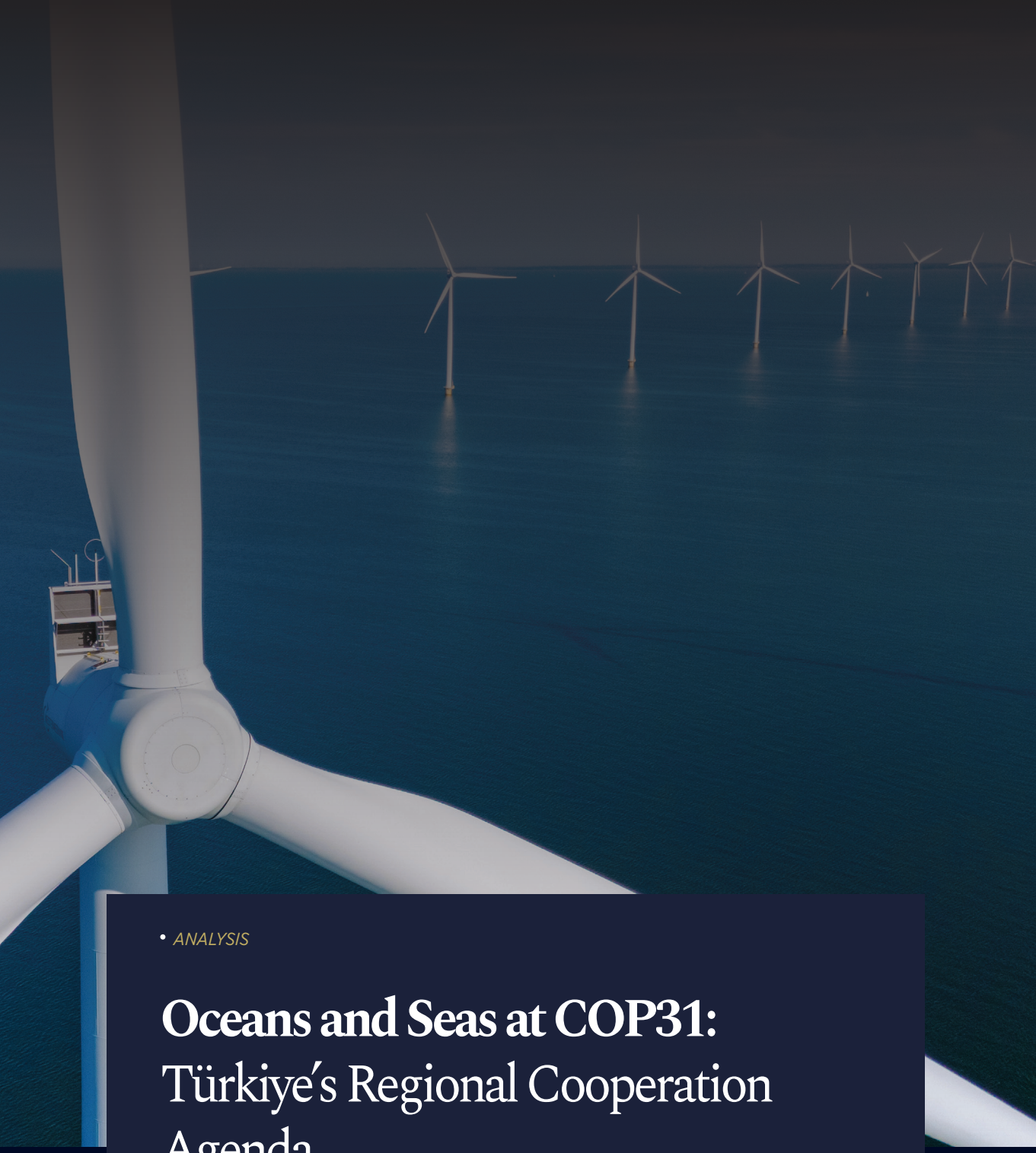


• *ANALYSIS*

Oceans and Seas at COP31: Türkiye's Regional Cooperation Agenda

Dilek Ağa, Çağla Vural

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OCEANS AND SEAS AT COP31: Türkiye's Regional Cooperation Agenda

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> This analysis assesses, through an ecological security approach, whether COP31 can move the ocean agenda from dialogue to implementation and how Türkiye's initiatives in its regional seas can contribute to this transition.

SUMMARY

This analysis uses an ecological security approach to assess whether COP31 can move the ocean agenda from dialogue to implementation and how Türkiye's initiatives in its regional seas can contribute to that shift. The seas around Türkiye are warming fast. Since the early 1980s, Mediterranean surface waters have warmed by between 0.29 and 0.44°C per decade, depending on the subregion, and in 2024 the Black Sea and the Mediterranean experienced record marine heatwaves. Combined with pressures such as maritime traffic, pollution and overfishing, the effects of warming are felt concretely on the coast through invasive species, mucilage in the Sea of Marmara and fisheries. The ocean became a subject of dialogue in the climate regime with a COP25 decision in 2019 and gained visibility through annual dialogues after the 2021 Glasgow decision. However, the ocean does not appear in the operative paragraphs of the Global Mutirão decision adopted in Belém during COP30. The COP31 Presidency, for its part, has made Oceans and Seas a theme of its Action Agenda and, together with the Union for the Mediterranean, has held consultations of the Antalya Mediterranean Climate Dialogue in seven countries. The theme was also discussed at preparatory events in Istanbul and Trabzon. The Taku Pakasoa Declaration, issued during the process of the pre-COP ministerial meeting (Pre-COP) in October 2026, addressed the ocean-climate nexus in a separate section. The Climate Change Regional Activity Centre, established under the Barcelona Convention and hosted by Türkiye, provides an institutional basis for cooperation in the Mediterranean. The analysis argues that, in areas of technical cooperation, the most realistic ground on which COP31 can move the ocean agenda into implementation is the regional seas, above all the Mediterranean. It makes five recommendations. Two of them are to set voluntary indicators for the ocean theme and to give the ocean an operative paragraph in the COP31 decision and in the decisions of the meeting of the Parties to the Paris Agreement that will convene alongside COP31. The other three concern the Centre's work program, which should cover regional data sharing, an early warning flow linking fishers' and divers' observations of invasive species to the national monitoring system, and carrying the Marmara experience into adaptation policy.

INTRODUCTION

In 2024, the Black Sea and the Mediterranean experienced marine heatwaves of the highest intensity and duration in the Copernicus record for 1993-2024. In parts of the Black Sea, events lasted more than 30 days, and sea surface temperature anomalies exceeded 4.6°C off the Anatolian coast.[1] The 31st session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) will meet on November 9-20, 2026, on the shore of one of these seas, in Antalya.[2] The COP31 Presidency has built its Action Agenda around ten priority themes, and Oceans and Seas is one of them.[3] The conference has also dedicated November 17 to oceans, seas, nature and land use.[4]

The ocean became a subject of dialogue in the climate negotiations with a COP25 decision in 2019. After the 2021 Glasgow decision, it has been taken up in dialogues held every year.[5] At the most recent dialogue, in June 2026, partic-

1 Leonardo Lima et al., "Establishing a Monitoring Approach for Marine Heatwaves in the Black and Mediterranean Seas," *State of the Planet* 7-osr10, article no. 5 (2026): 1, 4, 9, and 10, https://doi.org/10.5194/sp-7-osr10-5-2026.

2 "COP31 Tematik Günleri Belli Oldu: 12 Gün, 12 Öncelik," COP31 Presidency, August 24, 2026, accessed October 30, 2026, https://cop31.tr/tr/cop31-tematik-gunleri-belli-oldu.

3 COP31 Presidency, *COP31 Presidency's 3rd Letter to the Parties* (n.d.), 2-3, accessed October 30, 2026, https://unfccc.int/sites/default/files/resource/cop31_3rd_presidency_letter.pdf.

4 "COP31 Tematik Günleri Belli Oldu."

5 UNFCCC, "Decision 1/CP.25: Chile Madrid Time for Action," FCCC/CP/2019/13/Add.1, March 16, 2020, para. 31, accessed October 30, 2026, https://unfccc.int/sites/default/files/resource/cp2019_13a01E.pdf; Sivendra Michael and Ulrik Lenaerts, *Ocean and Climate Change Dialogue 2026: Informal Summary Report by the Co-facilitators of the Ocean and Climate Change Dialogue 2026* (UNFCCC, August 31, 2026), paras. 15 and 16, accessed October 30, 2026, https://unfccc.int/documents/660207.

ipants saw the pre-COP ministerial meeting (Pre-COP) in Fiji and Tuvalu and COP31 as a unique opportunity to raise the political importance of ocean-based climate action.[6] One of the overall messages of the dialogue was that this process should move beyond discussion towards implementation.[7] The Taku Pakasoa Declaration, issued in Tuvalu and Fiji during the Pre-COP process in October 2026 and endorsed by the Pre-COP, devoted a separate section to elevating the ocean-climate nexus.[8] In presenting the ocean theme, the COP31 Presidency also states that "our shared goal is now to turn ocean-climate ambition from paper into blue action."[9] The Presidency's motto likewise puts forward a move from dialogue to consensus and from consensus to action.[10]

2. At COP31, to be held in Antalya from 9 to 20 November, 17 November is dedicated to oceans, seas, nature and land use.

This analysis takes an ecological security approach. In the form McDonald advocates, the approach does not treat human communities, or the institutions that claim to represent them, as the object to be secured. It takes ecosystems themselves as that object. On this view, ecological security is concerned with the resilience of ecosystems to climate change. It also defines the threat beyond the risk of conflict, in terms of the direct effects of rising temperatures on the functioning of ecosystems and on the present and future living beings within them.[11] McDonald further asks what the approach would look like in practice and who the agents of ecological security would be, and he examines the institutional prospects of the concept.[12] The seas suit this framework particularly well. The pathways through which non-indigenous species arrive concern more than one country, and warming affects an entire basin.[13] Vural and Atvur have applied the framework to Türkiye's Mediterranean coasts and have emphasized preventive early warning and transboundary cooperation.[14]

6 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, 1 and para. 86.

7 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, para. 85(b).

8 *The Taku Pakasoa Declaration: Strength in Unity* (Tuvalu and Fiji, October 6, 2026), paras. 13-16, accessed October 30, 2026, https://unfccc.int/sites/default/files/resource/Pre-COP31_Taku-Pakasoa_Leaders-declaration_EN.pdf; "Pacific Pre-COP Sets Launchpad for Climate Summit in Türkiye," Australia-Pacific Partnership for COP31, n.d., accessed October 30, 2026, https://www.cop31-pacific.com/pacific-pre-cop-launchpad.

9 COP31 Presidency, *COP31 Presidency's 3rd Letter*, 6.

10 The Presidency's motto is "Diyalogdan Uzlaşıya, Uzlaşıdan Aksiyona" (From Dialogue to Consensus, From Consensus to Action; authors' translation). "Okyanuslar ve Denizler," COP31 Presidency, accessed October 30, 2026, https://cop31.tr/tr/cop31-aksiyon-ajandasi/okyanuslar-ve-denizler.

11 Matt McDonald, *Ecological Security: Climate Change and the Construction of Security* (Cambridge: Cambridge University Press, 2021), 44-45, https://doi.org/10.1017/9781009024495.

12 Matt McDonald, "Climate Change, Security and the Institutional Prospects for Ecological Security," *Geoforum* 155, article no. 104096 (2024): 1, https://doi.org/10.1016/j.geoforum.2024.104096.

13 Çağla Vural and Senem Atvur, "Türkiye'nin Akdeniz Kıyılarında Denizel Yerli Olmayan 'İstilacı' Türler: Ekolojik Güvenlik Perspektifinden Bir Analiz," *Ege Journal of Fisheries and Aquatic Sciences* 43, no. 1 (2026): 65, https://doi.org/10.12714/egejfas.43.1.07; MedECC, "Summary for Policymakers," in *Climate and Environmental Change in the Mediterranean Basin. Current Situation and Risks for the Future. First Mediterranean Assessment Report*, ed. W. Cramer, J. Guiot, and K. Marini (Marseille: Union for the Mediterranean, Plan Bleu, UNEP/MAP, 2020), 12, para. 2.1.9.1, accessed October 30, 2026, https://www.medecc.org/wp-content/uploads/2021/05/MedECC_MAR1_SPM_ENG.pdf.

14 Vural and Atvur, "Türkiye'nin Akdeniz Kıyılarında Denizel Yerli Olmayan 'İstilacı' Türler," 59-60.

Building on this approach, the analysis assesses whether COP31 can move the ocean agenda from dialogue to implementation and how Türkiye's initiatives in its regional seas can contribute to that shift. The visibility the ocean has gained in the climate regime since 2019 through dialogues and invitations was not reflected in the operative paragraphs of the Global Mutirão decision adopted during COP30. The central argument is that, in areas of technical cooperation, the most realistic ground on which COP31 can move the ocean agenda into implementation is the regional seas, where climate-driven ecological pressures are felt concretely and where Türkiye has developed institutional tools. The Mediterranean comes first among them. The analysis first discusses the imprint of climate change on the seas and then the ocean's entry into the climate regime. It next examines the ecological security problems in Türkiye's seas and the regional cooperation agenda of the COP31 process, and it closes with recommendations. Legal debates on maritime jurisdiction are outside its scope. The assessment is based on information available as of November 1, 2026.

THE IMPRINT OF CLIMATE CHANGE ON THE SEAS

The ocean carries the largest share of the warming in the climate system. According to the Intergovernmental Panel on Climate Change (IPCC) special report on the ocean and cryosphere, it is *virtually certain* that the global ocean has warmed unabated since 1970 and has taken up more than 90 percent of the excess heat in the climate system (*high confidence*).[15] Marine heatwaves have *very likely* doubled in frequency since 1982, and their intensity is increasing (*very high confidence*).[16] According to the same report, the ocean has taken up between 20 and 30 percent of total anthropogenic carbon dioxide emissions since the 1980s (*very likely*), which has further increased the acidification of surface waters.[17] A loss of oxygen has also occurred from the surface to 1,000 meters (*medium confidence*).[18] Global mean sea level rose by 0.20 meters between 1901 and 2018.[19] These changes also affect people who make their living from the sea. Ocean warming has contributed to a decrease in maximum catch potential (*medium confidence*) and has

15 IPCC likelihood and confidence terms are reproduced as they appear in the source. IPCC, "Summary for Policymakers," in *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate*, ed. H.-O. Pörtner et al. (Cambridge and New York: Cambridge University Press, 2019), 9, para. A.2, accessed October 30, 2026, https://www.ipcc.ch/srocc/chapter/summary-for-policymakers/.

16 IPCC, "Summary for Policymakers" (2019), 9, para. A.2.

17 IPCC, "Summary for Policymakers" (2019), 9, para. A.2.5.

18 IPCC, "Summary for Policymakers" (2019), 9, para. A.2.

19 IPCC, "Summary for Policymakers," in *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. V. Masson-Delmotte et al. (Cambridge and New York: Cambridge University Press, 2021), 5, para. A.1.7, accessed October 30, 2026, https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM_Stand_Alone.pdf.

compounded the impacts of overfishing for some fish stocks (*high confidence*).[20] According to the IPCC, greenhouse gas emissions since 1750 have committed the global ocean to future warming (*high confidence*). Changes in ocean temperature are irreversible on centennial to millennial time scales (*very high confidence*).[21]

The Mediterranean is a basin where this global trend is sharper. The Mediterranean Experts on Climate and environmental Change (MedECC) report that Mediterranean surface waters have warmed since the early 1980s, at rates ranging from 0.29 to 0.44°C per decade depending on the subregion. Warming has been stronger in the eastern basins, including the Aegean and the Levantine. According to the same assessment, marine heatwaves have also become longer and more intense (*high confidence*).[22] Annual mean temperatures in the basin, over land and sea, are now 1.54°C above the 1860-1890 level. This rise is 0.4°C more than the global average change (*high confidence*).[23] The region is expected to keep warming faster in the future. According to MedECC, regional average warming over land is projected to exceed the global average by 20 percent annually and by 50 percent in summer (*high confidence*).[24] Sea level in the Mediterranean rose by 2.8 millimeters per year over 1993-2018 (*high confidence*). According to the IPCC, coastal flood risks will increase in low-lying areas along 37 percent of the coastline, where 42 million people live today.[25] The latest observations point in the same direction. According to the tenth issue of the Copernicus Ocean State Report, published in September 2026, the Mediterranean warmed by an average of 0.032°C per year over 1982-2024, and warming was faster in the Eastern Mediterranean than in the Western Mediterranean. In 2024, the Eastern Mediterranean recorded the highest number of marine heatwave days of the 2002-2024 period under all three methods used.[26]

According to the tenth edition of the Copernicus Ocean State Report, published in September 2026, the Mediterranean warmed by an average of 0.032 °C per year over the period 1982–2024, with warming proceeding faster in the Eastern Mediterranean than in the Western Mediterranean.

This warming affects both ecosystems and livelihoods on Türkiye's Mediterranean coast. According to MedECC, the Mediterranean, and the Levantine

20 IPCC, "Summary for Policymakers" (2019), 12, para. A.5.4.

21 IPCC, "Summary for Policymakers" (2021), 21, para. B.5.1.

22 MedECC, "Summary for Policymakers," 12, para. 2.1.9.1.

23 MedECC, "Summary for Policymakers," 9, para. 2.1.1.

24 MedECC, "Summary for Policymakers," 9, para. 2.1.2.1.

25 Elham Ali et al., "Cross-Chapter Paper 4: Mediterranean Region," in *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. H.-O. Pörtner et al. (Cambridge and New York: Cambridge University Press, 2022), 2235, accessed October 30, 2026, https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_CCP4.pdf.

26 Blanca Fernández-Álvarez, Bàrbara Barceló-Llull, and Ananda Pascual, "Mediterranean Sea Warming and Marine Heatwaves in 2024," *State of the Planet* 7-osr10, article no. 19 (2026): 1-5, https://doi.org/10.5194/sp-7-osr10-19-2026.

Basin in particular, is a hotspot for the establishment of non-indigenous species (*high confidence*). With warming, species of tropical origin are spreading into the Mediterranean and driving the tropicalization of marine life (*medium confidence*).[27] The IPCC names Türkiye as a country whose fisheries sector is particularly vulnerable to climate change. Small pelagic species such as anchovy and sardine, which make up about half of the catch in the Mediterranean, are very vulnerable to rising seawater temperatures.[28] Climate change, however, is not the only source of these pressures. According to MedECC, the overexploitation of marine resources and unsustainable fishing practices are the main cause of population declines in marine species. The Eastern Mediterranean is also the subbasin with the most overfished and collapsed species (*medium confidence*).[29] The IPCC assesses that climate-driven change in pelagic production, combined with overfishing, will increase risks to catches (*likely*). According to the same assessment, more than 20 percent of the fish and invertebrates exploited today in the Eastern Mediterranean could become locally extinct by 2060.[30]



According to the IPCC, more than 20 percent of the fish and invertebrates currently harvested in the Eastern Mediterranean could become locally extinct by 2060.

In the Black Sea, the imprint of warming shows up in the oxygen balance, together with the effects of eutrophication. According to Capet and colleagues, the Black Sea's oxygen inventory declined by 44 percent between 1955 and 2015, and the average depth reached by oxygen fell from 140 to 90 meters. Eutrophication thinned the oxygenated layer in the 1970s and 1980s. More recently, atmospheric warming has been weakening the ventilation of the lower part of the oxygenated layer by reducing the formation of the cold intermediate layer.[31] According to the Copernicus Ocean State Report, the warming of the Black Sea has contributed significantly to the gradual disappearance of the cold intermediate layer.[32]

These regional findings matter because the IPCC special report on the ocean and cryosphere did not assess marginal seas as separate ocean regions.[33] The Mediterranean cross-chapter paper of the IPCC Sixth Assessment Report, for its part, states that knowledge of climate impacts in the southern and eastern parts of the region is lacking and that this gap makes adaptation measures harder to implement.[34]

27 MedECC, "Summary for Policymakers," 14, para. 2.4.1, and 21, para. 4.1.1.3; Ali et al., "Cross-Chapter Paper 4," 2237 and 2244.

28 Ali et al., "Cross-Chapter Paper 4," 2243.

29 MedECC, "Summary for Policymakers," 14, paras. 2.3.2 and 2.3.2.2.

30 Ali et al., "Cross-Chapter Paper 4," 2246.

31 Arthur Capet et al., "Decline of the Black Sea Oxygen Inventory," *Biogeosciences* 13, no. 4 (2016): 1287, https://doi.org/10.5194/bg-13-1287-2016; Arthur Capet, Luc Vandenbulcke, and Marilaure Grégoire, "A New Intermittent Regime of Convective Ventilation Threatens the Black Sea Oxygenation Status," *Biogeosciences* 17, no. 24 (2020): 6507, https://doi.org/10.5194/bg-17-6507-2020.

32 Lima et al., "Establishing a Monitoring Approach," 9.

33 IPCC, "Summary for Policymakers" (2019), 14, n. 24.

34 Ali et al., "Cross-Chapter Paper 4," 2236.

THE OCEAN IN THE CLIMATE REGIME

Treating the ocean as a separate item in the climate negotiations is relatively new. The main decision of COP25 in 2019 commended the efforts of the President of the Conference to highlight the importance of the ocean as an integral part of the climate system.[35] The same decision requested the Chair of the Subsidiary Body for Scientific and Technological Advice (SBSTA) to convene a dialogue on the ocean and climate change at its 52nd session, planned for June 2020. The purpose of the dialogue was set as considering how to strengthen mitigation and adaptation action in this context. The decision provided for a dialogue at that session only and contained no provision for repeating it.[36] According to the summary report of the June 2026 dialogue, Parties mandated the first dialogue on the basis of the information and scientific findings of the IPCC special report on the ocean and cryosphere.[37]

The dialogue became annual with the Glasgow Climate Pact in 2021. The Pact invited the SBSTA Chair to hold an ocean dialogue every year, starting at the 56th session in June 2022.[38] The same decision also invited the relevant work programs and constituted bodies under the climate regime to consider how to integrate and strengthen ocean-based action in their existing mandates and workplans.[39] The 2026 report refers to this provision as the Glasgow mandate.[40] At COP27, Parties were encouraged to consider, as appropriate, ocean-based action in their national climate goals, including nationally determined contributions (NDCs), and it was decided that from 2023 the dialogue would be facilitated by two co-facilitators.[41] Later dialogues took up topics such as coastal ecosystem restoration and blue carbon, fisheries and food security, marine biodiversity and coastal resilience, and the ocean in NDCs.[42]

The ocean gained a more visible place in the decision on the first global stocktake, concluded at COP28 in the United Arab Emirates in 2023. The decision invited Parties to preserve and restore ocean and coastal ecosystems and to scale up, as appropriate, ocean-based mitigation action. It also noted that ecosystem-based approaches, including ocean-based adaptation and resilience measures, can reduce climate risks.[43] Even so, the provisions of the decision that refer

35 UNFCCC, "Decision 1/CP.25," para. 30.

36 UNFCCC, "Decision 1/CP.25," para. 31.

37 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, para. 15.

38 UNFCCC, "Decision 1/CP.26: Glasgow Climate Pact," FCCC/CP/2021/12/Add.1, March 8, 2022, para. 61, accessed October 30, 2026, https://unfccc.int/sites/default/files/resource/cp2021_12_add1E.pdf.

39 UNFCCC, "Decision 1/CP.26," para. 60.

40 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, para. 13.

41 UNFCCC, "Decision 1/CP.27: Sharm el-Sheikh Implementation Plan," FCCC/CP/2022/10/Add.1, March 17, 2023, paras. 49 and 50, accessed October 30, 2026, https://unfccc.int/sites/default/files/resource/cp2022_10a01_E.pdf.

42 "The Ocean," UNFCCC, accessed October 30, 2026, https://unfccc.int/topics/ocean.

43 UNFCCC, "Decision 1/CMA.5: Outcome of the First Global Stocktake," FCCC/PA/CMA/2023/16/Add.1, March 15, 2024, paras. 35 and 56, accessed October 30, 2026, https://unfccc.int/sites/default/files/resource/cma2023_16a01E.pdf.

directly to the ocean are cautious and stay at the level of invitation, encouragement and acknowledgment. The protection of marine and coastal ecosystems appears among the 2030 global adaptation targets that the decision urges Parties to pursue, but the decision contains no ocean-specific, quantified and time-bound target.[44] The decision welcomed the outcomes of the 2023 dialogue but did not set out a new mandate for the dialogue.[45] Participants in the June 2026 dialogue also noted that ocean-based measures in NDCs remain largely focused on adaptation and encouraged greater attention to mitigation opportunities.[46]

> The co-facilitators' informal summary report recommends initiating consideration of a multi-year roadmap for the dialogue aligned with the Paris Agreement cycle.

During COP30, this visibility was not reflected in the operative paragraphs of the Global Mutirão decision. The decision was adopted in Belém at the seventh session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA7), held alongside COP30 on November 10-22, 2025. None of its 59 operative paragraphs mentions the ocean, the sea or the coast. References to the ocean and the sea appear in only two of the 15 preambular paragraphs. One refers to the role of terrestrial and marine ecosystems as greenhouse gas sinks and reservoirs, and the other to the interlinked crises of climate change, biodiversity loss and land and ocean degradation.[47] This language naming marine ecosystems as sinks had appeared in operative paragraphs of the Glasgow and COP28 decisions.[48] The Global Mutirão decision did, however, establish a tool aimed at implementation. The Global Implementation Accelerator was launched as a cooperative and voluntary initiative under the guidance of the Presidencies of CMA7 and of the eighth session (CMA8), which will meet alongside COP31 in November 2026.[49] Initiatives outside the negotiated text have also continued. The 2026 Blue NDC Implementation Taskforce, co-chaired by Brazil and France, has been presented as a mechanism for turning ocean commitments into action. The Taskforce and the Blue NDC Challenge have been introduced as tools that will complement the implementation support provided by the NDC Partnership and the Global Implementation Accelerator.[50]

This picture is carried into COP31 through the 2026 dialogue. The dialogue was held in Bonn on June 10-11, 2026, alongside the 64th sessions of the subsid-

44 UNFCCC, "Decision 1/CMA.5," paras. 33, 35, 55, 56, and 63(d).

45 UNFCCC, "Decision 1/CMA.5," para. 180.

46 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, para. 42.

47 UNFCCC, "Decision 1/CMA.7: Global Mutirão: Uniting Humanity in a Global Mobilization against Climate Change," FCCC/PA/CMA/2025/19/Add.1, March 30, 2026, 2-8, accessed October 30, 2026, https://unfccc.int/sites/default/files/resource/cma2025_19a01E.pdf.

48 UNFCCC, "Decision 1/CP.26," para. 21; UNFCCC, "Decision 1/CMA.5," para. 33.

49 UNFCCC, "Decision 1/CMA.7," para. 41.

50 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, paras. 33 and 36.

iary bodies.[51] The co-facilitators' informal summary report presents a set of key messages for consideration by Parties and observers preparing for COP31. The report recommends elevating ocean-based climate action as a cross-cutting priority through the Pre-COP and COP31. To implement the Glasgow mandate more systematically, it encourages relevant constituted bodies and work programs to include, as appropriate, a standing agenda item to report on progress in integrating ocean-related activities. For the dialogue itself, the report recommends initiating consideration of a multi-year road map aligned with the Paris Agreement cycle.[52] Strengthening integrated approaches across marine and coastal sectors and promoting regional cooperation are also among the messages.[53] Finance is seen as both a key enabler and a key constraint of ocean-based climate action. According to data the Organisation for Economic Co-operation and Development (OECD) presented at the dialogue, ocean-related official development assistance commitments have fluctuated considerably from year to year but have shown an upward trend. Even so, these commitments remained a small share of global official development assistance, at 1.3 percent in 2024.[54] Reservations were also voiced at the dialogue. Some Parties recalled that the dialogue was established as a facilitative, balanced, Party-driven and technology-neutral platform for sharing experiences and implementation challenges. In their view, the dialogue was not established to promote specific energy pathways or to prescribe particular development models.[55] On the first day of the dialogue, an ocean session was dedicated to the COP31 Presidency, with remarks by the COP31 Pacific Ocean Envoy and by representatives of Australia and Türkiye.[56] The co-facilitators plan to present the key messages of the dialogue at the opening plenary of COP31 and to hold a special event at COP31.[57]

TÜRKİYE'S SEAS FROM AN ECOLOGICAL SECURITY PERSPECTIVE

Türkiye lies in both the Mediterranean and the Black Sea basins and sits on trade and transport routes between Asia and Europe. Maritime traffic and canals that connect previously separate sea areas are among the main pathways for non-in-

51 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, 1, para. 21.

52 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, 1 and paras. 12-14.

53 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, para. 10(b).

54 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, paras. 65(a) and 67; Jens Sedemund, "Tracking Development Finance for the Ocean" (presentation, Ocean and Climate Change Dialogue, Bonn, June 10, 2026), slide 3, accessed October 30, 2026, https://unfccc.int/sites/default/files/resource/2026_06_10_Ocean%20and%20Climate%20dialogue_MOI_Ocean%20finance%20data.pdf.

55 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, para. 93.

56 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, para. 22.

57 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, para. 97.

digenous species, particularly in the Eastern Mediterranean.[58] Türkiye's Climate Change Adaptation Strategy and Action Plan (2024-2030) also expects the number of invasive alien species entering the country to rise as a result of climate change.[59] This section first discusses invasive species on the Mediterranean coast and then mucilage in the Sea of Marmara. For each case, it assesses the problem, the steps taken and the next step. Türkiye has developed a range of national tools against both problems, and this experience can also be carried into regional cooperation on transboundary problems such as invasive species. The 2026 regulation discussed below likewise requires that the national monitoring system be set up taking into account, as far as possible, the transboundary effects and characteristics of invasive species.[60] The section ends with the effects of changes in the seas on the livelihoods of coastal communities and on coastal infrastructure.



Overfishing, increasing maritime traffic and the 2015 expansion of the Suez Canal are progressively causing the fauna of the Mediterranean to resemble that of the Red Sea.

Non-indigenous species are one of the main problems on the Mediterranean coast. According to the 2023 assessment of the United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP), the Eastern Mediterranean, with 788 species, is the subregion of the basin with the highest number of recorded non-indigenous species.[61] Overfishing, growing maritime traffic and the 2015 expansion of the Suez Canal are making the region's fauna increasingly resemble that of the Red Sea.[62] The warming discussed above also appears to have helped warm-water species that can spread over long distances in open water to advance into cooler parts of the basin.[63] Vural and Atvur conducted a field study with 77 participants in the coastal districts of Antalya, Mersin, Adana and Hatay. The study sets out the effects of the lionfish (*Pterois miles*), the silver-cheeked toadfish (*Lagocephalus sceleratus*) and *Pomadasys stridens* as seen by fishers, divers, experts and public institutions. Participants report that ecosystem integrity has weakened in shallow coastal habitats, that damage to fishing gear has increased in small-scale fisheries, that catches have shifted toward lower-value species, and that people have been injured by lionfish spines and toadfish bites.[64] These observations are consistent

58 UNEP/MAP, *2023 MED QSR: Non-indigenous Species (EO2) Chapter*, UNEP/MED WG.547/8 (May 30, 2023), 1 and 6, accessed October 30, 2026, https://rac-spa.org/meetings/cormon0323/docs/eng/23wg547_8.pdf.

59 Ministry of Environment, Urbanization and Climate Change, *İklim Değişikliğine Uyum Stratejisi ve Eylem Planı (2024-2030)* (Ankara, 2024), 86, accessed October 30, 2026, https://www.iklim.gov.tr/db/turkce/dokumanlar/iklim-degisikligine--8230-3121-20240321164752.pdf.

60 "İstilacı Yabancı Türlerin Girişinin ve Yayılmasının Önlenmesi ile Yönetimi Hakkında Yönetmelik," *Resmi Gazete*, no. 33175, February 21, 2026, art. 12, accessed October 30, 2026, https://www.resmigazete.gov.tr/eskiler/2026/02/20260221-2.htm.

61 UNEP/MAP, *2023 MED QSR: Non-indigenous Species*, 11.

62 Aylin Ulman et al., "The *Biology* and Ecology of the Invasive Silver-Cheeked Toadfish (*Lagocephalus sceleratus*), with Emphasis on the Eastern Mediterranean," *NeoBiota* 68 (2021): 146, https://doi.org/10.3897/neobiota.68.71767.

63 UNEP/MAP, *2023 MED QSR: Non-indigenous Species*, 1 and 25.

64 Vural and Atvur, "Türkiye'nin Akdeniz Kıyılarında Denizel Yerli Olmayan 'İstilacı' Türler," 59-61 and 63.

with surveys of fishers. In interviews that Ünal and Göncüoğlu Bodur conducted in 2013-2014 with 215 fishers in seven coastal provinces between Çeşme and Samandağ, 97 percent of the fishers stated that this species damages fishing gear and the fish caught in it.[65] Ünal and colleagues and Öndes and colleagues calculated the annual loss of fishing gear caused by the toadfish in small-scale fisheries. For longline fishers, this loss rose from about 942 Turkish liras (TL) per boat in 2011 to 2,929 TL in 2016. Over the same period, this loss for gillnet fishers rose from about 1,347 TL to 3,353 TL.[66] The fish also poses a risk to human health. According to a study by Ulman and colleagues covering ten countries, at least 144 nonfatal poisonings and 27 deaths linked to the consumption of pufferfish, mainly this species, were recorded in the Eastern and Central Mediterranean between 2004 and 2023.[67]

Türkiye has responded to this problem with support payments, legislation and monitoring tools. The Ministry of Agriculture and Forestry began supporting the toadfish catch in 2020 and raised the support rates in 2024. According to a statement by Minister İbrahim Yumaklı in March 2024, 183,974 toadfish had been caught from the start of the scheme up to that date.[68] The relevant communiqué, based on a Presidential Decision of March 11, 2024, regulates the support for the 2024-2026 period.[69] According to the Adaptation Plan, various activities are also under way to put fishing pressure on lionfish, sea urchins and the nomad jellyfish and to bring these species into economic use.[70] As part of two broader actions in the fields of fisheries and biodiversity, the Plan also provides for a plan to combat invasive species in fisheries and for the monitoring and control of invasive species.[71] According to an announcement by the Central Fisheries Research Institute, the Türkiye National Invasive Alien Species Data and Information System was set up under the Marine Invasive Alien Species

65 Vahdet Ünal and Huriye Göncüoğlu Bodur, "The Socio-Economic Impacts of the Silver-Cheeked Toadfish on Small-Scale Fishers: A Comparative Study from the Turkish Coast," *Ege Journal of Fisheries and Aquatic Sciences* 34, no. 2 (2017): 119 and 122-123, https://doi.org/10.12714/egejfas.2017.34.2.01.

66 Vahdet Ünal et al., "Silver-Cheeked Toadfish, *Lagocephalus sceleratus* (Actinopterygii: Tetraodontiformes: Tetraodontidae), Causes a Substantial Economic Losses in the Turkish Mediterranean Coast: A Call for Decision Makers," *Acta Ichthyologica et Piscatoria* 45, no. 3 (2015): 231 and 235, https://doi.org/10.3750/AIP2015.45.3.02; Fikret Öndes et al., "By-catch and Monetary Loss of Pufferfish in Turkey, the Eastern Mediterranean," *Ege Journal of Fisheries and Aquatic Sciences* 35, no. 4 (2018): 367, https://doi.org/10.12714/egejfas.2018.35.4.01.

67 Aylin Ulman et al., "Assessment of Human Health Impacts from Invasive Pufferfish (Attacks, Poisonings and Fatalities) across the Eastern Mediterranean," *Biology* 13, no. 4, article no. 208 (2024): 2, 5, and 8, https://doi.org/10.3390/biology13040208.

68 "Tarım ve Orman Bakanı Yumaklı: 'İstilacı Balon Balığı Avcılığı Destekleme Tutarlarında Yüzde 400'e Varan Artış Kararı Verildi'," Ministry of Agriculture and Forestry, March 12, 2024, accessed October 30, 2026, https://www.tarimorman.gov.tr/BSGM/Haber/281/Tarim-Ve-Orman-Bakani-Yumakli-Istilaci-Balon-Baligi-Avciligi-Destekleme-Tutarlarinda-Yuzde-400e-Varan-Artis-Karari-Verildi.

69 "Balon Balığı Avcılığının Desteklenmesine İlişkin Tebliğ (Tebliğ No: 2024/8)," *Resmi Gazete*, no. 32516, April 13, 2024, arts. 2 and 3, accessed October 30, 2026, https://www.resmigazete.gov.tr/eskiler/2024/04/20240413-1.htm.

70 Ministry of Environment, Urbanization and Climate Change, *İklim Değişikliğine Uyum Stratejisi*, 87.

71 Ministry of Environment, Urbanization and Climate Change, *İklim Değişikliğine Uyum Stratejisi*, 264 and 269 (actions TAR7 and BEK6).

Project (MARIAS).[72] The Regulation on the Prevention and Management of the Introduction and Spread of Invasive Alien Species (*İstilacı Yabancı Türlerin Girişinin ve Yayılmasının Önlenmesi ile Yönetimi Hakkında Yönetmelik*), which entered into force in February 2026, provides for a national monitoring system. It also requires institutions, organizations and individuals that detect an invasive species not previously recorded to report it without delay. The monitoring system is to be established within 36 months of the publication of the list of invasive alien species.[73]

> While Mediterranean surface waters have warmed since the early 1980s at rates ranging from 0.29 to 0.44 °C per decade depending on the sub-region, the Black Sea and the Mediterranean experienced record marine heatwaves in 2024.

Carrying this legal and institutional basis to the regional level stands out as the next step. According to the UNEP/MAP assessment, early detection and early warning systems in the Mediterranean can draw on distribution data entered regularly into basin-wide databases. Methods for setting thresholds for the temporal occurrence trends of non-indigenous species are also being discussed within regional cooperation.[74] Linking fishers' and divers' observations to the national monitoring system and sharing these data with those systems could make information gathered on the coast usable at the basin scale. As Vural and Atvur stress, whether this flow of information works depends on reporting systems being easy to use, on feedback being visible and on stakeholders believing that their reports lead to action.[75] Since almost one third of the non-indigenous species entering the basin are carried mainly by ballast water and hull fouling, managing these pathways could also be part of regional cooperation.[76] At the national level, informing health personnel about the clinical signs of pufferfish poisoning and continuing public awareness campaigns could reduce this health risk.[77]

The Sea of Marmara is a case where warming and pollution act together. According to the Ministry of Environment, Urbanization and Climate Change, mucilage was first observed in the Marmara in September 2007, and the outbreak of April-June 2021 had been cleaned up as of July 7, 2021.[78] According to

72 "Türkiye Ulusal İstilacı Yabancı Türler Veri ve Bilgi Sistemi Oluşturuldu," Ministry of Agriculture and Forestry, Central Fisheries Research Institute, May 8, 2024, accessed October 30, 2026, https://arastirma.tarimorman.gov.tr/sumae/Haber/411/Turkiye-Ulusal-Istilaci-Yabanci-Turler-Veri-Ve-Bilgi-Sistemi-Olusturuldu.

73 "İstilacı Yabancı Türlerin Girişinin ve Yayılmasının Önlenmesi ile Yönetimi Hakkında Yönetmelik," arts. 12 and 14.

74 UNEP/MAP, *2023 MED QSR: Non-indigenous Species*, 26.

75 Çağla Vural and Senem Atvur, "The Security Implications of Marine Non-Indigenous Species on Türkiye's Mediterranean Coast: An Analysis from a Vernacular Security Perspective," *Mediterranean Politics* (published online August 10, 2026): 20, https://doi.org/10.1080/13629395.2026.2715589.

76 UNEP/MAP, *2023 MED QSR: Non-indigenous Species*, 13.

77 Ulman et al., "Assessment of Human Health Impacts from Invasive Pufferfish," 2 and 4.

78 Ministry of Environment, Urbanization and Climate Change, *Marmara Denizi Eylem Planı Koordinasyon Kurulu Toplantısı* (presentation, Istanbul, June 27, 2024), slide 2, accessed October 30, 2026, https://webdosya.csb.gov.tr/db/marmarahepimizin/menu/v_20240703121706.pdf; Başak Savun-Hekimoğlu and Cem Gazioğlu, "Mucilage Problem in the Semi-Enclosed Seas: Recent Outbreak in the Sea of Marmara," *International Journal of Environment and Geoinformatics* 8, no. 4 (2021): 404-405, https://doi.org/10.30897/ijegeo.955739.

Savun-Hekimoğlu and Gazioğlu, excessive algal blooms are often triggered by rising seawater temperatures together with human pressures such as domestic and industrial waste, inadequate treatment and overfishing.[79] The environmental conditions that lead to mucilage formation include excess nutrients (nitrogen and phosphorus), high temperatures and calm seas.[80] These conditions came together in the 2021 outbreak. According to a study by Kömüşçü and colleagues, sea surface temperatures were above normal at most stations on the Marmara coast in March-June 2021, while wind speeds declined. The authors conclude that rising temperatures and falling wind speeds created favorable conditions for the formation and spread of mucilage.[81] As for the nutrient load, Savun-Hekimoğlu and Gazioğlu state that in 2021 most of the metropolitan and provincial municipalities around the Marmara discharged their wastewater into the sea through deep-sea outfalls after physical treatment. They also report that many studies have shown this practice to create a nutrient load beyond what the ecosystem can absorb.[82]

The Marmara is a two-layered sea between the Black Sea and the Aegean. Its upper layer holds water of Black Sea origin and its lower layer water of Mediterranean origin. This structure makes the Marmara a meeting point of two regional seas.[83] According to Basdurak, its relatively small surface area, two-layer circulation and limited water exchange through a narrow strait make the Marmara more vulnerable to warming.[84] According to outputs of the Ministry's Marmara Sea Integrated Modeling System, the Marmara is still overloaded with nitrogen and phosphorus. Measurement charts in the same source also show that dissolved oxygen in the intermediate and deep layers has declined since the 1950s.[85] A 2025 study by Akçay and colleagues likewise shows that seabed sediments in the Marmara, which is undergoing severe eutrophication and deoxygenation, are affected by widespread oxygen deficiency.[86]

Türkiye has gained experience with a comprehensive action plan in the Marmara. The 22-point Marmara Sea Action Plan was announced on June 6, 2021, and the Sea of Marmara and Islands Region was declared a Special Environmen-

79 Savun-Hekimoğlu and Gazioğlu, "Mucilage Problem in the Semi-Enclosed Seas," 402.

80 Savun-Hekimoğlu and Gazioğlu, "Mucilage Problem in the Semi-Enclosed Seas," 405-406.

81 Ali Ümran Kömüşçü, Mehmet Aksoy, and Onur Hakan Doğan, "An Analysis of Meteorological Conditions in Relation to Occurrence of the Mucilage Outbreaks in Sea of Marmara, March-June 2021," *International Journal of Environment and Geoinformatics* 9, no. 3 (2022): 126 and 139, https://doi.org/10.30897/ijegeo.1037842.

82 Savun-Hekimoğlu and Gazioğlu, "Mucilage Problem in the Semi-Enclosed Seas," 406.

83 Savun-Hekimoğlu and Gazioğlu, "Mucilage Problem in the Semi-Enclosed Seas," 404.

84 Berkay Nüvit Basdurak, "Climate Change Impacts on River Discharge to the Sea of Marmara," *Frontiers in Marine Science* 10, article no. 1278136 (2023): 11, https://doi.org/10.3389/fmars.2023.1278136.

85 Ministry of Environment, Urbanization and Climate Change, *Marmara Denizi Eylem Planı Koordinasyon Kurulu Toplantısı*, slides 19-20.

86 İsmail Akçay et al., "Impacts of Eutrophication and Deoxygenation on the Sediment Biogeochemistry in the Sea of Marmara," *Biogeosciences* 22, no. 18 (2025): 4953, https://doi.org/10.5194/bg-22-4953-2025.

tal Protection Area by a Presidential Decision of November 4, 2021.[87] According to the Ministry's data for June 2024, 11,129 cubic meters of mucilage had been collected, and the number of monitoring points had been increased to 150. Of the 134 sub-activities of the Marmara Sea Integrated Strategic Plan, which details the action plan, 108 had been completed as of the first half of 2024.[88] Discharge standards were tightened by 20 to 50 percent, and 7,518 ships were inspected between 2021 and June 2024. Ballast water exchange is not carried out in the Marmara.[89] A total of 310,000 square meters of ghost nets have been removed from the sea, and support payments have been made to fishers affected by mucilage.[90] Some of the next steps can be seen in the action plan's own targets. According to the same data, 51.7 percent of the population served by wastewater treatment is connected to advanced biological treatment. Once the priority plants with a daily capacity above 30,000 cubic meters are converted, this share is expected to reach 92 percent, and in line with the action plan's target all plants are to be converted to advanced biological treatment.[91] According to the Ministry's 2017 modeling output, the nitrogen load reaching the Marmara comes in roughly equal amounts from point and diffuse sources.[92] Savun-Hekimoğlu and Gazioğlu likewise conclude that, without effective and ecosystem-based nitrogen and phosphorus management for both types of sources, mucilage formation is likely to keep increasing.[93] The Marmara experience could also guide the next update of the Adaptation Plan.

> The Adaptation Plan provides for the identification of climate change impacts on coastal areas and for sea-level rise risk analyses for coastal energy facilities.

These changes in the seas directly concern the livelihoods of coastal communities and coastal infrastructure. In 2025, Türkiye's marine capture production was 378,269 metric tons, up 17.3 percent from the previous year. Aquaculture production totaled 626,591 tons, of which 440,817 tons were produced at sea.[94] In light of the IPCC fisheries assessment cited above, the future of the sector is

87 Ministry of Environment, Urbanization and Climate Change, *Marmara Denizi Eylem Planı Koordinasyon Kurulu Toplantısı*, slides 3 and 6; "Bakan Kurum, 'Marmara Denizi Eylem Planını' Açıkladı," Ministry of Environment, Urbanization and Climate Change, June 6, 2021, accessed October 30, 2026, https://csb.gov.tr/bakan-kurum-marmara-denizi-eylem-planini-acikladi-bakanlik-faaliyetleri-31923; Presidential Decision No. 4758, *Resmi Gazete*, no. 31650, November 5, 2021, art. 1, accessed October 30, 2026, https://www.mevzuat.gov.tr/MevzuatMetin/20.5.4758.pdf.

88 Ministry of Environment, Urbanization and Climate Change, *Marmara Denizi Eylem Planı Koordinasyon Kurulu Toplantısı*, slides 5, 7, and 18.

89 Ministry of Environment, Urbanization and Climate Change, *Marmara Denizi Eylem Planı Koordinasyon Kurulu Toplantısı*, slides 11 and 16.

90 Ministry of Environment, Urbanization and Climate Change, *Marmara Denizi Eylem Planı Koordinasyon Kurulu Toplantısı*, slides 28 and 31.

91 Ministry of Environment, Urbanization and Climate Change, *Marmara Denizi Eylem Planı Koordinasyon Kurulu Toplantısı*, slides 8-10.

92 Ministry of Environment, Urbanization and Climate Change, *Marmara Denizi Eylem Planı Koordinasyon Kurulu Toplantısı*, slide 20.

93 Savun-Hekimoğlu and Gazioğlu, "Mucilage Problem in the Semi-Enclosed Seas," 410.

94 "Su Ürünleri İstatistikleri, 2025," Ministry of Agriculture and Forestry, Statistical Bulletin no. 066, June 9, 2026, accessed October 30, 2026, https://istatistik.tarimorman.gov.tr/Sayfa/Detay/2353.

also a matter of climate adaptation.[95] According to the Adaptation Plan, low-lying coastal cities are at risk from climate-related disasters, and there are high and very high risk areas along the coast, particularly on the Black Sea and the Mediterranean.[96] The Plan provides for identifying the effects of climate change on the coasts and for risk analyses of coastal energy facilities against sea level rise. Its action on making transport infrastructure resilient to climate risks defines protective barriers against storms and waves in coastal cities as a monitoring indicator.[97] The Plan also proposes income support for family fishing, which is common in provinces such as Muğla and Samsun, and lists among its actions a contribution to global efforts to raise protected marine and terrestrial areas to 30 percent.[98]

COP31 AND TÜRKİYE'S REGIONAL COOPERATION AGENDA

According to the third letter the COP31 Presidency sent to the Parties, the Action Agenda is a practical implementation platform that complements the negotiations and relies on voluntary initiatives.[99] Oceans and Seas, one of the Agenda's ten themes, aims to strengthen marine and coastal resilience through blue carbon, ocean observation, data sharing, finance and implementation partnerships.[100] The COP31 website also lists regional cooperation among the tools of ocean-climate action and sets out four focus areas for the theme. These are the inclusion of blue carbon ecosystems in NDCs, the resilience of coastal ecosystems, ocean observation and data partnerships, and support for coastal communities.[101] The letter sets quantified targets for 2035 for themes such as energy, waste and buildings, while the Oceans and Seas theme, like the food security and health systems themes, is not defined by a quantified target.[102] The Presidency states that the targets it puts forward are not prescriptive and are not intended to create new obligations for individual countries.[103] This flexibility also leaves room for developing voluntary indicators for the ocean theme.

The ocean theme was also taken up at preparatory meetings on the way to COP31. One of them, the Ocean and Seas Workshop in Istanbul, was held on

95 Ali et al., "Cross-Chapter Paper 4," 2243.

96 Ministry of Environment, Urbanization and Climate Change, *İklim Değişikliğine Uyum Stratejisi*, 26.

97 Ministry of Environment, Urbanization and Climate Change, *İklim Değişikliğine Uyum Stratejisi*, 258, 276, and 281 (actions SUY4, ENR6, and ULŞ2).

98 Ministry of Environment, Urbanization and Climate Change, *İklim Değişikliğine Uyum Stratejisi*, 72 and 270 (action BEK9).

99 COP31 Presidency, *COP31 Presidency's 3rd Letter*, 2.

100 COP31 Presidency, *COP31 Presidency's 3rd Letter*, 3 and 6.

101 "Okyanuslar ve Denizler."

102 COP31 Presidency, *COP31 Presidency's 3rd Letter*, 3-7.

103 COP31 Presidency, *COP31 Presidency's 3rd Letter*, 7.

August 13-14, 2026.[104] The Seas and Oceans Summit in Trabzon on September 10-11, 2026, included a High-Level Ministerial Session on Oceans, Climate and Blue Economy.[105] At the summit, COP31 President and Minister of Environment, Urbanization and Climate Change Murat Kurum said that Türkiye was developing its cooperation with Pacific and African countries, above all Australia, and stated, "We are taking regional cooperation to the global level."[106]

The Trabzon Call aims to advance ocean action in the run-up to COP31 in close cooperation with Australia, as President of Negotiations, including through joint work with the Pacific region at the Pre-COP.

Noting that the Mapa-Şamandıra mooring system, which serves 856 boats in 17 bays in Fethiye-Göcek, had stopped anchors from uprooting seagrass meadows, the Minister said that this experience would be presented at COP31 in Antalya.[107] At the closing session chaired by Kurum, Halil Hasar, COP31 Chief Climate Diplomacy Officer and Director of Climate Change, announced the 13-point Trabzon Oceans Call to Action (*Trabzon Okyanuslar Eylem Çağrısı*). The Call includes scaling up ecosystem-based approaches, integrating ocean-based measures into NDCs and national adaptation plans, increasing finance, and using science and technology, including early warning. Its last item is a commitment to work for concrete and implementable outcomes on oceans and seas at COP31.[108] The Presidency also launched the Marine Litter Action Platform at the summit. According to the Platform's concept note, the initiative, which builds on Türkiye's Zero Waste and Zero Waste Blue experience, aims to bring marine litter reduction commitments, knowledge sharing and finance together in a single global platform. The Platform is to consist of a knowledge hub, a voluntary commitment registry, a financing interface, a monitoring dashboard and a capacity-building module. It is to be developed under the coordination of the Ministry and presented to a wider international audience at COP31.[109]

One strand of the Presidency's ocean agenda faces the Pacific. The Trabzon call aims to advance ocean action up to COP31 in close cooperation with Australia, the President of Negotiations, including through joint work with the Pacific region at the Pre-COP.[110] The Pre-COP, chaired by COP31 President Kurum

104 "İklim Değişikliği Başkanı Hasar, 13 Maddelik Trabzon Okyanuslar Eylem Çağrısı'nı Açıkladı," Directorate of Climate Change, September 10, 2026, item 12, accessed October 30, 2026, https://iklim.gov.tr/iklim-degisikligi-baskani-hasar-13-maddelik-trabzon-okyanuslar-eylem-cagrisi-ni-acikladi-haber-6001.

105 COP31 Presidency, *COP31 Presidency's 3rd Letter*, 8; "'COP31'e Doğru Denizler ve Okyanuslar Zirvesi' Trabzon'da Düzenlendi," Directorate of Climate Change, September 10, 2026, accessed October 30, 2026, https://iklim.gov.tr/cop31e-dogru-denizler-ve-okyanuslar-zirvesi-trabzon-da-duzenlendi-haber-5999.

106 "'COP31'e Doğru Denizler ve Okyanuslar Zirvesi' Trabzon'da Düzenlendi." The quotation is the authors' translation.

107 "'COP31'e Doğru Denizler ve Okyanuslar Zirvesi' Trabzon'da Düzenlendi."

108 "13 Maddelik Trabzon Okyanuslar Eylem Çağrısı," items 7, 8, 10, 11, and 13.

109 COP31 Presidency, Marine Litter Action Platform (concept note, n.d.), 2-4, accessed November 1, 2026, https://cop31.tr/assets/docs/action-agenda/cop31-marine-litter-action-platform-concept-note.pdf. The launch of the Platform in Trabzon on September 10-11, 2026, is reported on page 3 of the concept note.

110 "13 Maddelik Trabzon Okyanuslar Eylem Çağrısı," item 5.

and hosted by Fiji together with Australia, took place on October 5-8, 2026, and leaders also visited Tuvalu on October 5-6.[111] The Taku Pakasoa Declaration was endorsed at the Pre-COP and is dated October 6, 2026. Its section titled "Elevating the Ocean-Climate Nexus" states that ocean warming, acidification, sea level rise and the loss of marine biodiversity require collective action, and it describes the ocean as the planet's primary climate regulator and largest active carbon sink. The Declaration also welcomes efforts to strengthen ocean-based solutions through the UNFCCC ocean dialogue and the second global stocktake.[112] Kurum, for his part, opened his speech at the Leaders' Plenary in Fiji by emphasizing this declaration and described the ocean as the planet's climate regulator, its largest carbon sink and the foundation of food security.[113] The fourth Presidency letter, issued before the Pre-COP and signed jointly by Australia and Türkiye, likewise stresses that the Pacific countries' priority of integrating the ocean into climate plans and action matters to every region.[114] According to the Australia-Pacific Partnership for COP31, the Pre-COP built support for a Presidency-led COP31 decision. The proposed decision is expected to cover action across forests, oceans and waterways as well.[115] This analysis's recommendations on regional seas complement this track.

In the Mediterranean, the Presidency has run the Antalya Mediterranean Climate Dialogue together with the Union for the Mediterranean (UfM). The dialogue, made up of seven national consultations, began in Rabat on July 8 and, after consultations in Cairo, Paris, Madrid, Rome and Algiers, concluded in Amman on September 6. Turkish embassies hosted the consultations.[116] According to the UfM, the dialogue was designed as a platform for Mediterranean stakeholders to exchange views, identify shared priorities and promote practical cooperation, rather than to negotiate common positions.[117] One of the four round tables in Amman was devoted to oceans and seas.[118] The national reports from the consultations are to be combined into a Mediterranean Synthesis Note that will set

111 "Pacific Pre-COP Sets Launchpad"; "COP31'de Sonuç Odaklı Müzakerelerin Zemini Pre-COP Zirvesi'nde Hazırlanıyor," Anadolu Ajansı, October 5, 2026, accessed November 1, 2026, https://www.aa.com.tr/tr/yesilhat/yesil-diplomasi/cop31de-sonuc-odakli-muzakerelerin-zemini-pre-cop-zirvesinde-hazirlaniyor/1831845.

112 *The Taku Pakasoa Declaration*, paras. 14 and 16; "Pacific Pre-COP Sets Launchpad."

113 "Bakan Kurum: Tüm Dünyayı Ortak Geleceğimiz İçin Harekete Geçmeye Davet Ediyorum," Anadolu Ajansı, October 6, 2026, accessed November 1, 2026, https://www.aa.com.tr/tr/gundem/bakan-kurum-tum-dunyayi-ortak-gelecegimiz-icin-harekete-gecmeye-davet-ediyorum/4080068.

114 Murat Kurum and Chris Bowen, *4th Presidency Letter (2nd Australia-Türkiye Joint Letter): Cooperation in the Face of a Changing World* (n.d.), 1-2, accessed October 30, 2026, https://unfccc.int/sites/default/files/resource/4th_Presidency_Letter_signed_Kurum_Bowen.pdf.

115 "Pacific Pre-COP Sets Launchpad."

116 "UfM and Türkiye COP31 Presidency Advance Mediterranean Climate Dialogue ahead of Climate Conference in Antalya," Union for the Mediterranean, July 30, 2026, accessed October 30, 2026, https://ufmsecretariat.org/ufm-cop31-presidency-advance-mediterranean-climate-dialogue/; "UfM and Turkish COP31 Presidency Hold Antalya Mediterranean Climate Dialogue Consultation in Amman," Union for the Mediterranean, September 6, 2026, accessed October 30, 2026, https://ufmsecretariat.org/ufm-cop31-antalya-mediterranean-climate-dialogue-consultation-amman/.

117 "UfM and Türkiye COP31 Presidency Advance Mediterranean Climate Dialogue."

118 "UfM and Turkish COP31 Presidency Hold Antalya Mediterranean Climate Dialogue Consultation in Amman."

out regional priorities, flagship initiatives and a list of cooperation opportunities. According to a UfM announcement of July 2026, the note will first be presented at an oceans and seas event and then discussed at COP31 at a ministerial round table co-chaired by the Presidency and the UfM Secretary General.[119] Türkiye's Chargé d'Affaires in Amman, Mehmet Taylan Tokmak, stated that Türkiye adopts "the notion of regional ownership" for a Mediterranean more resilient to climate change. UfM Deputy Secretary General Joan Borrell described Antalya as an opportunity to turn the Mediterranean's shared vulnerability into a shared agenda.[120]

> The consultation model implemented in the Mediterranean could serve as a template for establishing a similar regional dialogue and exchange mechanism in the Black Sea.

Cooperation in the Mediterranean also has an institutional basis. According to UNEP/MAP records, Türkiye ratified the Barcelona Convention in 1981.[121] The 23rd Conference of the Parties to the Convention, held in 2023, decided to establish the Climate Change Regional Activity Centre (CC/RAC). It designated for this function the Mediterranean Climate Change Research Center in Istanbul, a structure of the Ankara University National Center for the Sea and Maritime Law (DEHUKAM). The Parties accepted Türkiye's offer to cover, as host country, all the establishment costs of CC/RAC.[122] According to an announcement by the Ministry of Environment, Urbanization and Climate Change dated December 7, 2025, the 24th Conference of the Parties in Cairo adopted the Cairo Declaration. The Declaration aims to protect at least 30 percent of Mediterranean marine and coastal areas by 2030 and to accelerate sustainable blue economy practices. The terms of reference of CC/RAC were finalized at the same meeting. According to the Barcelona Convention Bulletin, the meeting also adopted a Regional Climate Change Adaptation Framework for these areas covering 2026-2035, together with a performance monitoring matrix for the framework.[123] According to the Ministry, the CAMP İzmir Coastal Area Management Project in the CC/RAC work program will develop a model of climate adaptation and coastal risk management for the city's coastline.[124] According to the summary report of the June

119 "UfM and Türkiye COP31 Presidency Advance Mediterranean Climate Dialogue."

120 "UfM and Turkish COP31 Presidency Hold Antalya Mediterranean Climate Dialogue Consultation in Amman."

121 "Contracting Parties: Türkiye," UNEP/MAP, accessed October 30, 2026, https://www.unep.org/unepmap/who-we-are/contracting-parties/turkey.

122 UNEP/MAP, "Decision IG.26/12: Establishment of Regional Activity Center on Climate Change," UNEP/MED IG.26/22, 2023, 570, paras. 1-3, accessed October 30, 2026, https://wedocs.unep.org/rest/api/core/bitstreams/270bdb32-d900-40a2-a8da-efbd5623e810/content; "About CC/RAC," CC/RAC, accessed October 30, 2026, https://ccrac.org/about.

123 "Turkey Strengthens Its Leadership in Mediterranean Climate Diplomacy," Ministry of Environment, Urbanization and Climate Change, Directorate General for European Union and Foreign Relations, December 7, 2025, accessed October 30, 2026, https://ab.csb.gov.tr/en/news/turkey-strengthens-its-leadership-in-mediterranean-climate-diplomacy-297946; IISD, "Summary of the 24th Meeting of the Contracting Parties to the Barcelona Convention and Its Protocols: 2-5 December 2025," *Barcelona Convention Bulletin*, December 8, 2025, 1, 6, and 7, accessed October 30, 2026, https://enb.iisd.org/barcelona-convention-cop24.

124 "Turkey Strengthens Its Leadership in Mediterranean Climate Diplomacy."

2026 ocean dialogue, Tuğba Dinçbaş, speaking for the COP31 Presidency, stated that Türkiye's approach to the ocean and seas agenda is guided by implementation, complementarity and inclusive cooperation. According to Dinçbaş, regional cooperation is being advanced through the CC/RAC in Istanbul and through implementation-oriented initiatives such as the Blue NDC Challenge and the Blue Package, the ocean axis of the Global Climate Action Agenda.[125]

The Black Sea is also part of this agenda. Holding the Trabzon summit on the Black Sea coast made this link visible. At the summit, Minister Kurum stated that Türkiye lies in a region where both the Mediterranean and the Black Sea are warming far above the global average.[126] The study by Capet and colleagues and the Copernicus Ocean State Report show that the Black Sea is warming and losing oxygen.[127] The basin also has the Black Sea Commission provided for by the 1992 Convention on the Protection of the Black Sea Against Pollution (Bucharest Convention). Türkiye has hosted the Commission's Permanent Secretariat in Istanbul since December 2000.[128] According to a bulletin of the International Centre for Black Sea Studies (ICBSS) on a round-table meeting, the conditions of conflict in the Black Sea have weakened systematic monitoring. The keynote speaker of the meeting also identified the creation of an up-to-date regional environmental database as one of three priority areas for action.[129] The consultation model in the Mediterranean could serve as an example for a similar regional exchange of views in the Black Sea.

Turning these initiatives into concrete outcomes at COP31 depends on certain conditions. The first is measurability. Setting voluntary indicators for the ocean theme could make it easier to track progress. The second is prioritizing technical cooperation. Regional systems for monitoring non-indigenous species and institutional structures such as CC/RAC already exist in the Mediterranean. In this analysis's assessment, areas less subject to jurisdictional disputes, such as scientific monitoring, early warning, data sharing and adaptation, are therefore the most realistic starting point.[130] The third is closing knowledge gaps. As noted above, the IPCC states that knowledge of climate impacts in the southern and eastern parts of the Mediterranean is lacking.[131] The last is continuity. Linking

125 Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, paras. 33 and 86(c).

126 "'COP31'e Doğru Denizler ve Okyanuslar Zirvesi' Trabzon'da Düzenlendi."

127 Capet et al., "Decline of the Black Sea Oxygen Inventory," 1287; Lima et al., "Establishing a Monitoring Approach," 9.

128 "Convention on the Protection of the Black Sea Against Pollution (Bucharest Convention)," Ministry of Foreign Affairs, n.d., accessed October 30, 2026, https://mfa.gov.tr/convention-on-the-protection-of-the-black-sea-against-pollution-_bucharest-convention_.en.mfa.

129 International Centre for Black Sea Studies (ICBSS), "Round-table Discussion: The Environmental Impact of the War on the Black Sea" (press release, Athens, May 26, 2026), 1-3, accessed October 30, 2026, https://icbss.org/wp-content/uploads/2026/05/20260526_PR_RTD_Environmental-impact-of-the-war-on-the-Black-Sea.pdf.

130 UNEP/MAP, *2023 MED QSR: Non-indigenous Species*, 26; UNEP/MAP, "Decision IG.26/12," paras. 1 and 2.

131 Ali et al., "Cross-Chapter Paper 4," 2236.

the initiatives that emerge from the Antalya Mediterranean Climate Dialogue to these permanent structures and to projects such as CAMP İzmir in the CC/RAC work program could carry Antalya's impact beyond the conference.

CONCLUSION AND RECOMMENDATIONS

This analysis has reached three findings. First, the seas around Türkiye are warming fast. The Eastern Mediterranean has warmed faster than the Western Mediterranean, the Black Sea's oxygen inventory declined markedly between 1955 and 2015 under the effects of eutrophication and warming, and in 2024 both seas experienced record marine heatwaves. Together with pressures such as maritime traffic, overfishing and pollution, these changes are felt concretely on the coast through invasive species, mucilage and fisheries. Second, the ocean has gained visibility in the climate regime since 2019 through dialogues and invitations. However, this visibility has not yet turned into ocean-specific, quantified and time-bound decision language, and in the Global Mutirão decision adopted during COP30 it remained confined to the preambular paragraphs. Third, the ocean theme was taken up at meetings in Istanbul and Trabzon ahead of COP31, and the COP31 Presidency held consultations in seven countries in the Mediterranean together with the UfM. CC/RAC, established under the Barcelona Convention and hosted by Türkiye, provides an institutional basis for this cooperation. The Taku Pakasoa Declaration, issued during the Pre-COP process, addressed the ocean-climate nexus in a separate section.

When the three findings are read together, the most realistic ground on which COP31 can move the ocean agenda into implementation, in technical areas such as scientific monitoring, early warning, data sharing and adaptation, is the regional seas, above all the Mediterranean. The ecological security approach is also consistent with this conclusion. Invasive species, mucilage and warming directly affect ecosystems and the coastal communities that depend on them. Some of these pressures cross national borders, because the pathways of invasive species concern more than one country and warming spreads across an entire basin. The regional level can also offer a concrete answer to McDonald's question about the agents and institutional prospects of ecological security.

In light of these findings, the analysis offers five recommendations for COP31 and beyond. The first is addressed to the COP31 Presidency. It would be appropriate to set a few voluntary indicators under the Oceans and Seas theme to track progress at COP31 and afterwards. The indicators could be derived from the theme's focus areas. Examples are the number of countries that include ocean and coastal measures in their NDCs or national adaptation plans and the number of countries taking part in ocean observation and data partnerships. The indicators

the Presidency foresees for the Marine Litter Action Platform also fit this approach. The Platform's concept note lists among the measures to be tracked the number of countries, cities and private sector actors registered, the commitments submitted and updated annually, and the finance mobilized.[132] The performance monitoring matrix adopted for the regional adaptation framework of the Barcelona Convention is a similar monitoring tool at the regional level. Linking the cooperation opportunities planned for the Mediterranean Synthesis Note to concrete projects with a responsible institution and a timeline would allow these opportunities to be tracked after COP31 as well. The note could be taken up on November 17, the day of the conference dedicated to oceans, seas, nature and land use.

The second is addressed to the COP31 Presidency and the Parties. It is recommended that the COP31 and CMA8 decisions give the ocean an operative paragraph.[133] This would move beyond the invitational language of the COP28 decision and could specify in which body and on what timeline the outcomes of the dialogue are to be followed up. Including ocean-based action in the Global Implementation Accelerator, which the CMA7 and CMA8 Presidencies will guide, could also be considered.[134]

The third is addressed to the Ministry of Environment, Urbanization and Climate Change. It would be appropriate for the Ministry to propose that the CC/RAC work program include data sharing among Mediterranean countries on marine heatwaves and on the climate dimension of invasive species, linked to UNEP/MAP's existing monitoring systems. Similar data sharing could be taken up for the Black Sea through the Permanent Secretariat of the Black Sea Commission, which Türkiye hosts in Istanbul.

The fourth is addressed to the Ministry of Agriculture and Forestry and the Ministry of Health. An early warning flow could be set up that links fishers' and divers' observations of invasive species to the national monitoring system to be established under the 2026 regulation and to the existing data and information system. Making the outcome of a report visible to the person who submitted the observation could support people's willingness to contribute. The Ministry of Health, for its part, could prioritize informing health personnel about the clinical signs of pufferfish poisoning and continuing public awareness campaigns.

The fifth is again addressed to the Ministry of Environment, Urbanization and Climate Change. The experience gained in the Marmara could be carried into the next update of the Adaptation Plan. This experience could be shared at COP31 as an example of an action plan carried out by a coastal state in its own sea.

132 COP31 Presidency, Marine Litter Action Platform, 4.

133 The co-facilitators also recommend that the dialogue's findings gain political uptake in Pre-COP and COP31 outcomes and in Presidency initiatives. Michael and Lenaerts, *Ocean and Climate Change Dialogue 2026*, para. 12.

134 UNFCCC, "Decision 1/CMA.7," para. 41.

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Oceans and Seas at COP31: Türkiye's Regional Cooperation Agenda

Dilek Ağa, Çağla Vural

This analysis uses an ecological security approach to assess whether COP31 can move the ocean agenda from dialogue to implementation and how Türkiye's initiatives in its regional seas can contribute to that shift. The seas around Türkiye are warming fast. Since the early 1980s, Mediterranean surface waters have warmed by between 0.29 and 0.44°C per decade, depending on the subregion, and in 2024 the Black Sea and the Mediterranean experienced record marine heatwaves. Combined with pressures such as maritime traffic, pollution and overfishing, the effects of warming are felt concretely on the coast through invasive species, mucilage in the Sea of Marmara and fisheries. The ocean became a subject of dialogue in the climate regime with a COP25 decision in 2019 and gained visibility through annual dialogues after the 2021 Glasgow decision. However, the ocean does not appear in the operative paragraphs of the Global Mutirão decision adopted in Belém during COP30. The COP31 Presidency, for its part, has made Oceans and Seas a theme of its Action Agenda and, together with the Union for the Mediterranean, has held consultations of the Antalya Mediterranean Climate Dialogue in seven countries. The theme was also discussed at preparatory events in Istanbul and Trabzon. The Taku Pakasoa Declaration, issued during the process of the pre-COP ministerial meeting (Pre-COP) in October 2026, addressed the ocean-climate nexus in a separate section. The Climate Change Regional Activity Centre, established under the Barcelona Convention and hosted by Türkiye, provides an institutional basis for cooperation in the Mediterranean. The analysis argues that, in areas of technical cooperation, the most realistic ground on which COP31 can move the ocean agenda into implementation is the regional seas, above all the Mediterranean. It makes five recommendations. Two of them are to set voluntary indicators for the ocean theme and to give the ocean an operative paragraph in the COP31 decision and in the decisions of the meeting of the Parties to the Paris Agreement that will convene alongside COP31. The other three concern the Centre's work program, which should cover regional data sharing, an early warning flow linking fishers' and divers' observations of invasive species to the national monitoring system, and carrying the Marmara experience into adaptation policy.

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