|  |
| --- |
| Summary  This document provides information on past activities on ocean data and information network, recent advancements in ocean data and information management, and the rationale for the Intergovernmental Oceanographic Commission (IOC) and its Member States to establish an IOCAFRICA Ocean Data and Information Network (IOCAFRICA-ODIN) Working Group . The Working Group will guide the coordination, governance, and sustainability of IOCAFRICA-ODIN, ensuring the enhancement of regional collaboration in ocean data management. This follows the decision of the IODE Management Group Meeting (February 2024) to reinvigorate Ocean Data Information Networks (ODINs) as a regional community of practice, addressing gaps in ocean data accessibility, capacity development, and long-term sustainability. The Working Group will set strategic priorities, promote best practices, and facilitate resource mobilization to ensure that Ocean Data and Information in Africa meet evolving regional needs and contribute to global ocean data initiatives.  Financial implications: The establishment of the Working Group will have financial implications for its operations, capacity-building activities, and data management frameworks, to be reflected in the associated work plan and budget. Member States and partners are encouraged to support the initiative through voluntary contributions and partnerships.  Decision proposed: The Session is invited to consider the draft decision referenced as Dec. IOCAFRICA-VIII/4.5 in the Provisional Action Paper IOCAFRICA-VIII/AP Prov. |

**Introduction**

1. This document underscored the necessity of ensuring that the IOCAFRICA leverages its expertise in data, technology, and capacity development to support Member States in their commitments to sustainable ocean governance.
2. With an increasing number of international obligations tied to ocean management—most of which rely on robust data infrastructures—IOC must fully utilize its global leadership and technical expertise to enable nations to meet their commitments. This requires expanding and reinforcing collaborative regional data networks such as IOCAFRICA-ODIN to enhance accessibility, interoperability, and long-term sustainability of oceanographic information.
3. The SEAWARD Africa Roadmap (2021–2030) underscores the critical role of sustainable data infrastructures in achieving ocean sustainability goals in Africa. Without a coordinated and dedicated Working Group to integrate ocean data governance into national and regional frameworks, the overarching objectives of the Decade will not be realized. IOCAFRICA’s extensive experience in ocean data and information management through the different phases of the Ocean Data and Information Network (ODINAFRICA) project positions it as a key facilitator of sustainable data-sharing frameworks, capacity-building initiatives, and digital transformation efforts in ocean science.
4. The IODE Management Group, in its February 2024 meeting, recognized the need to revitalize ODINs as regional communities of practice to improve the coordination, governance, and sustainability of ocean data networks. This recommendation emphasized strengthening IOCAFRICA-ODIN as a leading platform for ocean data management, ensuring its alignment with evolving global data initiatives and regional priorities. The Working Group’s establishment will facilitate the implementation of these recommendations, reinforcing IOCAFRICA-ODIN’s contribution to regional and global data-sharing frameworks.
5. In addition to global frameworks, the establishment of the IOCAFRICA-ODIN Working Group aligns with continental priorities such as Agenda 2063: The Africa We Want, the African Union Blue Economy Strategy, and the Africa Space Policy and Strategy. These frameworks emphasize the importance of ocean and coastal resource management, data-driven decision-making, and technological innovation in advancing Africa’s sustainable development goals. The Working Group will support the integration of oceanographic data with broader continental initiatives, ensuring that Africa’s ocean resources are managed effectively in alignment with economic, environmental, and scientific priorities.

In light of these past experience, recent developments and considering the objectives of the [IOC Medium Term Strategy (2022–2029)](https://unesdoc.unesco.org/ark:/48223/pf0000381388.locale=en), it is timely for IOCAFRICA and its Member States to consider the establishment of the IOCAFRICA-ODIN Working Group. This group will guide IOCAFRICA-ODIN’s contribution to ocean sciences, data standardization, early warning mechanisms, and regional assessments, ensuring that the initiative continues to serve as a cornerstone of ocean data governance in Africa

**Policy drivers for a** **Working Group**

The need for a coordinated and structured approach to ocean data management in Africa has never been more pressing. Fragmented data management practices limited institutional capacity, and inconsistent data-sharing mechanisms have hindered the full utilization of ocean data in decision-making. A dedicated Working Group is needed to address these interconnected challenges at the continental, regional, and national levels and ensure a unified approach to ocean data governance in Africa.

The IOCAFRICA-ODIN Working Group will provide a platform for leveraging emerging digital technologies such as cloud-based data repositories, AI-driven analytics for oceanographic modeling, and blockchain technology for secure data sharing. These advancements will enhance real-time monitoring, strengthen predictive capabilities, and improve evidence-based decision-making for sustainable ocean governance. Additionally, promoting open-source software and web-based visualization tools will ensure greater interoperability between national and regional data systems, reducing redundancies and enhancing collaboration.

Capacity development is central to the success of the Working Group. By implementing virtual training programs, fostering collaborative research hubs, and creating interactive stakeholder engagement platforms, IOCAFRICA-ODIN will bridge gaps in technical expertise and enhance institutional capacity across the continent. Ensuring alignment with global initiatives such as the UN Decade of Ocean Science will reinforce Africa’s role as a key contributor to the international marine data ecosystem.

The establishment of the IOCAFRICA-ODIN Working Group will represent a significant step toward achieving a more sustainable, inclusive, and innovative approach to ocean data governance in Africa. By promoting regional cooperation, driving technological advancements, and enhancing data accessibility, the Working Group will ensure that Africa is well-positioned to harness its marine resources effectively, strengthen climate resilience, and contribute meaningfully to the global blue economy.

# **IOCAFRICA Advancing Ocean Data, Information, and Network**

1. IOCAFRICA plays a pivotal role in strengthening ocean data and information management across the continent. Through a regional approach, IOCAFRICA has been instrumental in developing oceanographic data networks, facilitating cross-border collaborations, and advancing technical capacity in data collection, analysis, and dissemination. These efforts align with the broader objectives of the United Nations Decade of Ocean Science for Sustainable Development (2021–2030), which underscores the need for open and accessible ocean data to support decision-making, climate adaptation, and sustainable economic development.
2. As the regional subsidiary body of the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO), IOCAFRICA has worked closely with national institutions, research organizations, and governmental agencies to establish and maintain a robust ocean data ecosystem. This has included initiatives such as the development of National Oceanographic Data Centres (NODCs), real-time sea level monitoring networks, and integrated digital platforms for oceanographic data access and visualization. These initiatives have significantly enhanced Africa’s ability to respond to coastal hazards, support marine spatial planning, and manage its marine resources more effectively.
3. Recognizing the increasing reliance on advanced digital technologies in ocean science, IOCAFRICA has prioritized the adoption of cloud-based repositories, artificial intelligence (AI) applications for oceanographic modeling, and blockchain-based solutions for secure data sharing. These technologies are set to revolutionize the way ocean data is managed, ensuring greater transparency, efficiency, and reliability in data collection and exchange. Furthermore, the introduction of open-source geospatial tools and interactive visualization platforms has improved the accessibility and usability of ocean data for a wide range of stakeholders, including policymakers, researchers, and coastal communities.
4. A critical component of IOCAFRICA’s work has been capacity development and knowledge transfer. By organizing specialized training programs, establishing regional research hubs, and fostering South-South cooperation, IOCAFRICA has been able to bridge technical gaps and empower African scientists and institutions to take ownership of ocean data management. These efforts directly contribute to the sustainability of ocean data initiatives, ensuring that African nations remain at the forefront of international marine research and innovation.
5. The integration of IOCAFRICA’s ocean data initiatives with key continental and global frameworks has further strengthened its impact. The alignment with Agenda 2063: The Africa We Want, the African Union Blue Economy Strategy, and the Africa Space Policy and Strategy ensures that ocean data management supports broader economic and environmental goals. Additionally, IOCAFRICA has facilitated stronger linkages with global programs such as the Global Ocean Observing System (GOOS) and the IOC Strategic Plan for Ocean Data and Information Management (2023–2029), enabling Africa to contribute more effectively to the global ocean data ecosystem.
6. Looking ahead, IOCAFRICA will continue to lead efforts in integrating ocean data with emerging policy needs, enhancing regional collaboration, and fostering new technological innovations to drive sustainable ocean governance. Strengthening the IOCAFRICA-ODIN network, expanding data-sharing frameworks, and enhancing early warning systems for coastal resilience will remain top priorities. By doing so, IOCAFRICA will ensure that Africa remains a key player in global ocean science while addressing the unique challenges and opportunities of the region.

# **Initial Thinking for the ODINAFRICA Working Group**

1. The establishment of the IOCAFRICA-ODIN Working Group is anchored in the recognition that structured governance, enhanced collaboration, and sustainable funding mechanisms are essential for the long-term success of Africa’s Ocean data and information systems. IOCAFRICA-ODIN has historically played a vital role in strengthening national oceanographic data capabilities, yet the increasing complexity and volume of ocean data necessitate a more coordinated and future-ready framework to meet emerging challenges.
2. Working Group will serve as the strategic oversight body for IOCAFRICA-ODIN, ensuring alignment with global and regional priorities while fostering innovation in ocean data governance. Its primary mandate will include enhancing interoperability between national and regional data systems, integrating Africa’s oceanographic information into global repositories, and addressing data-sharing challenges such as incompatible formats, lack of standardization, and limited trust between institutions.
3. A key priority is to harness emerging digital technologies—including artificial intelligence, cloud-based platforms, and blockchain-enabled data security—to improve data accessibility and predictive modeling. The integration of open-source tools and web-based applications will enable real-time monitoring, support adaptive management strategies, and facilitate cross-sectoral engagement in ocean research and policymaking.
4. Additionally, the Working Group will lead efforts to expand capacity-building initiatives by establishing training programs, regional knowledge hubs, and collaborative research networks. These initiatives will ensure that African scientists, institutions, and decision-makers are equipped with the expertise and technical infrastructure required to fully participate in the global ocean science landscape.
5. Securing sustainable financing mechanisms is another critical pillar of the Working Group’s mandate. This will involve mobilizing regional and international funding partnerships, fostering engagement with private sector stakeholders, and integrating IOCAFRICA-ODIN’s work into African Union-led blue economy initiatives. A diversified funding approach will ensure that IOCAFRICA-ODIN remains resilient and adaptable to evolving scientific and technological advancements.
6. The establishment of the IOCAFRICA-ODIN Working Group represents a strategic shift towards a more cohesive, impact-driven, and forward-thinking approach to ocean data governance in Africa. By reinforcing institutional collaboration, embracing technological innovation, and prioritizing long-term sustainability, the Working Group will elevate Africa’s role as a leader in global ocean observation and management.

**Working Group Establishment Process**

1. The establishment of the IOCAFRICA-ODIN Working Group will follow a structured, phased approach to ensure inclusivity, efficiency, and alignment with the strategic priorities of the IOCAFRICA and the IOC. The process will be designed to engage stakeholders at multiple levels, define clear governance structures, and create a sustainable operational framework that will guide the long-term success of IOCAFRICA-ODIN.
2. The first step in the establishment process will involve the formalization of the Working Group's mandate, starting from consultation with the IOCAFRICA Officers, building upon the recommendations of the IODE Management Group (February 2024) and key policy frameworks, including the IOC Strategic Plan for Ocean Data and Information Management (2023–2029). A comprehensive Terms of Reference (ToR) will be developed, outlining the objectives, governance mechanisms, membership criteria, and key responsibilities of the Working Group. The ToR will be reviewed and endorsed by the IOCAFRICA Officers.
3. The second phase will focus on identifying and appointing members of the Working Group. Membership will be drawn from national oceanographic data centers (NODCs), governmental agencies, academic and research institutions, regional organizations, and international partners. Special attention will be given to ensuring geographical balance, technical expertise, and institutional representation to create a diverse and dynamic working group. The nomination and selection process will be managed through a transparent and participatory approach, ensuring that all key stakeholders in African ocean data management have a voice in the initiative.
4. Once the membership is confirmed, an inaugural meeting will be convened to establish operational priorities, discuss governance structures, and define key deliverables for the Working Group. This meeting will serve as a platform for members to align on strategic objectives, develop an implementation roadmap, and formalize working modalities, including meeting frequency, reporting mechanisms, and decision-making protocols. The inaugural session will also provide an opportunity to engage external partners and funding agencies to secure long-term sustainability for IOCAFRICA-ODIN activities.
5. Following its establishment, the Working Group will move into the implementation phase, which will include the development of regional work plans, capacity-building programs, and pilot projects that enhance ocean data sharing, interoperability, and accessibility. Key initiatives will include the harmonization of data standards, integration of digital technologies such as artificial intelligence and blockchain for ocean data security, and the creation of an open-access data repository to support scientific research, policy formulation, and sustainable ocean management in Africa.
6. A core aspect of the Working Group’s establishment will be the creation of sustainable funding mechanisms to support long-term operations. Efforts will be made to secure financial and technical assistance from IODE, African Union, regional economic communities, development agencies, and private sector partners. Additionally, innovative funding approaches such as public-private partnerships, cost-sharing models, and competitive research grants will be explored to strengthen financial resilience.
7. The Working Group will operate with a strong monitoring and evaluation (M&E) framework to track progress, assess impact, and ensure continuous improvement. Periodic progress reports will be submitted to IOCAFRICA Officers, and IOCAFRICA Secretariat, highlighting key milestones, challenges, and recommendations for enhancing ODINAFRICA’s impact. Regular stakeholder engagement sessions will be organized to solicit feedback, share best practices, and refine strategies to address emerging needs in ocean data management.
8. Ultimately, the establishment of the IOCAFRICA-ODIN Working Group will represent a significant step toward creating a coordinated, collaborative, and future-focused ocean data ecosystem in Africa. By integrating modern technologies, leveraging regional and global partnerships, and promoting inclusive governance, the Working Group will play a critical role in ensuring that African nations can fully participate in, and benefit from, the evolving global ocean data landscape.

### **DRAFT DECISION IOCAFRICA-VIII/4.5**

**The Sub-Commission,**

**Recalling** the longstanding contribution of the Ocean Data and Information Network for Africa (ODINAFRICA) to ocean data governance and capacity development in the region,

**Acknowledging** the outcomes of the February 2024 meeting of the IODE Management Group, which called for the revitalization of Ocean Data and Information Networks (ODINs) as regional communities of practice under the framework of the Ocean Decade and IOC Strategic Plan for Ocean Data and Information Management (2023–2029),

**Recognizing** the role of IOCAFRICA in leading the revitalization process through the IOCAFRICA-Ocean Data and Information Network (IOCAFRICA-ODIN), and the strategic alignment of this initiative with the IOC Medium-Term Strategy (2022–2029), Agenda 2063, the African Union Blue Economy Strategy, the Africa Space Policy and Strategy, and the Ocean Decade Africa Roadmap,

**Noting** the growing importance of structured, interoperable, and secure ocean data systems to inform sustainable ocean governance, marine spatial planning, early warning systems, and climate adaptation strategies in Africa,

**Emphasizing** the need for a regional coordination mechanism to support the governance, oversight, and sustainability of ocean data initiatives across the continent,

### **Decides to:**

1. **Establish the IOCAFRICA Ocean Data and Information Working Group** (IOCAFRICA-ODIN Working Group) as the strategic oversight body to guide the development, implementation, and governance of the IOCAFRICA-Ocean Data and Information Network;
2. **Adopt the Terms of Reference** for the Working Group, to be finalized by the IOCAFRICA Officers in consultation with the IODE Secretariat and relevant stakeholders, outlining its mandate, composition, governance arrangements, and modalities of operation;
3. **Request the Secretariat**, in collaboration with the IODE Project Office and relevant partners, to:
   * Facilitate the nomination and appointment of members to the Working Group;
   * Organize the inaugural meeting of the Working Group to define its operational priorities, roadmap, and deliverables;
   * Provide technical support to the Working Group and coordinate its integration with other regional and global ocean data initiatives, including the Ocean Information Hub (OIH) and the Digital Twin Ocean (DTO) developments;
4. **Encourage Member States** to actively participate in the Working Group by nominating qualified representatives from their National Oceanographic Data Centres (NODCs), academic institutions, and relevant agencies;
5. **Invite development partners and regional organizations** to support the activities of the Working Group through technical and financial contributions, including in areas such as digital transformation, capacity building, cloud-based infrastructure, and secure data exchange platforms;
6. **Mandate the Working Group** to report on its progress, achievements, and challenges at each session of IOCAFRICA, and to submit an annual update to the IOCAFRICA Officers and the IOC Secretariat for review and alignment with the broader IOC and Ocean Decade strategic frameworks.