



Survey and interviews to inform initiatives on sustainable ocean planning and management: Ocean Decade results brief





Background

The Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO) has initiated a multifaceted approach to stakeholder engagement to address the critical global challenge of sustainable ocean management. To uncover the nuanced perspectives and experiences that shape ocean planning and management across diverse regions and contexts, an online survey and individual interviews were conducted. This short brief provides a summary of some of the key results from the survey and interviews. From the analysis, there were a number of issues that respondents felt could be usefully tackled under a Ocean Decade Programme, in brief, some of the highlighted areas were:

1. Data accessibility and integration into national decision making processes.
2. Integration of indigenous and local knowledge and ability to appropriately handle these data for ocean planning.
3. Transboundary issues, approaches and solutions.
4. Financing to support the implementation of sustainable ocean planning and management analysis and approaches.
5. Cross sector cooperation and implementation.

All data discussed in this brief is summarised graphically in the supplementary information document, available on request.

Respondent profile

The survey received 47 responses, predominantly from national government representatives (35%), researchers (20%), and international/regional organisations (18%). Participants were primarily from Europe, Africa and Caribbean with more limited participation from other regions.

The main area of expertise were ocean planning and management (67%), natural sciences (41%), conservation and biodiversity (37%), and education (33%).

The in-depth interviews were conducted with 16 key stakeholders identified by IOC-UNESCO as integral part of a multifaceted approach to understanding SOPM's seascape.

Results

To achieve SOPM, the majority of organisations, 79%, are utilising ecosystem based management (EBM) approaches, 72% focused on the use of Blue Economy strategies and 70% were employing marine spatial planning (MSP) approaches. Only a quarter of the respondents reported using Sustainable Ocean Plans.

Northern Europe shows a strong preference for blue economy strategies that align economic development with environmental sustainability. In contrast, both Sub-Saharan Africa and Southern Europe demonstrate a balanced use of Blue Economy and EBM, suggesting a holistic approach to ocean planning in these areas. While MSP is employed in several regions, it is not as predominant as EBM or Blue Economy approaches.

Questions on how decisions are made in relation to ocean planning and management revealed that the most prevalent approaches are active engagement with stakeholders for inclusive decision-making (70%), analysis and interpretation of data, research findings, and relevant information (63%), and adherence to existing policies, legal frameworks, and governance structures (54%).

75% of respondents believed their organisations had a higher than average capacity to engage with stakeholders and nearly 70% indicated that their organisation often or very regularly did so. However, despite this only 15% of respondents said that indigenous and local knowledge (ILK) was fully integrated into ocean planning and management processes. There was unanimous support for establishing multi-stakeholder platforms and including indigenous peoples and local communities (IPLCs) in decision-making processes and an



need to increase resources to enable better engagement.

The challenges in integrating ILK are multifaceted. Participants identified issues such as bias and resistance within specific stakeholders, entrenchment in traditional marine research practices, and a lack of capacity for effective local engagement. Additionally, there are difficulties in translating ILK into data that can enhance existing datasets, further complicating its integration into SOPM.

SOPM implementation was at an advanced stage in most of respondents countries; nearly 20% are implementing measures, 30% completed the planning but yet to implement measures and a further 25% had plans in progress¹. However, transboundary cooperation was highlighted by nearly 75% of respondents as a significant challenge to implementing measures and appropriate planning.

Resources for SOPM

A significant majority of participants reported having adequate access to knowledgeable personnel in critical areas such as marine natural sciences (67%), marine policies and regulations (61%), and ocean data and tools (59%).

Respondents appeared to have reasonable access to spatial tools for marine planning, with GIS being used by more than three quarters of respondents. Spatial tools for social assessments were only highlighted by less than 15% of respondents, indicating a focus on natural environment monitoring and a possible gap in tools to understand dependency and use of the marine environment.

Other relevant resources available to undertake SOPM highlighted by respondents were; indigenous knowledge, databases and

capacity building, international training programmes.

Participants highlighted cross-sectoral cooperation among ocean-related ministries and government agencies as a particularly relevant component where intergovernmental decision-making plays a critical role in triggering SOPM.

However funding, a key enabler for progress, was seen as insufficient or not available to meet priority needs by more than 60% of respondents. Analysis suggested that there was no correlation between development status and availability of funding for SOPM.

SOPM data availability and accessibility

Most participant (55%) rated the availability and accessibility of relevant and necessary scientific data as good to excellent, while 20% considered it poor.

The survey responses still indicated a need for improved data governance and management systems, emphasising the significance of data-driven approaches. Additionally, the necessity for enhanced tools and technologies for data analysis and decision-making was identified as a primary requirement by the majority of respondents. Interestingly, data production was not considered the major challenge.

Respondents identified several challenges to data, including siloed data, sharing, and access issues, the lack of FAIR (Findable, Accessible, Interoperable, and Reusable) data, the absence of centralised systems for data, and problems with data integration, resolution, and actionability. Multiple challenges related to data fit for purpose were raised, including data fragmentation, challenges in obtaining data at appropriate spatial and temporal scales, and a general lack of continuity (i.e., longitudinal data). This was particularly in developing countries where a lack of detailed data useful for planning and management was reported. Other challenges include financing and capacity constraints, hindering sustained data

¹ It is worth noting the geographically spread of respondents and that most are from developed countries.



collection and analysis. These findings underscore the need for improved data governance and management systems and more collaborative approaches to data sharing and integration in SOPM.

SOPM needs and gaps

The development of tools and technologies for data analysis and decision-making was the most selected need (85% of respondents), emphasising the importance of data-driven approaches in SOPM. Collaboration with relevant institutions (83%) and stakeholders (81%) were also highlighted, reflecting the need for multi-sectoral cooperation. Other significant needs included data collection and management systems, institutional support, capacity development, sustainable financing mechanisms, and communication strategies.

Respondents identified several other specific knowledge gaps:

- Improve the understanding of ecosystem functioning and food webs dynamics.
- Better understand and measure threats, pressures, impacts and dependencies.
- Advance modelling and forecasting techniques.
- Streamline the science-policy interface and the dialogue between scientists and decision-makers.
- Ensure that the data collected is useful and applicable for policy development and decision-making.
- Implement natural capital accounting as an approach to mainstream nature's contribution to the economy and well-being.
- Advance the engagement with local communities and guarantee the co-design of any decision-making plans with local stakeholders.
- Secure financing/funding resources for long-term monitoring programs to ensure the collection of baseline and time-series data (i.e. longitudinal data).
- Incentivise transdisciplinary research.

IOC-UNESCO and SOPM

IOC-UNESCO has been instrumental in advancing SOPM through a variety of initiatives and programmes. According to the survey results, the most important initiatives for supporting SOPM are the Global Ocean Observing System (GOOS) and the Marine Spatial Planning programme, each cited by 69% of respondents. 64% mentioned the International Oceanographic Data and Information Exchange (IODE). A further 56% of respondents highlighted the State of the Ocean report, and interestingly the Ocean Literacy Programme was also highlighted by 53% of respondents. There are obviously many more relevant IOC-UNESCO programmes highlighted by respondents, interested readers are directed to the supplementary material Figure 15.

Ocean Decade Programme

Specific questions were asked to respondents about what a SOPM Decade Programme should address.

63% of participants emphasised the development and implementation of Sustainable Ocean Plans, alongside the need to develop user-driven knowledge, skills, and capacities, which 46.7% of respondents consider highly important.

Transforming science into actionable strategies for sustainable development and ocean planning is a significant priority, coupled with the suggestion to include data governance platforms and tools for data visualisation, modelling, and forecasting.

Collaboration and networking are highlighted as essential, with participants advocating for sharing best practices, capacity development, and securing financing while also emphasising the integration of the programme with existing frameworks like MSP, BBNJ, and regional sea conventions.

The top prioritised challenge, as identified by 72% of participants, is to protect and restore ecosystems and biodiversity, followed by the



development of a sustainable and equitable ocean economy, chosen by 56.5% of respondents.

Inclusivity and equity in community engagement are stressed, with suggestions for incorporating climate considerations into national ocean planning initiatives and addressing safety, security, and environmental pressures on ocean ecosystems.

Specific findings from the interviews

Interviews highlighted IOC's strengths in leveraging networks, technical capabilities, and expertise in ocean science-policy interface and MSP. Interviewees made suggestions integrating them into national development plans and focusing on practical application, including socio-economic, resilience, and climate considerations.

Priority areas for the Ocean Decade Framework identified were addressing pressures such as pollution and climate change, focusing on data and information, creating actionable indicators, supporting science-based planning, managing open ocean areas, collaborative knowledge gathering, and data accessibility. With outcomes supported by activities such as capacity building, data management, cross-sectoral collaboration, financing, stakeholder engagement, and ecosystem protection.

The focal areas for IOC-UNESCO should be enhancing data accessibility and management, capacity building, collaboration and communication, regional engagement, and integration and innovation, with crucial outcomes being regular evaluation, baseline development, data standardisation, sustainable resource use, enhanced collaboration, and improved ocean health, supported by activities like capacity building, cross-sectoral planning, technical support, monitoring, and international cooperation.

Existing gaps in current SOP frameworks identified in reference to a potential Ocean Decade Programmatic Framework include data challenges, capacity and coordination

issues, local engagement needs, and strategic framework requirements.

Recommendations for the Programmatic Framework include incorporating monitoring and evaluation, cross-sectoral collaboration, adaptive management, international cooperation, regional integration, stakeholder engagement, holistic framework development, local engagement, financing, and utilisation of existing efforts to optimise the framework's impact.