Ocean best practices

IOC Ocean Best Practices System

Implementation Plan

2021 - 2023

SG-OBPS - Implementation Plan
Version: 12 Mar 2021

Suggested Citation:

IOC Ocean Best Practices System, Implementation Plan 2021-2023.
Oostende, Belgium, UNESCO/IOC Project Office for IODE, 13pp. 2021.

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Note: The OBPS Strategic Plan 2021-2025 is issued as a separate document:

IOC Ocean Best Practices System, Strategic Plan, 2021-2025.
Oostende, Belgium, UNESCO/IOC Project Office for IODE, 9pp. 2021.

1. Introduction to Implementation Plan

In the Ocean Best Practices System (OBPS) 2021-2025 Strategy, the four Strategic Objectives and associated outcomes provide guidance on priorities for the development of a more user-focused, inclusive and technology-sophisticated Ocean Best Practices System.

Looking forward, the "Ocean Decade" envisions a transformative change not only in ocean observations and data stewardship, but also addressing societal needs, human impact and capacity development. These changes will impact the level and service across the value chain from observations to end use and increase the demands for best practices, standards and interoperability. From the Decade Implementation Plan Guidance Note for Applicants No. 1/2020: "*programmes responding to this call are encouraged to address interoperability and to develop and use best practices in their work. Further resources can be found at oceanbestpractices.org*".

OBPS anticipates that there will also be an evolution in the creation of best practices through the introduction of practices for co-design and co-development. There will also be important changes in training and use of best practices beyond the traditional mentoring modalities, incorporating web services and adaptive training supporting local and regional capabilities.

This implementation plan addresses priority actions for the next three years (2021-2023) (UNESCO biennium 2020-2021 and 2022-2023) for advancing toward the objectives of the OBPS Strategic Plan[1] (also provided below) and responding to Ocean Decade needs related to best practices as resources allow.. The core operational areas of OBPS include the repository with advanced search technology, a peer review publication of Best Practices in *Frontiers in Marine Science,* support for training and capacity development, and an outreach and engagement programme with user/creator communities. These elements remain and the plan addresses both the evolution of these and the development of additional to support a broader mandate.

2. From Strategic Objectives to Activities to Outcomes

The strategic OBPS objectives (OBPS Strategic Plan) define the longer term needs for the development and operation of an evolving system which fosters collaboration, consensus building and innovation by providing practices and standards across ocean sciences, engineering and applications for society.

Below we link Objectives, Outcomes, Activities and Deliverables within the timeframe of this Implementation Plan, although some deliverables particularly within Strategic Objective 4 (SO-04) are likely to go beyond 2023. The Activities are technical advancement of the

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[1] *IOC Ocean Best Practices System, Strategic Plan, 2021-2025.*
Oostende, Belgium, UNESCO/IOC Project Office for IODE, 9pp. 2021.

OBPS infrastructure, capacity development, and broader community engagement. These priorities have been defined through dialogue with the community of OBPS stakeholders in a series of annual workshops and other events. They are a priority subset that represent main lines of action across the many activities undertaken by the OBPS. While each of these support one or more of the strategic objectives, the activities and deliverables are listed below under the primary objectives. These will evolve with time and as this plan develops, an update to the Implementation Plan will be provided on a 2 year basis.

Strategic Objective 01:
To secure the OBPS as a trusted system through which the ocean community persistently archives and converges their methods, standards, guides, and other methodological content into context-sensitive best practices

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SO-01 Outcomes

O1.1. The OBPS is a trusted, certified, responsive and sustained community resource.
O1.2. The OBPS hosts best practices that are tailored to a broad spectrum of resource / capability environments.
O1.3. OBPS has broad community participation and ownership in the development and operations of the System.
O1.4. The OBPS provides functionality which allows use by traditional knowledge-holders and communities with multiple ways of storing and transmitting practical knowhow.

SO-01 Activities (A), Deliverables (D) and Completion

Activity SO-01	Deliverable SO-01	Completion Subject to Funding
A1.1. Secure an ISO or other Repository Certification	**D1.1.1**.OBPS Repository Certification	12/2022
A1.2.- Continue efficient fit-for-purpose operations of the OBPS repository including user-required technology enhancements	**D.1.2.1** Operational online repository of ocean best practices available 24/7	Ongoing
A1.3. Create improved content browsing and discovery functions, decision tree, apps	**D1.3.1**. Implement a decision tree for improved browsing and BP selection	12/2022
	D1.3.2. Assess the need, the market and cost for developing a mobile phone app.	12/2023
A1.4. Expand BP submission processes to include automated submission including review of document style and completeness.	**D1.4.1**. Implement a user-tested automated submission system	12/2023
A1.5. Enhance and expand machine-readable templates offered by the OBPS to cover methodology types submitted	**D1.5.1.** Update existing BP document templates and generate new topics with community advice	Ongoing

**Strategic Objective 02:
To accelerate the interoperability of observations, convergence of methodologies, and conventions across ocean communities into trusted, transparently-developed, context-sensitive and interoperable best practices and standards**

SO-02 Outcomes

O2.1. Trusted protocols for creation, convergence and endorsement of best practices
O2.2. Interoperability across all dimensions of ocean stakeholders' needs through propagation and linking of best practices, data and standards.
O2.3. Broad community engagement with the creation and adoption of best practices.

SO-02 Activities (A), Deliverables (D) and Completion

Activity SO-02	Deliverable SO-02	Completion Subject to Funding
A2.1. Provide guidance to communities on process for endorsing BP / develop rigorous OBPS criteria for acceptance	**D2.1.1.** Finalise endorsement first test case - GOOS	06/2021
	D2.1.2 Gain feedback on utility of approach and process	11/2021
	D2.1.3 Develop guidance document for endorsement process (first draft) and OBPS applications acceptance process	09/2022
A2.2. Work with the community to identify areas of convergence and support champions in creating converged BPs	**D2.2.1.** Document areas of convergence	Ongoing
A2.3. Expand enhanced search including semantic capabilities to accommodate broader range of disciplines, languages and cultures	**D2.3.1**. Semantic capabilities to accommodate broader range of disciplines	6/2022
A2.4. Expanded communication plans to broaden engagement of ocean communities in creation and use of BP	**D2.4.1.**Advocacy products for community outreach and report on status of engagement (e.g. BP submitted from new communities)	Ongoing
A2.5. Host annual workshops	**D2.5.1**. Proceedings of OBPS Workshops, with recommendations to feed into future iterations of the IP	2022, 2023, 2024
A2.6. Increase contributions to the Frontiers in Marine Science: Research Topic Best Practices in Ocean Observation	**D2.6.1.** Report on the number of papers published. Highlight new additions in contributions?	Ongoing

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Strategic Objective 03:
To foster community - led and equitable capacity development in ocean best practices

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SO-03 Outcomes

03.1. Training resources provided by OTGA and other training providers available through the OBPS repository

03.2. Provision of a portfolio of courses on best practice development, consensus building and submission created by the community for the community.

03.3. OBPS courses embedded in relevant university curricula and *Continuing Professional Development (CPD)* opportunities.

SO-03 Activities (A), Deliverables (D) and Completion

Activity SO-03	Deliverable SO-03	Completion Subject to Funding
A3.1. Expand the OBPS portfolio of courses available from the Repository on best practice development and submission	**D3.1.1 Formal linkage with OTGA with** training course/s available on the OBPS. Case study: "How to create a best practice"	12/2021
A3.2 Support external training and capacity development activities	**D3.2.1** Four video courses on specific best practice development and submission.	12/2022
A3.3 Engage formal and informal education institutions and sponsors to advance incorporation of best practices for ocean observing into education curricula	**D3.2.1** An engaged educational institution pilot	12/2021 and Ongoing

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Strategic Objective 04:
To facilitate the creation of a federated network of interoperating ocean practices systems across all rights-holders and stakeholders

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SO-04 Outcomes

04.1. A global collection of independent methodology management systems, seamlessly interoperating with the OBPS, that will provide the technology needed to support a cultural shift in how diverse ocean communities advance their practices

04.2 The OBPS continuously exchanges (meta)data with related methodology management systems through ODIS[2] and other digital infrastructures, federating queries across partner systems, promoting access to best-practices methodology content hosted

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[2] ODIS (**IOC Ocean Data and Information System)** will interlink distributed, independent, systems (within and outside of the IOC) through a decentralized interoperability architecture (ODIS-Arch), to form a digital ecosystem

elsewhere.

04.3. A process to identify, harness, and co-design cross-system technologies to detect gaps and opportunities for convergence in distributed ocean methodology holdings.

SO-04 Activities (A), Deliverables (D) and Completion

Activity SO-04	Deliverable SO-04	Completion Subject to Funding
A4.1. Design a federation approach, to a global collection of independent methodology management systems	**D4.1.1**. Federated System Design	12/2024
A4.2. Develop a pilot demonstration of a federated system so that queries across partner systems enable access to best-practices methodology content hosted elsewhere	**D4.2.1**. A pilot demonstration of a federated system of Methodology Management Systems	12/2025
A4.3. A process to identify, harness, and co-design cross-system technologies to detect gaps and opportunities for convergence in distributed ocean methodology holdings	**D4.3.1.** Paper describing approaches to gap analyses	12/2025

2.1 OBPS Work Packages support to Strategic Objectives

The IOC Ocean Best Practices System is hosted at the UNESCO/IOC Project Office for IODE in Oostende, Belgium and is managed by a Steering Group (SG) representing major Stakeholders including: (i) representatives from IOC Programmes; (ii) invited experts from the full value chain of the ocean observing community; (iii) representatives of IODE and GOOS Secretariats.

The strategic objectives listed above will be implemented through the OBPS Work Package structure. Whilst the Work Packages titles may imply separate activity areas, they are not viewed as silos; interaction and support across all WPs has been and continues to be inherent in the OBPS implementation.

The following table indicates the primary Strategic Objective for each Work Package:

Work Package	SO1 Trusted system through which the ocean community persistently archives	SO2 To accelerate the interoperability of observations, convergence of methods	SO3 Foster community-led and equitable capacity development	SO4 To facilitate the creation of a federated network
WP1 Project Management	Support	Support	Support	Support
WP2 Operations (Repository)	Primary	Support	Support	Support
WP3 Advanced Technologies and Interoperability	Support	Support	Support	Primary
WP4 Publications, Convergence, Endorsement	Support	Primary	Support	Support
WP5 Communication & Outreach	Support	Support	Support	Support
WP6 User Communities	Support	Primary	Support	Support
WP7 Capacity Development & Training	Support	Support	Primary	Support

3. Indicators of OBPS impact

Metrics will support and evidence the growing maturity and community engagement of the OBPS. Below are a selection:

01	Number of content items contributed to the Repository
02	Usage of the OBPS (e.g. volume of downloads, searches, users, contributors etc)
03	Number of endorsed BPs
04	Number of papers published in *Frontiers in Marine Science, RT Best Practices in Ocean Observation*
05	Number of citations to the OBPS in authored peer reviewed articles
06	Number of participants to best practices webinars/workshops
07	Number of subscribers to the OBPS Monthly Newsletter
08	Number of available training courses through OTGA promoting the use of ocean best practices

4. Budget

The OBPS core operational funding is provided through the sponsorship of the IODE and GOOS Programmes under the IOC. Other developments are generally funded from sources external to the IOC

At this point, not all of the other activity developments have committed funding and it is acknowledged that some longer-term critical activity/deliverables are at risk without identified funding. This is a challenge that needs to be addressed in collaboration with the OBPS partners and supporters.

See Budget Table below:

Note: the following figures are conditional on the level of UNESCO/IOC biennium funding.

Table 1 - Budget Expenditure (Biennium 2020-2021 & 2022-2023)

RP (UNESCOI/OC regular programme funding **External Funding (EXB)** (other than IOC funds) **NDC = No Direct Cost for RP Budget** (in-kind contribution or implemented by project staff) — Year → Cost item ↓	2021 RP IODE	2021 IODE Project Office budget contribution	2021 RP GOOS	2021 EXB REC'D	2021 EXB TO FIND	2022 RP IODE	2022 IODE Project Office budget contribution	2022 RP GOOS	2022 EXB REC'D	2022 EXB TO FIND
WP1: Project Management										
● SG Meeting (assuming FtF in 2022 in Oostende)							6,000			
● Project Manager/Repository Manager (EXB EuroSea and JERICO S3) and GOOS			11,000	44,000				15,500	39,500	
● Workshop/Meeting travel (PM) (EXB rec'd EuroSea)									3,500	
WP2 (contributing to : ● **SO-01: Trusted system through which the ocean community persistently archives**										
● **A1.1.** Secure an ISO or other Repository Certification		1,500					1,000			
● **A1.2.** Continue fit-for-purpose operations of the OBPS repository including user-defined technology enhancements	20,000		7,000	4,500*		14,000		2,500	4,000	
● **A1.2.** AWS Recurring Expenses		2,200					2,300			
● **A1.5.** Enhance and expand machine-readable templates offered by the OBPS to cover methodology types submitted	NDC		NDC			NDC		NDC		
● One time investment AWS EDS 2021 Contract	12,750		12,750							

RP (UNESCOI/OC regular programme funding **External Funding (EXB)** (other than IOC funds) **NDC = No Direct Cost for RP Budget** (in-kind contribution or implemented by project staff)	2021 RP IODE	2021 IODE Project Office budget contribution	2021 RP GOOS	2021 EXB REC'D	2021 EXB TO FIND	2022 RP IODE	2022 IODE Project Office budget contribution	2022 RP GOOS	2022 EXB REC'D	2022 EXB TO FIND
WP3 (contributing to: ● **SO-02: To accelerate the interoperability of observations, convergence of methods.** ● **SO-04 To facilitate the creation of a federated network)**										
● **A1.3**. Create improved content browsing and discovery functions decision tree, apps										**EXB (2023)**
● **A1.4**. Expand BP submission processes to include automated submission including review of document style and completeness										**EXB (2023)**
● **A2.3**. Expand enhanced search including semantic capabilities to accommodate broader range of disciplines, languages and cultures										**EXB**
● **A4.1**. Design a federation approach, to a global collection of independent methodology management systems										**EXB (2024)**
● **A4.2.** Develop a pilot demonstration of a federated system so that queries across partner systems enable access to best-practices methodology content hosted elsewhere										**EXB (2025)**
● **A4.3.** A process to identify, harness, and co-design cross-system technologies to detect gaps and opportunities for convergence in distributed ocean methodology holding										**EXB (2025)**

RP (UNESCOI/OC regular programme funding External Funding (EXB) (other than IOC funds) NDC = No Direct Cost for RP Budget (in-kind contribution or implemented by project staff)	2021 RP IODE	2021 IODE Project Office budget contribution	2021 RP GOOS	2021 EXB REC'D	2021 EXB TO FIND	2022 RP IODE	2022 IODE Project Office budget contribution	2022 RP GOOS	2022 EXB REC'D	2022 EXB TO FIND
WP4 (contributing to: SO-02 Convergence and Endorsement)										
● **A2.1**. Provide guidance to communities on process for endorsing BP / develop rigorous OBPS criteria for acceptance	**NDC**		**NDC**			**NDC**		**NDC**		
● **A2.2**. Work with the community to identify areas of convergence and support champions in creating converged BPs	**NDC**		**NDC**			**NDC**		**NDC**		
● **A2.5.** Increase contributions to the Frontiers in Marine Science: Research Topic Best Practices in Ocean Observation	**NDC**		**NDC**			**NDC**		**NDC**		
WP5 (contributing to: all)										
● **A2.4.** Host annual workshops (EXB rec'd EuroSea)				**6,000**	**EXB**				**2,000**	**EXB**
WP6 (contributing to: SO2 Community Engagement +)										
● **A2.4.** Expanded communication plans to broaden engagement of ocean communities in creation and use of BP		**3,000**					**3,000**			
WP7 (contributing to: SO-03 Foster community-led and equitable capacity development)										
● **A3.1.** Expand the OBPS portfolio of courses available from the Repository on best practice development and submission	**NDC**		**NDC**			**NDC**		**NDC**		

RP (UNESCOI/OC regular programme funding **External Funding (EXB) (**other than IOC funds) **NDC = No Direct Cost for RP Budget (**in-kind contribution or implemented by project staff)	**2021 RP IODE**	**2021 IODE Project Office budget contribution**	**2021 RP GOOS**	**2021 EXB REC'D**	**2021 EXB TO FIND**	**2022 RP IODE**	**2022 IODE Project Office budget contributio n**	**2022 RP GOOS**	**2022 EXB REC'D**	**2022 EXB TO FIND**
● **A3.2** Support external training and capacity development activities										**EXB**
● **A3.3** Engage formal and informal education institutions and sponsors to advance incorporation of best practices for ocean observing into education curricula	**NDC**		**NDC**			**NDC**		**NDC**		
	2021 RP IODE	**2021 IODE Project Office budget contribution**	**2021 RP GOOS**	**2021 EXB REC'D**	**2021 EXB TO FIND**	**2022 RP IODE**	**2022 IODE Project Office budget contributio n**	**2022 RP GOOS**	**2022 EXB REC'D**	**2022 EXB TO FIND**
TOTALS	**32,750**	**6,700**	**30,750**	**54,500**	**EXB**	**14,000**	**12,300**	**18,000**	**49,000**	**EXB**

*transfer of travel money in EuroSea for use on technology support on the EuroSea Best Practice submissions to the OBPS Repository (requested)