

Research Article

The Caspian Sea: Challenges and Opportunities for Cooperation Among Littoral States After the 2018 Convention

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Abstract

The Caspian Sea, the largest landlocked body of water in the world, stands as a symbol of regional cooperation among the five littoral states—Azerbaijan, Iran, Kazakhstan, Russia, and Turkmenistan. On August 12, 2018, during the Fifth Caspian Summit in the port city of Aktau, Kazakhstan, these nations reached a historic agreement by signing the Convention on the Legal Status of the Caspian Sea. According to this document, the Caspian is defined as a body of water with a special legal regime, neither a sea nor a lake. Under this regime, each country's sovereignty is recognized within a 15-mile coastal fishing zone and an additional 10-mile exclusive navigation zone. However, the division of the seabed and subsoil resources was left to bilateral or multilateral agreements among neighboring countries. Nearly seven years after the convention's signing, Iran and Turkmenistan in the southeastern part of the Caspian, and Iran and Azerbaijan in the southwest, have yet to reach a final agreement on maritime boundaries and seabed resource division. This article addresses the key question: why has a final agreement among the three southern Caspian states not been achieved, despite the passage of time? It examines the legal, political, and economic barriers hindering this process, analyzes potential solutions for accelerating consensus, and evaluates the impact of continued ambiguity on missed economic, security, and environmental opportunities for Azerbaijan, Iran, and Turkmenistan. Using a descriptive-analytical approach and based on international documents, official governmental positions, and economic data, this article demonstrates how the absence of defined boundaries poses a persistent challenge in the region and explores the necessary steps for fostering future cooperation.

Keywords

Legal Regime of the Caspian Sea, Aktau 2018 Caspian Convention, Regional Cooperation, Maritime and Territorial Boundary Challenges, Southern Caspian States

1. Introduction

Following recent negotiations between Iran and the United States, the groundwork appears to be laid for lifting sanctions. Under such circumstances, the necessity of resolving the maritime boundary disputes between Iran and Azerbaijan in

the southwestern Caspian, and between Iran and Turkmenistan in the southeast, is more pressing than ever [1]. A finalized agreement based on the 2018 Aktau Convention could lead to broad-based regional cooperation among the Caspian

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Received: 18 July 2025; **Accepted:** 31 July 2025; **Published:** 19 August 2025



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states and revive many of the opportunities lost over the past seven years.

The primary reason for the prolonged negotiations lies in the dispute over whether the Caspian is classified as a sea or a lake. Additionally, the complexity of shared energy fields in the Caspian shifted the bargaining from a legal domain to one heavily influenced by technical and economic considerations. Although the 2018 Aktau Convention established a general framework for the Caspian Sea, the unresolved issues surrounding the division of the seabed and subsoil—particularly in the southern areas—remain [2].

As a result, the lack of clearly defined maritime boundaries between Iran-Turkmenistan and Iran-Azerbaijan continues to foster legal uncertainty and missed economic and environmental opportunities. This article analyzes the consequences, causes, and potential solutions to these disputes.

2. Historical Background

Studies on the legal regime of the Caspian Sea can be categorized into three historical periods following the dissolution of the Soviet Union. Reviewing this gradual process offers an analytical framework for understanding the current challenges and opportunities in the southern Caspian region.

2.1. Transition from Bilateralism to Multilateralism (2000-1991)

With the emergence of four new states, the bilateral regime under the 1921 and 1940 treaties collapsed. Iran's proposal for joint sovereignty was met with opposition [3].

With the emergence of four new states—Azerbaijan, Kazakhstan, Turkmenistan, and Russia as the principal successor to the USSR—the bilateral regime established under the 1921 and 1940 treaties effectively collapsed, bringing the issue of redefining sovereignty to the forefront.

At the 1994 Moscow summit, Iran's proposal to maintain "joint sovereignty" faced opposition from Azerbaijan and Kazakhstan, who advocated a median line approach. It was agreed that expert-level meetings among special presidential representatives or deputy foreign ministers would discuss the proposed frameworks for defining the Caspian's legal regime. At the 1996 Tehran meeting, Iran proposed the "equal 20% division" based on the principle of equity. However, Turkmenistan and Kazakhstan, who would receive a smaller share under this model, opposed it, and neither Russia nor Azerbaijan supported it. During the 1998 Almaty meeting, legal disputes over whether the Caspian was a sea or a lake highlighted the impossibility of agreement without a specially tailored legal regime.

2.2. Bargaining over Boundaries and Resources (2010-2000)

Russia signed separate agreements with Kazakhstan and

Azerbaijan. Partial agreements on environmental protection were reached, but the seabed remained unresolved [4].

In the second decade, the focus of negotiations shifted from defining legal status to determining maritime boundaries and dividing energy fields. Negotiators adopted two main strategies:

First, Russia signed separate agreements with Kazakhstan and Azerbaijan on maritime boundaries and sovereign zones. As a result, the northern Caspian's boundaries between Russia, Kazakhstan, and Azerbaijan were effectively settled. At the 2002 Baku summit, Azerbaijan proposed a revised median line, which was rejected by Turkmenistan due to a dispute over the Sardar/Chingiz oil field.

Second, the negotiating parties agreed to proceed with partial agreements while postponing a final settlement of the Caspian's legal status. As a first step, all five countries reached a significant agreement on Caspian environmental protection and marine biodiversity at the Tehran summit. At the 2005 Astrakhan meeting, they reached a temporary consensus on a 15-mile sovereignty zone, a 10-mile exclusive navigation zone, and a shared regime for the remaining surface waters—a practical step forward. However, the division of the seabed remained unresolved. It wasn't until the Tehran summit that all five Caspian states, for the first time, reached a broad consensus on 25 key regional and international issues. Yet the critical legal debates on maritime and territorial boundary settlement remained unsettled.

2.3. Drafting and Signing the Aktau Convention (2018-2010)

A Special Legal Working Group was formed in 2012. The convention was signed in 2018, deferring seabed division to future agreements.

The 2012 Moscow summit marked the formation of a "Special Legal Working Group," transitioning the talks into the phase of drafting a legal regime. The primary contention revolved around banning foreign military presence in the Caspian. At the 2014 Astana summit, a preliminary draft was approved that postponed decisions on seabed division but agreed on a relative ban on extra regional military forces.

At the 2016 Baku meeting—the final round before signing—the southern Caspian states failed to resolve their disputes. However, during the 2018 Aktau summit, the Convention on the Legal Status of the Caspian Sea was signed. The Caspian was officially defined as "a body of water with a special legal status," while the issue of seabed division was deferred to future bilateral or multilateral agreements among the littoral states.

Roots of the Disputes Between Iran, Azerbaijan, and Turkmenistan Over Maritime Boundaries in the Caspian.

Nearly seven years after the signing of the 2018 Aktau Convention, the three southern littoral states—Iran, Azerbaijan, and Turkmenistan—have yet to reach a final agreement on their maritime boundaries and the division of the seabed.

This continued deadlock stems from a combination of legal, political, economic, and geopolitical factors, detailed below:

3. Roots of the Disputes Between Iran, Azerbaijan, and Turkmenistan

3.1. Legal Disputes

Iran advocates for a 20% share based on historical treaties, while others prefer the median line method [5].

Iran, citing the principle of equity and historical treaties such as the 1921 and 1940 agreements with the Soviet Union, advocates for a 20% share of the Caspian. In contrast, Azerbaijan and Turkmenistan favor the median line method for dividing the seabed, which benefits their interests. The ambiguity surrounding the term “special legal regime” in the 2018 Convention has enabled conflicting interpretations by different parties.

3.2. Competition Over Energy

Joint fields like Alov and Sardar are contested. Azerbaijan’s unilateral drilling has created tensions [6].

The existence of disputed joint fields—such as the Alvo (PARS) field between Iran and Azerbaijan, and the Sardar/Chenglei field between Iran and Turkmenistan—has motivated some parties to delay reaching an agreement. Azerbaijan’s unilateral exploitation of offshore fields near the disputed maritime boundary has undermined Iran’s position. Meanwhile, Turkmenistan is seeking to attract foreign investment for exploration in its southern offshore zones.

3.3. Political and Geopolitical Factors

Regional rivalries, such as Azerbaijan-Israel relations and Turkmenistan’s neutrality, affect negotiations [7].

Relations between Iran and Azerbaijan are influenced by regional security issues, including Israel’s presence in Baku and competition in the Caucasus. Turkmenistan’s neutrality and reluctance to engage in bilateral disputes have slowed negotiations. Meanwhile, Russia, which benefits from the asymmetric division of the Caspian’s resources, indirectly supports the positions of Baku and Ashgabat.

3.4. Technical and Environmental Challenges

Declining water levels and pollution demand joint action, but unresolved boundaries hinder cooperation [8].

The Caspian littoral states face numerous environmental threats that require collective action. One major issue is the declining water level of the Caspian Sea, driven by both human and natural factors such as reduced river inflow, climate change, dam construction, and industrial and agricultural infrastructure along riverbanks. The retreat of the shoreline in

recent years has negatively impacted ports, navigation, marine ecosystems, and the unique wetlands along the Caspian coast, increasing pollution levels in the coastal provinces.

Establishing maritime boundaries in the southern Caspian requires complex hydrographic surveys. Furthermore, shared concerns about environmental pollution from resource extraction have reduced motivation for cooperation on environmental protection.

4. The Necessity of Reaching an Agreement

More than three decades have passed since the legal status of the Caspian Sea remained unsettled, and especially during the nearly seven years since the signing of the Aktau Convention, many opportunities for cooperation among the five littoral states have been lost. Unfortunately, this has also created openings for potential threats in the Caspian region. For this reason, it seems more urgent than ever that Iran, Azerbaijan, and Turkmenistan—the three southern littoral states—reach a final agreement. The following sections outline the missed opportunities in the absence of an agreement and then analyze the potential threats that may arise for all three nations.

4.1. Missed Opportunities

4.1.1. Economic Cooperation

Lack of legal clarity prevents joint investments in pipelines, ports, and platforms [9].

The lack of agreement over maritime boundaries and resource division has prevented joint investments in marine infrastructure, including ports, pipelines, and oil and gas platforms. Finalizing an agreement could reduce costs, improve efficiency, and create new employment opportunities.

Moreover, disputes have hindered the optimal and shared exploitation of hydrocarbon resources (oil and gas), preventing coastal countries from fully realizing the Caspian’s economic potential. The absence of a stable legal and political framework has also obstructed trade and transit development in the Caspian Sea, which could otherwise enhance revenue, employment, and economic ties among regional countries.

4.1.2. Environmental Cooperation

Failure to implement the Tehran Convention endangers biodiversity [3].

Despite the critical importance of environmental protection for Caspian marine life—especially sturgeon species—disagreements have prevented the establishment of a joint management system for preserving the Caspian ecosystem. Consequently, conservation efforts remain fragmented and ineffective.

Failure to cooperate on combating pollution—whether

oil-based, industrial, or plastic—has seriously endangered the lives of coastal populations, particularly in disputed zones. Moreover, disputes have stalled joint programs to protect endangered animal and plant species, such as the Caspian seal and sturgeon. In effect, the implementation of the Tehran Convention on environmental protection has been directly hindered by the unresolved legal status of the Caspian among the southern states [8].

4.1.3. Security Cooperation

Without clarity, combating maritime crime and building trust remains difficult [10].

In today's world, security is an interconnected issue. Insecurity in one part of the Caspian can affect the safety of all littoral states. The Caspian region is a strategic zone and a key junction in the North-South and East-West corridors. Security in the Caspian Sea is indivisible, and all coastal countries share the responsibility for maintaining stability, safety, and sustainable development in this maritime zone.

The unresolved maritime boundaries have weakened the collective will to combat organized maritime crime (such as smuggling, terrorism, etc.), and as a result, Caspian security has not been achieved to the extent possible in recent years. Additionally, uncertainty has discouraged foreign investment—security being essential for attracting capital, and confidence in the future being critical for sustaining investment. The disputes have also prevented the establishment of a coordinated monitoring and security system in the Caspian Sea.

4.2. Potential Threats

4.2.1. Escalation of Regional Tensions

Unresolved disputes could trigger military build-up and foreign intervention [11].

Heightened tensions and misunderstandings resulting from competition over larger shares of the Caspian's resources may lead to an arms race, with countries in the region seeking to acquire more military equipment. This creates opportunities for extra regional powers to exploit the divisions, selling more weapons or even establishing military bases in the Caspian.

In other words, the risk of potential clashes stemming from existing disputes remains ever-present. In fact, limited confrontations have already occurred in recent years between Iran and Azerbaijan, and between Azerbaijan and Turkmenistan. These disputes can also contribute to political instability in the region and undermine regional cooperation.

4.2.2. Economic Harm

Foreign investors require legal assurance; ambiguity increases project risks [12].

The lack of a stable legal and political framework discourages foreign investment in the Caspian Sea. Investors need assurance about the future of agreements and legal clar-

ity to make long-term commitments. Disputes among the southern Caspian states raise operational costs, reduce project profitability, and diminish incentives for participating in development initiatives. Ultimately, these factors result in missed economic opportunities across the region.

4.2.3. Environmental Deterioration

Oil spills and plastic pollution continue to threaten the marine ecosystem [13].

The absence of cooperation in environmental protection has led to an increase in oil, industrial, and plastic pollution. This pollution has degraded natural habitats and reduced biodiversity, endangering various plant and aquatic species in the Caspian Sea.

Furthermore, lack of collaboration in addressing climate change has exacerbated its harmful effects—such as declining water levels and the loss of freshwater resources. These environmental risks demand joint and immediate action, which continues to be hindered by unresolved disputes.

5. Solutions for Resolving the Existing Disputes

Formation of a joint expert working group on hydrographic and legal surveys [14].

Applying a hybrid method combining the median line and principle of equity [5].

Establishing Joint Development Zones (JDZ) like in the South China Sea [15].

Avoiding unilateral actions and promoting transparency and military de-escalation [6].

The Caspian Sea is a shared heritage, a symbol of friendship among its coastal nations, and a vital source of life for more than 270 million people living in the surrounding countries. Just as past generations preserved this divine and valuable treasure for today, the littoral states must now strive to overcome current challenges and disputes to protect this precious natural resource for future generations.

Since the Aktau Convention does not specify a particular method for determining the maritime boundaries and seabed division among neighboring countries, and leaves this to future agreements, the most important current step toward achieving consensus among the three southern littoral states is the formation of a joint working group. This group should include representatives from all convention member states—comprising geological, maritime, and international law experts—to accelerate the pace of technical meetings and related negotiations.

To draft a new, more accurate map of the Caspian based on geological studies and to determine the legal area of each state's maritime zone, efforts should be made to build consensus based on the principle of equity. This would also help clarify the boundaries of oil and gas fields located in each country's territorial waters.

For disputed joint oil and gas resources in territorial waters, one solution is to establish joint ventures—similar to the Alborz project agreed upon by Iran and Azerbaijan on a 50-50 basis.

Unilateral actions and projects in the Caspian that disregard the interests of other littoral states should be avoided, as such initiatives undermine the rights and benefits of others. Until a final agreement is reached among the three southern states, all decisions regarding Caspian-related issues should be made collectively and by consensus among all coastal nations.

Pending a final resolution, the five Caspian states can still enhance cooperation in various fields—such as developing a blue economy, investing in maritime transport, port infrastructure, shipping, fisheries, marine tourism, free trade zones, and the sustainable and rational exploitation of marine resources. A good model for this would be the “Joint Development Zones” used by Thailand and Malaysia in the South China Sea since 1979, which allowed for joint resource extraction despite unresolved border disputes.

The 2018 Aktau Convention explicitly defines the Caspian as “a body of water with a special legal regime.” This means:

The United Nations Convention on the Law of the Sea (UNCLOS 1982) and international lake law are not directly applicable.

The median line may be used as a technical method, as it was in the agreements among Russia, Kazakhstan, and Azerbaijan in the northern Caspian, but it is not legally binding—especially for a country like Iran, which would receive only a small share under this method. The median line is merely a supplementary tool for bilateral or multilateral agreements.

For example, a strict median line (without adjustment) would limit Iran’s share to just 11%, even though Iran has a longer coastline than Azerbaijan (820 kilometers vs. 500 kilometers).

A combination of the median line method and the principle of equity could unlock the stalemate for all three countries. In essence, the key to resolving the dispute lies in proactive diplomacy and integrating economic interests with historical rights.

Holding regular and constructive negotiations on maritime boundaries, along with creating communication channels to manage disputes and prevent escalation, is essential.

Strengthening regional institutions and organizations—such as the Tehran Convention—can facilitate broader cooperation among the littoral states and lay the groundwork for future partnerships in the Caspian region.

Confidence-building, increased transparency in military and economic activities, information-sharing, and joint expert meetings are necessary to reduce misunderstandings and mistrust.

6. Conclusion

The current impasse serves no state's long-term interests. A flexible, principled approach that honors Iran’s geographic

position while engaging other states' perspectives is essential. Future cooperation hinges on legal clarity, political will, and regional trust.

As a unique and enclosed body of water, the Caspian Sea—nearly three decades after the dissolution of the Soviet Union and seven years after the signing of the Aktau Convention—still faces unresolved challenges regarding the demarcation of its southern maritime boundaries. This unresolved status has not only resulted in the loss of economic and environmental opportunities, but it has also paved the way for regional tensions and extra regional interventions.

What is of particular importance now is finding a solution that, on the one hand, considers Iran’s historical rights and geographical position as a country with a long coastline, and on the other hand, acknowledges the new geopolitical realities that have emerged in the region since the Soviet collapse. Experience has shown that maintaining the current impasse is detrimental to all littoral states.

Only through goodwill, flexibility, and a pragmatic approach can a fair and lasting agreement be achieved. Hybrid methods—such as combining the median line with the principle of equity—along with the creation of joint development zones for energy resource exploitation, and the strengthening of multilateral cooperation in security and environmental matters, can serve as practical solutions.

The future of the Caspian Sea—as a shared legacy of the coastal nations—depends on the collective wisdom and foresight of their leaders. By moving beyond disputes and adopting a cooperative spirit, a new chapter of constructive engagement can be opened in this strategically vital region.

Abbreviations

UNCLOS	United Nations Convention on the Law of the Sea
IRAS	Institute of Iran Eurasian Studies
GDP	Gross Domestic Product
EEZ	Exclusive Economic Zone
DOI	Digital Object Identifier

Conflicts of Interest

The author declares no conflicts of interest.

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