

OCEANOPS REPORT

PROGRESS ON 2021-25 STRATEGIC PLAN

WORKPLAN, BUDGET

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2021-2025 STRATEGIC PLAN

- 5 strategic goals to achieve OceanOPS vision, framing its activities and report to GOOS OCG.
 - Improving and focusing on core functions
 - Addressing evolving needs of the OO community
 - Identifying internal evolutions needed to achieve our vision

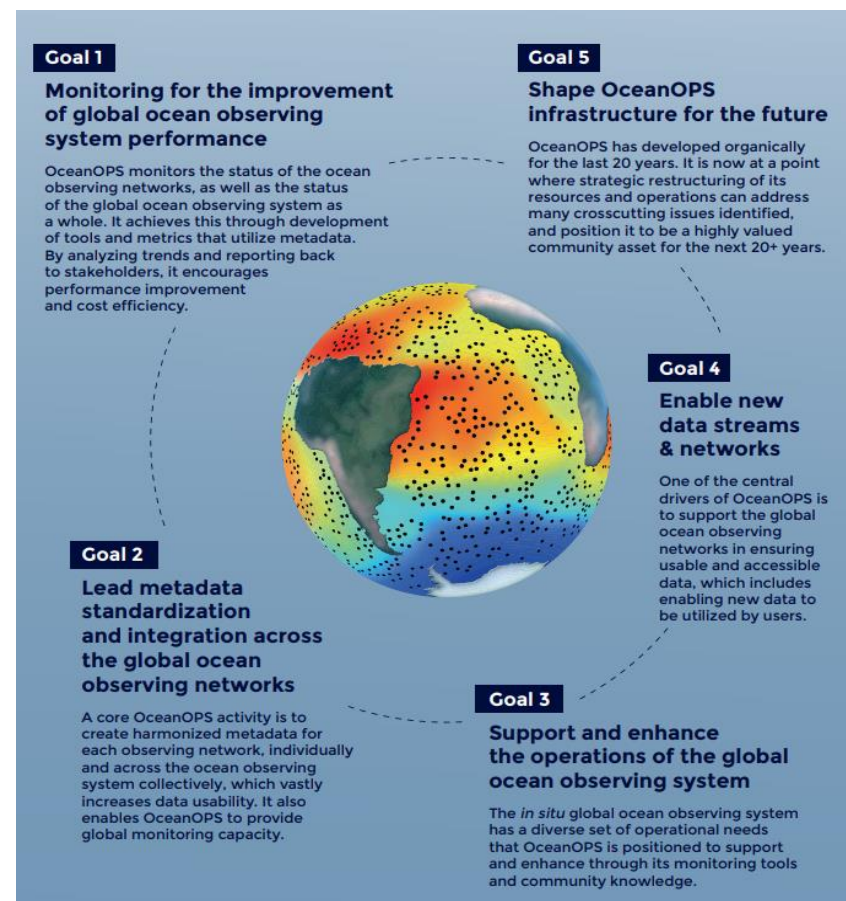
- OceanOPS is the “GOOS operations monitoring and support centre”

■ 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.

■ 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.



OVERVIEW ON STRATEGIC GOALS ASSESSMENT

- A productive year with progress on goals, and through a highly committed and motivated Team.

Strategic Goals	Achievements			OCG-14	Challenges/Workplan		Risks
	Years 21	22	23		24	25	
Monitoring	Regular reporting/monitoring , web, Report Card				Fixed platforms/MB/GLOSS, EOY KPIs, Bulletin, National reports, integrated website		Lack of I.T. resources
Metadata	Standard & API released/documented, ID allocation API/Web, metadata WIGOS sync (80%)				Fixed platforms/MB/GLOSS, WIGOS completion, API input, link to IODE		Miss operators' prioritization. Lack of I.T. resources
Operations	Web toolbox/notifications, basin coordination, MFP, Atlantic charter				QR codes on instruments, complete MFP synch to all Members		Share responsibilities for operations (charter, opportunities)
New Networks	OceanGliders, AniBOS, Med. Sea				Regional, HF Radars, IMDOS, BioEco, Odyssey, etc.		No much resources to follow up. OceanOPS & OCG expansion
Infrastructure	Most of positions stabilized, reduced budget fragmentation				Staff & budget stability, IT infrastructure, Host agreement, EU support		Flat budget. Few days of system downtime with migration/upgrade

MONITORING

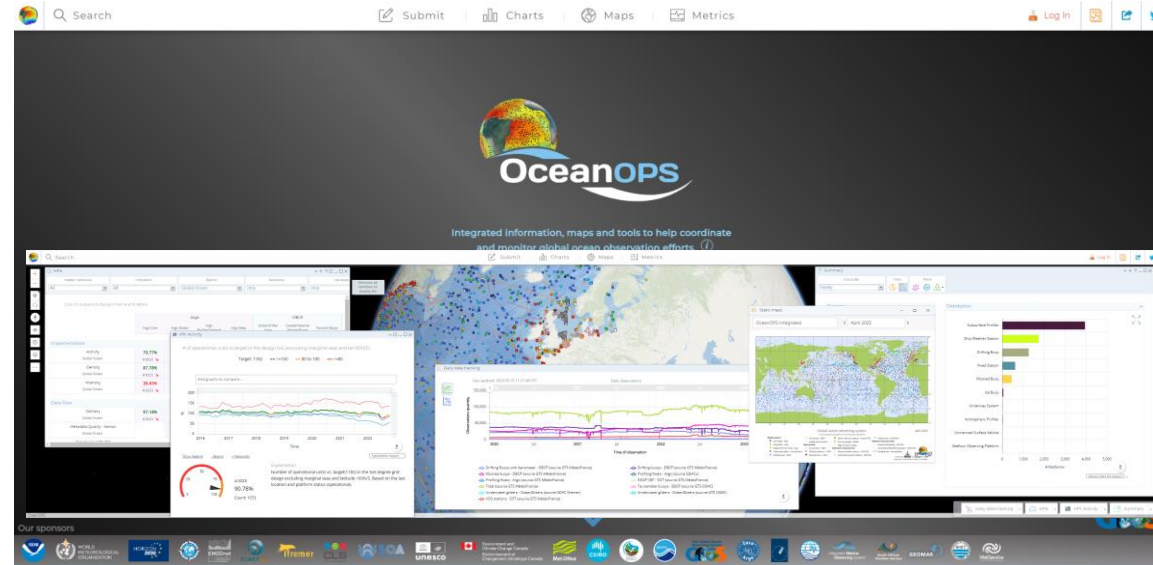
Goal 1

- Capabilities gradually improved, responding to evolving needs.
- Deliverables rationalized on the web developments, and in stable and routine reports.
- Regional/National monitoring and reporting capacity tested (EuroSea, SOT national reports) - to automate.
- EOV/ECV gap analysis tools development – postponed 2024/25 - need IT bandwidth

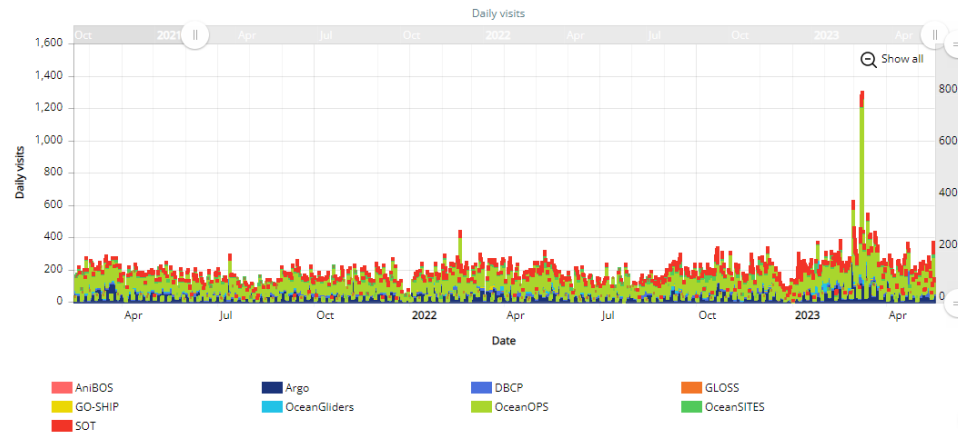
Objectives	Achievements			OCG-14	Workplan		Risks
	Years 21	22	23		24	25	
1.1 Tools & metrics for all OCG-networks	Web tools, maps & KPIs for each network				Improve fixed platforms monitoring tools. Introduce emerging networks		Lack of metadata. Lack of I.T. resources. Tools under-used
1.2 Report to stakeholders	Routine reporting to networks, governance, GOOS Report Card				OceanOPS Bulletin, national/regional reports generator		No planning / templates
1.3 System level metrics for monitoring	Integrated website				Integrate website functions (themes) EOV/ECVs metrics implementation		Lack of I.T. resources

MONITORING

- Asks for OCG:
 - Each Network to regularly work with web tools, maps and KPIs and feedback.
- OceanOPS has capabilities to support co-design and RRR processes but no much bandwidth to develop the gap analysis tools
 - Major upgrade of our architecture to handle millions of observations
 - Development of an interactive interface to analyze EOv/time/space/depth/quality vs applications target
- Any feedback on:
 - National/regional reporting generator (Networks, GRAs, GOOS NFP)
 - [Report Card](#)
 - [Bulletin](#) (see extra slide for content)

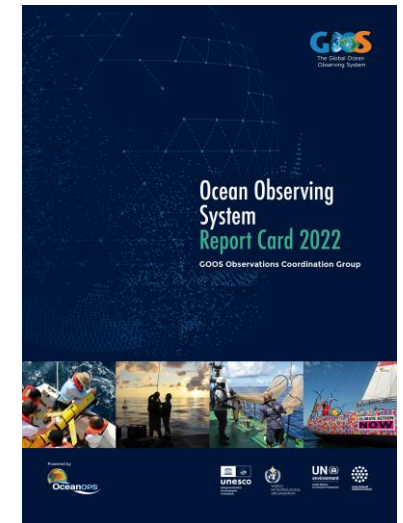


OceanOPS dashboard offers many tools for monitoring ... some under-used and offering a big potential for emerging network for a small adaption cost.

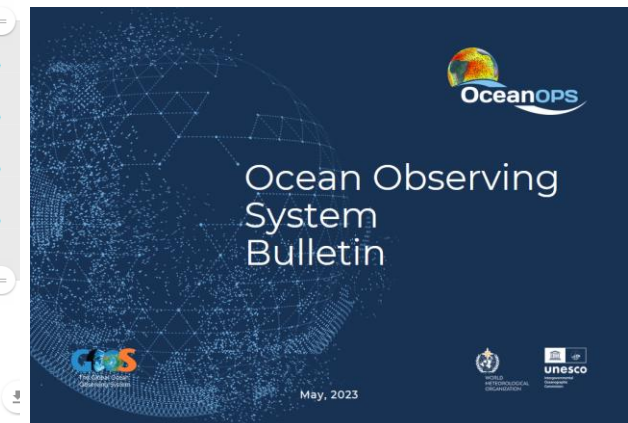


OceanOPS dashboard has a regular audience

Highlights



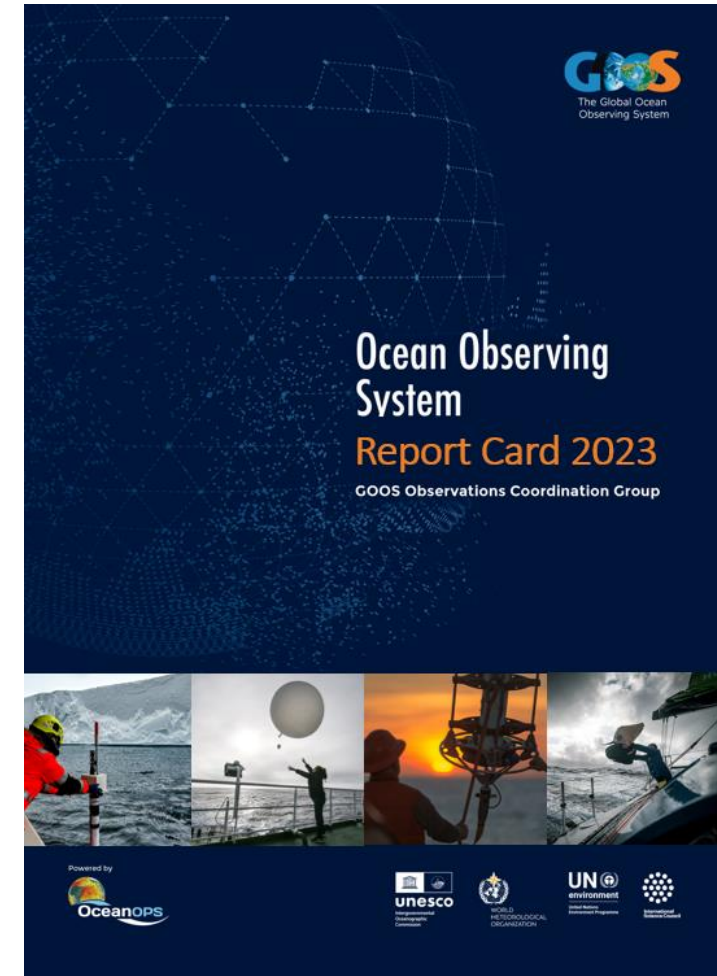
From OceanOPS to GOOS report Card



OceanOPS new semestrial technical bulletin

REPORT CARD 2022-23

- **Report Card #6** published Sept 2022, and first truly cross-GOOS (see logos change)
- >2,000 visitors from >100 countries consulted the new interactive web version since publication. web release, video, social media, mail.
- Report Card 2023 plan (September):
 - New topical stories to illustrate cross-network/cross-GOOS integration:
 - Marine heat waves, Safety at Sea, Seagrass
 - Community collaboration & capacity development stories
 - Cyclone forecasts Co-Design exemplar
 - Continue developing the interactive map and improving the network status table (see slide #10)
 - Highlight Networks contribution to WMO application areas (in web version ?)
- Production cost (without FTE involved) is rather low (15k\$) but challenging to secure with tight budget.
- Please get involved and send recent photos of your operations



METADATA

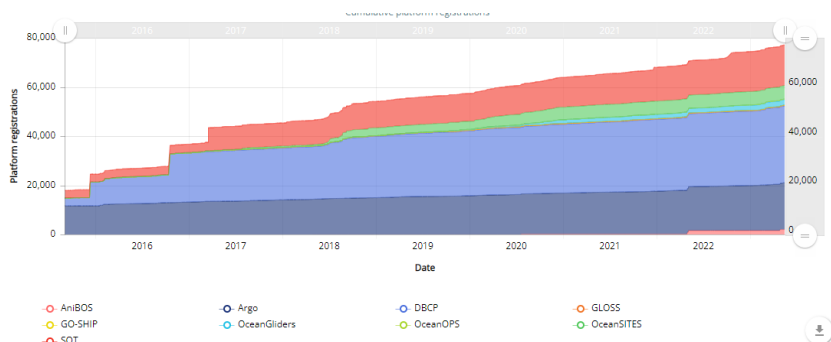
Goal 2

- Metadata "gathered" by OceanOPS are key for monitoring and decision making, and greatly enhance data value for users.

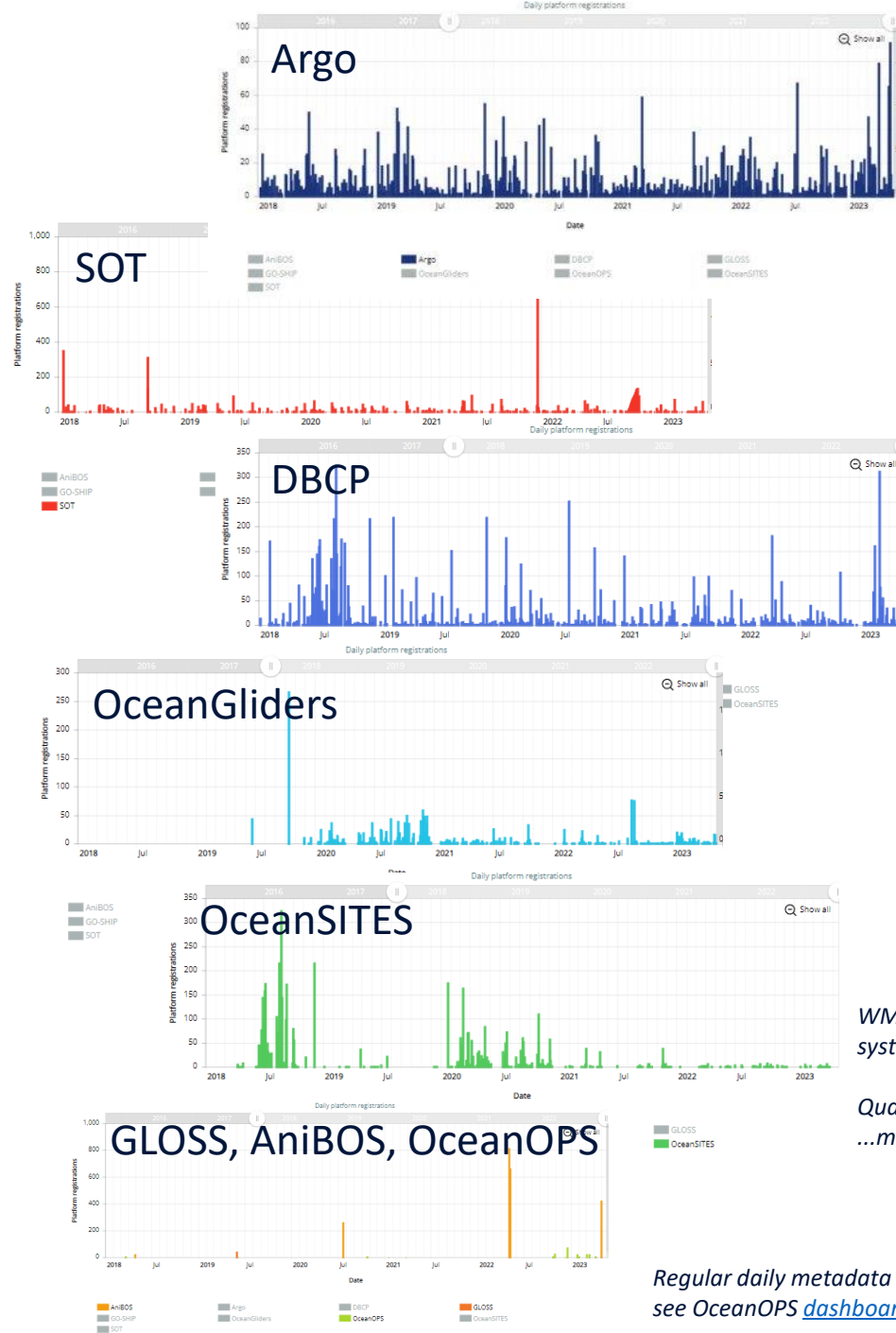
Objectives	Achievements			Workplan		Risks
	Years 21	22	23	24	25	
2.1 Standard and BP for metadata harmonization	Metadata standard released - evolving			Reviewed by MB TT – to be continued on all fixed systems – improve GO-SHIP		Operators inputs to finalize standard. Lack of IT resources
2.2 M2M web services metadata exchange and access	Output API (WIGOS compliant) API for WIGOS id allocation			Input API, more formats (JSON), ontologies		Lack of I.T. resources
2.3 Harmonized & high-quality metadata standard	Argo (Core, Deep, BGC), OceanGliders SOT, GDA, TMA, some fixed platforms			DB (sensors), MB (beyond TMA), OceanSITES, GO-SHIP, AniBOS, GLOSS, HF Radars		Operators to adopt standard and deliver metadata
2.4 Assist user on data access and available data services	Routine activity. Data mapping, OCG roundtables			OCG Data Strategy, federated/integrated data/metadata access		Unable to respond to growing needs
2.5 Connect OceanOPS with IOC and WMO data systems	82% of operational platforms synch with WIGOS. Link to GTS data			WIGOS std to be completed and improved - link to IODE to be discussed		Lack of bandwidth to discuss with IODE

METADATA

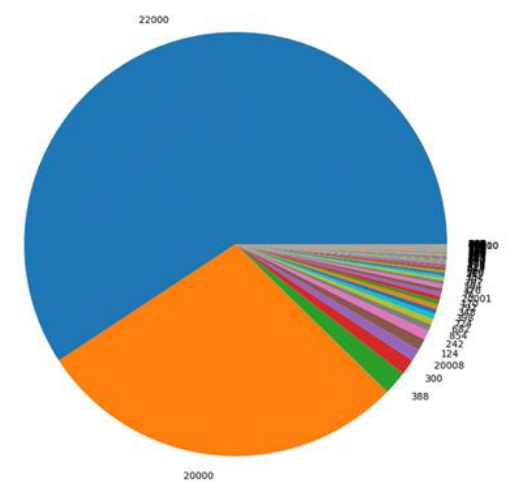
- 82% of the 8,000 operational platforms qualify to WMO/OSCAR and are routinely synchronized
- 20 % for the historical database



Cumulative metadata flow into OceanOPS – 80,000 platform records



Achievements: quantitative



WMO/OSCAR full database [distribution](#) across all earth monitoring system domains – 22,000 is coming from OceanOPS.

Quality improvements required: sensors accuracy, stability, ...multiple contributors' management (sensors, ship time, etc.)

Regular daily metadata update by network
see [OceanOPS dashboard Metrics/System Usage](#)

- 308 programmes (having operational platforms) contribute metadata to OceanOPS!
- Operated by 69 Agencies (20 % missing - agencies database being completed)



METADATA

	A - ID	B - PROG.	C - OP.	D - SENSORS	E - OTHER	α	SCORE	COMMENT
Argo	20	20	20	20	15	100%	95	near perfect.
Tropical Moored Array	20	20	20	20	15	100%	95	near perfect.
VOS	20	20	15	15	10	90%	72	on track. light progress needed on operations, sensors, and others.
ASAP	20	20	20	5	5	100%	70	missing sensors, others
Global Drifter Array	20	15	15	10	15	90%	68	progress needed on sensors (mostly generic) - some programs to clean up
SOOP - XBT	20	20	20	15	5	80%	64	missing some sensors, others
OceanGliders	20	20	15	15	5	80%	60	on track. light progress needed on operations, sensors, and others.
Tsunameters	20	20	10	15	10	80%	60	missing operations, additional sensors, others
GO-SHIP	5	20	20	5	0	100%	50	need stations/platforms and sensors/variables (beyond cruises)
Coastal/Ntl Moored Buoys	20	20	5	10	5	50%	30	missing operators inputs (50% ?) - progress needed on sensors (mostly generic)
OceanSITES	10	20	12	15	5	30%	19	no inputs from 70% of operators
AniBOS	10	5	5	5	0	30%	8	starting & progress anticipated
GLOSS	0	5	0	0	0	100%	5	no inputs (only one-off for report card)
HF	0	5	0	0	0	100%	5	no inputs (only one-off for report card)

■ OceanOPS is stabilizing a metadata scoring system.

- to implement the related metrics/indicators.
- to check OSCAR quality flags as well.
- To monitor sync means (web, m2m, etc)

■ The report card rating is broader and might not be fully adapted

■ To phase with OCG Data strategy

■ New reportcard scoring to be finalized

■ Add line for TMA (not mixed up with NTL MB)

■ New scores: OceanSITES -, Tsunameters +, GLOSS -, HF -, MB +/-)

OceanOPS metadata score including:

quantitative factor: do we monitor all Panels/Steering team operators' platforms ?

qualitative factor: are mandatory metadata made available (vs standard) ?

$$\text{score}/100 = \frac{(A+B+C+D+E) \times \alpha}{100}$$

GOOS in situ networks ¹		Implementation STATUS ²	REAL TIME ³	DATA & metadata ARCHIVED DELAYED MODE ⁴	META-DATA ⁵	Best practices ⁶	GOOS delivery areas ⁷		
							OPERATIONAL SERVICES	CLIMATE	OCEAN HEALTH
Ship based meteorological - SOT		★★☆	★★☆	★★☆	★★☆	★★☆			
Ship based oceanographic - SOT		★★☆	★★☆	★★☆	★★☆	★★☆			
Repeated transects - GO-SHIP		★★☆	Not applicable	★★☆	☆☆☆	★★☆			
Sea level gauges - GLOSS		★★☆	★★☆	★★☆	☆☆☆	★★☆			
Time series sites - OceanSITES		★★☆	Not applicable	★★☆	★★☆	★★☆			
Moored buoys - DBCP		★★☆	★★☆	★★☆	★★☆	★★☆			
Tsunami buoys - DBCP		★★☆	★★☆	★★☆	☆☆☆	★★☆			
HF radars		★★☆ Emerging	★★☆	☆☆☆	☆☆☆	★★☆			
Drifting buoys - DBCP		★★☆	★★☆	★★☆	★★☆	★★☆			
Profiling floats - Argo		★★☆	★★☆	★★☆	★★☆	★★☆			
Deep & biogeochemistry floats - Argo		☆☆☆ Emerging	★★☆	★★☆	★★☆	★★☆			
OceanGliders		☆☆☆ Emerging	★★☆	☆☆☆	☆☆☆	★★☆			
Animal borne sensors - AniBOS		☆☆☆ Emerging	★★☆	★★☆	☆☆☆	★★☆			

This score is based on 3 categories which can be rated 0 to 1 each (i.e. score 0-3)

- Metadata made available to OceanOPS according to its [standard](#)
- Metadata are transmitted machine2machine
- Networks serve additional metadata beyond OceanOPS

METADATA

■ Asks for OCG:

- Priority – Responsiveness – Engagement from Networks & Operators
- Communicate on benefits (integration, quantity, quality, coordination tool, visibility of system and components, interoperability, efficiency/optimization, reporting capacity, etc.)
- Engage further with GLOSS and new/emerging Networks
- Go beyond generic sensors (brand, serials, specs, etc.) - quality criteria
- Any format/protocol, any initial provision of metadata will help - flexibility

■ Recipe for success:

- Fit for purpose tools (for operations, planning, monitoring) gathering metadata gradually along platform lifecycle (see extra slide)
- "Mandatory" requirement in the network, in OCG (attributes and Data Strategy, in WMO/IOC decisions and resolutions (JCOMM/INFCOM, IOC XX-6)
- Progress evaluation
- Collective thinking and ambition to give body to the GOOS

Highlights




Ensures metadata quality and delivery - Complete platform metadata is submitted to OceanOPS in a timely manner.

Metadata

- OCG-R7.** Networks shall have a defined uniform metadata content that includes at least the minimum OceanOPS requirements.
- OCG-R8.** Metadata shall be based upon a well-documented community standard, including a persistent WMO/WIGOS identifier and use controlled vocabularies.
- OCG-R9.** Metadata shall be exchanged with OceanOPS utilizing machine-2-machine services and avoiding multiple redundant manual transmissions.

OCG Networks Attributes & OCG Data Strategy recommendations



API documentation

last published: 20230113-1318

- About the API
- Version details
- Concepts & API organisation
- Vocabularies
- Entities Access

About the API

General information


OceanOPS Web Service API is a REST API designed to disseminate information, to integrate other software (usually und distributed by this API version (V1.10)) are in two corner

Terms of use

This API is primarily dedicated to the GOOS community oceanographic and meteorological communities, not to t

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The information provided through this API may be free commercial purposes, provided that any reproduction accompanied by an acknowledgement (credit, link) of information requires permission from OceanOPS and ops.org.



Metadata documentation

last published: 2023-09-22

1. Background

This documentation describes the standard metadata managed and required by OceanOPS to support efficiently with Global Ocean Observing System (GOOS) Observation Coordination Group (OCG) networks implementation and enable an integrated perspective on the GOOS. OceanOPS 2020-2025 strategy (plan) goal 42 is to "Take metadata standardisation and integration across the global ocean observing network", including the following objectives:

- 1.1 Set and disseminate the standard and best practice for metadata harmonisation
- 1.2 Develop the web service required for metadata exchange and access
- 1.3 Provide a harmonised and high quality standard of metadata across networks
- 1.4 Build upon data access and available data service
- 1.5 Connect OceanOPS services with IOC and WIGOS international systems

This documentation will address the part of this strategy plan and in particular objective 1.1 and 1.2.

This modelling is built upon each network specific requirements, enriching gradually an integrated perspective and connecting as far as possible the metadata standards (such as WIGOS Metadata Representation (WIGOS or WIGOS-MR)) These metadata are required to perform two functions essential to the observing networks and managed by the Joint Technical Commission for Oceanography and Marine Meteorology as its 2020 strategy:

- The allocation of unique WIGOS/OCG identifiers to each metadata-producing platform (Decision 25)
- The online and integrated submission of WIGOS compliant metadata to the WIGOS Observing System Capability Analysis and Review system (OCAR) (Decision 30)

The latter elements are part of the "Global metadata" provided by OceanOPS Information System and will be covered in another documentation. The "Global metadata", specified in a later section, are the foundation of OceanOPS Information System, its web-based dashboard API and resulting services. They come from implementers, directly related to the observing networks data/metadata flows when they are operational and phased with OceanOPS requirements.

These metadata integrated into OceanOPS are also key from networks and operator's perspective. They allow visualization, communication, reporting, performance analysis, planning, quality control, feedback from users to producers, discovery of system capabilities, documentation and implementation of new data sets. They are essential for the activity of the observing network and its national or institutional contributions.

Any suggestion or comments are more than appreciated, please email them at metadata@ocean-ops.org or submitted as a new discussion on the dedicated [GitHub repository](https://github.com/ocean-ops/metadata).

2. Concepts

2.1. Introduction

As the number of information systems is growing as well as networks metadata specifications are defined, it is important to clearly define the concepts being used within the OceanOPS system and relationships between these concepts. This section might thus evolve regularly based on new systems integration or evolution of the ones already covered.

Please note that to set up an integrated system, OceanOPS had to pick default terms to name the different concepts in the integrated perspective. These default terms are not definitive and might not suit every purpose or view. Thus the need to specify them here and to improve them when needed. Axioms can be however, defined for downstream network specific services (like a web interface), so networks are encouraged to base with the OceanOPS team to request such axiom.

Metadata standard and API documented

www.ocean-ops.org/metadata & www.ocean-ops.org/API June 2023

OPERATIONS

Goal 3

- The international and technical coordination delivered for operations is a major efficiency factor.

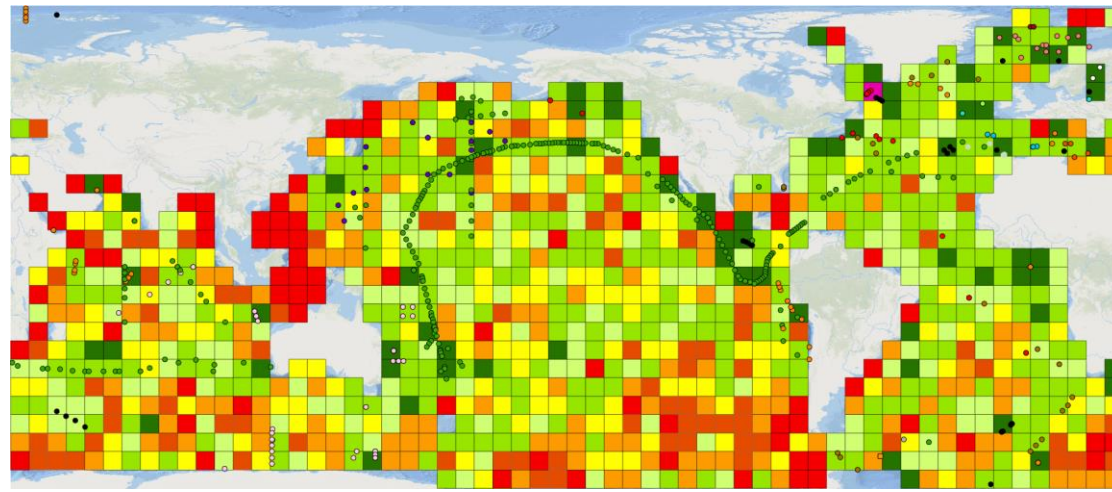
Objectives	Achievements			Workplan		Risks
	Years 21	22	23	24	25	
3.1 Support planning of operations	Regular basin-based roundtables/reports, tools for planning, EEZ notifications			Expand roundtables (basins, networks), improve web tools		Lack of collective thinking for networks using ships
3.2 Develop partnerships and pilot project to facilitate deployment and retrieval of instruments	On going work: academic/sailing/shipping/... opportunities/charter			OceanOPS as hub storing instruments ready for deployment. Donor programmes. SOFF specs. Odyssey new partners potential		Shared responsibilities for deployments. Odyssey stuck – no resources
3.3 Promote standard and BP on instruments	Unique IDs for cruises, Best Practices for EEZ / recommendations for global/regional			Sticker/QR code pilot/mobile app. Introduction of metadata standard at manufacturers		Manufacturers not fully involved
3.4 Maintain web-based services to facilitate routine platform operations	IRSO/MFP pilot achieved for UK			Being expanded. Countries not using MFP consulted. Improve web tools for planning.		Lack of monitoring of R/V schedules through authoritative sources

OPERATIONS

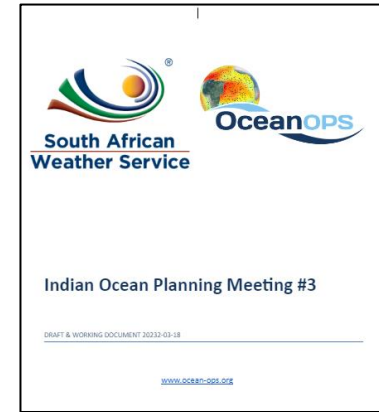
- Asks for OCG:
 - Each Network to use OceanOPS for planning activities (enable synergies) when applicable.

- Recipe for success:
 - Monitoring + planning + dep. opportunities + roundtables = improve coverage
 - Tools fit for operators help to capture metadata (need improvements for autonomous and fixed systems)

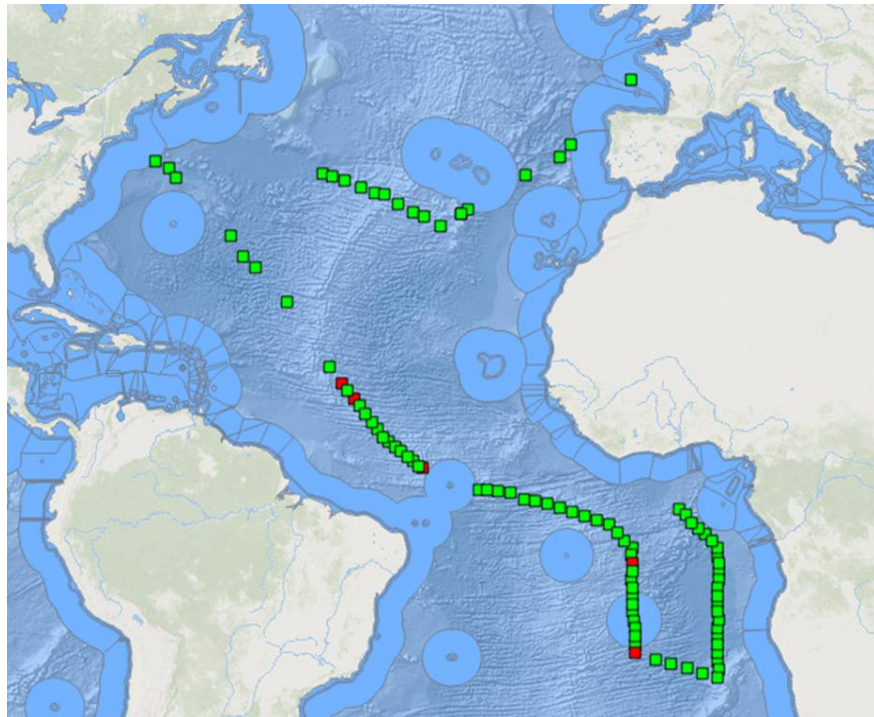
- Future work: OceanOPS as a tool to facilitate MSR clearance processes (standard forms, regional plans sent to coastal states)



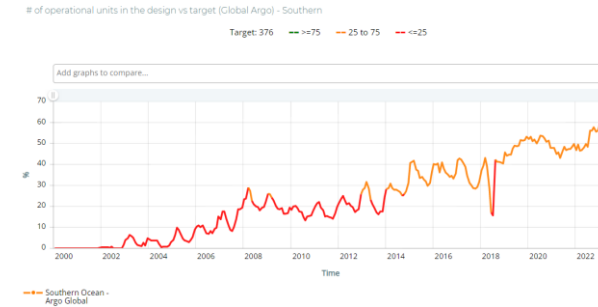
Argo floats density before and after planning



Example of basin-based meeting report



IRIS (Blue Observer) cruise 2021-22 organized by OceanOPS – note how operators avoid EEZs when there is no facilitated access.



Growing Argo activity in SO...

NEW NETWORKS

Goal 4

- The expanding of OceanOPS to new networks must be phased with OCG expansion ... and new resources.

Objectives	Achievements			OCG-14	Workplan		Risks
	Years 21	22	23		24	25	
4.1 Provide basic services to emerging networks	OceanGliders, AniBOS, SOOP TSG, F/V initial discussions with GLOSS (EuroSea)				GLOSS, HF Radars, ship underway (CO2), BioEco, IMDOS, etc.		No financial support – hard to follow up
4.2 Pilot supporting third-party project	Odyssey launched at Brest One Ocean Summit				Odyssey on hold – Huge potential Strategy needed to approach shipping industry cohesively (MAERSK, CMA-CGM, etc.)		No investments, fragmented approach
4.3 Provide services to regional networks	Focal point established in Med. Sea Participation through projects (EuroSea), regional support (GRASP, EuroGOOS, WMO)				To pilot decentralized OceanOPS node. To promote services to regions (GRAs)		Coastal system high diversity vs means

NEW NETWORKS

Goal 4

■ Asks for OCG:

- Which priorities/guidance for new networks ?
- Include OceanOPS in projects (beyond EU)
- Need discussions with ship experts to strategize and prepare one clear ask (OCG/SOT).
Ground prepared for Maersk, CMA-CGM, Ponant, MSC
- Help find resources to drive Odyssey (UN Decade project part of GOOS Co-Design)

■ High Priority:

- **Networks funding OceanOPS**
- **Shipping industry**



INFRASTRUCTURE

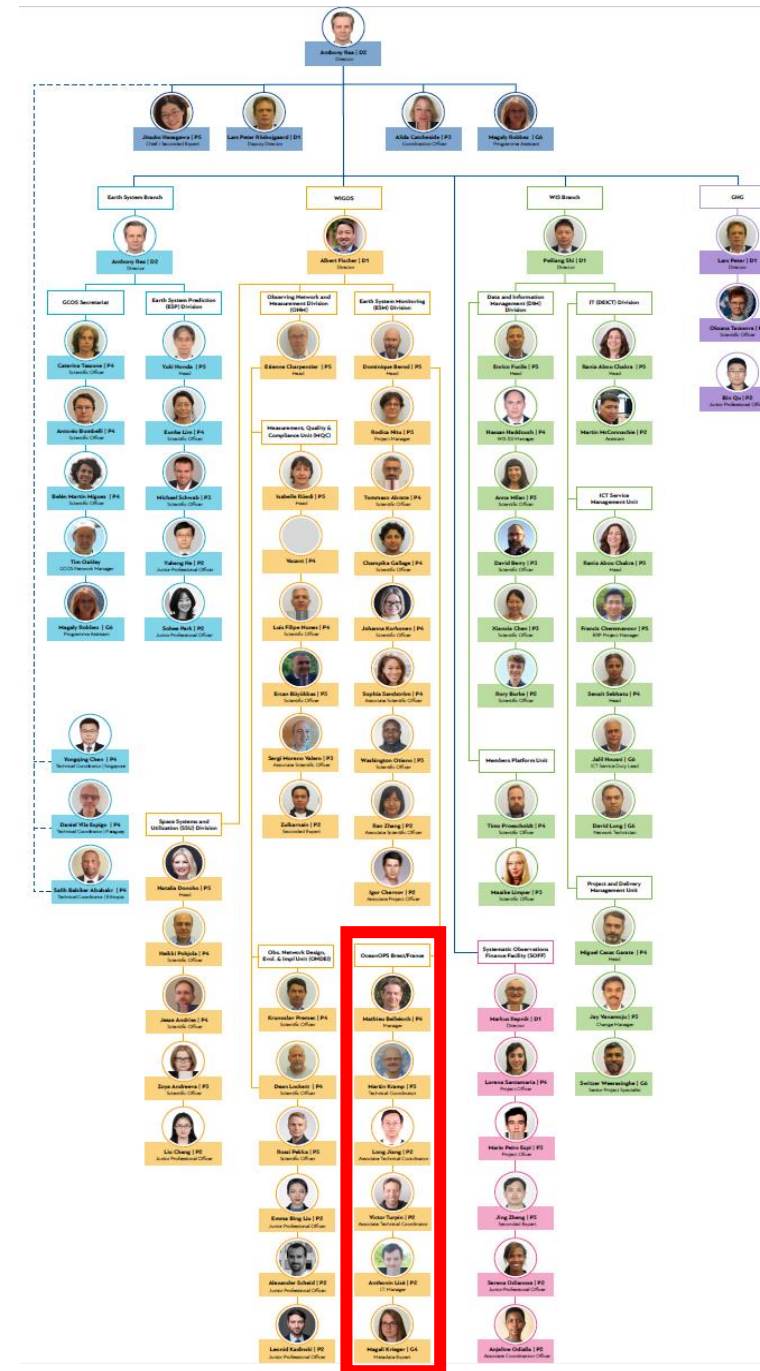
Goal 5

- Infrastructure was strengthened but some important challenges remain on all objectives.

Objectives	Achievements			Workplan		Risks
	Years 21	22	23	24	25	
5.1 Develop agreement with OCG networks and other stakeholders to set boundaries and expectation from OceanOPS	Not done formally			Not formalized – question for OCG – new networks’ role ?		No formalism or overkilling formalism
5.2 Strengthening infrastructure in host country, workforce and budget	Core workforce strengthened. Discussions with host started			Country agreement (WMO-France) I.S. migration to Ifremer – to formalize Joint strategy Ifremer/ OceanOPS		Miss opportunities with host country and EU – Budget not increased
5.3 Evolve business model, team structure and funding toward integration	Team structure and staff roles clear, stabilized – tight budget well managed			Redirect all funds to WMO. Gain new sponsors		Staff turnover Cut on travel/development/staff
5.4 Enhance communication to foster community understanding	Rebranding, Strategy, deliverables OceanOPS (and WMO) visibility raised			Communicate OceanOPS value and/or keep improving deliverables and services. Clarify OceanOPS position within GOOS.		Fragmentation/confusion of coordination efforts and mechanisms

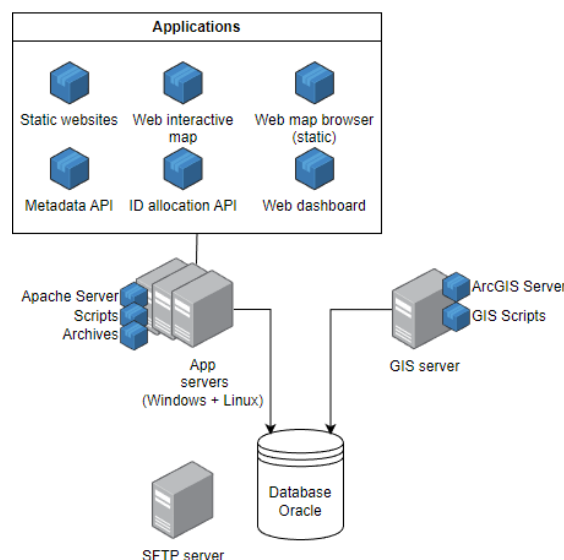
STAFF: 8-9

- 7 people in Brest:
 - 6 hired through WMO/Infrastructure Department/ Earth System Monitoring Division
 - 1 hired through IOC/UNESCO
- 1 focal point in Monaco – hired through IOC/UNESCO
- 1 web developer consultant in Toulouse – outsourced
- See extra slides on OceanOPS organizational chart present/future



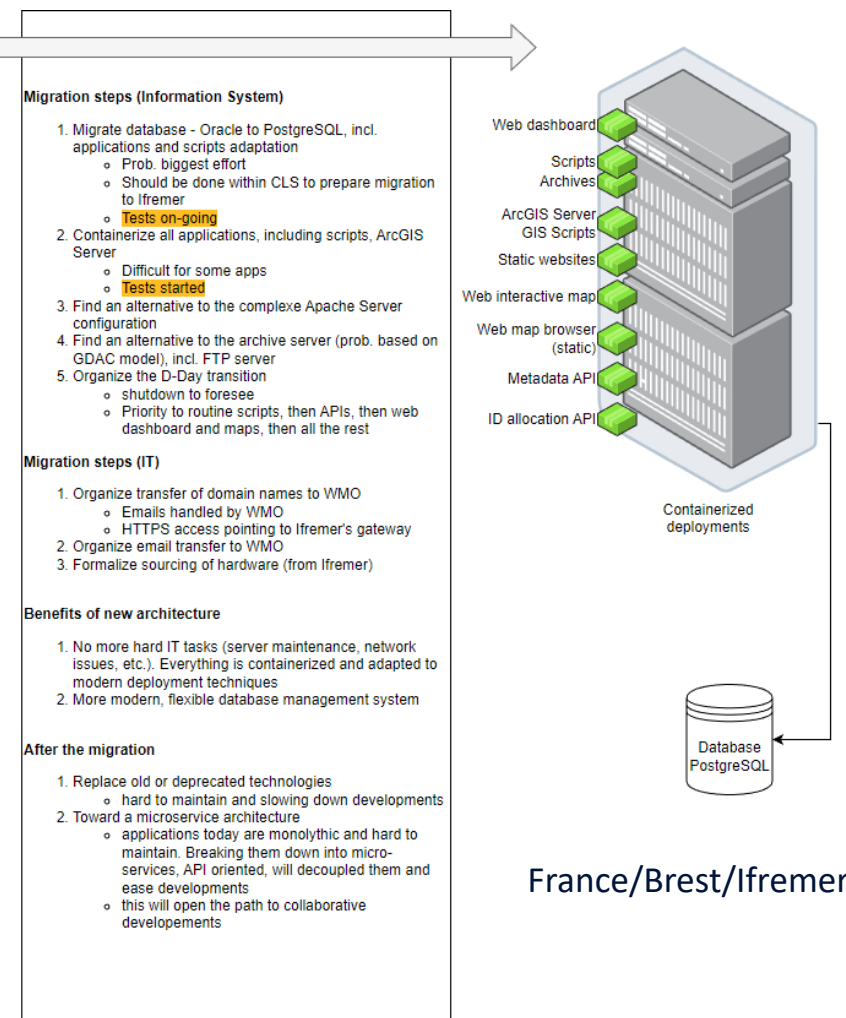
INFRASTRUCTURE

- Every decade needs a major upgrade of IT architecture
- Challenges
 - Technical (many)
 - Contractual (to renew)
 - Financial (savings ?)
 - Timing (2023)
- Emails, www domains, softwares: WMO
- Hardware (desktop): Ifremer
- Hardware (servers): Ifremer
- Benefits
 - Modernization, robustness, modularity, sustainability, ..
 - Closer connection to a major data processing/distribution hub
 - Prepare future collaborative development (decentralized developers pool)



France/Toulouse/CLS

I.T. architecture – migration/upgrade plan

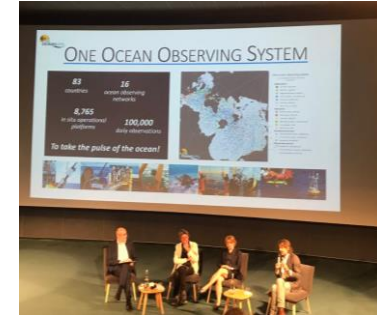


France/Brest/Ifremer

INFRASTRUCTURE

- Many meetings, conferences
- Many publications:
 - Technical reports for global networks
 - EU projects reports
 - High-level reports for governance and external stakeholders
 - Contribution to network newsletters
 - Contribution to peer-reviewed publications
- A few articles, videos and press releases in mass medias from innovative operations with civil society

→ TO PROMOTE THE WORK OF GOOS AND SUPPORT ITS IMPLEMENTATION



2022 FINANCIAL REPORT

- **899K\$ received**, vs 805K\$ in 2021, 900K\$ in 2020, and 1M\$ in 2019
- **Stable overall budget** (1.3M\$ including carry forward)
- **Total expenditures slightly decreased** (872K\$)
- **Positive balance at the end of the year** (471 K\$)

2022 Highlights:

- Strong WMO investment in OceanOPS (322K\$)
- Regular national contributions decreased from 699K\$ in 2020 to 558k\$
- NOAA contribution decreased from 475K\$ in 2020 to 372K\$
- EU Projects ending (received only 7K\$ from TRUSTED Project/HRSST drifters, and 10K\$ EuroSea)

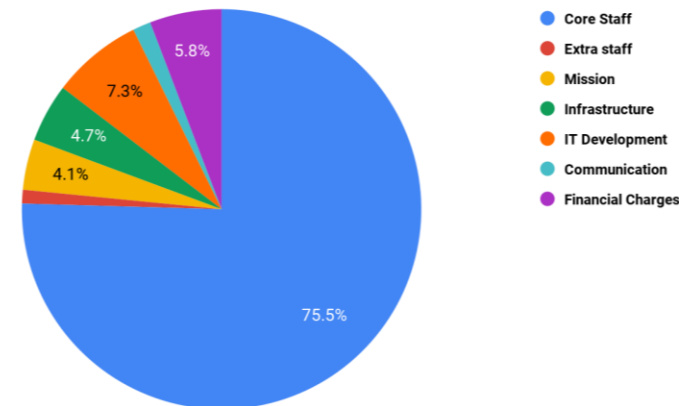
Remarks & recommendations:

- **OceanSITES, OceanGliders, GO-SHIP, DBCP and SOT are encouraged to increase and diversify the sources of their contributions** (target ~120 k\$/year, see [2021 OCG report](#)) to help OceanOPS to sustain its support to Networks.

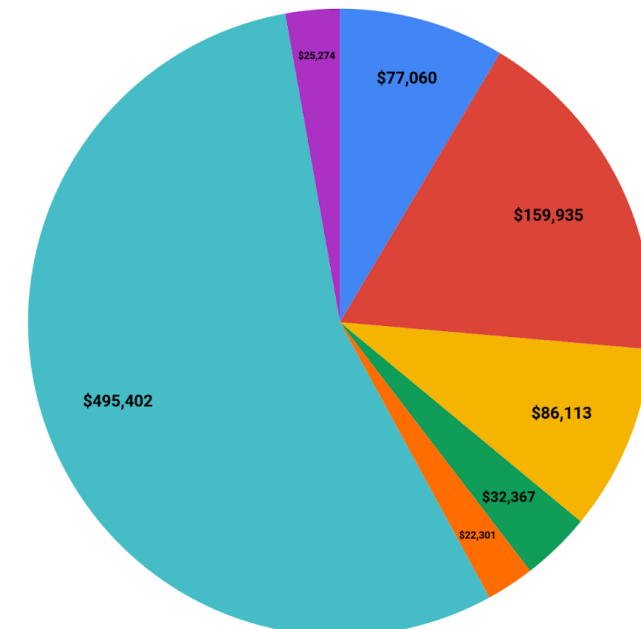
2022 OceanOPS Total Contributions by Countries + EU Projects



2022 OceanOPS Expenditures



2022 Contributions by Networks (including EU Projects contributions)



INTERIM BUDGET

2023

- **Expected overall budget (1.5M\$)**
- **Expected expenses (1M\$)**
- **Positive balance at the end of the year 2023**

- **2023 Highlights:**
 - Budget increasing due to:
 - Last payment of EU Projects (EuroSea, Euro-Argo RISE, TRUSTED)
 - Delayed committed contributions from Monaco (to sustain BGC-Argo/Med Sea position) and EMODnet
 - 2 new EU Projects lasting for 2 years (GROOM II gliders, Euro-GO-SHIP)
 - Expenses increasing due to:
 - New BGC-Argo Coordinator recruitment, IT Engineer moving from CLS to WMO, as well as salaries increase due to inflation
 - Travel budget increasing even if the ambition is to keep it to the strict minimum
 - Web developments reduced to 3 months with ¾ FTE to make necessary maintenance and small evolutions, but this doesn't enable any major development

- **Remarks & recommendations:**
 - All funds historically received at IOC and at CLS are transferred to WMO in order to continue stabilizing and upgrading key resources at WMO, and achieve the goal 5 of the OceanOPS strategic plan
 - **OCG and networks help OceanOPS raising funds to fully accomplish its mandate and strategy, and be fully operational to support Networks**

ANTICIPATED BUDGET

2024

- **Expected overall budget (1.4M\$) and expenses (1M\$) will be stable.**

- **2024 Highlights:**
 - Several challenges will arise as current EU Projects funds will be exhausted, but new projects might be granted
 - Main challenge is to stabilize and upgrade remaining staff positions, to respect a minimum of balance and fairness in the team, and align their contract with experience and seniority:
 - Communication/admin. officer position should be “transferred” to WMO and upgraded to P2 level
 - Ship Coordinator position upgraded from P2 to P3 (currently on hold/postponed)
 - These changes are feasible with our current budget and carry forward, but not sustainable (from 2025) without any more resources. This scenario, without any fund increase, shows that we will start eating our carry forward.

- **Remarks & recommendations:**
 - Sustain core staff is a top priority
 - Travel budget, web developments and communication activities will be decreased to the very strict minimum
 - **We will absolutely need to find additional and regular 100 K\$ in 2023/2024 to enable remaining staff changes and 200 k\$ more to fully implement our plan (i.e.: 300 k\$/year) and not rely on projects (see OceanOPS generic/ideal budget)**
 - In other words, we need to find sustained resources to complement extra projects incomes (fundamental for now to sustain our activities)

See full financial report on-line: file:///C:/Users/erusciano.GROUPCLS/Downloads/OCG14_OceanOPS_FinancialReport_2023-1.pdf

FUND RAISING

Strategy

- Host country (regional, national, institutional) - modest (5%) but stronger potential.
- Europe – demanding and potential – risk: reinvent the wheel with another "Euro-OceanOPS"
- WMO capabilities – already proven but more potential ahead
- IOC and GOOS central office progress – advance together (first request prepared to IOC Member States)
- Cooperation with third-parties (industry/Odyssey) - need investment and discussions (SOT central) and high-level meetings
- OCG criteria ? Fee on membership ?

CONCLUSION

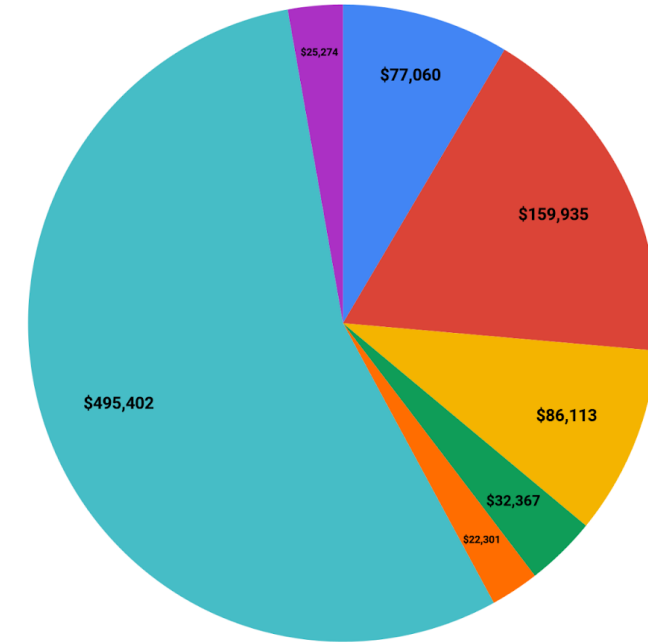
- The strategic plan provided the required clarity for our role, and a frame to guide our work.
- At mid-course, we implement our strategic plan with tangible progresses on all objectives.
- Given our resources, some questions remain (EOV metrics, new Networks, third-parties) and developments are postponed.
- With a little funding push, we could fully complete our plan and start a next ambitious phase along the decade.
- Projects funding are absorbing the flat or decreasing network contributions and jeopardize our developments/innovation
- Day to day cooperation with GOOS central office and IOC/UNESCO is key for our work. Strong teamwork.
- WMO's investment in OceanOPS and the integration of the Team into its Infrastructure Department/Earth System Monitoring Division is to be commended and offers great opportunities (GBON, RRR, SOFF, Public-Private partnerships, regional connections, etc.).
- We must formalize our hosting conditions in France and request further support (EU, national, regional, institutional). We need to write down our common roadmap with Ifremer to move forward together for the GOOS.

DISCUSSION

- Networks to contribute to OceanOPS through:
 - **Funds** – Networks balance unsatisfactory – **How to resolve this ?**
 - **Metadata** – **Why some networks/operators are not responsive ?**
 - **Use and feedback on our web tools/KPIs** (dedicated task teams in Networks)
- **OceanOPS is slowly expanding beyond OCG networks** (coastal, R/V, GRAs) and has strong demand from GOOS-SC to continue in this direction (BioEco, IMDOS, etc.).
 - **How do we prioritize ?**
- Any other priority for the workplan ? Any objection ? Any recommendation ?

2022 Contributions by Networks (including EU Projects contributions)

● DBCP
 ● Argo
 ● SOT
 ● OceanSITES
 ● GO-SHIP
 ● OceanOPS
 ● OceanGliders



Even when we combine networks support (DBCP/OceanSITES e.g.) the level of funding is insufficient to cover 1 FTE (and even less travels, inflation, share costs of the common infrastructure ...).

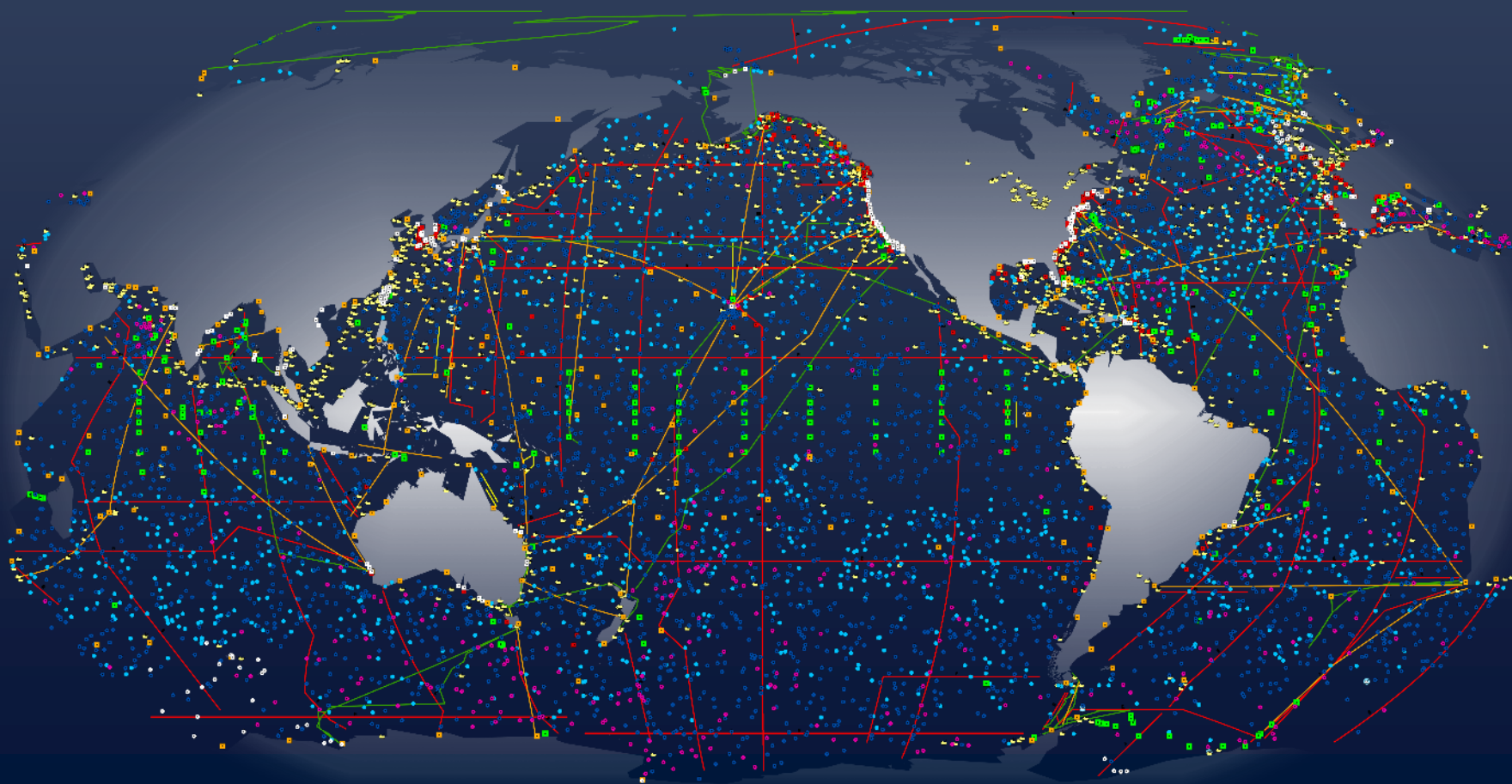
What do we do ?

	α	SCORE
Argo	100%	95
Tropical Moored Array	100%	95
VOS	90%	72
ASAP	100%	70
Global Drifter Array	90%	68
SOOP - XBT	80%	64
OceanGliders	80%	60
Tsunameters	80%	60
GO-SHIP	100%	50
Coastal/Ntl Moored Buoys	50%	30
OceanSITES	30%	19
AniBOS	30%	8
GLOSS	100%	5
HF	100%	5

Спасибо
Thank you
Gracias
Merci
谢谢
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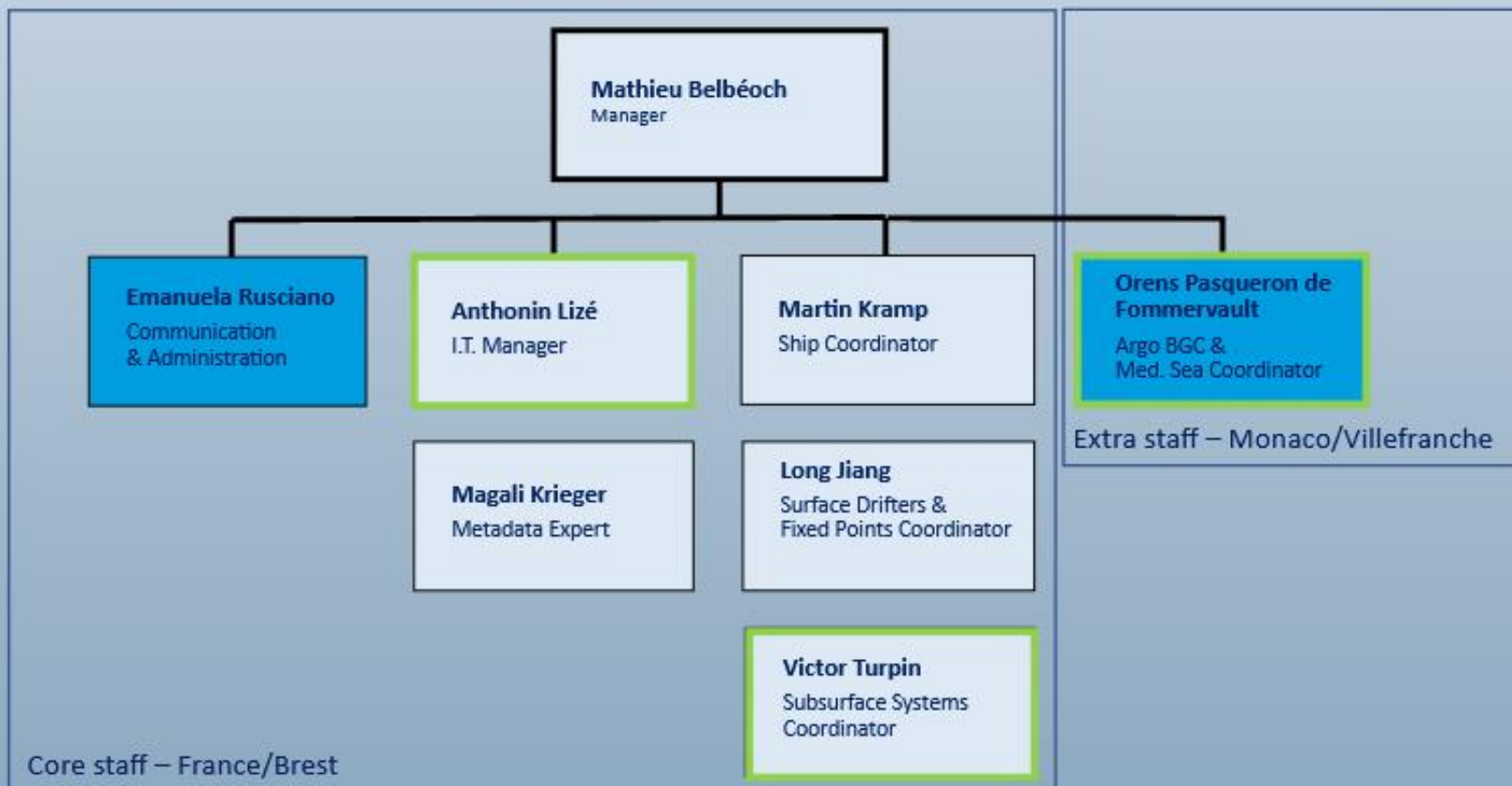
support@ocean-ops.org



API/web: request IDs, upload/download metadata (CSV, XLM WIGOS compliant, NetCDF, JSON)

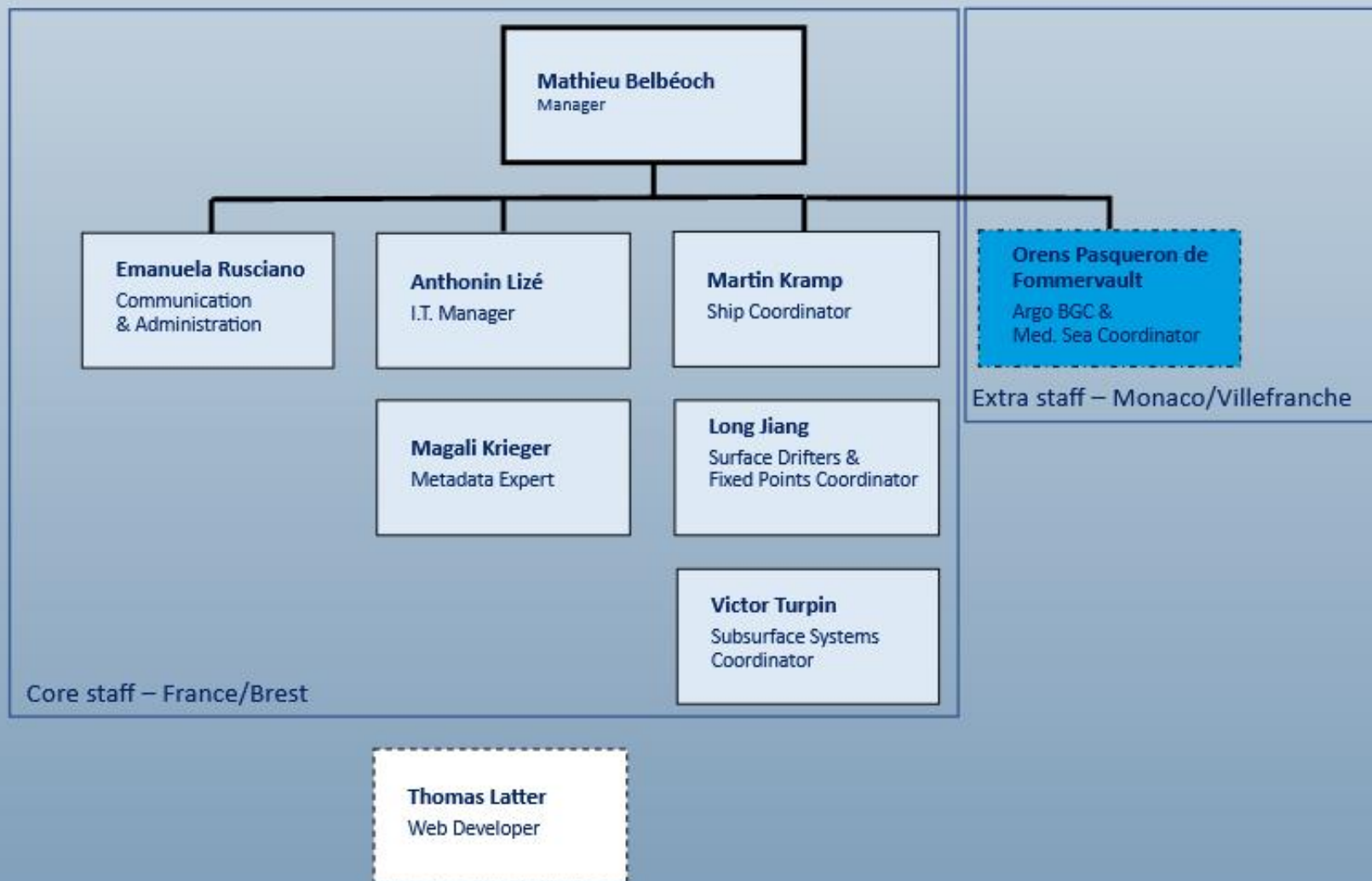
STAFF

OceanOPS 1.0 - 2023



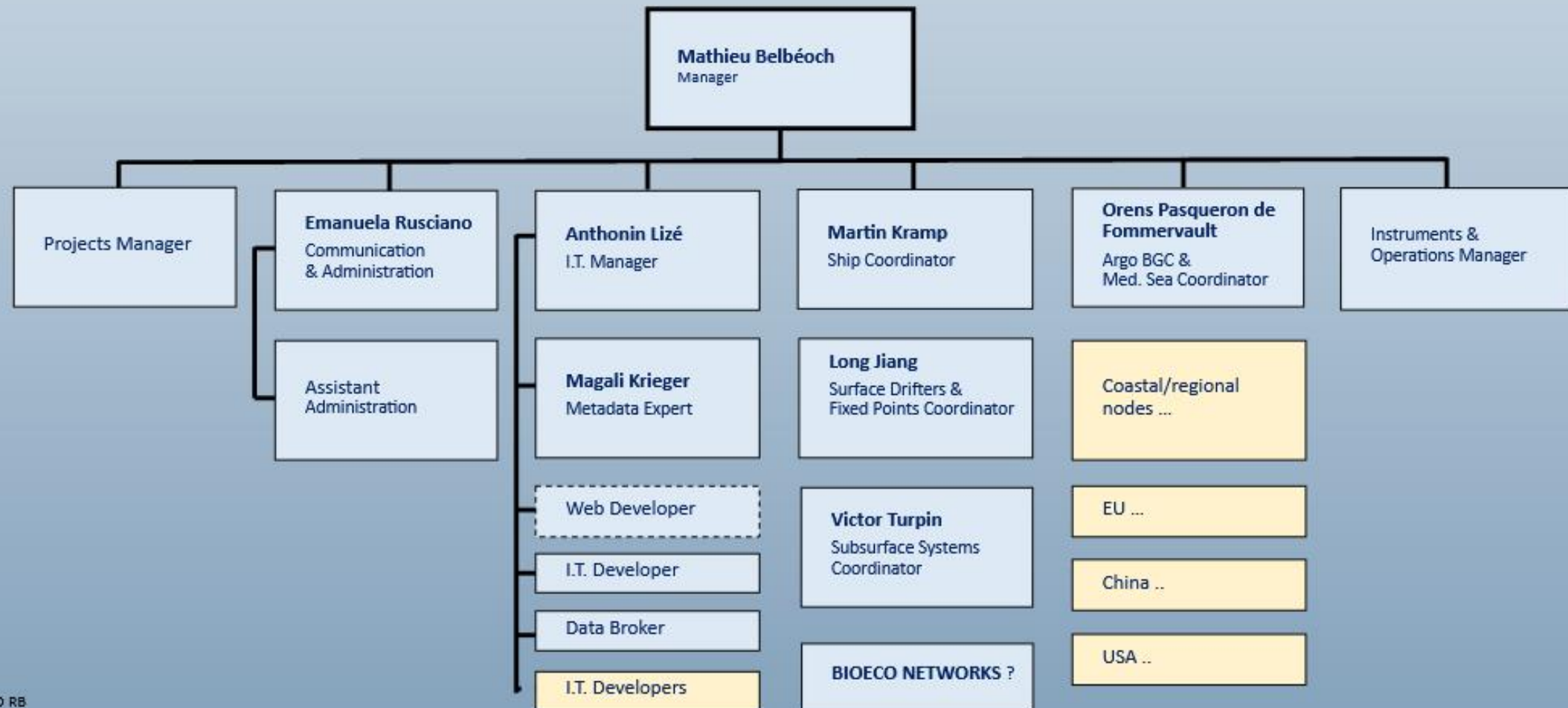
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OceanOPS 1.0 - 2024

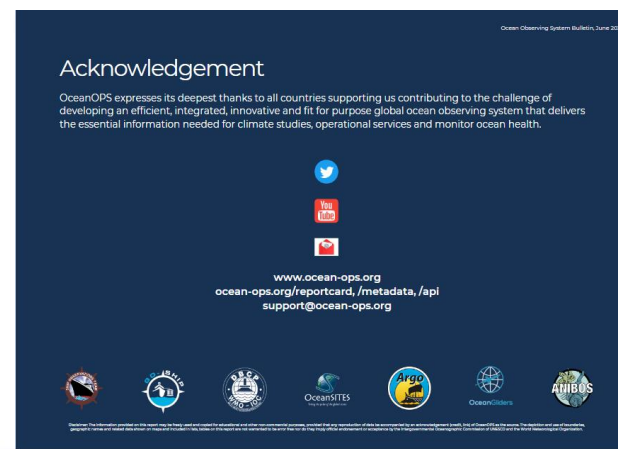
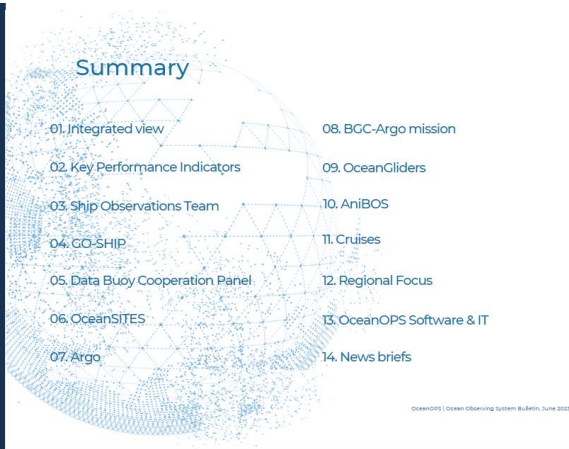


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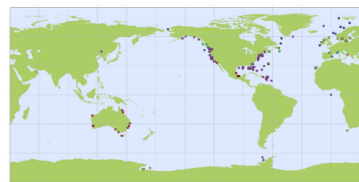
OceanOPS 2.0 – 2025-30



BULLETIN



OceanGliders



National contribution to the OceanGliders program
All glider mission deployment locations registered at OceanOPS (100) during the last 12 months

Country	Count
USA	10
France	8
Spain	7
Germany	6
Italy	5
UK	4
Japan	3
China	2
South Korea	1
India	1
Israel	1
Sweden	1
Other	10

Network Status

The implementation of the program is progressing. Global observing capacity (i.e. the number of operational gliders), the number of participating countries, the number of glider groups as well as the number of registered missions are all increasing, demonstrating the vitality of the OceanGliders array. Effort should be made to improve data flow indicators (delivery to the CTS and "CDAQs").

Harmonizing the glider format globally
After years of work, the OceanGliders data management task team is about to release OG10 (July 2023) and BUFR format (June 2023). Consult the latest status here.

- OG10 format
- BUFR format for gliders

Call for Task Team
The OceanGliders call for new task teams has been extended until the end of May. So far, 3 new task teams have come forward.


- Data assimilation task team: Contact Ali Aydogdu (ali.aydogdu@oceano.fr) to join the team
- Training and capacity building task team: Contact Carlos Barreira (carlos.barreira@oceano.fr) and Hank Stawczewich (hank.stawczewich@oceano.fr)
- Technological task team: Contact Alvaro Lorenzo (alvaro.lorenzo@oceano.fr)

Activity
42 gliders were operating in April 2023

Intensity
2nd glider mission registered over the last 12 months

Data Delivery
82% of the data was registered are available on CTS

Network Status



Despite good indicators, the implementation of Argo is under stress due to investments in BGC and Deep floats, lowering continuously the overall number of yearly deployments (~800). The increasing performance of the floats is absorbing this decrease but has reached a plateau.

The North Atlantic Ocean still shows a large oversampling trend (73 units in excess).

The Indian Ocean activity decrease has been slow down but still shows a deficit of 136 units.

The Pacific Ocean is stable and well implemented. Clusters of old floats are being gradually replaced.

The Southern Ocean (HOTS) activity is finally increasing through enhanced international cooperation.

The Mediterranean Sea, Gulf of Mexico, Baltic and Black Sea have regular implementers. The Caribbean region is improving. Further support from Coastal States is required to complete Marginal Seas (at double density).

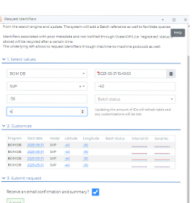
The basin-based coordination meetings have successfully improved implementation in the Indian and Southern Ocean, identifying key gaps and opportunities.

The 3 next regional meetings are planned for:

- Indian Ocean: 24th of June – 2023 – Contact: hogan@imsc.org
- Pacific Ocean: 7th of June – 2023 – Contact: hogan@imsc.org
- Atlantic Ocean: 20th of June – Contact: tota@oceano.fr

Cross OGC Networks participation is welcome.

OceanOPS Software & IT



WIGOS Station Identifiers

The Guide to the WIGOS Integrated Global Observing System was updated in October 2021 and approved by the EC-73. It provides guidance on the WIGOS Station Identifiers (WSIs) to be used by all allocated by O.

OceanOPS dev the allocation defined in the overall metadata operators, com metadata to IT.

This new system available 24/7, starting the re availability by

More information

About M

When uploading information

Behind the scenes

The IT team main focus these days is on migrating the Information System to a new host, adapting, upgrading and improving core components and architecture on the way. This long-lasting background task induces less software development reactivity but lays the foundation for a more robust and flexible software architecture, reaching out toward more distributed and collaborative development capabilities.

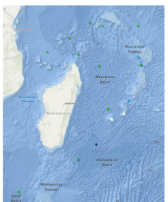
News briefs

OceanOPS expands with new Mediterranean Office and BGC-Argo Coordinator

OceanOPS made a significant move in 2022 by appointing a BGC-Argo Coordinator & Mediterranean Focal Point through IOC/UNESCO. This hiring, made possible thanks to the financial support from Societe des Explorations de Monaco and the Second Institute of Oceanography in China, serves as a clear demonstration of OceanOPS' support for the expansion of Argo and its dedication to providing regional services. The strategic establishment of a new OceanOPS office in Monaco is no mere coincidence, as the principality has a longstanding history of involvement in international initiatives focused on the Mediterranean Sea and beyond.

One concrete expression of H.S.H. Prince Albert II of Monaco's commitment to the Ocean is the Indian Ocean expedition carried out in 2022, which has mobilized one of the largest oceanographic vessels in service (S.A. Agulhas II), and an international team of around 150 people representing some twenty nationalities and a wide range of profiles, including scientists, young researchers and students, communicators, and members of civil society. All partners had a single ambition: to make ocean observations and sharing ocean knowledge with so many people as possible to encourage ocean science commitment and mobilize governments to contribute to a sustainable management of maritime resources.

Continuing its commitment to the Mediterranean, Monaco is dedicating the second mission of the "Monaco Explorations" project, part of the UN Ocean Decade, to the region and providing significant financial support to OceanOPS Mediterranean office.



Laurel's location of drifting floats (dark blue) for deep green for BGC, surface drifters (light blue) during Monaco Explorations Indian Ocean 2022 cruise with S.A. Agulhas II.

Cooperation with sailing community: the adventure continues

In December 2022, IMCOA sailors and OceanOPS have formally renewed, until 2025, their fruitful scientific partnership agreement through the IOC/UNESCO. During The Ocean Race 2023, in collaboration with Ifremer, Météo France, United Kingdom Met Office and CEOMAR, drifting buoys and Argo floats were deployed every 25 degrees in the Southern Ocean and 15 different types of environmental data, through OceanPack and weather buoys, were collected by the skippers who have made significant contributions to science and public awareness of ocean observations and COGS. <https://www.oceanops.org/en/activities/ocean-race-2023>

Through the Odyssey project and in close collaboration with the world's experts in marine weather observations OceanOPS long-term aim is to equip all commercial vessels, fishing boats, and others, with weather stations for the collection and sharing of data in real-time and with free access to all users worldwide.