



Ocean Predict - Operational Systems - Working Group (Draft) OP- OS – WG

Wed April 20th 12:00 UTC

Agenda 90 min Shared

- Welcome: David / Fraser **5 min**
 - Vision and purpose of meeting

Welcome to Jay Pearlman and Johannes Karstensen (IOC Ocean Best Practices System)

Any edits to Agenda?

- Welcome: **5 min**
- WG ToR: **10 min**
- Ocean Best Practices: **30 min**
 - Presentation by Fraser
 - Presentation by Johannes Karstensen
 - Discussion
- Systems News/updates: **15 min**
- OPST-6 preparation: **10 min**
- Discussion: Potential new members/systems: **10 min**
- Discussion/Recap: **10 min**

OP – OS - WG Meeting 20th 2022 WG ToR: 10 min

- Invitations on right
 - Are we missing people
 - How to identify roles when multiple people per system ?
 - Will maintain ongoing invitation list/members list that can grow

- Comments/Adoption of proposed WG Name:
 - **Ocean Predict – Operational Systems – Working Group**

 - **OP – OS – WG**

- WG ToR Approval

David Ford	Co-chair (Met Office)	UK	david.ford@metoffice.gov.uk
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Johannes Karstensen (invited)	GEOMAR / Ocean Best Practices	Germany	jkarstensen@geomar.de
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PN Vinayachandran	OP co-chair (IISc)	India	vinay@iisc.ac.in

Terms of Reference (copy)

- **Purpose:** Working together to solve common challenges in operational oceanography.
- **Vision:** Better ocean forecasts for those who need them.
- **Mission:** Improve ocean prediction systems by sharing expertise, engaging external partners, and better understanding user needs.

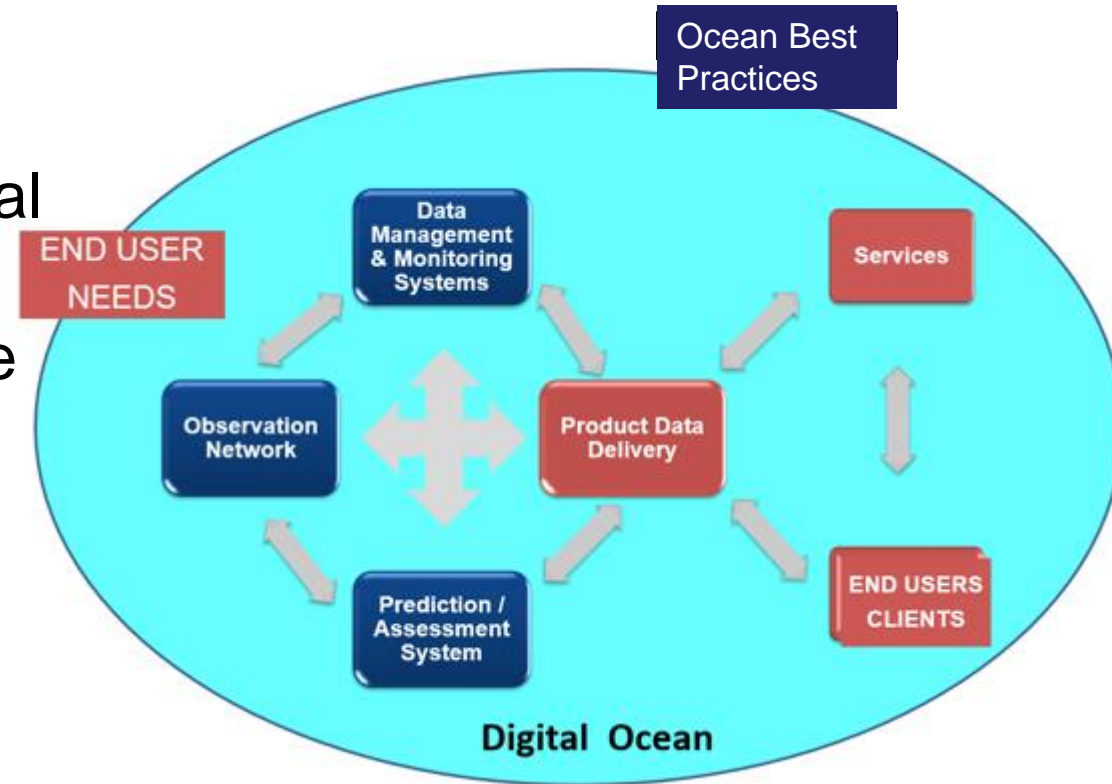
- **Membership:** Membership comes from operational prediction centers
 - 2 co-chairs
 - 1 representative per country/forecasting center on OPST
 - Additional members as needed/desired with expertise to cover specific projects/subjects
 - One voice per system regardless of participation number
 - Systems represented can be global, basin, coastal, for physics and/or biogeochemistry. Individual forecasting systems would be represented by the forecasting country or consortium.

- **OPST Participation**
 - WG as a whole can coordinate presentations at OPST from forecast centers. Presentations can be by WG as a whole, or by individual systems
 - WG itself decides how best to present things at OPST.
 - NOTE: OSWG meetings enable all forecasting centers to present on system status, progress, and updates

- **WG Culture**
 - Respectful of differences: WG forecasting centers will have different schedules, capacities, staffing levels and focus. Thus acknowledge flexibility in contributing to WG activities.
 - The WG will be enabling/empowering and focused on group needs
 - Informal consensus building
 - WG meetings will alternate time zones

This WG & Ocean Best Practices

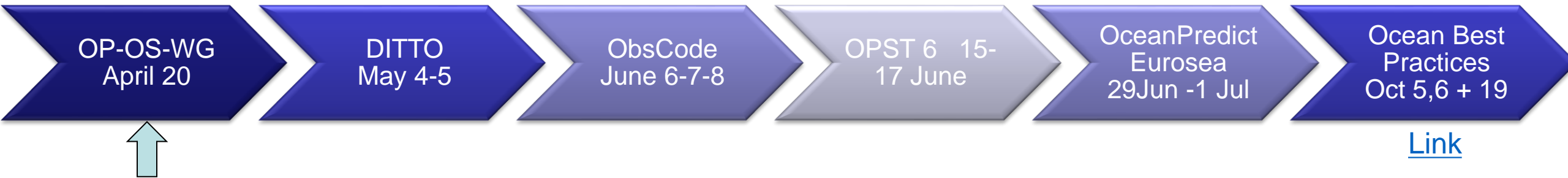
- OP – OS – WG Building block of OO value chain
- can engage/interact with groups across all components needed to sustain an Operational Prediction System
- observations, digital ocean and end user side
 - GOOS - ETOOFS
 - Ocean Best Practices System
 - DITTO
- Developing best practices for Ocean Prediction
 1. Within prediction systems
 2. Connecting prediction systems to other value chain components



WG and Ocean Best Practices

- Why best practices could be helpful
 - Useful information to get a common understanding of processes
 - Enables us to know common elements and differentiating elements across forecasts systems
 - Define what we mean and terminology we use
 - When processes of mature prediction systems are described, enables other (/emerging) to follow suit more easily.
- WG would be at Best Practice Level and lead to eventual standards; WG would be an “expert panel” for BP review.
- Standards would however be purview of ET-OOFS and IOC, but this WG could provide advice/comments/input.

WG & Ocean Best Practices



- Potential Timeline in moving some Ocean Best Practices forward in this WG
- Today:
 - Getting an understanding of best practices and the value of them (best practices need to be useful for us)
 - Looking at what we could do as a group.
 - List of questions we can ask at future meetings
- Presentation by Jay and Johannes
 - Ocean Best Practice System (virtual) workshop Oct 5-19 2022 (see <https://www.oceanbestpractices.org/workshops/ocean-practices-obps-workshop-vi/>)



Best Practices, Standards and the Ocean Best Practices System

IOC Ocean Best Practices System



- Established in 2016
- 8 Workpackages & several Task Teams
- Broad community support & uptake
- Repository: >1550 Documents/media stored
- Multiple Languages accepted
- Highlight “Endorsed” Practices
- Assists with “Convergence”
- Open Access
- UN Decade programme: OceanPractices

Joint project Global Ocean Observing System (GOOS) & International Oceanographic Data and Information Exchange (IODE)



Thoughts about best practices

- Best Practices are living documents
- Provision of continuing community feedback is important
- Documents should be easy to update
- Addressing differing infrastructure capabilities for a global system
- Training is essential - throughout the value chain
- Endorsement guides new members of the community and ECOP
- Use OBPS for sustaining and also increasing the visibility of your work



Convergence & Endorsement



Now the Challenge is to find the applicable Best Practice for your mission among the many Best Practices now accessible



- **Convergence:** process where existing, but fragmented, knowledge is converged to create a comprehensive document – that may qualify as “Best Practice”



- **Endorsement:** process where coordination groups and communities approve documents as the current standard for their operations
e.g. first such endorsement process is operational for **GOOS Endorsed Ocean Best Practices**



Model appearance in OBPS repository



Search term

- „modell“ -> 20 documents
- ”model” (but not “data model”) -> 1096 documents – many do not seem to be relevant (e.g. concept model, tidal model,)

Modeling What We Sample and Sampling What We Model: Challenges for Zooplankton Model Assessment

Jason D. Everett^{1,2*}, Mark E. Baird³, Pearse Buchanan⁴, Cathy Bulman⁵, Claire Davies⁶,

Assimilation of significant wave height from distributed ocean wave sensors

P.B. Smit^{a,*}, I.A. Houghton^{a,b}, K. Jordanova^a, T. Portwood^a, E. Shapiro^a, D. Clark^a, M. Sosa^a, T.T. Janssen^a

^a Sofar Ocean Technologies, San Francisco, CA, USA



-> ***What types of BP and Standards are related to “OceanPredict”?***

-> ***Based on what is available: define “OceanPredict” endorsement***



unesco

Intergovernmental
Oceanographic
Commission

Cooperation between OceanPredict & OBPS



- OceanPredict operations is a key (critical) part of the value chain supporting users
- Efficient connections across the value chain are essential
- Best practices, standards & certification provide links across elements of the value chain

- Defining key best practices and supporting adoption
- Endorsement
- Evolution to standards when beneficial

Agenda Items (2nd half)

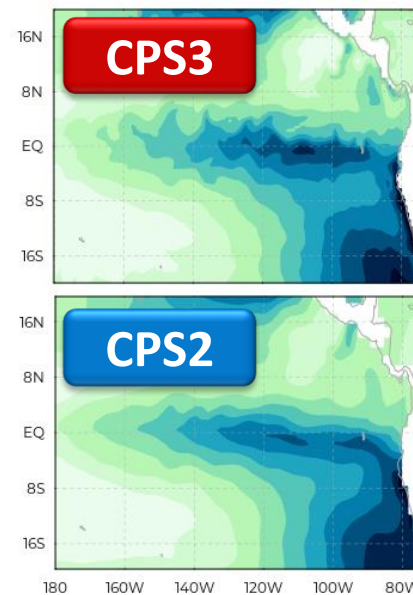
- Systems News/updates: **15 min**
 - Provide a slide ahead of time if you wish to present
-
- OPST-6 preparation: **10 min**
 - What do we present
 - ToR
 - Best Practices
 - Systems overview
 - Latest implementations?
 - Group vs Individual system presentations
-
- Discussion: Potential new members/systems. **10 min**
 - All persons associated with a particular system can join their system rep at the WG meetings (where it makes sense)
 - Mechanism for inviting additional systems to WG, even if they are not represented at OPST?
 - Discuss additional systems to invite
-
- Discussion/Recap: **10 min**
 - Any changes to make for next meeting?
 - Action items
 - Areas of collaboration
 - When to meet next

★ JMA Seasonal Prediction System Updated in Jan. 2022

◆ JMA/MRI-CPS3

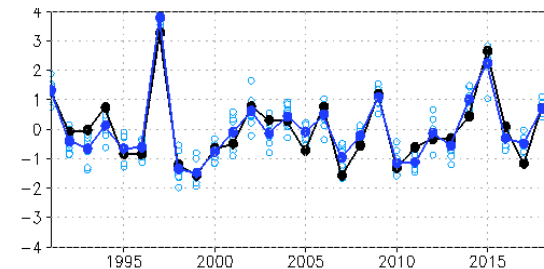
- Atmospheric Model: TL319L100 (GSM2003)
- Ocean Model: 0.25 ° × 0.25 ° L60 (MRI.COM v4.6)
- Initial Condition: JRA-3Q for atmosphere
MOVE/MRI.COM-G3 for ocean
T, S, SSH (4DVAR) sea-ice (3DVAR)
- Forecast Period: 6 months
- Ensemble: 5-members per day × 11 LAF

New System

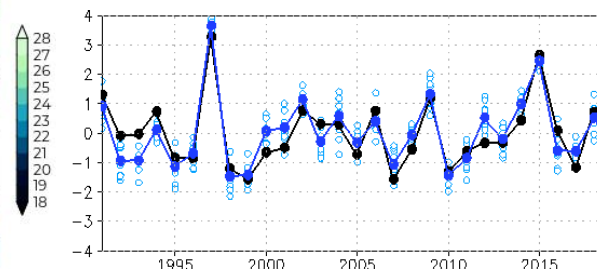


Old System

NINO.3



ACC=0.94



ACC=0.90

OP National reps – latest system status updates

FOAM (UK)

- **Currently being trialled for operational implementation in early May:**
 - **Global weather forecasts to come from coupled ocean-atmosphere system with 1/4° ocean and 6-hourly cycling**
 - **UK weather forecasts to use forecast SST from 1.5 km regional model**
 - **Updated mean dynamic topography and observation processing for global and regional models**
 - **Wave models upgraded to WAVEWATCH III v7.12**
 - **Major postprocessing improvements**
 - **Retire legacy 1/12° basin-scale systems now global 1/12° operational**
- **Next upgrade will be a supercomputer port**

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OPST internal and external partnerships & Decade

