GODAE OceanView Patrons' Group Report: 2015

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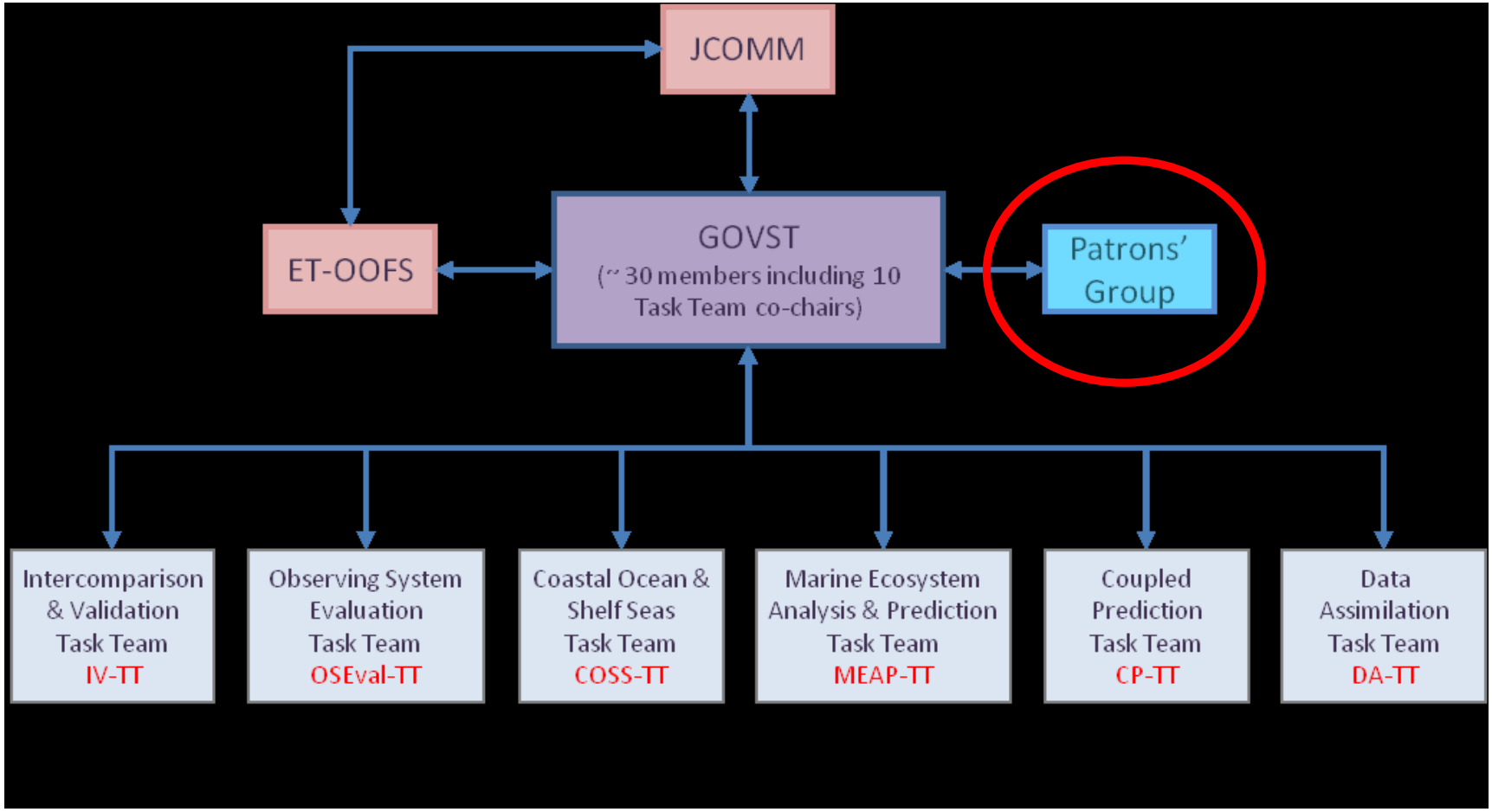
(On behalf of Paul DiGiacomo, NOAA
Chair, GOV Patrons Group)

Highlights

- Patrons' Group: Objectives, Membership et al.
- GOV Significant & Noteworthy Events
- Task Team Champions
- Task Team Annual Reports
- Sponsoring → EUMETSAT, NOAA & CSIRO: GOVST-VI meeting, TT workshops, GEO Blue Planet et al.
- Challenges and Opportunities

GOV Organizational Structure



GOV Patrons' Group: Objectives

The Patrons Group consists of representatives of those agencies or groups which are well placed to provide guidance to the members of the Science Team and or be kept informed of its discussions and to provide resources for GOV activities. The objectives of the Patrons Group are to:

⇒ Provide visibility for and promote the value of GOV and its activities;
⇒ Provide a focus for national participation in GOV;
⇒ Obtain or provide appropriate national and international resources for GOV;
⇒ Provide advice to the GOVST on matters of resources, international coordination and funding priorities;
⇒ Assist the GODAE OceanView Science Team in questions of advocacy for the ocean observing system and enable the ocean community to speak with one voice on this issue;
⇒ Provide advice to the GODAE Task Teams on matters of resources, international coordination and funding priorities. Typically, each Task Team will have at least one member of the Patron's Group acting as a champion for their work who promotes the activity.

GOV Patrons' Group: Membership

Pierre Bahurel (MERCATOR, France)
Rick Bailey (BoM, Australia)
Hans Bonekamp (EUMETSAT, EU)
Paul DiGiacomo (Chair; NOAA, USA)
Craig Donlon (ESA, EU)
Mark Drinkwater (ESA, EU)
Philippe Escudier (CNES, France)
Johnny Johannessen (NERSC, Norway)
Masa Kamachi (JMA, Japan)
Pierre-Yves Le Traon (IFREMER/MERCATOR, France)
Eric Lindstrom (NASA, USA)
Satheesh Shenoi (INCOIS, India)
John Siddorn (UKMO, UK)
Hendrik Tolman (NOAA, USA)
Hui Wang (NMEFC, China)

The **Bureau of Meteorology** is Australia's national weather, climate and water agency.

CSIRO is the Commonwealth Scientific and Industrial Research Organisation, Australia.

EUMETSAT is the European Organisation for the Exploitation of Meteorological Satellites.

INCOIS is the Indian National Centre for Ocean Information Services.

The **Met Office** is the UK's National Met Service, with responsibility for weather (including ocean) forecasting and climate services

NASA is the National Aeronautics and Space Administration, the agency of the United States government.

NOAA is the National Oceanic and Atmospheric Administration, a US federal agency.

CNES is the Centre National d'Études Spatiales, the French government space agency.

ESA is the European Space Agency, shaping the development of Europe's space capability.

Ifremer is the French Research Institute for Exploitation of the Sea.

IOC is the Intergovernmental Oceanographic Commission of UNESCO.

Mercator Ocean is the French Operational Oceanography Centre.

NMEFC is the National Marine Environmental Forecasting Center of State Oceanic Administration (SOA).

REMO is the Brazilian effort in physical oceanography and operational oceanography.

Significant & Noteworthy Events

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GOVST & TTs:

- GOV Strategic Plan Published, December 2014
- Recent Task Team meetings held: DA (May 2015), MEAP (June 2015), COSS (September 2015)
- Synergies between the TTs are being developing; e.g., next year a joint DA-TT/MEAP-TT workshop is planned (Spring 2016 in Santa Cruz, California)
- Engagement with the wider science community/experts is being developed by the TTs resulting in invitations of new TT members and linking to other international research groups

Significant & Noteworthy Events

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GOV Patrons:

- Philippe Escudier (CNES) was welcomed as a new member of the GOV Patrons Group; we thank Juliette Lambin for her service these past years.
- Hendrik Tolman (NOAA) has fully transitioned to the Patrons' Group
- Patrons' Group Champions for Task Teams have been identified to support their development and implementation activities (*see following slides…*)
- TT progress (quad-charts) have been collected from TTs and circulated to the GOV Patrons. This system has now adopted as a mechanism the provide the Patrons' Group with feedback on TT activities (*see following…*)

GOV Patrons' Group: TT Champions

GOV Patrons' Group TT Champions (main champions named first):

- COSS-TT → Pierre-Yves Le Traon (Ifremer/Mercator Ocean) & Masafumi Kamachi (MRI-JMA)
- CP-TT → Hendrik Tolman (NOAA) & Hui Wang (NMEFC)
- DA-TT → Johnny Johannessen (NERSC)
- IV-TT →John Siddorn (UK Met Office)
- MEAP-TT → Paul DiGiacomo (NOAA)
- OSEval-TT →Craig Donlon (ESA), Eric Lindstrom (NASA) & Hans Bonekamp (EUMETSAT)

Quad chart describing the progress of annual activities in the Coastal and Shelf Seas Task Team (COSS-TT)

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Short description and objectives of the activities started /planned for this year:

- FA1: Continue general TT work on targeted science to enable/support the development of COFS and applications and meet priority challenges
- FA2: Work towards better integration between COFS and LOFS via downscaling, illustrate added value via consistent metrics
- FA3: Link with the active regional/coastal altimetry community and accompany the jumps in resolution and in "information forcing" towards extending prediction capabilities of COFS

Accomplishments of the TT this year:

- FA1: Organization of the GOV/COSS-TT International Collaboration Workshop 4 (ICW-4) in Lisbon (08/31-09/04)
- FA2: Organization of a special session at ICW4 jointly with IV-TT and EU EOS project – homework to be decided upon in Lisbon
- FA3: Organization of a pilot ARCOM workshop embedded in ICW4 (ARCOM = Altimetry for Regional and Coastal Ocean Models)
- Publication of two community papers in JOO following the 2013 GOV Symposium
- Ongoing COSS Topical Collection in Ocean Dynamics (currently 12 papers)

Future plans to continue/ improve current activities:

- ICW-5 planned in early 2017, themes to be decided in Lisbon
- Homework on COFS metrics and added value of downscaling to be decided in Lisbon jointly with IV-TT and discussed at ICW4
- ARCOM future format and plans to be decided in Lisbon
- COSS-TT-sponsored session proposal accepted at OSM 2016
- Discuss publication/communication plan, in particular new TC

Issues/ problems:

- Difficult to get LOFS (= "GOV groups") to participate in our activities and workshops, while they are directly concerned by FA2 (e.g. consistent metrics in LOFS and COFS)
- Need to discuss linkages with MEAP-TT on coastal BGC downscaling and forecasting and BGC-physics links

Additional comments:

FA = Focus Area (as agreed upon in Beijing); COFS = Coastal Ocean Forecasting System; LOFS = Large-scale Ocean Forecasting System

Quad chart describing the progress of annual activities in the Coupled Prediction Task Team (CP-TT)

Short description and objectives of the activities started /planned for this year:

• Facilitate exchange of national and international programs on coupled prediction in and Earth Systems Modelling context with a focus on the role of and impact on oceans
• Clarify and refine the CP-TT work plan and plan some items in more detail
• Build links with the Working Group on Numerical Experimentation (WGNE), the GOV Data Assimilation Task Team (DA-TT) and Coupled Global Modelling (CGM) Committee
• Prepare an inventory of GOV coupled systems and related plans

Accomplishments of the TT this year:

• CP-TT membership updated
• Focus areas, main priorities, activities for years 1-4, expected outcomes, investments and returns prepared for GOV Action plan
• TT members canvassed for updates on their related coupled prediction activities
• Participated in 30th WGNE session and made CP-TT presentation to build links and promote Joint GOV-WGNE workshop
http://polar.ncep.noaa.gov/conferences/WGNE-30/
• Input provided for WGNE document on Transpose-CMIP
• Participated in CGM Committee teleconferences
• Participated in DA-TT workshop for coordination of coupled data assimilation activities
• SST diurnal cycles study initiated

Future plans to continue/ improve current activities:

• Complete inventory of GOV coupled systems and related plans
• Agree suitable test cases / periods for comparison of coupled / uncoupled GOV systems
• Facilitate R&D on identified system priorities (e.g. Coupling methods, SST / diurnal cycles)
• Initiate planning for Joint GOV-WGNE Workshop on Coupled Modelling and Data Assimilation in 2017
• Continue interactions with WGNE, DA-TT, IV-TT, CGM

Issues/ problems:

• Government travel restrictions are limiting / jeopardizing participation in GOVST-VI in Sydney 2-6 November 2015.
• Institutional priorities limit members' time for specific TT activities which must be carried out on a "best effort" basis.

Quad chart describing the progress of annual activities in the Data Assimilation Task Team (DA-TT)

Short description and objectives of the activities started /planned for this year:

1. Improving understanding of error covariances used in existing DA systems through coordinated "multiple widely-spaced observation" experiments.
2. Identifying and quantifying model and forcing bias through inter-comparison of average assimilation increments.
3. Promote the development of hybrid data assimilation methods in the ocean
4. Organise meeting aimed at fostering the development of the DA systems

Accomplishments of the TT this year:

• Held a successful workshop of the DA-TT in Exeter, UK in May 2015: https://www.godae-oceanview.org/outreach/meetings-workshops/task-team-meetings/da-tt-workshop-2015/
• 37 registered attendees with 2 ½ days of scientific presentations and discussions about the work plan items.
• Twiki pages set-up detailing the plans for the two inter-comparison activities (work plan items 1 and 2) based on the workshop discussions at http://twiki.godae-oceanview.org/bin/view/Main/DataAssimilationTT
• Specific session at the workshop on the work plan item 3 with invited speaker Andrew Lorenc describing NWP experiences of hybrid DA.

Future plans to continue/ improve current activities:

• Maintain momentum from the workshop to move the work plan items forward.
• Discussions are on-going about the details of the work plan items and time-scales have been proposed (see twiki pages linked above).
• Plan to have a joint DA-TT/MEAP-TT workshop next year in Santa Cruz, California

Issues/ problems:

• Need to move the work plan items forward after the workshop and make sure enough groups are involved.
• Dedicated funding for a scientist to analyse the results of the inter-comparison experiments would greatly improve their impact.

Quad chart describing the progress of annual activities in the Intercomparison & Validation Task Team (IV-TT)

Short description and objectives of the activities started /planned for this year:

•Objective 1: Class 4 Intercomparison metrics project continuation
•Objective 2: Development of Class1 intercomparison metrics
•Objective 3: Contribution to the real time reanalysis intercomparison and ocean climate monitoring initiated by a CLIVAR-GSOP team
•Objective 4: Standardisation towards ET-OOFS

Accomplishments of the TT this year:

Objective 1:
• Teleconference held Jan. 19, 2015 to discuss class4 results and extension to sea ice and surface drift.
• Videoconference held June 11, 2015 between UK Met, Mercator and CMC to discuss outstanding Class4 issues (e.g. in situ quality control).
• Subsequent meeting planned for Sept. 2015 to prepare results for 2015.
• 2 Class-4 articles published in JOO
Objective 2: No update.
Objective 3: Articles prepared for special issue of Climate Dynamics on ORA-IP intercomparison. Ongoing discussion concerning salinity, heat fluxes parameters
Objective 4: No direct update – 1 synthesis article accepted for publication in JOO

Future plans to continue/ improve current activities:

Objective 1:
• Extension of class4 to ice and surface drift. Consolidation of methods toward transfer to ET-OOFS. Annual update for GOVST in Nov. 2015, with a demonstration in preparation
• Involvement of various groups in polar intercomparison activities in preparation for YOPP.
• Joint meeting with COSS-TT next September (Lisbon) to discuss regional/open ocean metrics definition

Objective 2: Actions not decided until the GOVST 2015 meeting
Objective 3: Meeting scheduled in September to discuss ORA-IP future plans
Objective 4: ET-OOFS to help for internal organisation and updates

Issues/ problems:

• N/A

Quad chart describing the progress of annual activity in the Marine Ecosystem Analysis & Prediction Task Team (MEAP-TT)

Short description and objectives of the activities started /planned for this year:

- Workshop and TT meeting (done)
- Revision of strategic plan/milestones (started)
- Survey of end user needs w.r.t. biological/biogeochemical model products (planned; co-leads identified)
- Coordination with DA TT incl. planning for joint workshop in 2016 (ongoing)

Accomplishments of the TT this year:

- Obtained funding ($15,000) from the Canadian MEOPAR Network in support of MEAP workshop
- Held workshop with roughly 40 participants in Halifax in June followed by TT meeting
- Recruited new TT members

Future plans to continue/ improve current activities:

- Prepare for Year 2 milestone: Review of impacts of DA methods on biological/biogeochemical model outputs (planning targeted workshop together with DA TT; synthesis paper)

Issues/ problems:

- none

Quad chart describing the progress of annual activities in the Observing System Evaluation Task Team (OSEval-TT)

Short description and objectives of the activities started /planned for this year:

0. Coordination of the TT

1. Near-real-Time (NRT) Observing System Experiments (OSEs) with the primary objective to generate "up to date" results in order to be able to respond to observing system events. We plan to set up both standard NRT OSES and alternative methods

2. Community Observing System Experiments (OSEs).

Accomplishments of the TT this year:

0. The following activities have been performed:
- Initiate an "Official" OSEval TT presentation
- Investigation to find some funding from observational agencies for OSEs studies
- Participation Deep Argo Workshop: Presentation of up to date results relative to this subject

1. No request from observational agencies to provide feedbacks relative to Observing System Events

•2. Organisation in Toulouse (10-12 December) of the 2nd GOV-OSEval-TT/GSOP-CLIVAR Workshop:
40 people, 24 presentations covering 6 sessions. This workshop allows the provision of a review of the main achievement done for ARGO, TPOS, altimetry, SSS observing system and to propose future activities and provide recommendations → see Workshop report for more details

Future plans to continue/ improve current activities:

1. Continue NRT activities and provide feedback on demand
2. Continue to seek budget for OSEs studies
3. Coordination with AtlantOs European project (In-situ observing system) where OSE/OSSE will be performed
4. Collect and coordinate OSEval members contribution to TPOS
5. Prepare the next GOVST meeting (November, Australia)

Issues/ problems:

- Resources: OSE studies require additional resources with respect baseline effort done to develop the forecasting system

Supporting GOV Events and Activities

- EUMETSAT (Hans Bonekamp) has provided funds to help organise GOVST-VI and potential future events

- NOAA (Paul DiGiacomo) has confirmed support for future GOV events (e.g. TT workshops) – including the upcoming MEAP-TT meeting: Spring 2016 in California.

- On a related note, NOAA and CSIRO have partnered to jointly host the GEO Blue Planet Secretariat, now to be located in College Park, Maryland USA and Dutton Park, Queensland, Australia.

Challenges and Opportunities

- Securing adequate resources for support of GOV Project Office and Task Team Activities continues to be a challenge.

- That said, there are significant opportunities to better align GOV with the missions, needs and requirements of mission-driven organizations and global users.

- The Patrons will continue to actively support the GOVST Chairs and TT's to advance the GOV purpose of accelerating the improvement and exploitation of operational ocean forecast systems.

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Thank you