

**Report: Bilateral GCOS-GOOS Leadership Meeting
23-25th May 2018, World Meteorological Organization.**

Attendees:

- GCOS Chair: Stephen Briggs, GOOS Co-Chairs: John Gunn and Toste Tanhua.
- GCOS Director: Carolin Richter, GOOS Director: Albert Fischer.
- GCOS/GOOS Secretariat: Katy Hill

Additional Attendees (partial attendance):

- Office of the SG: Stefano Belfiore,
- Director, Climate and Water: Johannes Cullmann,
- World Climate Research Programme: Michel Rixen and Mike Sparrow.
- Chief, Observing Systems Division: Etienne Charpentier.
- GCOS Secretariat: Caterina Tassone, Simon Eggleston, Valentin Aich.

Introduction:

The Global Climate Observing System and Global Ocean Observing System leadership met at WMO from the 23-24th May 2018 to discuss how the two programmes could improve how they work together given their evolving mandates and forward priorities. The meeting agenda is attached.

The meeting was motivated by a briefing document drafted by the GCOS/GOOS Secretariat, Katy Hill which outlined the evolving priorities of the two programmes, the issues which would benefit from greater coordination between the two programmes, the challenges of managing the priorities of the OOPC, the panel which manages the interface, and recommendations for next steps (see attached).

The meeting opened with presentations of the GCOS and GOOS strategies, development of forward work plans, and a discussion re. common partnerships, challenges and opportunities, particularly around delivering to and engaging with end users. If observations were considered a manufactured product, the 'supply chain' would look like the diagram below:

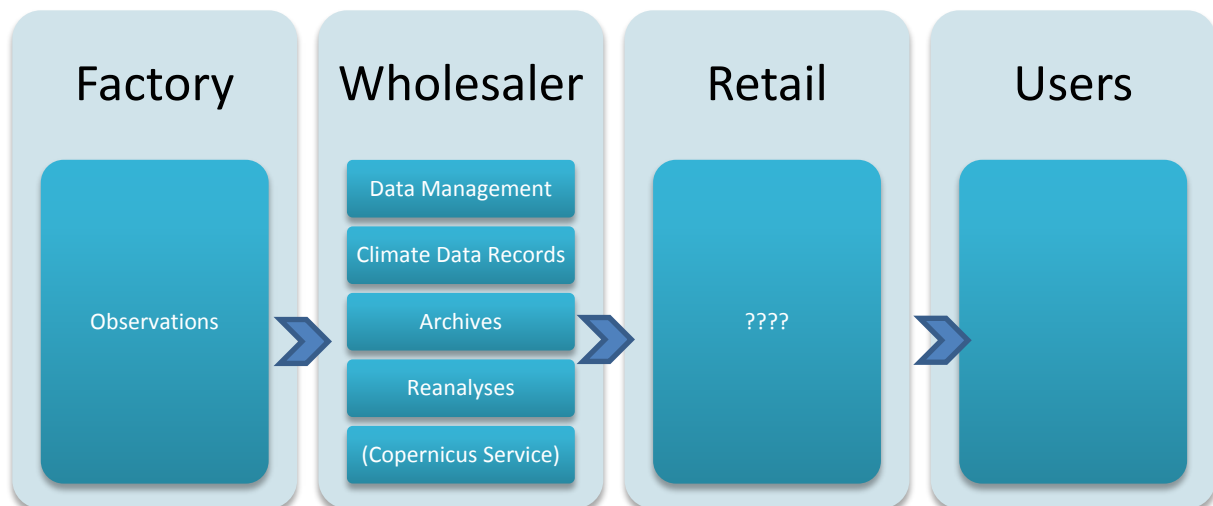


Figure: Observations 'supply Chain, showing them missing link in 'retail services'.

It was argued that there was a missing link between the observations and users, which is effectively the 'retail' component: packaging of products and information for specific needs. It was agreed that delivery to users was a fruitful area of future discussion.

The agenda then covered discussions on partnerships, common priorities, challenges around connecting observations to users, governance and resourcing of OOPC and the secretariat, and cross cutting issues. Given the nature of the meeting, the outcomes are framed around key outcomes.

1. Guidance to the OOPC.

The Ocean Observations Panel for Climate has a complex role across GCOS, GOOS, WCRP and JCOMM as the;

- Physics panel of GOOS,
- Ocean Panel of GCOS, working across GOOS constructs to deliver climate requirements in consultation with WCRP.
- GOOS lead on delivering to operational services.
- Lead on providing scientific advice to JCOMM, particularly the Observations Coordination Group.

The panel is also working within a shifting environment, with multiple challenges and opportunities to address;

- GCOS moves to consider more observations required for adaptation and mitigation,
- GOOS is moving towards the development of a truly multidisciplinary observing system (as biogeochemical and biological observing capabilities develop), which will place additional demands on ocean physics requirements.
- As operational forecast systems become increasingly coupled to the ocean, particularly for Numerical Weather Prediction, and the move towards earth system modelling as a whole; this will exercise the observing system in new ways and will require additional engagement particularly in WMO programmes.

Given this complex shifting space (also full of opportunities), it was recognized that OOPC needed greater support and guidance from parent programmes to prioritise effort and effectively deliver to GCOS and GOOS. It was noted that GCOS and GOOS have strongly overlapping interests, but different specific requests of OOPC. That said, it was agreed that input to GCOS continue to be coordinated through OOPC, with GOOS to identify representatives from the other two panels of GOOS to contribute to GCOS tasks. Regular communication between GCOS and GOOS leadership directly would enable agreed advice to be provided to OOPC. Suggested OOPC priorities:

- Core focus:
 - Set and review requirements to guide the sustained ocean observing system, and advocate for implementation: broker guidance through two mechanisms:
 - GOOS for physics EOVs (to deliver to Climate, Operational Services, Ocean Health).
 - GCOS for Ocean ECVs (in collaboration with GOOS panels).
 - Observing system evaluation and review: coordination of focused activities to develop and improve the observing system (engaging WCRP, OceanPredict, JCOMM OCG)
 - Guide, review observing system implementation through JCOMM OCG, Satellite Agencies.
- Priority 1: expanding focus into coastal regions. Additional panel members, engagement from GRAs needed.
- Priority 2: Developing multidisciplinary climate observing system requirements and establishing a mechanism for reviewing implementation. Requires effort from other components of GOOS. (possibly additional staff support needed to do this well).
- Priority 3: Expand to consider specific focus on delivery to operational services, engaging in WMO programmes. Additional staff support needed. Consider negotiating collaboration with WMO Observations department, JCOMM Services in short term.

1. ACTION: GCOS/GOOS leadership to draft joint guidance on priorities to the OOPC as an outcome of this meeting (drawing on GCOS/GOOS Strategies), and a joint update ahead of each panel meeting (GCOS/GOOS Chairs and Directors, supported by the OOPC Secretariat).

2. ACTION: GOOS to identify 2 representatives each from the Biogeochemical and Biological Panels to contribute to GCOS tasks.

3. ACTION: OOPC to develop a work plan based on coordinated guidance from the GCOS and GOOS Leadership. Including prioritization a) with existing resources, and b) with additional resources (staff, panel membership, funding). (10 year work plan already an action from OOPC-21).

2. Agreement on priorities of the secretariat.

The attendees agreed that given the combined expectations of both GCOS and GOOS, there was sufficient work for 2 full time staffers. Currently, the programmes are reliant on one staffer to support the OOPC and broker the interface between the two programmes. The attendees agreed that while there is only one staffer, the two programmes need to agree on Katy's priorities. In addition, it was agreed that Katy should avoid taking on additional projects to focus on core business.

4. ACTION: Draft prioritized work plan for OOPC secretariat in line with OOPC workplan (action 3), including core activities, and additional activities to take on if additional staff resources (OOPC Secretariat).

3. Major activities and deliverables

The attendees agreed that effort should be made to align major deliverables, and carefully plan/coordinate requests for input and comment to allow for the consultation required across GOOS panels and with the JCOMM OCG to respond to GCOS. It was suggested that some agreed 'standard operating procedures' be drafted between GCOS and GOOS.

5. ACTION: Coordinate planning of major deliverables, deadlines and requests for information/feedback to maximize efficiency, accommodating the time required for substantive consultation across GOOS constructs (GCOS, GOOS Directors, OOPC Secretariat); e.g.

- a. Coordination and agreement on the timelines and process for major planning and feedback activities, e.g. ECV/EOV requirements.
- b. 'Standard operating procedures' for e.g. requests to panels to allow for consultation overhead with ocean panels.
 - i. Deadlines to consider consultation required.
 - ii. If expect deadlines are short, advanced notice that short deadline coming up helps.
 - iii. OOPC rep able to request overnight consultation time if decisions need to be made in session (e.g. at GCOS SC)

4. Coordination on forward scheduling of meetings, major activities and deadlines Inc. Considering efficiencies.

The scheduling of meetings was discussed, and it was agreed that proactive forward scheduling of meetings and major activities was critical to ensure that the OOPC could effectively deliver to both programmes. There is generally particularly a meeting/deadline crunch between February and June, and any efforts to ease this crunch would improve the panel's ability to deliver.

OOPC has a large engagement overhead with the other GCOS panels, the other GOOS panels and the JCOMM Observations Coordination Group, so the motivations for joint or parallel meetings needed careful consideration so as not to negatively impact on OOPC's core business. Therefore, it was suggested:

- a. GOOS to consider developing a regular cycle of panel meetings and SC meetings, and a rough timeline of major meetings, activities: with fixed times for the next year, and rough timings where possible out to 5 years.
- b. GCOS and GOOS Consider the benefits of a) all panel/cross panel/bilateral meetings between panels, verses b) focused workshops (e.g. on cycles, or interface issues). Both have their merits; need to consider what we need to achieve.
- c. Any opportunities to improve the efficiency of meeting schedule (e.g. if GCOS and GOOS are planning meetings with similar/overlapping goals) and mitigate meeting and deadline crunches would also be welcomed.

6. ACTION: GOOS Secretariat to develop a forward timeline of major meetings and deliverables, coordinate with the GCOS secretariat to develop a combined timeline (GOOS Director, Programme Specialist, OOPC Secretariat).

5. Agree on priority joint interests that GCOS/GOOS will work on together

GCOS has developed regional implementation plans in the past, which have limited impact. Since the 2016 Implementation Plan was finalized, some effort has gone into 'ad hoc' regional implementation workshops in Fiji, focused on precipitation (in collaboration with WIGOS), a future workshop will be in Uganda focused on the reporting of data (with WIGOS and Copernicus). Next steps under consideration are a focus in Asia, and perhaps Urban Areas.

GCOS also has a Cooperation Mechanism which assists in regional implementation and capacity building, largely focused on radiosondes and surface atmospheric observations.

Within GOOS, Regional Alliances are focal points for regional implementation and delivery. However, they are heterogeneous at best, with several groups dormant. Through the GOOS Regional Alliances Forum, efforts have been made to identify common issues/interests across a few GRAs, and develop projects, partnering stronger GRAs with weaker ones to make progress. One example is the MESCAT proposal to improve Sea Level observations around the Mediterranean. This would be a strong regional contribution to GCOS and could benefit from exposure as a GCOS priority when seeking funding.

Given both programmes are grappling with how to engage/add value at the regional level, regional engagement and implementation was a productive area for future collaborations; particularly how we engage and add value in coastal regions. Coasts are one of the main front lines of a changing climate, it is where all the domains of GCOS intersect, where most people live, and where a large proportion of the global population source food. The GOOS BioEco panel identified several coastal ecosystems are priority EOVs, largely as they are most likely to be impacted by climate change.

7. ACTION: Focus a follow up joint discussion on regional engagement and implementation issues (GCOS Chairs, Directors)

8. ACTION: Consider planning a GCOS/GOOS Urban Coastal Adaptation Workshop.

a. Second Quarter of 2019. Somewhere in Asia

b. Engage WCRP Grand Challenge on Regional Sea Level on Coastal Impacts, Asia Development bank, IOC-WestPac.

6. Consider working together on common/priority partners and partnerships, relations with Sponsors.

Critical dependencies and partnerships were discussed, and perspectives were compared on engagement with common programmes. It was agreed that the two programmes could work together particularly on engagement with sponsors, as both are sponsored by WMO, IOC, UNEP and ICSU. Priorities include:

- WMO, especially given reorganization discussions, the strategic plan as well as developments in forecast systems, observing needs.
- WMO, IOC are developing a framework agreement highlighting joint priorities. Specific agreements on co-sponsored programmes will sit under this.
- UN Environment, given they are the custodians of many of the SDG Indicators; they also lead the 'Clean Seas' campaign and have reached out to GOOS regarding the development of Pollution EOVs.

Engagement with the Space Agencies was another area where strengthened collaboration would be beneficial. GCOS has a very strong relationship with the Space Agencies, who take the ECV requirements seriously. OOPC has a track record of advocating for the continuance of critical satellite mission planning (e.g. Microwave SST), but largely engages through constellation science teams.

Engagement with other international groups were also discussed.

GCOS has a strong relationship with UNFCCC, WCRP/IPCC. GOOS would hope to replicate this for, e.g. ocean health. GOOS mapped out its partnerships upstream and downstream (those providing data, and who data was delivered to, across Climate, Operational Services and Ocean Health).

GCOS and GOOS had similar experiences engaging in GEO and agreed to continue comparing notes; as with Future Earth.

Other relationships were discussed including Met Services, the Private Sector, Climate Services (e.g. Copernicus), the Research community and Environmental Agencies.

9. ACTION: GCOS-GOOS to consider joint/coordinated messaging at WMO and IOC Assemblies (GCOS/GOOS Chairs and Directors).

10. ACTION: GOOS to identify a senior representative to attend the CEOS SIT meetings (e.g. Pierre Yves Le Traon). Next meeting (CEOS SIT Tech Workshop, Darmstadt, September)

11. ACTION; Jointly approach UN Environment, explore potential for a bilateral visit, or attending one of their governing meetings (GCOS, GOOS Directors to coordinate)

7. Next steps.

The GCOS and GOOS chairs agreed that the meeting was very useful and thought that follow up summits could be useful to improve collaborations between the two programmes.

12. ACTION: Consider a follow up GCOS-GOOS Leadership summit after the GCOS All Panel meeting next year (GCOS-GOOS Directors)

13. ACTION: Consider quarterly calls of GCOS/GOOS chairs in the medium term to progress the Actions identified (GCOS-GOOS Directors)