

# Global Synthesis and Observations Panel (GSOP)

## Co-chairs, Email addresses

### Panel overview

GSOP is responsible for the definition and promotion of CLIVAR's overall global needs for sustained ocean observations, and the evaluation of model-based synthesis of ocean observations and statistical mapping of the observations. As such, GSOP is concerned on fostering methodological advances in the development of coupled and ocean-only re-analyses, and the statistical mapping of observations, enhanced way to assess their performance and fit-for-purpose, and identifying practices for the best exploitation of key climate observing networks.

During the last year, the pandemic hampered organizing workshops/meetings, and the Panel activities mostly consisted in remote meetings. It is desirable that in the future the Panel be able to meet and joint other panel meetings.

### Achievements for 2019-2020

- Workshops: 2019 Panel Meeting at WHOI; participation in IQuOD workshop (2019) and IMMENSE workshop (2019); organization of one session in OceanObs'19
- Coordination of one white paper for OceanObs'19 (Frontiers), contributions to 3 others
- Strong interaction with the IQuOD group for the definition of the observation uncertainty
- Endorsed the Ocean Salinity Conference in 2021 to be held at Columbia University sponsored by NASA

### Plans for 2021 and beyond

During the recent meetings, members have discussed the activities for the panel during 2021, concentrated along two main topics:

- The impact of the pandemic on observational sampling.  
Lijing and Andrea presented some very initial thoughts and plots, but there is the need to: get in contact and interact with GOOS and JCOMMOPS regarding this topic. Lijing and Andrea will try to recontact Emma Heslop, and ask Peter Oke any possible alternative contact at GOOS.

- The Deep Argo role in the observing system

The group discussed how to proceed with further multi-perspective studies, encompassing idealized and real observing scenarios, data assimilation and objective analysis multi-year studies. A google.doc will be shared soon with tentative topics, to be populated by the group with details and relevant literature on the implementation of deep Argo and related studies.

GSOP aims also to participate actively in the definition of two WCRP LHA ("Explaining and Predicting Earth System Change", "Digital Earths") and the new WCRP core project "Earth System Modelling and Data Capabilities"

### **Articles published in 2019/20 as part of panel activities (if any)**

Wong, A. P. S., et al., 2020: Argo data 1999–2019: Two million temperature-salinity profiles and subsurface velocity observations from a global array of profiling floats. *Frontiers in Marine Science*, 7, 700.

Domingues, R., et al., 2019: Ocean observations in support of studies and forecasts of tropical and extratropical cyclones. *Frontiers in Marine Science*, 6, 446.

Stammer, D., et al., 2019: Ocean climate observing requirements in support of climate research and climate information. *Frontiers in Marine Science*, 6, 444.

Roemmich, D., et al., 2019: On the future of Argo: A global, full-depth, multi-disciplinary array. *Frontiers in Marine Science*, 6, 439.

Storto A, Alvera-Azcárate A, Balmaseda MA, Barth A, Chevallier M, Counillon F, Domingues CM, Drevillon M, Drillet Y, Forget G, Garric G, Haines K, Hernandez F, Iovino D, Jackson LC, Lellouche J-M, Masina S, Mayer M, Oke PR, Penny SG, Peterson KA, Yang C and Zuo H (2019) Ocean Reanalyses: Recent Advances and Unsolved Challenges. *Front. Mar. Sci.* 6:418. doi: 10.3389/fmars.2019.00418

### **Budget and other needs for 2021**

It is proposed that the Panel will meet at the  
AGU Fall Meeting 2021

<https://www.agu.org/Events/Meetings/Fall-Meeting-2021>

**13-17 December 2021**

***Different dates will depend upon the pandemic evolution, and/or the possibility to meet jointly with another Panel***

## Annex A

### Proforma for CLIVAR Panel requests for SSG approval for meetings

***Note: If your group has approved funds in 2020 that were not used because of Covid19, and you propose to use them in 2021, they should be included again in this request, in addition to any new request.***

1. **Panel name: GSOP**
2. **Title of meeting or workshop: Panel meeting**
3. **Proposed venue (Or indicate if online): AGU Fall Meeting 2021, New Orleans**
4. **Proposed dates: 13-17/Dec/2021**
5. **Proposed attendees, including likely number: All panel members, plus 2 guests (TBD)**
6. **Rationale, motivation and justification, including: relevance to CLIVAR science & WCRP Grand Challenges, and any cross-panel/research foci links and interactions involved:**
7. **Specific objectives and key agenda items: Discussion on the Panel activities, especially those planned for 2021 (impact of deep Argo and impact of the pandemic observation sampling).**
8. **Anticipated outcomes (deliverables): Meeting report**
9. **Format: 2 days presentation and discussion**
10. **Science Organizing Committee (if relevant)**
11. **Local Organizing Committee (if relevant)**
12. **Proposed funding sources and anticipated funding requested from WCRP:  
15-20k \$**