

Service Level Agreements with OceanOPS

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Background

As recommended by the JCOMMOPS 2018 review, as included in OceanOPS 2021-2025 strategic plan and urged by the 2024 OceanOPS restructuring, this document draws the bases of Service Level Agreements between OceanOPS and its main stakeholders: Observing Networks, IOC/UNESCO, WMO, GOOS and WIGOS.

2018 JCOMMOPS Review, recommendation 6.1.7

"As part of the multi-year planning process, JCOMMOPS should develop service level agreements (SLAs) with each of the networks. The agreements should clearly state both the core services and the network specific activities that JCOMMOPS is committed to undertaking, and by when. They should also clearly state what JCOMMOPS needs from the networks, by when, in order to undertake the agreed activities. All agreements should be made available to all stakeholders so as to promote cross network collaboration and ensure transparency. They should not need to be long or complicated documents but should clearly express the delineation between core and network services".

OceanOPS Strategic Goal 5.1

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

OceanOPS has already different levels of services, according to networks specificities or maturity, and resources allocated, but not really formalized.

These SLAs are an opportunity to clarify OceanOPS services, duties of each party and set OceanOPS on a structured and flexible pathway, for an optimum delivery.

They are part of OceanOPS fund-raising strategy and the list of services and deliverables should be as well useful documents for potential sponsoring agencies.

Each time a sponsor contributes to OceanOPS, expectations are growing but scale economies as well. Half of OceanOPS budget is not provided by Networks. This means basically that the investment by networks into OceanOPS is doubled.

In addition, OceanOPS is involved in major EU funded projects (AMRIT e.g.) which will contribute to all these services and products, and for all networks.

As remarked in the restructuring document, OceanOPS core team and staff will likely be completed by a decentralized workforce, in particular for IT developments.

This will be at work in the AMRIT project, where OceanOPS will have one extra IT developer, but will coordinate the work of a scrum team for about 300 PM total.

OceanOPS basically needs Networks to support their dedicated focal point position while integrated functions (Management, Com/Admin, IT) are covered through non-Networks funding sources.

The extensive list of services and products delivered by OceanOPS to Networks and GOOS/WIGOS is itemized in this document together with a first estimation of associated costs and suggestion for a rolling review of SLA.

Parties

Beneficiaries of OceanOPS services are varied and include the following:

- Observing platforms operators (national, regional, institutional)
- Observing networks Steering Teams, Panels, Data Teams, Task Teams
- GOOS governing bodies (IOC/UNESCO, WMO, GOOS SC/OCG/NFP/GRA, WIGOS)
- Data users (research & operational)
- WMO/IOC Member, Member States, including European Union and host country
- Industry: platforms/sensors manufacturers
- Civil society, private sphere as new GOOS implementers

All these stakeholders are not going to formally enter into an agreement with OceanOPS. To simplify, we can target first the individual observing networks, and potentially IOC and WMO.

All other stakeholders might then benefit from a specific agreement (host country e.g.), or support services and developments in a project or pilot self-funded modes.

Services

Services for Networks

Based on our experience, services to Networks can be classified in different levels:

- Level 1: basic monitoring
- Level 2: routine monitoring and technical support with dedicated ¼ FTE
- Level 3: routine monitoring, technical and operational support with dedicated ½ FTE
- Level 4: advanced routine monitoring, technical and operational support with dedicated ¾ FTE
- Level 5: advanced operational monitoring and technical support with dedicated FTE (> ¾ according to means)

The services provided can also be classified in different categories in line with OceanOPS strategic plan goals:

- Monitoring & Reporting
- Data & Metadata
- Technical support
- Operational support

These categories cover most of the existing services, including Networks specifics even if they are not mentioned.

Level 1

Monitoring & Reporting

- basic monitoring tools: maps, stats – yearly update
- visibility on OceanOPS website and availability of common integrated tools
- visibility in yearly Report Card and OceanOPS integrated reports

Data & Metadata

- basic metadata management (strict minimum requirements: unique identifiers, program, ...)
- yearly update from a single node (already aggregated)
- API/GUI for unique identifiers allocations
- metadata delivered via API, and to OSCAR if quality criterion met.

Technical Support

- support/guidance for networks integrating GOOS (OCG) and meet its requirements.
- support for metadata workflow.
- guidance for data distribution
- Network promotion, support to new Members, international cooperation.

Level 2

Monitoring & Reporting

- Routine (RT/monthly/yearly) monitoring tools: maps, stats, KPIs
- visibility on OceanOPS website and availability of dedicated tools
- visibility in yearly Report Card and OceanOPS integrated reports
- status report in semestrial technical bulletins
- basic yearly report to Steering Team

Data & Metadata

- metadata management (standard requirements: unique identifiers, controlled vocabulary, mandatory attributes) - monthly update
- metadata monitoring, quality control and regular update from multiple nodes – integration but no curation
- API/GUI for unique identifiers allocations
- metadata delivered via API, and to OSCAR
- monitoring of data made available on global nodes (Web and GTS)

Technical Support

- support/guidance for integrating GOOS (OCG) and meet its requirements.
- support for metadata workflow.
- Support for data flow (brokering)
- Helpdesk/clearing house and technical coordination/project office support, with dedicated focal point ¼ FTE
- Participation to yearly sessions (travel, reporting), mailing lists
- Network promotion, support to new Members, international cooperation.

Level 3

Monitoring & Reporting

- Routine (RT/monthly/yearly) monitoring tools: maps, stats, KPIs
- visibility on OceanOPS website and availability of dedicated tools
- visibility in yearly Report Card and OceanOPS integrated reports
- status report in semestrial technical bulletins
- detailed yearly report to Steering/Data Teams

Data & Metadata

- metadata management (standard requirements: unique identifiers, controlled vocabulary, mandatory attributes)
- metadata active monitoring, quality control and regular update from multiple nodes – integration and curation
- API for unique identifiers allocations
- metadata delivered via API, and to OSCAR
- monitoring of data made available on global nodes (Web and GTS)

Technical Support

- support/guidance for integrating GOOS (OCG) and meet its requirements.
- support for metadata workflow.
- Support for data flow (brokering) and processing chains (formats, audits standardization)
- Helpdesk/clearing house and technical coordination/project office support, with dedicated focal point ½ FTE
- Participation to yearly sessions, exec board (travel, reporting), mailing lists
- Network promotion, support to new Members, international cooperation, newsletter

Operational support

- coordination of operations (planning, opportunities)
- expertise on instrumentation, training workshops organization
- Notifications/Alerts: instruments beaching/icing/retrieval, data/metadata flow and quality, EEZ notifications
- tracking and organization of ship opportunities, and partnerships (shipping, sailing)
- feedback loop from users to producers (data quality, WMO WDQMS)

Level 4

Monitoring & Reporting

- routine (monthly and yearly) advanced monitoring tools, including real-time tracking: maps, stats (on implementation, instrumentation, operations, data flow), advanced KPIs
- visibility on OceanOPS website and availability of dedicated web based advanced tools (performance, planning, gap analysis, etc)
- visibility in yearly Report Card and OceanOPS integrated reports
- detailed performance report in semestrial bulletin
- yearly advanced status report to SC/DM groups (including list of national contributions), and TT as required

Data & Metadata

- advanced metadata management (standard/mandatory requirements + network specifics) and continuous improvement (including discussion with industry)
- metadata active monitoring, curation and quality control, regular updates from multiple nodes - integration
- metadata management tools: GUI, web-based tools for machine-based upload in multiple formats (CSV, JSON, netCDF)
- API/GUI for unique identifiers allocations
- metadata delivered via API, and to OSCAR
- operational monitoring of data flow on multiple global nodes (GTS, GDACs, RT/DM) - availability, timeliness, quality, history.

Technical Support

- active support for metadata workflow all along platforms lifecycle - webinars/training sessions
- active support for data flow (brokering) towards OCG data strategy and WIS 2.0
- helpdesk/clearing house and project office/secretariat support, with dedicated focal point (¾ FTE) - active support to chairpersons and task teams
- participation to yearly sessions (SC, DM, TT), exec boards: agendas, reports/minutes, mailing lists and contact points management.
- contribution to bibliography monitoring (data uptake)
- Network promotion, support to new Members, international cooperation (active development), regular visit to main partners.
- active communication, participation to brochure and newsletter production, partnerships, outreach.
- Regular interactions with manufacturers (including dedicated travel)
- Donor programmes, SOFF spec.

Operational support

- coordination of operations (planning), regular roundtables on basin-based implementation, active deployments opportunities seeking from main hubs, support for logistics
- expertise on instrumentation, training workshops organization
- Notifications/Alerts: instruments beaching/icing/retrieval, data/metadata flow and quality, EEZ notifications

- tracking and organization of ship opportunities, including establishing dedicated charters and consortium on ad hoc basis, and partnerships (shipping, sailing)
- feedback loop from users to producers (data quality, WMO WQMS)

Level 5

This SLA includes all services from level 4 plus additional FTE delivered according to means.

SLA	1	2	3	4	5
Monitoring & Reporting	Basic yearly Web integrated Report Card	Standard RT/monthly/yearly Web integrated Report Card Bulletin basic yearly report	Standard RT/monthly/yearly Web dedicated Report Card Bulletin detailed yearly report to SC	Advanced RT/monthly/yearly Web dedicated & advanced Report Card Bulletin detailed yearly report to SC, DM, TT	See 4
Data & Metadata	mini. metadata yearly update API WSI/OSCAR	mandatory metadata integration monitoring of one data node & GTS API WSI/OSCAR	Mandatory metadata curation/integration operational monitoring of multiple data nodes API WSI/OSCAR	Advanced curation/integration/improvements/ tools operational monitoring of multiple data nodes RT/DM/history API WSI/OSCAR	See 4
Technical support	Basic promotion	Technical Coordination/project office yearly SC session (travel/reporting) promotion international cooperation	Technical Coordination/project office yearly SC session (travel/reporting) Promotion, Newsletters international cooperation	Technical Coordination/project office yearly SC/exec/DM/TT sessions (travel/reporting, agendas/minutes, contacts points mgt) Promotion Active international cooperation bibliography monitoring	See 4
Operational support	none	none	Planning tools notifications/alerts Ship opportunities/partnerships. Data QC feedback loop users/producers	Planning tools notifications/alerts Ship opportunities/partnerships Ad hoc charters Data QC feedback loop users/producers	See 4
Dedicated FTE	None	1/4	1/2	3/4	> 3/4

Table 1: SLA main services/products summary

Services for IOC, WMO, GOOS, WIGOS

We can use the same categories to itemize services, products and expertise delivered to IOC and WMO in support of GOOS/WIGOS.

Monitoring & Reporting

- Unique integrated view on GOOS
- Unique capacity to report on Member/Regions contributions to GOOS/WIGOS
- Contributions to many reports within IOC, WMO, UN context
- Contribution to national reports
- Capacity to provide gap analysis in context of codesign, RRR (EOV view)
- production of yearly GOOS Report Card
- web based dashboard with many features

Data & Metadata

- Harmonization/integration/quality control function
- Unique ID allocation API, GUI, documentation
- Contribution to WIGOS/OSCAR (and potentially to ODIS)
- monitoring and increase of data availability (quantity, quality) for users
- Support for MS data processing capacity development.

Technical Support

- Expertise “in the fields” on networks and GOOS
- Participation to GOOS SC, OCG and related
- Participation to many WMO TT, SC and WG (GBON, WIGOS, OSCAR/nextGen, ...), contribution to many documents
- Development of international cooperation and partnerships
- implementation of EC IOC XLI-4 requirements and LoS expertise
- support to IOC and WMO secretariats
- “secretariat support” to Networks/OCG/GOOS
- communication on GOOS, IOC, WMO (stories, events, etc)
- Direct access to GOOS implementers

Products

From these lists we can extract core products that would deserve careful planning, monitoring, benefit from team collective production:

- Web based monitoring dashboard(s)
- Routines maps, statistics, performance indicators
- WIGOS compliant metadata API
- Yearly reports for Networks
- Yearly financial report to OCG
- Yearly workplan report to OCG
- Yearly report for GOOS (on national contributions)
- Semestrial Technical Bulletin
- Yearly Report Card
- Quarterly basin-based coordination report

Costs Estimation

OceanOPS basically need the networks to support their dedicated resource with some reasonable travel time, participation to the infrastructure and overheads (by WMO/IOC).

SLA	1	2	3	4	5			
FTE	0	0.125	0.25	0.5	0.75	1	1.25	1.5
PM	0	1.5	3	6	9	12	15	20
FTE (USD)	0	15625	31250	62500	93750	125000	156250	187500
TRAVEL (USD)	0	2500	5000	10000	15000	20000	25000	30000
INFRA (USD)	0	1875	3750	7500	11250	15000	18750	22500

SUBSCRIPTION (USD)	10000	10000	10000	10000	10000	10000	10000	10000
OVERHEADS (USD)	1000	3000	5000	9000	13000	17000	21000	25000
TOTAL (USD)	11000	33000	55000	99000	143000	187000	231000	275000

Table 2: SLA costs estimation

Considering this cost estimation, the dedicated PM amount Y, for a contribution of X, is given by the following:

$$Y = 12((X/1.1) - 10\,000)/(160\,000)$$

This cost estimation is a baseline.

All networks do not operate the same number of platforms, do not have multiple data nodes to monitor, do not need the same level of support for metadata integration and curation, and have different priorities according to their maturity.

Hence the list of services and products can shift from an SLA to another.

Furthermore, some important deliverables or specific PM (for software or brochures development e.g.), can be added to the SLA.

All this will have to be refined with each network.

Responsibilities & timeline

The responsibilities of both parties need to be clearly defined.

This includes the responsibilities of the service provider in delivering the services and meeting the agreed-upon targets, as well as the responsibilities of the Network in providing access to necessary information for enabling some services, international cooperation and integration (metadata, funding commitments, etc).

The above list of services and products should be refined with each Network, so that some network specifics can be highlighted and prioritized.

It is suggested then a rolling review of SLA with each Network and OCG.

The OCG session at year N could agree on an SLA baseline for year N+1, based on contributions received at year N/N-1.

SLA would be then refined with each network and agreed with OceanOPS by end year N.

This would give the time necessary to adapt to Network evolving needs, and potentially recruit (or eliminate) new staff.

Once both parties are satisfied with the SLA, and by end of year N, OceanOPS, Network chairs and OCG chair can sign up for the SLA for implementation at year N+1.

If no major change occurs, and if both parties are satisfied, SLA can be reconducted tacitly every year.

The dedicated focal point will need the support of the rest of the team to deliver.

The OceanOPS manager will have to secure and prioritize the other resources necessary for this delivery. This comes with an additional flexibility which can compensate the resources Networks have difficulties identifying.

The OCG could provide further guidance and priorities to address through this flexibility.

The aim of OceanOPS, is to bring all networks to the best SLA level and integrate as far as possible its services and products for best cost efficiency.

Monitoring & Reporting

We would need to further specify how performance will be monitored and reported. This could include a specific section included in yearly reports to Networks and summarized in yearly report to OCG.

The list of products identified above could be a good checkpoint for delivery, together with a report on effective staff time and some kind of feedback ("customer satisfaction") for each network.

This will have the benefit of encouraging OceanOPS to deliver on time, and get prepared to do so.

OceanOPS will set up the project management tools to plan, monitor, and report on the development of its strategic plan, including the core services and products included in SLAs, and the projects development, with required transparency.

Conclusion

This document is a first draft of SLA principles and services.

Principles need to be simple as the relationship OceanOPS vs Networks GOOS is not a classical customer/service provider relationship.

Flexibility, transparency, service quality and performance, equitability and integration should lead their implementation.

- 1) OCG and Networks to feedback on this document
- 2) OCG session to review the list of deliverables and products through interactive discussions
- 3) OceanOPS and each Network to work in second semester 2024 to fine tune the SLAs, and highlight networks specifics
- 4) IOC/WMO to feedback on how they see an SLA with OceanOPS

References

[2018 JCOMMOPS Review](#)

[2020 Strategic Plan](#)

[2024 Restructuring](#)