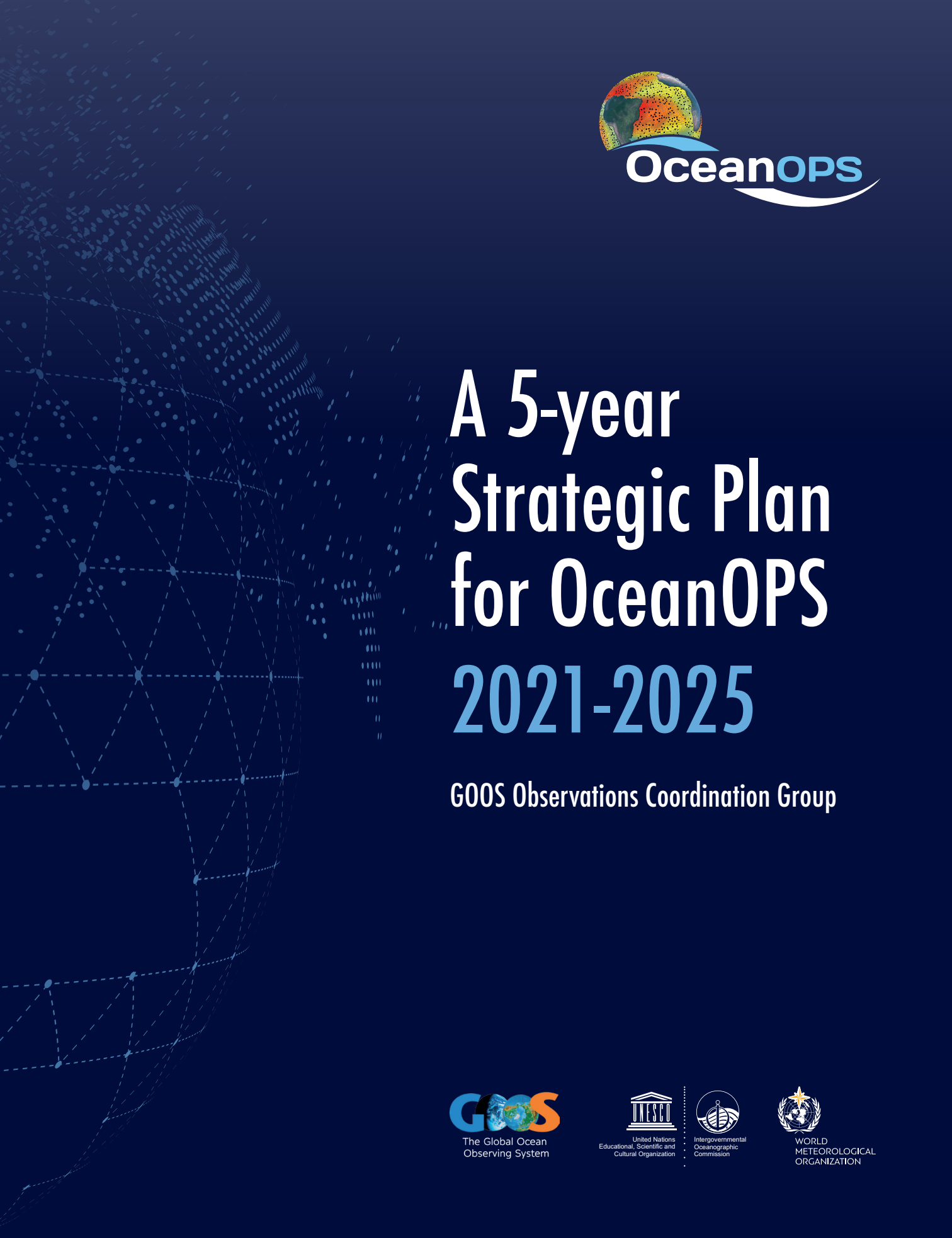


A 5-year Strategic Plan for OceanOPS 2021-2025

GOOS Observations Coordination Group

The Global Ocean Observing System

United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

WORLD METEOROLOGICAL ORGANIZATION

FOREWORD

The global ocean observing system delivers more than 1 million daily observations to a rapidly growing number of users and stakeholders, including most major ocean, weather, and climate prediction centers around the world. The analyses, forecasts, and products based on these ocean observations are the bedrock of decisions across an increasing swath of socio-economic sectors, especially in marine transportation, coastal communities, climate, agriculture, and healthy oceans.

The global ocean observation system has significant complexity, including full depth oceanic and atmospheric observations, requiring tools and resources to coordinate within and amongst communities of observers from over 100 countries around the world. The World Meteorological Organisation (WMO)-Intergovernmental Oceanographic Commission (IOC) Joint Centre for Oceanography and Marine Meteorology *in situ* Observations Programmes Support (OceanOPS, formerly named JCOMMOPS), grew out of the need for improved technical coordination across a number of such communities, *e.g.* to assist in deploying observing programs (such as Argo floats and drifters); assist in developing and tracking timely exchange of data and metadata; and to monitor the status and growth of the system. OceanOPS has grown in prominence and visibility over the past 10 years. It has become increasingly central to the coordination of the global ocean observing enterprise, leading to ever-increasing interests and expectations amongst current and potential stakeholders.

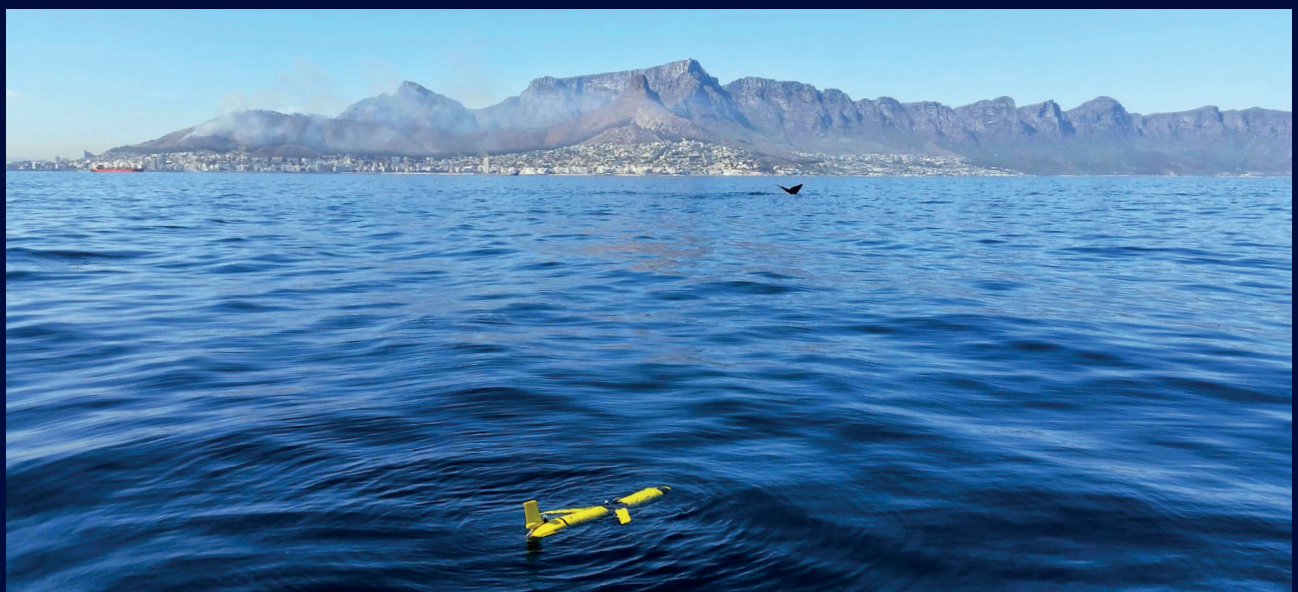
I am very excited to introduce this first ever 5-year Strategic Plan for OceanOPS. The Plan articulates the required strategic goals and objectives to realize the vision for OceanOPS to provide vital services in monitoring, coordinating, and integrating ocean data and metadata, across an expanding network of global oceanographic and marine meteorological observing and service communities in support of improved services and capabilities. Based on input gathered from a variety of stakeholders, including major global ocean observing systems as well as WMO and IOC/GOOS, the articulation of a vision, mission, strategic goals and objectives in this Plan will improve the integration, cost-effectiveness, quality, and usefulness of ocean observations.

The future success of OceanOPS is dependent on several factors described in this Plan. OceanOPS must move to a more diverse and stable funding platform, thereby enabling it to focus on its strategic goals and allow sustainable growth to meet new needs. Additionally, the management of OceanOPS must evolve internally and externally, encouraging alignment of OceanOPS activities with this Plan, and strengthening its contributions to sponsors and stakeholders.

The recent successes of OceanOPS have demonstrated the value and criticality of centralized support, coordination, and system monitoring for the global ocean observing enterprise. The 5-Year Strategic Plan for OceanOPS (2021-2025) provides the guide for OceanOPS activities to continue that success towards a more efficient and integrated system that delivers data and information necessary for an increased range of services and research.

David Legler
Chair GOOS Observations Coordination Group

Glider mission offshore CapeTown ©H. Janse van Rensburg/Sea Technology Services/SOCCOgliders



THE OCEANOPS 5-YEAR PLAN 2021-2025

VISION

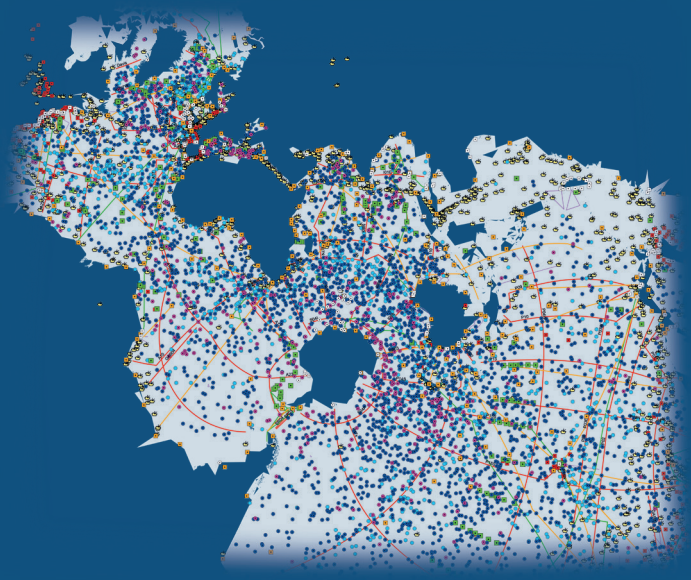
To be the international hub and center of excellence that provides vital services in monitoring, coordinating, and integrating data and metadata, across an expanding network of global oceanographic and marine meteorological observing communities.

Eighty-six countries are involved in ocean observations, 8,933 *in situ* ocean observing platforms, and 170 satellites continuously monitoring the global ocean and atmosphere. Society's needs for ocean information is increasing, and in response the global ocean observing system is increasing in complexity, scope and coverage. This requires outstanding coordination, to ensure delivery from observations through data management systems to information services, and to ensure cost efficiency.

The current estimated economic value of the ocean economy is USD 1.5 trillion annually and by 2030, this value is expected to double to USD 3 trillion. OceanOPS envisions itself as a center of excellence in the global oceanographic and marine meteorological enterprise, providing vital services in monitoring, coordinating, and integrating across a global network of organizations to maximize the value of the observing system for multiple stakeholders.

MISSION

To monitor and report on the status of the global ocean observing system and networks, to use its central role to support efficient observing system operations, to ensure the transmission and timely exchange of high quality metadata, and to assist free and unrestricted data delivery to users across, operational services, climate and ocean health.



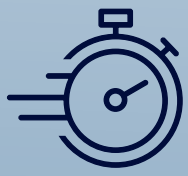
OceanOPS occupies a unique place as the focal point for the coordination of information and metadata flowing from the *in situ* global ocean observing networks. It is able to use this unique role to support efficient observing system operations and data delivery to users of ocean and above ocean atmospheric observations.

OceanOPS now tracks over 100 000 observations a day coming from the global networks, and in close contact with the providers of these observations, OceanOPS monitors the pulse of the observing system and provides tools to assess its current and future state.

As an international coordination centre it is alert to opportunities to share resources across networks and communities, and improve system function. As the observing system evolves in scope and complexity, OceanOPS will also evolve and continue to support effectiveness in the delivery of data and metadata to where it is needed.

VALUE STATEMENTS

The Strategic Plan exercise has also contributed to identify some individual and collective values statements. These values outline core organisational principles and help guide organisational decision-making and development, that is in line with the principles. The value statements also serve as a guide for external stakeholders.



#1. Responsiveness

Responsiveness to the needs of the observing community, large and small (from individuals to organizations) is key to our success.

#2. Collaboration

Collaboration and partnership are essential to our success in this international enterprise by reducing fragmentation and encouraging integration.

#3. Transparency

Transparency in our operation is critical to engender trust, confidence, and engagement with our users.

We commit to provide visibility to all our users and transparency to the global ocean observing system implementation through rigorous monitoring.

#4. Accountability

Quantifiable and results-oriented activities are the foundation for accountability in delivering the products and services desired by our users.

GOALS

Five high level goals are identified for OceanOPS to achieve its vision over the next 5 years (2021-2025). These goals focus on the core functions of OceanOPS, address the evolving needs of the ocean and marine meteorological observing communities, and identify the internal evolution needed to achieve this vision.

Goal 1

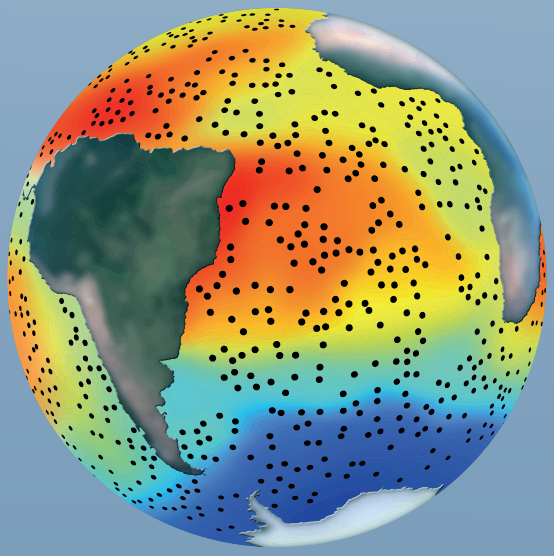
Monitoring for the improvement of global ocean observing system performance

OceanOPS monitors the status of the ocean observing networks, as well as the status of the global ocean observing system as a whole. It achieves this through development of tools and metrics that utilize metadata. By analyzing trends and reporting back to stakeholders, it encourages performance improvement and cost efficiency.

Goal 5

Shape OceanOPS infrastructure for the future

OceanOPS has developed organically for the last 20 years. It is now at a point where strategic restructuring of its resources and operations can address many crosscutting issues identified, and position it to be a highly valued community asset for the next 20+ years.



Goal 4

Enable new data streams & networks

One of the central drivers of OceanOPS is to support the global ocean observing networks in ensuring usable and accessible data, which includes enabling new data to be utilized by users.

Goal 2

Lead metadata standardization and integration across the global ocean observing networks

A core OceanOPS activity is to create harmonized metadata for each observing network, individually and across the ocean observing system collectively, which vastly increases data usability. It also enables OceanOPS to provide global monitoring capacity.

Goal 3

Support and enhance the operations of the global ocean observing system

The *in situ* global ocean observing system has a diverse set of operational needs that OceanOPS is positioned to support and enhance through its monitoring tools and community knowledge.

OBJECTIVES: IMPLEMENTING THE STRATEGIC PLAN

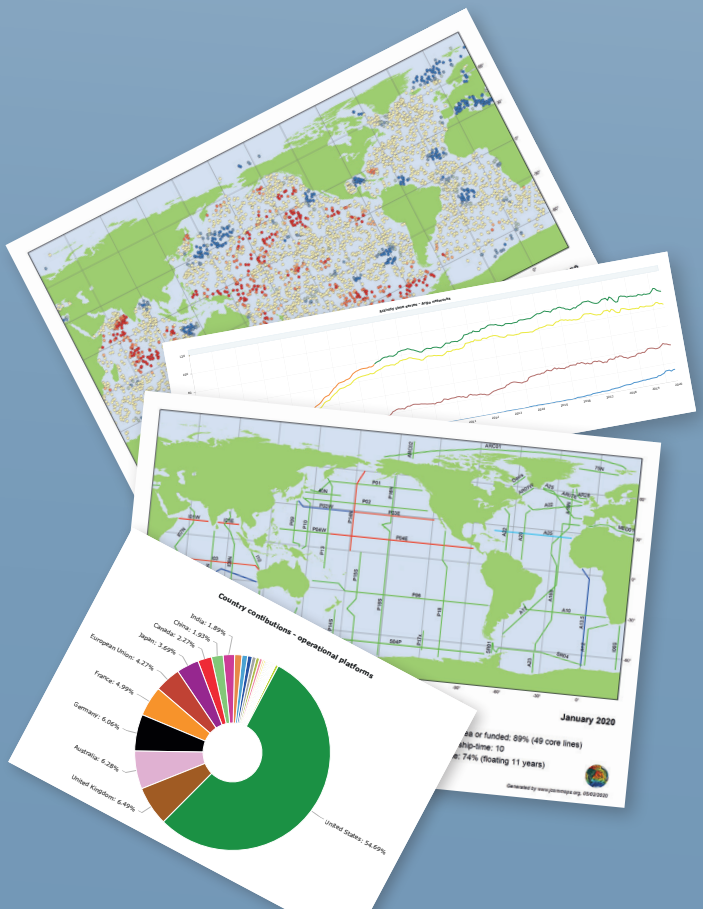
Goal 1

Monitoring for the improvement of global ocean observing system performance

Objective 1.1
Develop analysis tools and metrics for all OCG networks.

Objective 1.2
Analyze networks trends and report to the different stakeholders.

Objective 1.3
Implement and report "system level" metrics for monitoring the adequacy of the system versus requirements and applications.



Goal 2

Lead metadata standardization and integration across the global ocean observing networks

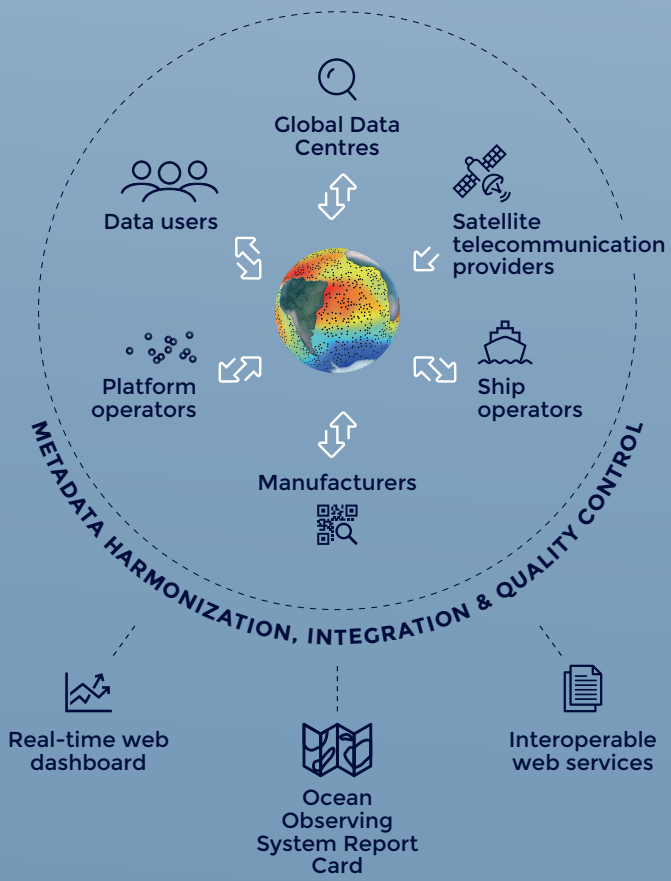
Objective 2.1
Set and disseminate the standards and best practices for metadata harmonization across the OCG networks.

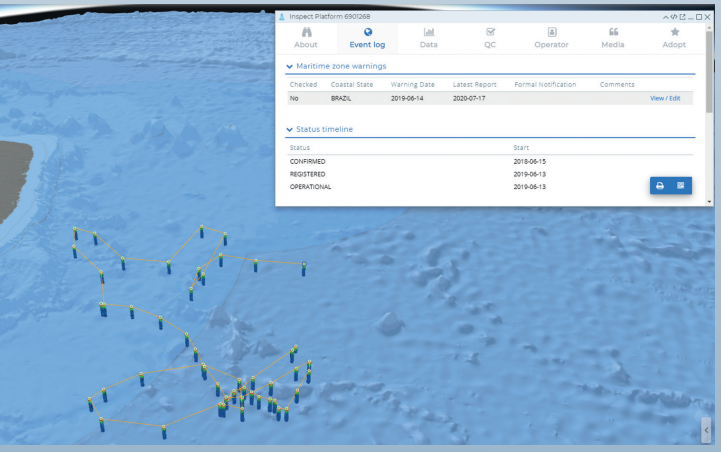
Objective 2.2
Develop the web services required for machine-to-machine metadata exchange and access.

Objective 2.3
Provide a harmonized and high-quality standard of metadata across all OCG networks.

Objective 2.4
Assist users on data access and available data services.

Objective 2.5
Connect OceanOPS services with IOC and WMO international data systems.





Argo float entering a coastal state Exclusive Economic Zone and triggering a warning report for the implementer

Goal 3

Support and enhance the operations of the global ocean observing system

Objective 3.1
Encourage and support the planning of observing networks implementation to enable synergies and opportunities.

Objective 3.2
Develop partnerships and pilot projects to facilitate deployments/retrieval of instruments, including with civil society and industry.

Objective 3.3
Promote Standards and Best Practices on instruments (installation, deployment, recovery, metadata, exclusive economic zones issues, etc.).

Objective 3.4
Maintain appropriate (web-based) services to facilitate routine platform operations, including in areas under national jurisdiction.

Drifting buoy deployment from Imoca skipper during the 2020 Vendée-Arctique les Sables d'Olonne Race ©M. Sorel

Goal 4

Enable new data streams & networks

Objective 4.1
Provide basic services to emerging networks, and systems operating at the boundary of global networks under the guidance of the OCG.

Objective 4.2
Pilot supporting third-party projects (civil society/industry) to help augment networks and Member States implementation.

OceanOPS Team in Brest, from left: Emanuela Rusciano, Victor Turpin, Mathieu Belbéoch, Martin Kramp, Anthonin Lizé, Magali Krieger. Remote staff: Long Jiang in Geneva and Thomas Latter in Toulouse

Goal 5

Shape OceanOPS for the future

Objective 5.1
Develop agreements with OCG networks, emerging networks and other end-users for the system to set boundaries and expectations for OceanOPS.

Objective 5.2
Strengthen infrastructure in host country, workforce, and budget towards sustainability.

Objective 5.3
Evolve the business model, team structure, and associated funding approaches towards integration, simplification, and robustness.

Objective 5.4
Enhance communications to foster community understanding and engagement.

CHALLENGES

During the Strategy process five major challenges were outlined for OceanOPS in achieving its vision:

1 Stabilize funding

The limited funding resources not only impact the OceanOPS development and staff, but also limit the achievement of an integrated global ocean observing system.

2 Set boundaries and manage new opportunities

The global ocean observing system is expanding its scope which puts increasing demands on OceanOPS who has to prioritize and manage between core and emerging new requests.

3 Clarify complex governance

It is crucial that OceanOPS together with WMO, IOC, GOOS and OCG develops a clear governance structure and clarify its role and responsibilities to improve efficiency and communication with stakeholders.

4 Secure structure and infrastructure

The OceanOPS internal structure needs some adjustment to better support delivery to the Strategic Plan and to create a flexible and robust organization.

5 OceanOPS rebranding and focus on communication

It is critical to clarify and recognize the OceanOPS central role in the ocean observing system coordination, monitoring and implementation, which in turn should lead to attracting more support.

CONCLUSIONS

Over the past 20 years, OceanOPS has grown in visibility and demonstrated its expertise in monitoring the ocean observing system. Many activities and services have been successfully implemented and OceanOPS has become crucial for the coordination of a complex enterprise, composed of a high diversity of networks and many observing communities from around the world. Time has come for OceanOPS to start a new phase at the service of the ocean observing community and contribute to the challenge of building a truly global ocean observing system.

The commitments of the Strategic Plan workshop participants reflected a significant stakeholder support to the success of OceanOPS. With a clear strategic mission and vision, the ocean observing networks and partners will gain a more focused, innovative and thriving OceanOPS delivering on the goals and objectives identified and developed with their input.

OceanOPS will play a key role in ensuring the flow of quality data from observations to user; providing essential insight into observing systems performance and vulnerability; assuring efficiency to connect multiple players and opportunities, as well as providing cross system support, integration and cost effectiveness.

To support the development of the Strategic Plan, OCG, WMO and IOC/UNESCO should provide clarity on OceanOPS governance and help in moving to a stable funding system. OceanOPS is ready to move forward with the next step, but the achievement of this Plan will take focus also from the engagement of its governance and partners to align and increase resources. Sustained funds will be crucial for ensuring the long-term stabilization of such an infrastructure and the development of its activities, which in turn will be beneficial for the achievement of an integrated global ocean observing system.

We need strong core infrastructure and OceanOPS is one such piece, essential to delivery, efficiency, insight and management of the observing system enterprise.

Upper air ozone sonde balloon being released next to the Antarctic ice edge

CALL FOR ACTION

Over the past 20 years OceanOPS has firmly established at the heart of the global ocean observing system and has grown in prominence and visibility amongst the international observing community, becoming crucial for ensuring the coordination of the global ocean observing enterprise.

The GOOS Observations Coordination Group and OceanOPS call on WMO Members, IOC Member States, WMO-IOC secretariats, host country France, Brittany local authorities, and the ocean observing community to:

Sustain and increase their contribution to OceanOPS to operationalize services to the international community and to build on the firm infrastructure in place

Openly share past, present, and future metadata through OceanOPS to build a truly harmonized and integrated global ocean observing system monitoring capacity

"On the strength of our experience, of our infrastructure built slowly and strategically, and following up a review process, we shaped a clear 5-year Strategic Plan, together with our stakeholders, to project our activities into the UN Decade of Ocean Science for Sustainable Development. Rebranded, with a new name that both preserves the JCOMM Observing Programme Support Centre legacy and sounds clearer for our larger community, we are now rounding a new cape. We will keep sharping our eye ("ops" in ancient Greek) on the GOOS and cultivate the integrated concept in all our actions."

Mathieu Belbéoch
OceanOPS Lead

ACKNOWLEDGEMENTS

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OceanOPS also wishes to thank with gratitude the host country France, the Brittany local authorities, Ifremer and CLS for their support.

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Editorial team: S. Brunner, E. Heslop, D. Legler, M. Belbéoch, T. Moltmann, C. Gallage and E. Rusciano.

www.ocean-ops.org

Joint WMO-IOC Centre for Oceanography and Marine Meteorology *in situ* Observations Programme Support

More information on OceanOPS 5-Year Strategic Plan at:
www.goosocean.org > Documents > Reports

www.ocean-ops.org/strategy

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