



Food and Agriculture  
Organization of the  
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CIHEAM  
International Center for Advanced  
Mediterranean Agronomic Studies



PRIMA  
PARTNERSHIP FOR RESEARCH AND INNOVATION  
IN THE MEDITERRANEAN AREA



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## BLUE TRANSFORMATION: STRATEGIES AND ACTIONS FOR MORE SUSTAINABLE AGRIFOOD SYSTEMS IN THE MEDITERRANEAN

Wednesday 20 March 2024 | 10.00 - 11.30 (CET)

The Mediterranean Sea has always played a crucial role in the region's societies, economies, and agrifood systems. As per the *Union for the Mediterranean (UfM) Ministerial Declaration on Sustainable Blue Economy*<sup>1</sup> adopted in 2021 by the 43 Euro-Mediterranean countries, the sustainable blue economy encompasses a wide range of maritime and coastal activities. These activities aim to balance economic growth, improved livelihoods, and social inclusion through the protection of marine and coastal ecosystems and biodiversity, the sustainable use of aquatic resources, as well as climate change mitigation and adaptation. Key sectors contributing to the blue economy include fisheries, aquaculture, tourism, maritime transport and marine energies. According to Plan Bleu, with an estimated total value of USD 5 600 billion, **the blue economy generates an annual economic value of USD 450 billion in the Mediterranean region.**<sup>2</sup>

**Fisheries and aquaculture** are essential drivers of the Blue Transformation in the Mediterranean and key components of agrifood systems. They provide essential livelihoods for coastal and rural communities in a region experiencing exponential population growth, **offering considerable employment opportunities** accounting for more than 700 000 jobs in 2021.<sup>3</sup> At the same time, they **contribute to food security and better nutrition**, aligning with the Mediterranean diet, and addressing an increasing demand for fishery products by Mediterranean consumers over the recent decades. To match this growing demand, expanding sustainable aquaculture practices and establishing regional governance frameworks and management plans can contribute to **alleviate pressure on key fish species**. In addition to aquatic food products intended for human consumption, these sectors generate indirect benefits and **maintain the social fabric of coastal and rural communities**. Indeed, their inclusion in a territorial economy fosters the development of other activities, such as pescaturism and other services to the population that enhance the attractiveness of coastal and rural areas, including for future generations of fishers and aquaculture stakeholders engaged in production and other value-adding activities.

However, today Mediterranean countries are faced with a **significant fish supply deficit**: only Morocco, Tunisia, Turkey, Albania, Croatia and Greece are net exporters,<sup>4</sup> while other countries rely heavily on imports. A gradual decline of fishing stocks is observed due to a combination of factors such as overexploitation, pollution, the effects of climate change, marine plastic litter and the introduction of non-indigenous species (NIS) which damage the marine ecosystem. As a means to address the declining performance of the fisheries sector, we are witnessing a growing **diversification of activities** towards aquaculture practices. In fact, the total aquaculture production of Mediterranean and Black Sea countries (comprising fish, shellfish and crustaceans farmed in marine, brackish waters), which amounted to 643 000 tonnes in the year 2000, spiked to approximately 3.3 million tonnes in 2021, compared to 1.06 million tonnes from fisheries.<sup>5</sup> The ongoing and future development and expansion of aquaculture will highly depend on the availability of Allocated Zones for Aquaculture (AZA) to develop this activity in a sustainable way.<sup>6</sup> These zones, if managed according to a participatory approach (such as, for example, the one in marine spatial planning [MSP]),<sup>7</sup> can contribute to the development of the local and circular economy, improving food security and the social acceptability of aquaculture while reducing environmental impacts.<sup>8</sup>

### THE SFS-MED PLATFORM

The Food and Agriculture Organization of the United Nations (FAO), the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM), the Secretariat of the Union for the Mediterranean (UfM) and the Partnership for Research and Innovation in the Mediterranean Area (PRIMA) have joined forces in a [multi-stakeholder initiative for Sustainable Food Systems in the Mediterranean \(SFS-MED Platform\)](#), as an affiliated project of the One Planet Network Sustainable Food Systems Programme. The SFS-MED initiative aims at promoting dialogue and collaboration among Mediterranean countries and stakeholders while they implement national and local efforts for a transformation to more sustainable food systems.

### THE SFS-MED WEBINAR SERIES

This series of technical webinars is organized to leverage the knowledge and expertise of a network of researchers, development practitioners and decision-makers. The webinars aim at **strengthening knowledge sharing** and **stimulating debate** around themes relevant to food systems transformation in the Mediterranean, **peer exchange** about recent research and study findings, as well as **showcasing successful and inspiring actions** to promote the operationalization of food systems approaches.

Building on the findings of a [stocktaking exercise of the UN Food Systems Summit \(UNFSS\) Dialogues held in the Mediterranean](#), the webinars will revolve around a set of shared priorities and trends that are common to most countries in the region, considered as entry points or main thematic areas regarding what to transform in the Mediterranean food systems. Many of these were reflected as well in the national pathways for food systems transformation that countries developed within the UNFSS process during 2021.

From an employment point of view, the fishing workforce is slowly declining (mainly in the industrial sector) and subject to ageing, with **52 percent of the crew members over 40 years old, and only 10 percent under 25 in 2020**.<sup>9</sup> Although important for the sector, non-vessel-based employment and the frequently “invisible” work of women remain largely unreported.<sup>10</sup> As for aquaculture, female employment accounts for only 17.9 percent of direct jobs.<sup>11</sup> For both these sectors to deploy its full potential in the Mediterranean, continued support and investments are needed to foster the entrepreneurial spirit, to adopt innovative business models and to support innovative small and medium-sized enterprises (SMEs). To this end, on the occasion of COP28, partners and donors involved in the [Blue Mediterranean Partnership](#) (the European Bank for Reconstruction and Development [EBRD], the European Commission, the Swedish International Development Cooperation Agency [SIDA] and French Development Agency [AFD]) announced the intention of mobilizing nearly EUR one billion in investments within a multi-donor fund to support the development of the sustainable blue economy. Similarly, programmes such as the [BlueInvest](#) initiative, [SwitchMed](#) and [BlueMissionMed](#) contribute to **supporting investments and entrepreneurship that foster the adoption of sustainable practices** throughout the aquaculture value chain, in particular by mobilizing transformative technologies for zero pollution and circular activities. In a recent report, Morgan Stanley identified aquaculture as one of the four major investment opportunities impacting the world’s oceans, with mostly working capital or trade finance required but an estimated need of USD 150-300 billion in capital expenditure to support demand growth globally over the next decade.<sup>12</sup>

Significant efforts are, therefore, needed to build more resilient fisheries and aquaculture sectors able to respond to the Blue Transformation challenges and, at the same time, to attract the interest of private investors. New **training and capacity development programmes** on topics such as sustainable fisheries and aquaculture management, including marketing, data and technology are offered by institutions like the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) in partnership with universities. Furthermore, **incubators** enabling qualified young researchers and entrepreneurs to turn innovative ideas into business practices (such as [Leancubator](#) in Algeria) are also an opportunity to help young people deploy their entrepreneurial potential. Regional initiatives such as the assistance mechanisms promoted by the EU in the areas of sustainable aquaculture,<sup>13</sup> including algae<sup>14</sup> offer also **advice, training and guidance materials** shared online for continuous updates about best practices, projects and technologies.

**Growing efforts aim at increasing the resilience of the sector against climate change and its impacts**, including acidification, increase in temperature and water levels, modification of currents, loss of biodiversity and habitats. At the same time, investors and researchers seek **solutions to revert the energy-intensive trends of the sector**, since the majority of businesses in fisheries and aquaculture still rely heavily on fossil fuels for their operations, resulting in a large carbon footprint affecting marine ecosystems and local communities. In 2023, the *EU Communication on the Energy Transition of the EU Fisheries and Aquaculture sector* called for a green transition of infrastructures and value-chains in the sector so that “by 2050 fisheries and aquaculture operations are fully sustainable, economically profitable, and a global example of good governance with a neutral CO2 footprint”.<sup>15</sup> Coordination of efforts among key regional stakeholders has been ongoing for years and it is reflected in official documents such as the EU communications on *Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030*<sup>16</sup> of 2021 and on *Towards a strong and sustainable EU algae sector*<sup>17</sup> of 2022. Similarly, in 2023, the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) approved the *UNEP-MAP Regional Plan on Aquaculture Management*<sup>18</sup> to ensure that aquaculture sector activities are sustainable and are managed in a way such as to minimize pollution and potential negative ecological effects. Along these lines, FAO is in the process of reviewing its global Guidelines for Sustainable Aquaculture (GSA) that should be adopted in 2024.

**At the regional level, enhanced cooperation, knowledge exchange and technology transfer are essential** to shift towards sustainable circular approaches in the Mediterranean fisheries and aquaculture value chains. Bodies such as the **General Fisheries Commission for the Mediterranean (GFCM)** are key actors to promote the regional cooperation needed to ensure the conservation and the sustainable use of living marine resources as well as the sustainable development of aquaculture in the Mediterranean, and to boost the progressive integration of fisheries and aquaculture into a wider perspective, by building alliances that address common environmental, economic and social priorities.



To this effect, most Mediterranean countries signed the *Malta MedFish4Ever Ministerial Declaration*,<sup>19</sup> which calls for strengthening the efforts in key priorities such as the protection of marine resources, the fight against illegal fishing, support for artisanal fisheries and the participation of younger generations and women. In this context, The GFCM further developed these key priorities in its *2030 Strategy*,<sup>20</sup> which upholds the heritage of fisheries and aquaculture as pillars for the livelihoods of coastal and rural communities, championing a productive and sustainable agrifood system that contributes to thriving economies and healthy ecosystems and it is implementing it with, *inter alia*, the financial support of the European Union (EU).

As part of this dynamic, the *AquaWest technical group*, promoted within the framework of the *WestMED Initiative*, shares innovative solutions, technologies and practices between the two shores of the Mediterranean with the aim of promoting fully sustainable aquaculture in the region. More recently, a *Smart Specialization Platform (S3P) on Sustainable Blue Economy* was activated to support interregional cooperation in a number of innovative strategic areas (i.e. blue biotechnology, marine renewable energies, coastal and maritime tourism, aquaculture, fisheries).

**Blue Transformation requires a systems approach**, aimed at securing socially, environmentally, and economically sustainable value chains that help secure livelihoods, foster an equitable distribution of benefits, and support adequate use and conservation of biodiversity and ecosystems.<sup>21</sup>

## OBJECTIVES

### KNOWLEDGE

Create a knowledge base about opportunities, innovative solutions and gaps or limitations for food systems transformation, specific to the Mediterranean context.

### EVIDENCE SHARING

Facilitate replication and upscaling of concrete solutions for food systems transformation through the dissemination of evidence about successful approaches and lessons learned from across the Mediterranean.

### AWARENESS

Promote and raise awareness on food systems thinking by facilitating multi-disciplinary and multi-sectorial exchanges.

## EXPECTED OUTCOME

This webinar is expected to raise awareness and promote dialogue on the enabling conditions and practices for Blue Transformation. The webinar opens the space to discuss the role of policymaking, research, capacity building, technology and finance in accompanying the Blue Transformation.

This session will aim to address the key questions

- **What are the most effective and viable measures, strategies and incentives to accompany a Blue Transformation in the Mediterranean, and how can stakeholders collaborate to implement them?**
- **How can regional collaboration for a Blue Transformation in the Mediterranean address the main challenges to the effective implementation of such measures?**

<sup>1</sup>UfM. 2021. *Union for the Mediterranean (UfM) Ministerial declaration on Sustainable Blue Economy*. Barcelona, Spain, UfM. <https://bit.ly/3T3xdMC>

<sup>2</sup>Plan Bleu. 2023. *Blue economy: A new frontier for growth and a healthy Mediterranean*. In: Plan Bleu > Blue economy. Marseille, Plan Bleu. <https://bit.ly/3wuYDCd>

<sup>3</sup>FAO. 2023. *The State of Mediterranean and Black Sea Fisheries 2023 – Special edition*. General Fisheries Commission for the Mediterranean. Rome. <https://doi.org/10.4060/cc8888en>

<sup>4</sup>FAO. 2020. *The State of Mediterranean and Black Sea Fisheries 2020*. General Fisheries Commission for the Mediterranean. Rome. <https://doi.org/10.4060/cb2429en>

<sup>5</sup>See note 3.

<sup>6</sup>Macias, J.C., Avila Zaragoza, P., Karakassis, I., Sanchez-Jerez, P., Massa, F., Fezzardi, D., Yücel Gier, G., Franičević, V., Borg, J.A., Chapela Pérez, R.M., Tomassetti, P., Angel, D.L., Marino, G., Nhhala, H., Hamza, H., Carmignac, C. & Fourdain, L. 2019. Allocated zones for aquaculture: a guide for the establishment of coastal zones dedicated to aquaculture in the Mediterranean and the Black Sea. General Fisheries Commission for the Mediterranean. Studies and Reviews. No 97. Rome, FAO. [fao.org/documents/card/en/c/ca7041en](https://doi.org/10.4060/cb2429en)

<sup>7</sup>WestMED Initiative. The Community of Practice on Maritime Spatial Planning (MSP) for the Mediterranean has been launched! In: WestMED > News. European Commission. <https://bit.ly/3UMNZ3X>

<sup>8</sup>UfM. 2021. *Towards a sustainable blue economy in the Mediterranean region – 2021 Edition*. Barcelona, Spain, UfM. <https://bit.ly/300ONS4>

<sup>9</sup>See note 5.

<sup>10</sup>See note 3.

<sup>11</sup>See note 3.

<sup>12</sup>Morgan Stanley. 2023. *4 Ways to Invest in a Sustainable 'Blue Economy'*. In: Morgan Stanley. New York, NY, USA, Morgan Stanley. <https://mgstn.ly/42ID0zx>

<sup>13</sup>For further information, please visit EU Aquaculture Assistance Mechanism.

<sup>14</sup>For further information, please visit EU4Algae.

<sup>15</sup>European Commission. 2023. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Energy Transition of the EU Fisheries and Aquaculture sector*. Brussels. <http://bit.ly/30MYv7q>

<sup>16</sup>European Commission. 2021. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030*. Brussels. <https://bit.ly/3T08ZSt>

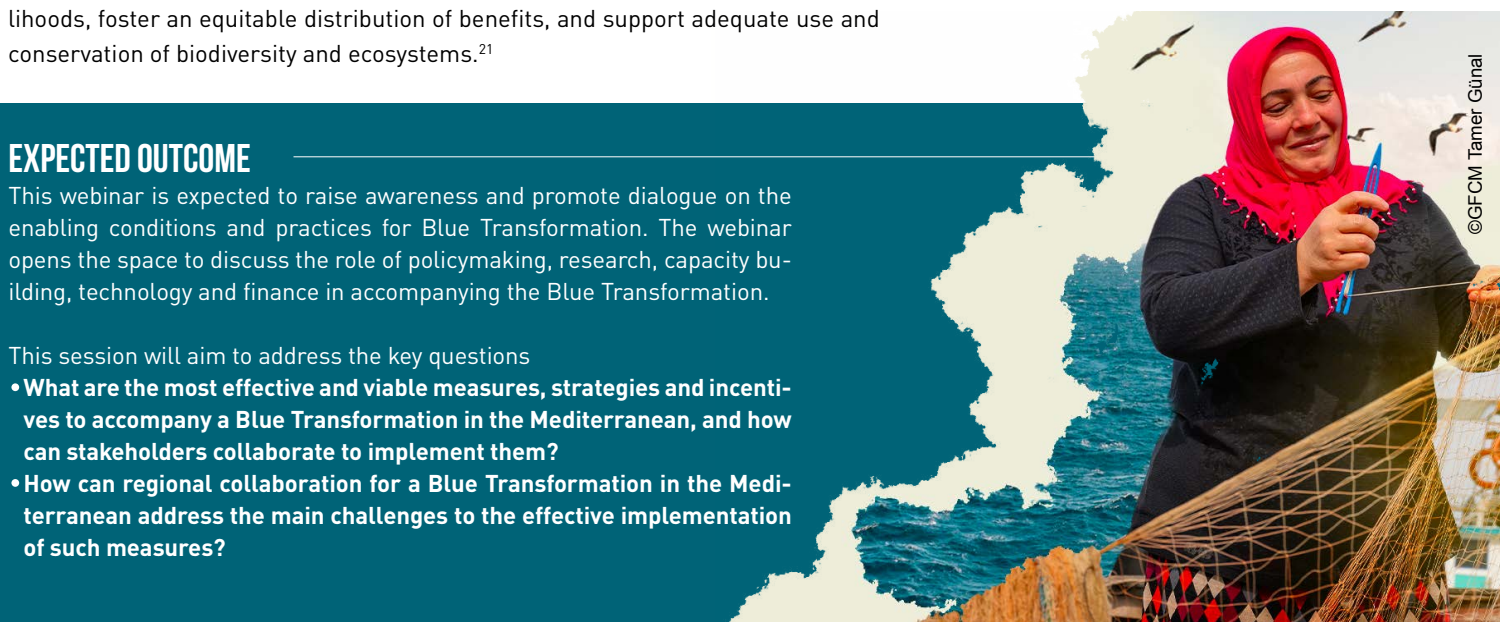
<sup>17</sup>European Commission. 2022. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Towards a Strong and Sustainable EU Algae Sector*. Brussels. <https://bit.ly/432mHbQ>

<sup>18</sup>UNEP-MAP. 2023. *Decision IG.26/7. Regional Plan on Aquaculture Management in the framework of Article 15 of the Land-Based Sources and Activities Protocol (LBS Protocol)*. Athens, UNEP-MAP. <https://bit.ly/3Tbuu2S>

<sup>19</sup>EU and General Fisheries Commission for the Mediterranean (GFCM). 2017. *Malta MedFish4Ever Ministerial Declaration*. <https://bit.ly/49mJl13>

<sup>20</sup>FAO. 2021. *GFCM 2030 Strategy for sustainable fisheries and aquaculture in the Mediterranean and the Black Sea*. Rome. <https://doi.org/10.4060/cb7562en>

<sup>21</sup>FAO. 2022. *Blue Transformation - Roadmap 2022–2030: A vision for FAO's work on aquatic food systems*. Rome. <https://doi.org/10.4060/cc0459en>





## AGENDA

Interpretation will be provided in English and French

10.00-10.15	<b>Opening remarks</b>	<p><b>Delilah Al Khudhairy</b> <i>Director for Maritime Policy and Blue Economy, Directorate-General for Maritime Affairs and Fisheries (DG MARE) of the European Commission</i></p> <p><b>Mohammad Al-Sakran</b> <i>Executive Director, Aqaba Development Corporation (ADC) – UfM Jordan Co-Presidency</i></p> <p><b>Almotaz Abadi</b> <i>Deputy Secretary General, Water, Environment and Blue Economy, Union for the Mediterranean (UfM)</i></p>
10.15-10.25	<b>Keynote remarks</b>	<p><b>Miguel Bernal</b> <i>Executive Secretary, General Fisheries Commission for the Mediterranean (GFCM), FAO</i></p>
10.25-11.25	<b>Panel discussion</b> <hr/> <i>Sustainability and circularity in fisheries and aquaculture</i> <hr/> <i>SMEs and innovation for blue transformation</i> <hr/> <i>Engaging coastal communities for plastic pollution management</i> <hr/> <i>Skills, education and employment</i>	<p><i>Moderator: Yasmine Seghirate El Guerrab</i> <i>Administrator, CIHEAM</i></p> <p><b>Roberta De Palma</b> <i>Chief Technical Advisor, United Nations Industrial Development Organization (UNIDO)</i></p> <p><b>Nesrine Ziad</b> <i>Associate, Leancubator</i></p> <p><b>Rania Koussani</b> <i>Agroeconomist Engineer, CSR Advisor, German Development Cooperation (GIZ) Tunisia office</i> <i>Project manager, DEVLOK</i></p> <p><b>Mounir Ghribi</b> <i>Director of International Cooperation and Research Promotion, National Institute of Oceanography and Applied Geophysics of Italy (OGS)</i></p>
11.25-11.30	<b>Closing remarks</b>	<p><b>Teodoro Miano</b> <i>Secretary-General, CIHEAM</i></p>

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# LIST OF RESOURCES

## Publications

- **CIHEAM**. 2021. *Coastal Zone management and Fisheries*. Paris, CIHEAM. <https://bit.ly/49Jz4fl>
- **EU and General Fisheries Commission for the Mediterranean (GFCM)**. 2017. *Malta MedFish4Ever Ministerial Declaration*. <https://bit.ly/49mJl13>
- **European Commission**. 2021. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030*. Brussels. <https://bit.ly/3T08ZSt>
- **European Commission**. 2022. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Towards a Strong and Sustainable EU Algae Sector*. Brussels. <https://bit.ly/432mHbQ>
- **European Commission**. 2023. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Energy Transition of the EU Fisheries and Aquaculture sector*. Brussels. <http://bit.ly/30MYv7q>
- **FAO**. 2018. *The State of Mediterranean and Black Sea Fisheries 2018*. General Fisheries Commission for the Mediterranean (GFCM). Rome. [fao.org/documents/card/en/c/CA2702EN](http://fao.org/documents/card/en/c/CA2702EN)
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- **FAO**. 2023. *Achieving SDG 2 without breaching the 1.5 °C threshold: A global roadmap, Part 1 – How agrifood systems transformation through accelerated climate actions will help achieving food security and nutrition, today and tomorrow, In brief*. Rome. <https://doi.org/10.4060/cc9113en>
- **FAO**. 2023. *Blue Transformation in brief. Advancing aquatic food systems for prosperity and well-being*. Rome, FAO. [fao.org/documents/card/en/c/cc6646en](http://fao.org/documents/card/en/c/cc6646en)
- **FAO**. 2023. *The State of Mediterranean and Black Sea Fisheries 2023 – Special edition*. General Fisheries Commission for the Mediterranean (GFCM). Rome. <https://doi.org/10.4060/cc8888en>
- **Macias, J.C., Avila Zaragoza, P., Karakassis, I., Sanchez-Jerez, P., Massa, F., Fezzardi, D., Yücel Gier, G. et al.** 2019. *Allocated zones for aquaculture: a guide for the establishment of coastal zones dedicated to aquaculture in the Mediterranean and the Black Sea*. General Fisheries Commission for the Mediterranean. Studies and Reviews. No 97. Rome, FAO. [fao.org/documents/card/en/c/ca7041en](http://fao.org/documents/card/en/c/ca7041en)
- **UfM**. 2021. *Towards a sustainable blue economy in the Mediterranean region – 2021 Edition*. Barcelona, Spain, UfM. <https://bit.ly/300ONS4>
- **UfM**. 2021. *Union for the Mediterranean (UfM) Ministerial declaration on Sustainable Blue Economy*. Barcelona, Spain, UfM. <https://bit.ly/3T3xdMC>
- **UN Decade of Ocean Science for Sustainable Development**. 2024. *Vision 2030 White Paper. Challenge 3: Sustainably feed the global population. Zero Draft January 2024*. Paris, UNESCO. <https://bit.ly/48jGDrS>

## Articles

- **E.Martone**. 2023. Guidelines for Sustainable Aquaculture: Where do we stand? In: *FAO Aquaculture News*. June 2023, No. 67. Rome, FAO. [fao.org/3/cc6639en/cc6639en](http://fao.org/3/cc6639en/cc6639en)
- **EU Neighbours South**. Blue Economy event showcases innovative technologies for sustainable aquaculture practices in the Mediterranean. In: *EU Neighbours South > News*. EU. <https://bit.ly/49J1ISX>
- **European Investment Bank (EIB)**. 2023. COP28: Blue Mediterranean Partnership steps up support for sustainable blue economy. In: *EIB > Media centre > Newsroom*. Luxembourg, EIB. <https://bit.ly/300tCQa>
- **Morgan Stanley**. 2023. 4 Ways to Invest in a Sustainable 'Blue Economy'. In: *Morgan Stanley*. New York, NY, USA, Morgan Stanley. <https://mgstn.ly/42ID0zx>
- **Plan Bleu**. 2023. Blue economy: A new frontier for growth and a healthy Mediterranean. In: *Plan Bleu > Blue economy*. Marseille, Plan Bleu. <https://bit.ly/3wuYDCd>
- **WestMED Initiative**. The Community of Practice on Maritime Spatial Planning (MSP) for the Mediterranean has been launched! In: *WestMED > News*. European Commission. <https://bit.ly/3UMNZ3X>

## Websites and online resources

- **BlueMissionMed**. BlueMissionMed. *Supporting the Mediterranean Sea basin for the implementation of the EU mission "Restore our ocean and waters"*. <https://bluemissionmed.eu/>
- **European Commission**. BlueInvest. In: *European Commission > Oceans and fisheries Sustainable oceans > Blue economy*. EC. <https://bit.ly/3T0TdYB>
- **European Commission**. EU Mission: Restore our Ocean and Waters. In: *European Commission > Research and innovation > Horizon Europe*. EC. <https://bit.ly/4bKdo4i>
- **Leancubator**. *Leancubator: the Algerian sustainable hub for innovation*. <https://leancubator.co/>
- **SwitchMed**. *SwitchMed. Switching to a circular economy in the Mediterranean*. <https://switchmed.eu/>
- **WestMED**. *The WestMED Initiative*. EU. <https://westmed-initiative.ec.europa.eu/>

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