

# Global Synthesis and Observations Panel (GSOP)

On behalf of the panel

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## Panel overview

### GSOP's objectives

1. Develop, promote and seek to implement strategies for the synthesis of global ocean, atmosphere and coupled climate information. Methods will include observation-based syntheses and model-based syntheses e.g. Reanalyses.
2. Define CLIVAR's requirement for globally sustained observations and promote the use of resulting data sets in global synthesis efforts. Provide strategic advice and supporting evidence in collaboration with WMO and IOC bodies, to help sustain, evolve and optimise the global ocean observing system based on new science and reanalysis insights.
3. Develop metrics to evaluate ocean and coupled syntheses, to promote the utility of synthesis products for climate applications, including initialisation of coupled forecasts, detection/attribution of climate change and variability, and determining the oceans role in the global heat, water and biogeochemical cycles.
4. Provide strategic advice and direction to CLIVAR/WCRP data management and processing activities within the Framework for Ocean Observing, related to production of climate quality global ocean synthesis products.
5. Liaise and collaborate with WCRP Councils, Panels and Working Groups in identifying the requirements for, and coordinating the development of, a sustainable Earth system monitoring and prediction system.

Membership: At the start of the 2017, GSOP lost its two co-chairs. Tony Lee rotated off, and Matt Palmer stepped down, but remains as a member until the end of his term (Dec 2017). At the last SSG meeting, it was felt that the whole membership of GSOP needed to be reviewed, given that the panel has developed a much stronger emphasis on ocean synthesis than on overall ocean observations. Lisan Yu and Andrea Storto are acting as leaders of the panel for the moment until a decision is made by the SSG.

## Achievements for 2016-17

GSOP has successfully organized the “COST/CLIVAR Workshop on ocean reanalyses and inter-comparisons”, in Toulouse, France, in June 2017. This workshop has started a new phase of ORA-IP (<http://www.clivar.org/clivar-panels/gsop/ocean-synthesisreanalysis-efforts>). A meeting report has been made available.

Selected recommendations of the workshop include i) the need of process- and region-oriented inter-comparisons with the participation not only of the reanalysis producer community, but involving experts from e.g. the observational community; ii) the request of inter-comparing also assimilation-free simulations, in order to liaise with the OMD Panel and fill the gap between protocol-free reanalyses (ORA-IP) and CORE-like OMIP simulations.

### **Plans for 2018 and beyond**

GSOP needs to review its membership following advice and decision made by the SSG.

By building on the current successful platform of ORA-IP, the ocean-surface flux intercomparison project (OSF-IP) will be a sensible next step. A white paper was produced during the 2012 workshop at Woods Hole, MA, in which metrics for surface fluxes (heat, water, and momentum) are defined and collaborative activities are identified. This activity will be aligned with the new forward work plan framed in the OOPC-20 report; it will support the initiatives of the TPOS-2020 project; it will support the activities of CONCEPT-HEAT....

A few new inter-comparison started in 2017 and will likely be finalized in 2018. These include the Polar ORA-IP, which focuses on the polar regions, and the North-Atlantic ORA-IP, led by MetOffice and Mercator Ocean.

Furthermore, CMEMS has dedicated resources for the inter-comparison of global ocean reanalyses from European Institutions and its related activities might be further extended to non-European products.

After a survey of current reanalysis systems will be finalized, we expect more inter-comparisons to start in 2018. A specific goal will be the repetition of inter-comparisons already performed within the previous ORA-IP in order to assess the advancement of current reanalysis systems.

### **Articles published in 2016/17 as part of panel activities (if any)**

### **Budget and other needs for 2018**

Propose a workshop to initiate the development of the Ocean surface flux intercomparison project jointly with a Panel meeting.

## Annex A

### Proforma for CLIVAR Research Focus requests for SSG approval for meetings

1. **Panel or Working Group:** GSOP
2. **Title of meeting or workshop:** Workshop on “Ocean surface flux intercomparison project” + GSOP-10
3. **Proposed venue:** USA
4. **Proposed dates:** Second semester of 2018
5. **Proposed attendees, including likely number:** GSOP members, ORA-IP members, invited experts. Likely number 30-40
6. **Rationale, motivation and justification, including: relevance to CLIVAR science & WCRP Grand Challenges, and any cross-panel/research foci links and interactions involved:** By building on the current successful platform of ORA-IP, the ocean-surface flux intercomparison project (OSF-IP) will be a sensible next step. A white paper was produced during the 2012 workshop at Woods Hole, MA, in which metrics for surface fluxes (heat, water, and momentum) are defined and collaborative activities are identified. This activity will be aligned with the new forward work plan framed in the OOPC-20 report; it will support the initiatives of the TPOS-2020 project. It will also support the activities of CONCEPT-HEAT.
7. **Specific objectives and key agenda items:**
8. **Anticipated outcomes (deliverables):** Meeting report
9. **Format:** 3 day meeting + 1-day panel meeting
10. **Science Organizing Committee (if relevant)**
11. **Local Organizing Committee (if relevant)**
12. **Proposed funding sources and anticipated funding requested from WCRP:**  
US\$ 10K