extension of the land border, taking account of the technical complexity of the countries' coastal configurations<sup>66</sup>. The reason for the overlap was the projection of both states' coasts toward resource-rich offshore areas, especially where concave and convex coastlines created ambiguity over how to apply the equidistance method. The matter was submitted to ad-hoc arbitration in 1985, with a ruling in 1989.

Figure 10

Maritime Boundary between Guinee-Bissau and Senegal



The tribunal used the general direction of the land boundary to draw the maritime boundary in a loxodromic line at an azimuth of 240°, based on the prolongation of the land boundary from its endpoint, projecting it seaward into the territorial sea and continental shelf. Guinea-Bissau was dissatisfied with the outcome and therefore no formal treaty was concluded to implement it as a final boundary<sup>67</sup>. Both states eventually established a joint development zone (JDZ) in the disputed area to share resources<sup>68</sup>.

<sup>66.</sup> Maurice Kamga, The Delimitation of the Continental Shelf in Africa: Legal and Technical Challenges (presentation at the 3rd ADSR Project Workshop, International Seabed Authority, December 2022), <a href="https://www.isa.org.jm/wp-content/uploads/2022/12/03-Kamga.pdf">https://www.isa.org.jm/wp-content/uploads/2022/12/03-Kamga.pdf</a>.

<sup>67.</sup> Arbitral Award on the Delimitation of the Maritime Boundary between Senegal and Guinea-Bissau, March 2, 1990, WorldCourts, <a href="https://www.worldcourts.com/icj/eng/decisions/1990.03.02\_arbitral\_award.htm">https://www.worldcourts.com/icj/eng/decisions/1990.03.02\_arbitral\_award.htm</a>.

<sup>68. &</sup>quot;Guinea-Bissau-Senegal Maritime Boundary," Sovereign Limits, https://sovereignlimits.com/boundaries/guinea-bissau-senegal-maritime.

The maritime dispute between Senegal and Cabo Verde was resolved through the 1993 Maritime Delimitation Treaty which specified the boundary to be the north-south line approximately 151 nautical miles long, following a modified equidistance line between their archipelagic and straight baselines.

However, the definition of the maritime boundary does not go beyond the 200 nautical miles of the EEZ, and does not enter the equatorial continental shelf region far offshore, where the joint submission to the CLCS might possibly overlap with Senegal or Mauritania's outer limits. Cabo Verde separately signed delimitation treaties with Mauritania in 2003, and the extension of the three countries' continental shelves might open the way for further tripartite overlap negotiations or judicial arbitration.

The joint submission is currently under consideration, and the outcome after future CLCS recommendations might still be challenging. The states involved will likely engage in bilateral or regional negotiations to settle maritime boundaries within and beyond 200 nautical miles, possibly using JDZs as interim solutions to manage resources cooperatively.

#### 2.3.3 The Gulf of Guinea: Nigeria and São Tomé and Príncipe

In most cases, agreement on a JDZ is one of the most effective and practical solutions for managing overlapping maritime claims without immediate boundary delimitation. In the central African Atlantic, the largest JDZ was established in 2001 between Nigeria and São Tomé and Príncipe, to jointly manage petroleum resources in an overlapping area of the Gulf of Guinea.

In the late 1990s, both states noticed that their maritime claims overlapped, especially in oil-rich deep offshore areas. To avoid litigation and manage shared interests, Nigeria and São Tomé negotiated and signed the treaty on the Joint Development of Petroleum and Other Resources in Abuja in February in 2001, for a joint zone managed by the Joint Development Authority<sup>69</sup>. The JDZ covers approximately 34,500 km², located 150 km south of Nigeria and 90 km west of São Tomé, in deepwater (1,500–4,000 m). It notably reflects a delimitation method that is based on the creation of indivisible sharing zones, provisionally or permanently. In terms of resources extraction, their revenues are shared in a 60% (Nigeria) and 40% (São Tomé) ratio, reflecting geographic and economic balances<sup>70</sup>. Interestingly, the area beyond this JDZ falls within the most contested offshore area in Atlantic Africa. Accordingly, this maritime zone has the highest number of overlapping claims in the region, since it is claimed by Ghana, Togo, Benin, Nigeria, and São Tomé itself<sup>71</sup>. Cameroon's extension claims also include the contested area, and expand miles beyond it into the Atlantic<sup>72</sup>.

<sup>69.</sup> International Monetary Fund, The Extractive Industries and Development of São Tomé and Príncipe: Opportunities for Sustainable Growth, in Africa's Regional Integration and Extractive Industries, (Washington, D.C.: IMF, 2015), chap. 10, <a href="https://www.elibrary.imf.org/display/book/9781475539660/ch010.xml">https://www.elibrary.imf.org/display/book/9781475539660/ch010.xml</a>.

<sup>70. &</sup>quot;The Joint Development Zone between Nigeria and São Tomé e Príncipe," (2001), DocsLib, <a href="https://docslib.org/doc/11974246/the-joint-development-zone-between-nigeria-and-sao-tome">https://docslib.org/doc/11974246/the-joint-development-zone-between-nigeria-and-sao-tome</a>.

<sup>71.</sup> Roland Denhez. L'extension du plateau continental : la Commission des limites du plateau continental des Nations Unies face aux enjeux contemporains. Géographie. 2014. dumas-01074149

<sup>72.</sup> Tanga Tanga, "Maritime Boundary Dispute Between Cameroon and Nigeria: A Study of International Legal Aspects," UNU-Nippon Foundation Fellowship Paper (2009–2010), https://www.un.org/depts/los/nippon/unnff\_programme\_home/fellows\_pages/fellows\_papers/tanga\_0910\_cameroon.pdf.

## 3. RESOLVING DISPUTES OVER THE EXTENDED CONTINENTAL SHELF: WHAT SHOULD ATLANTIC AFRICAN COUNTRIES DO?

As the extension of the continental shelf becomes a central issue in Atlantic-African affairs, and increasingly attracts the interest of states, the race for natural resources in this maritime space appears, in the era of globalization and climate change, to be sowing the seeds of new territorial conflicts. This study concludes that the following two challenges are the most prominent, among the many factors that currently constrain Atlantic Africa countries' rights and interests in relation to the extended continental shelf.

## 3.1 The Role of a Central Coordinating Body in Supporting African States' ECS Submissions

The submission of an ECS claim under Article 76 UNCLOS is a complex and resource-intensive undertaking. African coastal states, many of which face constraints in technical expertise, data acquisition, and legal capacity, often require substantial support to meet the rigorous scientific and procedural requirements set by the CLCS. In this context, the establishment or designation of a central coordinating body within the African Union—potentially through the African Union Border Programme—could provide a strategic and sustainable mechanism for facilitating ECS submissions across the continent.

Such a body would function as a 'one-stop shop' for African coastal states, serving both a coordination and referral role. It would consolidate information on available international and regional technical assistance, funding mechanisms, and best practices, thereby reducing duplication of efforts and promoting regional cooperation. Importantly, it could also liaise with established expert institutions, such as the African Legal Support Facility, the International Seabed Authority, the United Nations Division for Ocean Affairs and the Law of the Sea, and academic marine geoscience centers, to ensure that states have access to the necessary legal, scientific, and diplomatic resources.

In addition to facilitating access to support, the central coordinating body could also play a proactive role in capacity building, promoting knowledge sharing between states that have already submitted ECS claims and those still in the early stages of the process. It may also serve as a platform for collective advocacy in the CLCS and other relevant international forums, thereby amplifying Africa's voice in global ocean governance.

Given the geopolitical and economic significance of the extended continental shelf—particularly in terms of potential resource rights—such a mechanism would not only enhance technical efficiency but also strengthen African sovereignty and strategic agency in maritime affairs. The AU's growing institutional infrastructure and mandate in areas of boundary governance and maritime strategy make it a natural home for such an initiative.

## 3.2 Enhancing Post-Recommendation Publication and National Legislative Frameworks for ECS Implementation in Atlantic Africa

Following the issuance of recommendations by the CLCS, Atlantic African States enter a critical phase that goes beyond technical validation. The challenge shifts toward

consolidating sovereign rights through formal publication of the outer limits and the establishment of robust national legal frameworks. While attention has historically centered on data acquisition and the submission process under Article 76 UNCLOS, the post-recommendation phase remains under-addressed, yet it is essential for transforming legal entitlement into operational jurisdiction.

Article 76(8) UNCLOS obliges coastal states to delineate the outer limits of their continental shelf, based on CLCS recommendations, and deposit these limits—along with supporting charts and coordinates—with the UN Secretary-General. This act of publication has significant legal consequences, rendering the shelf limits final and binding. However, in much of Atlantic Africa, the capacity to fulfill this obligation remains limited by gaps in technical expertise, institutional coordination, and legal infrastructure. Without proper execution, the legal security of ECS rights may remain fragile, undermining the potential for resource governance and marine spatial planning.

Addressing this deficiency requires targeted technical and legal support. On the technical side, African states should receive assistance in translating CLCS recommendations into precise cartographic outputs using internationally recognized geodetic standards. Such work demands not only expert knowledge in geospatial sciences but also careful legal oversight, to ensure congruence between the scientific basis of the submission and the published legal limits. Regional and international institutions—such as the African Union, IOC Africa, and the UN Division for Ocean Affairs and the Law of the Sea—can play a central role in facilitating this expertise and ensuring standardization across the region.

More fundamentally, African states must integrate the ECS into their domestic legal orders. This involves enacting or updating national legislation to define the ECS in terms of its geographic scope, the extent of sovereign rights over seabed and subsoil resources, and the institutional responsibilities for managing this maritime space. Such legislation should also establish procedures for granting licenses, regulating environmental standards, and conducting enforcement activities. In the absence of clear legal provisions, the practical benefits of an ECS, including hydrocarbon exploration and marine scientific research, may be delayed or mismanaged. Utilizing model laws and shared legal resources, including those developed under the auspices of the African Union, can help foster harmonization and legal certainty.

Capacity building is essential to these efforts. Developing sustained national expertise in maritime law, ocean policy, and marine geoscience is a prerequisite for effective post-recommendation implementation. Academic institutions and training centers should be supported so they can offer interdisciplinary programs that combine legal and technical perspectives on the ECS. Encouraging collaboration between universities, legal practitioners, and marine research institutes will ensure that knowledge is embedded at the national level, reducing long-term dependency on external consultants.

Ultimately, the post-recommendation phase represents not a conclusion, but the beginning of a new legal and political process—one that secures sovereignty, ensures compliance with international law, and enables strategic use of marine resources. For Atlantic African states, investing in post-recommendation publication and appropriate national legislation is critical to realizing the full benefits of the ECS regime, and affirming their place within the evolving architecture of ocean governance.

## 3.3 Fostering Interstate Cooperation for Resource Sharing Agreements

Interstate cooperation through resource-sharing agreements represents a critical strategy for the sustainable economic development of developing nations, particularly within resource-rich regions such as Atlantic Africa. The bilateral agreements between Nigeria and São Tomé, and Senegal and Mauritania, illustrate how collaborative frameworks can facilitate the joint exploitation of offshore hydrocarbon resources, thereby optimizing resource management and enhancing economic returns. These agreements help circumvent prolonged legal disputes over maritime boundaries and also promote regional stability and strengthen diplomatic relationships. In developing economies, where the need for increased government revenues and GDP growth is pressing, such cooperative arrangements can catalyze investment inflows, technological transfers, and capacity-building initiatives.

Conversely, the absence of clearly delineated legal frameworks often leads to protracted arbitration processes, which delay the exploration and development of offshore resources. These delays result in significant economic losses, as untapped hydrocarbon reserves remain idle, depriving countries of critical fiscal revenues and impeding broader economic diversification efforts. Moreover, extended uncertainty discourages multinational energy firms—such as TotalEnergies, Shell, BP, and Kosmos—from committing capital to high-risk offshore projects. These companies prioritize jurisdictions characterized by political stability, regulatory transparency, and commercially viable contractual terms, all of which mitigate investment risk.

Namibia provides a compelling case study on how political and institutional stability, paired with transparent governance, can enhance the attractiveness of emerging hydrocarbon provinces. By implementing a clear and investor-friendly regulatory framework, including competitive upstream fiscal regimes, Namibia reduces the operational costs and financial risks faced by exploration and production companies. This environment lowers the break-even costs for development projects and fosters greater investor confidence. As a result, Namibia ranks as the third most attractive country for oil and gas exploration and production investment in Atlantic Africa, exemplifying the positive correlation between governance quality and resource sector development<sup>73</sup>.

In sum, cooperative interstate resource management, supported by stable political institutions and transparent legal frameworks, is indispensable for unlocking the full economic potential of offshore hydrocarbon reserves in developing regions. Such cooperation enhances immediate fiscal revenues and contributes to long-term regional integration, energy security, and sustainable economic growth.

#### 3.4 Attaching Greater Importance to Scientific Investigation

Scientific and technical evidence constitutes the foundational basis for coastal states' submissions to the CLCS, and serves as the principal means by which the delineation of the ECS is substantiated. The CLCS's recommendations rest on the rigorous application of complex scientific criteria, precise technical standards, and multidisciplinary expertise—

<sup>73.</sup> S&P Global Commodity Insights, "Orange Sub-basin Offshore Namibia: What's Going on with Its Resources, Reserves and Future Production of Natural Gas?" <a href="https://www.spglobal.com/commodity-insights/en/research-analytics/orange-subbasin-offshore-namibia">https://www.spglobal.com/commodity-insights/en/research-analytics/orange-subbasin-offshore-namibia</a>.

features that are seldom encountered in the broader domain of maritime boundary delimitation. Given the scientific sophistication required, coastal states often devote substantial human, financial, and material resources to constructing evidentiary frameworks capable of demonstrating the geological continuity and morphological similarity between the seabed area in question and the adjacent continental landmass. This demonstration is pivotal, as it seeks to show that the seabed constitutes a natural prolongation of the state's land territory into the ocean, in accordance with Article 76 UNCLOS.

To acquire such evidence, coastal states must undertake comprehensive marine geoscientific surveys, including seismic, bathymetric, and sediment sampling operations across vast offshore areas. These undertakings are especially demanding for developing countries—such as those in Atlantic Africa—where structural and resource constraints often impede the pursuit of high-resolution scientific investigations. For these states, ensuring effective participation in the ECS regime requires not only significant investment in technical capacity and personnel training, but also robust institutional support and sustained international cooperation. Strategic engagement in foundational scientific research is thus imperative to enhance the credibility, completeness, and eventual success of their submissions to the CLCS. In this context, targeted support mechanisms—financial, technical, and institutional—are essential to level the playing field and uphold the equitable implementation of the legal framework that governs continental shelf entitlements.

#### CONCLUSION

The delimitation and extension of the continental shelf in the Atlantic African region, as regulated by Article 76 UNCLOS, underscore the complex intersection of geological, legal, and geopolitical considerations. The scientific criteria prescribed by UNCLOS provide a structured framework within which coastal states, such as South Africa and Namibia, have formulated their submissions to the CLCS. These submissions demonstrate the critical role of geomorphological and geological evidence in establishing natural prolongation, particularly in regions characterized by irregular coastal morphology and overlapping maritime claims.

Moreover, the strategic imperative to secure access to offshore hydrocarbon resources is a principal driver behind these territorial claims, exemplified by the considerable oil and gas discoveries in the Orange Basin, and the Greater Tortue Ahmeyim field shared by Senegal and Mauritania. These developments have heightened the geopolitical and economic significance of the Atlantic African continental shelf, attracting major international energy companies, and fostering both competition between and cooperation among states.

The legal framework established by UNCLOS, coupled with scientific methodology and diplomatic engagement, offers a balanced mechanism for managing continental shelf extensions, while safeguarding the principle of the common heritage of mankind. In this context, cooperative arrangements, such as joint development zones, illustrated by the experience of Nigeria and São Tomé and Príncipe, provide pragmatic solutions to contentious boundary disputes, enabling equitable resource sharing and contributing to regional stability. Ultimately, the effective resolution of continental shelf delimitation in Atlantic Africa necessitates an integrated approach that aligns rigorous scientific evidence with legal principles and diplomatic negotiations to ensure sustainable and peaceful utilization of maritime resources. The creation of permanent African scientific commissions that unify standards and procedures for continental shelf extension and maritime delimitation, in order to set a clear legal and technical code of conduct to apply in cases of overlapping claims, within the framework of a future Central Coordinating Body, can accelerate this process.

#### **BIBLIOGRAPHY**

- Africa Oil & Gas Report. "The Orange Basin Deepwater Namibia: What's Going on with Its Resources, Reserves and Future Production of Natural Gas?" Africa Oil & Gas Report, September 2024. <a href="https://africaoilgasreport.com/2024/09/oil-patch-sub-sahara/the-orange-basin-deepwater-namibia-whats-going-on-with-its-resources-reserves-and-future-production-of-natural-gas/">https://africaoilgasreport.com/2024/09/oil-patch-sub-sahara/the-orange-basin-deepwater-namibia-whats-going-on-with-its-resources-reserves-and-future-production-of-natural-gas/</a>.
- African Union. Decision on the Extension of the African Continental Shelf and Climate Change, Doc.EX.CL/391(XII). 12th Ordinary Session of the Executive Council, 2008. 28–29 January 2008.
- Commission on the Limits of the Continental Shelf. "Continental Shelf: Description."
   United Nations. <a href="https://www.un.org/depts/los/clcs\_new/continental\_shelf\_description.">https://www.un.org/depts/los/clcs\_new/continental\_shelf\_description.</a>
   htm.
- Decision on the Extension of the African Continental Shelf and Climate Change, Doc. EX.CL/391 (XII), Decisions and Declarations of the Tenth Ordinary Session of the Assembly of the African Union, 31 January–2 February 2008. Available at: <a href="http://www.africaunion.org/root/au/Conferences/2008/january/summit/docs/decisions/Assembly\_Decisions\_171-191.pdf">http://www.africaunion.org/root/au/Conferences/2008/january/summit/docs/decisions/Assembly\_Decisions\_171-191.pdf</a>.
- Edwin Egede, E. (2012). Africa and the Extended Continental Shelf under the Law of the Sea Convention (1982). The Journal of Jurisprudence, Cardiff University, 2012, 176.
- Evans, Neil W., Ross A. Fisher, and Andrew R. M. C. Muir. "Insights into the Petroleum System Evolution of the Southern Orange Basin, South Africa." *Basin Research* 25, no. 3 (2013): 331–51. <a href="https://doi.org/10.1111/bre.12694.">https://doi.org/10.1111/bre.12694.</a>
- Hartwig, Alexander. (2014). Hydrocarbon migration and leakage dynamics of the Orange Basin, South Africa. 10.14279/depositonce-4162.
- Impact Oil & Gas, "South Africa: Orange Basin Deep," *Impact Oil & Gas*, [n.d., circa 2025], <a href="https://impactoilandgas.com/assets/south-africa-orange-basin-deep.">https://impactoilandgas.com/assets/south-africa-orange-basin-deep.</a>
- International Court of Justice (ICJ). *Tunisia/Libyan Arab Jamahiriya*. Rep.1985, 13 at 154, para.55
- International Court of Justice. Territorial and Maritime Dispute (Gabon/Equatorial Guinea), Case No. 85. <a href="https://www.icj-cij.org/case/85">https://www.icj-cij.org/case/85</a>.
- International Monetary Fund. "SenegalMauritania: Cooperation in Offshore Gas Development." IMF Working Paper No. 19/28 (March 2019). <a href="https://www.elibrary.imf">https://www.elibrary.imf</a>. org/view/journals/002/2019/028/article-A001-en.xml
- Jouanet Emmanuel. International Maritime Boundaries. Brill. Second Edition. 2017.
- Kamga, Maurice. The Delimitation of the Continental Shelf in Africa: Legal and Technical Challenges. Presentation at the 3rd ADSR Project Workshop, International Seabed Authority, December 2022. <a href="https://www.isa.org.jm/wp-content/uploads/2022/12/03-Kamga.pdf">https://www.isa.org.jm/wp-content/uploads/2022/12/03-Kamga.pdf</a>.
- Kosmos Energy. "Kosmos Energy Welcomes Approval of InterGovernmental Cooperation Agreement Between Mauritania and Senegal Concerning Development of the Greater Tortue Ahmeyim Field." Kosmos Energy Investor Relations, February 6, 2019. <a href="https://investors.kosmosenergy.com/news-releases/news-release-details/kosmos-energy-welcomes-approval-inter-governmental-cooperation.">https://investors.kosmosenergy.com/news-releases/news-release-details/kosmos-energy-welcomes-approval-inter-governmental-cooperation.</a>
- Labrecque George. 2004. Les frontières maritimes internationales : Géopolitique de la délimitation en mer. Paris. L'Harmattan. Page 45.
- Majinge, C. R. (2012). Emergence of New States in Africa and Territorial Dispute Resolution: The Role of the International Court of Justice. Melbourne Journal of International Law, 13, 8-38.
- Myron H. Nordquist, Shabtai Rosenne, Satya N. Nandan. United Nations Convention on the Law of the Sea: 1982. Martinus Nijhoff Publishers. 1985

- North Sea Continental Shelf (Federal Republic of Germany/Netherlands). International Court of Justice (ICJ). 1968. <a href="https://www.icj-cij.org/case/52">https://www.icj-cij.org/case/52</a>
- Offshore-Technology. "Luiperd & Brulpadda Gas Condensate Fields Development, South Africa." Offshore-Technology.com. <a href="https://www.offshore-technology.com/">https://www.offshore-technology.com/</a> projects/luiperd-brulpadda-gas-condensate-fields-development-south-africa/.
- OffshoreTechnology. "Greater Tortue Ahmeyim (GTA) LNG Project, Mauritania and Senegal." OffshoreTechnology.com. <a href="https://www.offshore-technology.com/projects/greater-tortue-ahmeyim-gta-lng-project-mauritania-and-senegal/">https://www.offshore-technology.com/projects/greater-tortue-ahmeyim-gta-lng-project-mauritania-and-senegal/</a>.
- Offshore. "Greater Tortue Ahmeyim Presses the UltraDeepwater Envelope." Offshore Magazine, March 26, 2018. <a href="https://www.offshore-mag.com/deepwater/article/14069065/greater-tortue-ahmeyim-presses-the-ultra-deepwater-envelope.">https://www.offshore-mag.com/deepwater/article/14069065/greater-tortue-ahmeyim-presses-the-ultra-deepwater-envelope.</a>
- Okafor-Yarwood, O. A. Maritime Boundary Disputes in West Africa: Legal Challenges and Prospects for Regional Cooperation. African Journal of International and Comparative Law. Volume 27. Number 1. 2019. Pages 1-24.
- O Elferink, A. O. (2017). Maritime Boundaries and Limits and Transboundary Cooperation (pp. 1-3). U:T/NILOS.
- Ortolland Didier and Pirat Jean pierre. 2010. Atlas géopolitique des espaces maritimes. Edition Technip. Paris. Page 52.
- Paton, Douglas & di Primio, Rolando & Kuhlmann, Gesa & Van der Spuy, David & Horsfield, B.. (2007). Insights into the Petroleum System Evolution of the southern Orange Basin, South Africa. South African Journal of Geology S AFR J GEOL. 110. 261-274. 10.2113/gssajg.110.2-3.261.
- Permanent Court of Arbitration. Award in the Bay of Bengal Maritime Boundary Arbitration (Bangladesh v. India). 2014. <a href="https://pca-cpa.org/en/news/bay-of-bengal-maritime-boundary-arbitration-between-bangladesh-and-india-bangladesh-v-india/">https://pca-cpa.org/en/news/bay-of-bengal-maritime-boundary-arbitration-between-bangladesh-and-india-bangladesh-v-india/</a>
- Republic of Namibia. Continental Shelf Submission of Namibia: Executive Summary. CLCS Submission No. 50. New York: United Nations Division for Ocean Affairs and the Law of the Sea, May 12, 2009. <a href="https://www.un.org/depts/los/clcs\_new/submissions-files/nam50\_09/nam2009executivesummary.pdf">https://www.un.org/depts/los/clcs\_new/submissions-files/nam50\_09/nam2009executivesummary.pdf</a>.
- Republic of South Africa. Executive Summary: Submission of the Republic of South Africa to the Commission on the Limits of the Continental Shelf. CLCS Submission No. 31. New York: United Nations Division for Ocean Affairs and the Law of the Sea, May 12, 2009. <a href="https://static.un.org/Depts/los/clcs\_new/submissions\_files/zaf31\_09/zaf2009executive\_summary.pdf">https://static.un.org/Depts/los/clcs\_new/submissions\_files/zaf31\_09/zaf2009executive\_summary.pdf</a>.
- Robin Churchill and Vaughan Lowe. The Law of the Sea. Manchester University Press. Third edition. 1999.
- Roland Denhez. L'extension du plateau continental : la Commission des limites du plateau continental des Nations Unies face aux enjeux contemporains. Géographie. 2014. dumas-01074149
- Rothwell, D. R., & Stephens, T. The International Law of the Sea. Hart Publishing. Third Edition. 2016.
- S&P Global Commodity Insights. "Orange Subbasin Offshore Namibia: What's Going on with Its Resources, Reserves and Future Production of Natural Gas?". <a href="https://www.spglobal.com/commodity-insights/en/research-analytics/orange-subbasin-offshore-namibia">https://www.spglobal.com/commodity-insights/en/research-analytics/orange-subbasin-offshore-namibia</a>.
- Scarselli, Nicola, Ken McClay, and Chris Elders. 2022. "Regional Assessment of GravityDriven Deformation Offshore Namibia (West Africa): Styles, Distribution and Controlling Factors." Basin Research, August 26. <a href="https://doi.org/10.1111/bre.12694.">https://doi.org/10.1111/bre.12694.</a>
- Sebille-Lopez Philippe. 2006. Géopolitique du pétrole. Paris. Armaud Collin. Page 131.
- Sovereign Limits. "Cabo Verde–Senegal Maritime Boundary." Sovereign Limits. <a href="https://sovereignlimits.com/boundaries/cabo-verde-senegal-maritime">https://sovereignlimits.com/boundaries/cabo-verde-senegal-maritime</a>.
- Silke, Daniel. "The Gas Discoveries Off South Africa's Coast Could Be GameChangers."

- BusinessTech, June 24, 2021. <a href="https://businesstech.co.za/news/business-opinion/467398/the-gas-discoveries-off-south-africas-coast-could-be-game-changers">https://businesstech.co.za/news/business-opinion/467398/the-gas-discoveries-off-south-africas-coast-could-be-game-changers</a>.
- Tanga Tanga. "Maritime Boundary Dispute Between Cameroon and Nigeria: A Study of International Legal Aspects." UNUNippon Foundation Fellowship Paper (2009–2010). <a href="https://www.un.org/depts/los/nippon/unnff">https://www.un.org/depts/los/nippon/unnff</a> programme\_home/fellows\_papers/tanga\_0910\_cameroon.pdf.
- Treaty on the Delimitation of the Continental Shelf and the Exclusive Economic Zone between the Republic of Cape Verde and the Republic of Senegal. Signed February 17, 1993; entered into force March 25, 1994. United Nations Office of Legal Affairs. <a href="https://static.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/CPV-SEN1993MF.PDF">https://static.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/CPV-SEN1993MF.PDF</a>.
- The Joint Development Zone between Nigeria and São Tomé e Príncipe." DocsLib, 2001. <a href="https://docslib.org/doc/11974246/the-joint-development-zone-between-nigeria-and-sao-tome.">https://docslib.org/doc/11974246/the-joint-development-zone-between-nigeria-and-sao-tome.</a>
- United Nations. United Nations Convention on the Law of the Sea. Montego Bay, December 10, 1982. <a href="https://www.un.org/depts/los/convention-agreements/texts/unclos/unclos\_e.pdf">https://www.un.org/depts/los/convention-agreements/texts/unclos\_e.pdf</a>.
- United Nations. Submissions to the Commission on the Limits of the Continental Shelf. https://www.un.org/depts/los/clcs\_new/continental\_shelf\_description.htm.
- United Nations Commission on the Limits of the Continental Shelf (CLCS). Report of the Commission on the Limits of the Continental Shelf on its sixty-third session. New York: United Nations, 2023. <a href="https://docs.un.org/en/CLCS/63/2">https://docs.un.org/en/CLCS/63/2</a>.
- United Nations. Joint Submission to the Commission on the Limits of the Continental Shelf in Respect of Areas of the Continental Shelf in the Atlantic Ocean Adjacent to the Coast of West Africa: Executive Summary. New York: United Nations, September 2014. <a href="https://www.un.org/depts/los/clcs\_new/submissions\_files/wa775\_14/wa7\_es\_en\_sept2014.pdf">https://www.un.org/depts/los/clcs\_new/submissions\_files/wa775\_14/wa7\_es\_en\_sept2014.pdf</a>.
- Vishal Surbun. Africa's combined exclusive maritime zone concept. Institute for Security Studies (ISS). Africa Report. 2021. <a href="https://creativecom/site/uploads/ar-32.pdf">chrome-extension://creativecom/site/uploads/ar-32.pdf</a>
- Vrancken, P. H. «Chapter Eight. Delimitation of Maritime Boundaries.» In South Africa and the Law of the Sea, edited by Patrick H.G. Vrancken, 195–206. Leiden: Brill, 2011. https://doi.org/10.1163/ej.9789004210059.i-534.45.
- Wouter G. Werner (ed.), with Łukasz Gruszczynski, Deference in International Courts and Tribunals (OUP, 2014).
- Zongwe, Dunia Prince. (2022). The Law of the Sea in Namibia.
- 2050 Africa's Integrated Maritime Strategy (2050 AIM Stratregy). <a href="mailto:chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://au.int/sites/default/files/documents/30929-doc-2050\_aim\_strategy\_eng\_0.pdf">extension://efaidnbmnnnibpcajpcglclefindmkaj/https://au.int/sites/default/files/documents/30929-doc-2050\_aim\_strategy\_eng\_0.pdf</a>

## ABOUT THE AUTHOR



#### **ABDESSALAM JALDI**

Abdessalam Jaldi is an International Relations Specialist, with a focus on International Law and International Relations. He is currently working in the Policy Center for the New South as a core member of an analytical study examining the Maghreb mutations, the Euro-African relations, the new tendencies of international law and the influence of India and Africa. Ph.D Doctor in Law from France in 2018, he has four years of experience working in non-profit, social research and electoral observations.



#### **LOUBNA EDDALLAL**

Loubna Eddallal is a research assistant at the International Relations Department of the Policy Center for the New South. Her research focuses on West African countries, particularly Nigeria and Cameroon. She focuses on examining regional power dynamics, political and economic policymaking and systems of governance in these areas, in addition to the role of ECOWAS. Loubna holds a bachelor's degree in International Relations with a minor in Business Administration from Al Akhawayn University in Ifrane and was Valedictorian of her 2024 Class. She also earned a Certificate in Humanities and Social Sciences from Sciences Po Paris studies, focusing on international law, foreign policy and economic theory. She has worked with institutions such as the European Research Council, the Moroccan Parliament, and the Moroccan Institute for Policy Analysis.

## ABOUT THE POLICY CENTER FOR THE NEW SOUTH

The Policy Center for the New South (PCNS) is a Moroccan think tank aiming to contribute to the improvement of economic and social public policies that challenge Morocco and the rest of Africa as integral parts of the global South.

The PCNS pleads for an open, accountable and enterprising "new South" that defines its own narratives and mental maps around the Mediterranean and South Atlantic basins, as part of a forward-looking relationship with the rest of the world. Through its analytical endeavours, the think tank aims to support.

All opinions expressed in this publication are those of the author.

#### **Policy Center for the New South**

Rabat Campus of Mohammed VI Polytechnic University, Rocade Rabat Salé - 11103

Email : contact@policycenter.ma Phone : +212 (0) 537 54 04 04 Fax : +212 (0) 537 71 31 54















