

1st Meeting of the International “OceanGliders” Steering Team.

**Southampton, United Kingdom
September 27, 2016**

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1. Welcome and introduction

David Smeed welcomes everyone in NOC, Southampton. Each attendee introduces himself and its institute. Pierre Testor thanks host, NOC Southampton, for their hospitality.

2. Objectives of the meeting

Pierre Testor opened the meeting by reviewing the drafted agenda.

The objective of the meeting was to officially start the process to set up the glider component of the GOOS by:

- Agreeing on the ToR,
- Discussing governance issues.
- Discussing implementation issues.

3. General discussion

Term of references

The terms of reference of the glider groups were quickly presented and officially agreed by the assembly.

Name of the glider component of the GOOS.

There was much discussion about the name of the glider component of the GOOS to be set up. **OceanGliders** reached a consensus. Gliders lie between profiling floats and moorings. In a similar way, OceanGliders as a program will lie between the Argo program which addresses specific scientific issues at the global scale and OceanSITES which gathers at the global scale many different scientific programs under a unique umbrella. OceanGliders will focus on several scientific and societal issues and define a fit-for-purpose approach for each of them at an international level.

What brings this group together

The glider community includes people using gliders to address the scientific and technical issues they have decided to focus on. The glider observations are primarily conducted in a regional framework but it has to be noted the different glider observational programs have already a global scale. When they are carried out in a long-term framework, they clearly fulfil the GOOS objectives. A top-down approach does not seem suited for the glider community but our steering team aims at structuring the community at the global scale around 3 scientific axes:

- boundary currents,
- storms, hurricanes, typhoons,
- convection and mixing,

for which gliders are perfectly suited when deployed on a sustained basis.

What are the benefits/opportunities of global coordination, sharing.

The global coordination will allow a promotion of the relevant scientific axes that Oceangliders agreed to address, through data management at the global scale in particular. The sum of effort can become greater than that of its individual parts by sharing tools, methodologies and standards.

What sustained observing means in practice

The definition of sustained observations was discussed.

Different definitions of sustained observations have been suggested:

- o “linked to a scientific rationale for long term observations”
- o “enough observations to answer scientific question ones want to address”
- o “on going observations and the will to continue”
- o “observations feeding the system”
- o “repeat measurements on the long term”
- o “observations carried out with the support of sustained infrastructures”

It was noted that long term funding is generally difficult to get but the will to continue an observational program, with repeat measurements, generally ensures a sustained nature. The steering team shall better define this “sustained” notion in the near future.

What global coordination means in practice. (Connections to GCOS, GOOS, etc)

Global coordination means to develop a global glider “program” with multi-purposes in liaison with JCOMM and GOOS/GCOS. It also means to define a common policy with regards to other international initiatives (G7, TPOS 2020, OceanObs’ 19...)

G7 Statement

David Smeed outlined context and requirements for input. Members agreed to provide feedback by Thursday.

ACTION: David and Mark Inall finalise document.

DONE. Document finalized and transmitted to national delegates. The document is available at:

http://www.ego-network.org/dokuwiki/lib/exe/fetch.php?media=public:gst:g7_oceans_rec1_glider_v1.pdf

Catalogue of relevant sustained glider programs

list/characterize the different “sustained” glider activities for global coordination/oversight, activity monitoring, and scientific (OSSE for instance) issues. It has been agreed that this list will be based on the Task teams (TTs) work (see below) and will grow through the different glider programs contributions.

This aspect of the coordination needs to be further discussed during the next meeting.

Other international activities.

OceanObs19 meeting is 3 years away. It is a good target for focusing activity. Input to be prepared in 2 years.

TPOS 2020: 1st Report is being finalised. It is recommended that members read it, as the document articulates well the requirements for tropical pacific observations, and considers gliders well suited to meet these requirements. Observing system design will be further refined between now and the 2nd Report (2018).

4. Governance issues

It was agreed to have a coordination team (Executive Committee) made of co-chairs and a small team (say 3-5 persons) who are in regular contact to take organisation forward and then expert Task Teams (TTs) in specialist areas overseen by the Executive Committee in order to engage broader community. It is expected that the mission based TTs will organically develop by aggregating the different initiatives about the following topics around the world. Four initial task teams were identified :

- Sustained observations of boundary currents
- Gliders for storms, hurricanes, typhoons.
- Convection and mixing
- Data Management

The composition of the Executive Committee

On one hand, while the ‘Executive Committee’ might change in the future, it probably makes sense at this stage that it is composed of the TT leaders identified in the run up to this second meeting. On the other hand, despite it is pragmatic, it also means that a quick review of the Task Team proposal is caught up in conflict.

Action : Decide on the composition of the Executive Committee in the run up of this second meeting.

The following aspects should be further discussed and agreed during the next OceanGliders meeting.

- Governance issues/rules
- Membership rules.
- Timeline for meeting and reporting

5. Implementation Issues

Task Team “champions” have been identified:

- Boundary Currents: Dan Rudnick, Craig Lee.
- Storms: Scott Glenn.
- Convection: Pierre Testor
- Data Management – Daniel Hayes (provide charge, keep track of data management team)

Template for proposing TTs (2 pagers) are provided:

Different aspects for such proposals should be considered (scope/focus, scientific and societal issues addressed, membership, data policy, sustainability of observations, planned activities, timeline, international dimension, benefits from a global coordination, cross network...)

Ocean Coordination Group (JCOMM) planned for 17th of May 2017. Task teams should be “ready” with pagers before this meeting in order to report.

ACTION : Brad De Young to provide his template headers. Champions to coordinate forming team, drafting 2 pagers.

DONE. Document available at :

http://www.ego-network.org/dokuwiki/lib/exe/fetch.php?media=public:gst:how_to_set_up_an_oceanglidors_tasks_team.pdf

ACTION: Dan/Craig to provide draft for Boundary currents, which could then be used as a template for other TTs

DONE Document available at :

http://www.ego-network.org/dokuwiki/lib/exe/fetch.php?media=public:gst:global_boundary_currents_3.pdf

ACTION : The present guideline document must be agreed by the OceanGliders steering commity.

ACTION: Champions must draft pagers one month before the 2de OceanGlider meeting.

Additional potential Task Teams in future

- Standards and best practices. (later)
- Biogeochemistry (should be integrated in existing proposed teams for now).

Activities of the Steering Committee.

The team agreed to take OceanGliders coordination forward in earnest, and commit to planning a dedicated steering team meeting in late March/early April next year. Pierre Testor offered to host in Paris.

ACTION: Victor to doodle poll participants regarding preferred dates.

6. Data Management Issues

Towards a general glider metadata base

A major risk has been identified by OCG: *“Tracking and reporting of real time and delayed mode data delivery across the systems to be implemented (though this would need to be resourced)”* and they recommended the *“Development and Clear communication of metadata standards, tracking and monitoring of delivery”*.

Today, most of the glider data collected in a sustained framework reaches the GTS. However, systems able to display gliders data pushed to the GTS are little confused. This confusion is mainly based on metadata management and data flow toward these systems.

There is a crucial need to describe our OceanGliders network activity with high-level information in order to improve our contribution to the GOOS. This should be the main objectives of the Gliders Data Management Team.

GDMT

The volume of metadata and data is important for gliders and the efforts in data management are huge. There are different glider data flows between the Operators and the final Users through Data Assembly Center (DAC) and associated Global Data Assembly Centers (GDAC). Fortunately there are not that many, thanks to the rapid set up of common formats with the IOOS, IMOS, and EGO common data formats. These formats have been compared in 2013 in the framework of ODIP and were very similar (netcdf conventions), differing slightly (some discrepancies in naming and metadata), and there was good hope to converge rapidly.

The GDMT has unfortunately not managed to formally meet yet.

Following issues concerning the GDMT will have to be addressed during the next meeting:

- Governance
- Membership
- Timeline for meeting and reporting
- Objectives

As the GDMT has never meet yet, it probably makes sense at this stage that it is composed of the Data Management TT leader and the Technical coordinator in the run up to the second meeting. They will have to connect first at least with the following people, identified as potential members of the GDMT:

Alessandra Mantovanelli, ANFOG, Australia
Thierry Carval, Ifremer, France
Riccardo Gerin, OGS, Italy
Erik Magnus Bruvik, UiB, Norway
Charles Troupin, SOCIB Spain
Justin Buck, BODC, UK
Derrick Snowden, IOOS/NOAA, USA

7. Attendance list

| Attendees | Country | Institute | email |
|------------------|----------------|------------------|----------------------------|
| Pierre Testor | France | CNRS | testor@locean-ipsl.upmc.fr |
| Elena Mauri | Italy | OGS | emauri@ogs.trieste.it |

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|------------------------------|-----------|--------------------------|-------------------------------------|
| | | | |
| David Smeed | UK | NOC | das@noc.ac.uk |
| Peter Haugan | Norway | UiB | Peter.Haugan@uib.no |
| Simon Ruiz | Spain | IMEDEA | simon.ruiz@imedea.uib-csic.es |
| Brad de Young | Canada | MUN | bdeyoung@mun.ca |
| Dan Rudnick | US | SCRIPPS | drudnick@ucsd.edu |
| Craig Lee | US | University of Washington | craig@apl.washington.edu |
| Dan Hayes | Cyprus | OC-UCY | dhayes@ucy.ac.cy |
| Johannes Karstensen | Germany | GEOMAR | jkarstensen@geomar.de |
| Scott Glenn | US | Woods Hole University | glenn@marine.rutgers.edu |
| Mark Inall | Scotland | SAMS | Mark.Inall@sams.ac.uk |
| Laurent Mortier | France | ENSTAParistech | laurent.mortier@locean-ipsl.upmc.fr |
| Apologies | | | |
| Chari Pattiarachi | Australia | UWA | chari.pattiaratchi@uwa.edu.au |
| Agnieszka Beszczyńska-Möller | Poland | IO PAN | abesz@iopan.gda.pl |
| Invited | | | |
| Katy Hill | Australia | WMO | khill@wmo.int |
| Victor Turpin | France | CNRS | victor.turpin@locean-ipsl.upmc.fr |

8. Action Items

| Action | Responsible | Status |
|--|--------------------------|-------------|
| Finalise G7 document. | David Smeed / Mark Innal | DONE |
| Provide his template headers. Champions to coordinate forming team, drafting 2 | Brad De Young | DONE |

| | | |
|---|--|-------------------|
| paggers | | |
| Provide draft for Boundary currents, which could then be used as a template for other TTs | Dan Rudnick / Craig Lee | DONE |
| ACTION: Champions must draft paggers. | Dan Rudnick / Craig Lee /Scott Glenn / Pierre Testor / Dan Hayes | To be done |
| Make Tasks Team template and completed document available on the EGO website | Victor Turpin | To be done |
| Doodle poll participants preferred dates. | Victor Turpin | DONE |

9. Future meeting

The next JCOMM OCG session (OCG-8) will be held from the 22nd-25th May 2017 in Qingdao, China. It would be great if progress with OceanGliders can be presented at this meeting.

Pierre Testor offer to host the next meeting in Paris. A doodle poll is available here (<http://doodle.com/poll/3quyitufgm5zen92>) to set up a date.

- 18-19 January 2017 : US Underwater Wokshop - Stennis Space Center, Mississipp.
<http://www.iooc.us/activities/task-teams/glider-tt/us-underwater-glider-workshop/>
- 7-8 february 2017 : Canadian (DFO) Glider Workshop – Victoria BC, Canada.
- 8-9 February 2017 : Cross GOOS Workshop – North Miami, US
http://www.ioc-goos.org/index.php?option=com_oe&task=viewEventRecord&eventID=1825
- 22 – 25 may 2017 : JCOMM OCG – Qingdao, China