3rd OceanPredict Executive Committee meeting

OPEC-3

25 April 2024

11 UTC

Attendance

No	Name	Name	Affiliation	Country
1	Eric	Bayler	NOAA	USA
2	Stefano	Ciavatta	MOi	France
3	Stephanie	Cuven	MOi	France
4	Fraser	Davidson	ECCC	Canada
5	Marie	Drevillon	MOi	France
6	Fabrice	Hernandez	MOI/IRD	France
7	David	Ford	Met Office	UK
8	Yosuke	Fujii	MRI-JMA	Japan
9	Alexander	Kurapov	NOAA	USA
10	Pierre-Yves	Le Traon	MOi	France
11	Kristian	Mogensen	ECMWF	UK
12	Elisabeth	Remy	MOi	France
13	Gregory	Smith	ECCC	Canada
14	Ann Kristin	Sperrevik	Met.no	Norway
15	Kirsten	Wilmer-Becker	Met Office	UK
16	Liuqian	Yu	University of Hong Kong	China

Agenda

1. Brief review of old actions (KWB); 5'

2. TT presentations overview from the TTs and OPOS-WG (co-chairs); 5' each

3. Symposium preparations (MD/SC); 10'

4. Discussion of AI/ML methods for ocean forecasting. Do we need a new TT? 5-10'

5. AOB

Discussion summary:

1. Old actions

Old actions were presented. Some actions are done, some are ongoing or on hold. No further comments were added. Action info is available in *Appendix 1.*

2. TT and WG summaries

a. OS Eval-TT

Elisabeth took part in the last Argo Steering Team meeting (AST-25, March 2024). Argo struggles to acquire enough/sustainable funds for the planned OneArgo network evolution. More evidence of the utility and impact of Argo data could support of this effort. It was agreed to organise and enhance communication between OP and Argo to work on providing feedback on the usefulness of Argo data, specifically BGC, deep Argo and Arctic Argo. In Europe usage of BGC Argo is well established. A workshop on this topic, possibly run by SynObs next year could be helpful in consolidating and providing feedback to Argo. In addition, it would be useful for OP to initiate a jointly written position paper on the importance of Argo. The class-4 could also be exploited for the benefit of providing impact information on BGC Argo.

Peter Oke (CSIRO) is the official link between OceanPredict and Argo ST.

Slide presented:

OS-Eval TT

Feedback to Argo on the use, impact and planned evolution of the Argo network from the OceanPredict community:

Argo struggles to have enough/sustainable funds for the planned OneArgo network evolution (https://argo.ucsd.edu/oneargo/).

➢ enhance and organize the **communication** with the Argo Steering Team and specific mission teams (deep, BGC, polar and marginal seas).

Peter Oke is the « official » link between OceanPredict and Argo ST

1 or 2 persons from OP can be involved to discuss needs (accuracy, vert. Resolution, QC, coverage, …) and priority per Argo mission teams.

BGC TT: MEAP members / co-chair: Stefano Ciavatta, David Ford?, Katja Fennel?.

Core / Deep TT: ?

Polar:

The survey on Argo was sent to the Argo ST chairs and presented at ST meeting.

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b. COSS-TT

Villy and Pierre will be stepping down as co-chairs of the COSS-TT at the end of the year and Joanna Staneva (Hereon, Germany) will take over as new co-chair to support Alex Kurapov (NOAA).

Slide presented:

> **COSS-TT update, 4/25/2024**
> - Villy Kourafalou and Pierre De Mey will step down as COSS-TT co-chairs on 31 Dec 2024
> - Joanna Staneva (Hereon, Germany) has agreed to accept the new chair role (transitional until the end of the year)
> - 4 of us (Villy, Pierre, Joanna, Alex) will lead COSS-TT coordination during the transition period:
>   - preparation to OP'24 Symposium
>   - organizing the next in-person COSS-TT workshop (planned: IFREMER, Brest, France, 16-18 June 2025; many thanks to Guillaume Charria for hosting this event)
>   - other activities:
>   - topical issue on coastal ocean prediction
>   - seminars (broadcast from NOAA National Ocean Service): 24 seminars since Nov 2024
>   - Coordinating UN Decade Activities, including the Global Coast Experiment

c. CP-TT

CP-TT members were consulted on the questions of whether the scope of the TT should be extended to include general modelling. This was rejected and the suggestion made to instead consider setting up a new modelling TT.

d. DA-TT

The DA-TT co-chairs are contemplating to provide training on DA at the OP '24 symposium. Material from the previous training (OP '19) is available, but need to be revisited and updates to e.g. include AI/ML. It is also not clear whether training would be topic introduction talks or hands-on sessions.

Stefano suggested to consider providing training on a DA tool that was developed by the SEAMLESS project called EAT (Ensemble and Assimilation Tool).

e. IV-TT

The IV-TT focused on three aspects:

- ***Political aspect***
  - A gentlemen's agreement between the users/contributors of the intercomparison project included limited sharing of data and files. This agreement was not observed by NMEFC which passed files on to a third party without permission. To avoid this in future an official document will be drafted to manifest the agreement in writing, which all partners will need to sign if they like to continue using the GODAE server.

- ***Operational aspect***
  - The IV-TT is asking for endorsement from the OPAS on setting up the operational processing of class-4 intercomparison at participating OP prediction centres. OPOS-WG to work with the IV-TT on developing the appropriate links with the operational centres.

- *Technical aspect*
    - Storing of class-4 files on US GODAE server is now mirrored on the ECCC server
    - New server at ECCC provides the possibility of extending the capacity of running intercomparisons, incl. classs-1
    - Web access can provide the option of sharing of images/graphics with the public (tbc) on a regular basis.

- **Other**
    - Seminars, sharing tools and working on publications is still ongoing
    - Symposium contributions still to be worked on
    - Consideration to run a small in-person IV-TT workshop alongside or before/after the OP '24 symposium – need to explore options
    - WMO data sharing is extending to sea-ice. Alignment with WMO would be useful to avoid duplication. Could use WMO data sharing agreement for the IV-TT
    - PIRATA array would like OP to provide a letter of recommendation

Action OPEC 3 1: OPPO to draft letter of recommendation on the need for PIRATA with the help of Fabrice, Greg, Fraser, Marie, Yosuke and Elisabeth, and send it to the relevant contact (TBC).
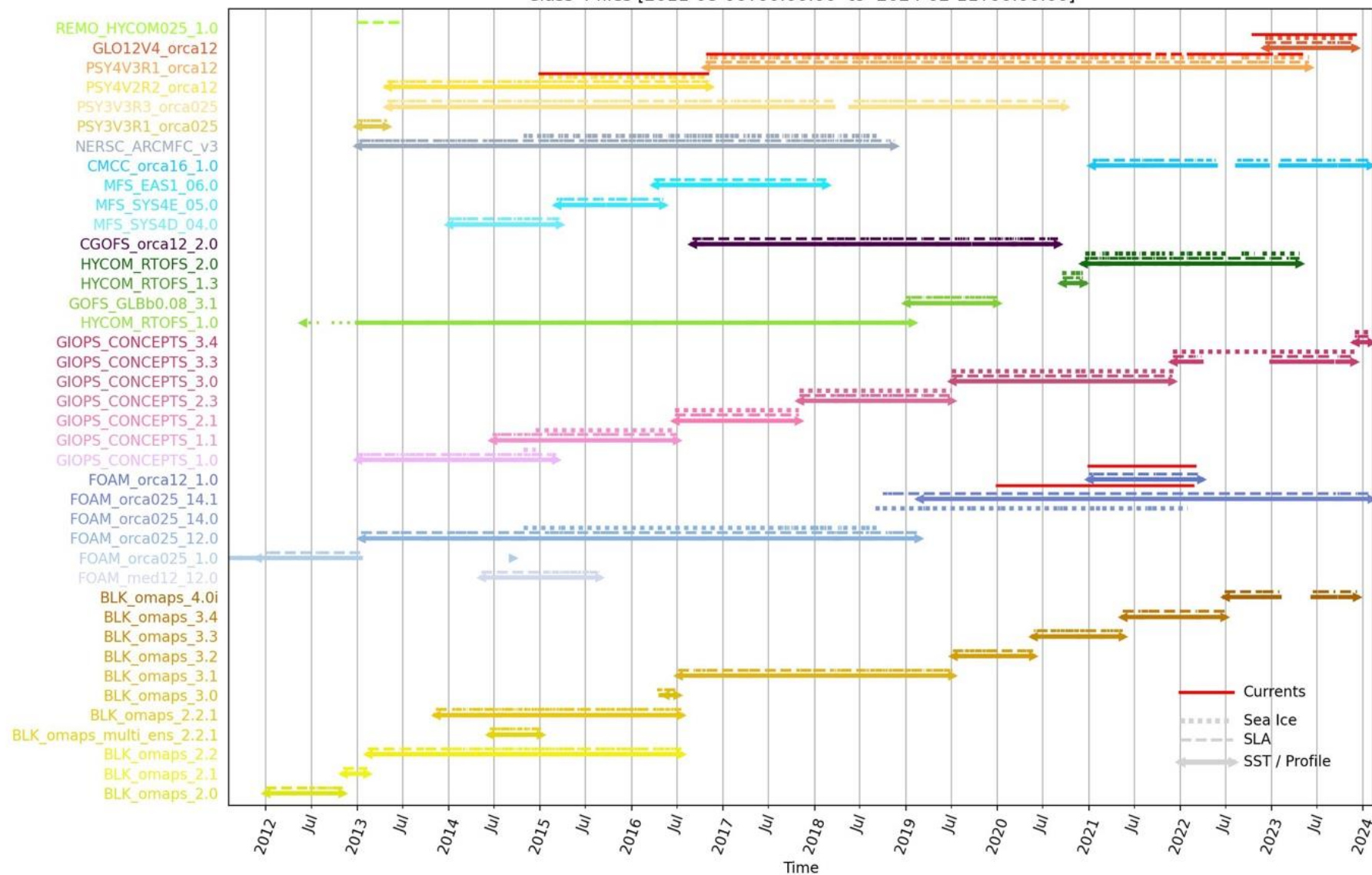
Slides presented:

IV-TT activities – 25 April 2024

- Server for intercomparison activities:
    - ECCC and DFO offered the mirroring server for US-GODAE: GPCP-C server
    - First store in parallel to US GODAE Server the UK-met, ECCC and Mercator Class4 products since 1/1/2024
    - Access/accounts are now granted. ECCC to duplicate also the existing US-GODAE database
    - In the future, evaluate possibilities with user friendly management of the GPCP-C server (discovery, visualisation functions, in addition add Class1 files)
- Class 4 intercomparison framework:
    - Chinese publication on the benefit of IA, using the Class4 metrics without proper authorisation
    - Proposition to draft a "charte" on Class4 activities with all participants.
    - Waiting for feedback from OPOS concerning Patron's engagement in a more operational intercomparison framework
- Bi-monthly meetings: not started yet
- Publication on class4 metrics intercomparison: draft prepared
- IV-TT workshop in parallel to OP Symposium: to be prepared

"image" of the US GODAE server class 4 repository in Feb'2024

Class 4 files [2011-08-06T00:00:00 to 2024-02-11T00:00:00]

Difficulties for Mercator to upload Class4 files in Dec 2023

Despite recent uploading procedures changes, the UK-Met keeps providing Class4 files on US-GODAE server in 2024

Legend:
— Currents
···· Sea Ice
--- SLA
→ SST / Profile

Y-axis labels (top to bottom):
REMO_HYCOM025_1.0
GLO12V4_orca12
PSY4V3R1_orca12
PSY4V2R2_orca12
PSY3V3R3_orca025
PSY3V3R1_orca025
NERSC_ARCMFC_v3
CMCC_orca16_1.0
MFS_EAS1_06.0
MFS_SYS4E_05.0
MFS_SYS4D_04.0
CGOFS_orca12_2.0
HYCOM_RTOFS_2.0
HYCOM_RTOFS_1.3
GOFS_GLBb0.08_3.1
HYCOM_RTOFS_1.0
GIOPS_CONCEPTS_3.4
GIOPS_CONCEPTS_3.3
GIOPS_CONCEPTS_3.0
GIOPS_CONCEPTS_2.3
GIOPS_CONCEPTS_2.1
GIOPS_CONCEPTS_1.1
GIOPS_CONCEPTS_1.0
FOAM_orca12_1.0
FOAM_orca025_14.1
FOAM_orca025_14.0
FOAM_orca025_12.0
FOAM_orca025_1.0
FOAM_med12_12.0
BLK_omaps_4.0i
BLK_omaps_3.4
BLK_omaps_3.3
BLK_omaps_3.2
BLK_omaps_3.1
BLK_omaps_3.0
BLK_omaps_2.2.1
BLK_omaps_multi_ens_2.2.1
BLK_omaps_2.2
BLK_omaps_2.1
BLK_omaps_2.0

X-axis: 2012, Jul, 2013, Jul, 2014, Jul, 2015, Jul, 2016, Jul, 2017, Jul, 2018, Jul, 2019, Jul, 2020, Jul, 2021, Jul, 2022, Jul, 2023, Jul, 2024

Time

f. MEAP-TT

The TT is now running monthly seminar in combination with TT business meetings. At the UN Decade 2024 conference in Barcelona (at OP-DCC event) good connection was made with Marine Life 2030 which endorsed NECCTON as a project under the UN Decade. NECCTON is developing operational capacity for marine ecosystem models. Other projects under this programme are mostly focusing on observations, e.g. marine biodiversity observing network. NECCTON is working on a standardization procedure for marine ecosystem modelling outputs, supporting OP-DCC.

g. OPOS-WG

The OPOS-WG is now working closer with the OP-DCC on refining the Operation Readiness Level (ORL) wording and members are also filling in information on the OP-DCC Atlas which has been launched on the OP-DCC website. A next OPOS-WG members' meeting is planned for May/June 2024.

Slides presented:

- OPOS-WG members helped DCC with refining ORL wording

- Plan meeting with Enrique to discuss

    o Potential ForeSea project
    o Coordination with DCC
    o DCC Atlas
    o Seminars and communication

- Will hold OPOS-WG meeting after that to discuss what came out of that meeting

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Discussions are under way to explore plans for a ForeSea/OP-DCC project. The following statements and questions are not yet finalised.

- *At a high level, the project would help ensure coordination on related activities under OceanPredict, DCC, WMO, and perhaps others.*

- *It should also help assert and frame the role of OceanPredict, in particular as a group of operational systems, in the current landscape, both during and beyond the Decade.*

    o *What OPOS-WG does is bring together large-scale systems mostly run by government organisations that would be difficult to resource through other means.*

    o *Many might aim to be picked up as inputs/boundaries for smaller systems and services, and OceanPredict can be a window to these.*

    o *There's specific uses and lessons and issues and etc that should be documented and shared that might get lost in the broader DCC.*

- *Things we've previously discussed that could be moulded into tasks:*

    o *Class 4 operationalisation and development.*

    o *Seminars and communications.*

    o *Architecture (not fully sure I understand Enrique's vision).*

    o *Best practices (and similarly, "acceptable" practices?).*

- o *Refreshing OP system reporting.*
- o *Improve coordination and communication with observation community.*
- *Questions:*
  - o *What role should OP play in capacity development?*
  - o *Should we ask representatives of developing countries, industry, academia, etc what they would want from OP?*
  - o *Does the building of services on top of operational systems and outputs sit inside or outside this?*
  - o *What are DCC not doing that we should?*
  - o *Can we use OP systems as an "ensemble of opportunity" to address bigger picture science questions, including ones of interest for climate monitoring?*
  - o *Is there a gap that an OP-led "state of ocean forecasting" paper could fill?*
  - o *Are there user success stories we can publicise, distinct from what DCC's doing?*
  - o *Should we be aiming to launch/preview something at the Symposium?*
  - o *How do waves, storm surge, sea ice, biogeochemistry, ecosystems fit in?*
  - o *How do we link with observation-based analysis products?*
  - o *Can we better streamline operationalisation of R&D discussed in Task Teams?*

The relationship between OP and ForeSea needs to become clearer. The work of the OPOS-WG is mostly an OP core activity, but it could provide visibility of its outcomes as part of a ForeSea project. This has to be discussed with the ForeSea co-chairs before it would be communicated with the OP-DCC.

The OP-DCC Atlas wants to include details on waves and storm surges, but this is currently not explicitly covered by OceanPredict. However, the OPOS-WG can include reporting on it via the OPOS-WG national reports which could then be fed into the Atlas.

> **Action OPEC 3 2:** OPOS-WG co-chairs, OPST co-chairs and ForeSea co-chairs (Fraser, Marie, David, Eric and Vinay) to arrange a meeting by 10th May to discuss and clarify the role of ForeSea and OceanPredict (via the OPOS-WG) before setting up another meeting with Enrique on the ForeSea contributions to OP-DCC.

3. Symposium planning

Closer to the symposium we will announce that (only) streaming of the event will be offered as a remote option. We are not intending to have an interactive online event with online presentations or other active interaction. That would only be available for people attending in person.

4. AI/ML Task Team plans

It was suggested to set up a new task team with focus on AI forecasting systems, possibly including modelling. Although AI activities are already finding their way into the various TTs it was highlighted that AI represents a new community (new people) who should be invited to OceanPredict. Such task

team could act as a bridge to other TTs as well as with the atmospheric community. We would now need to draft the TT terms of reference, and identify and invite TT co-chairs who can take the lead.

Action OPEC 3 3: Marie, Greg and Kristian to draft a one-pager/ToR of the new AI task team by 21 May.

The one-pager/ToR will be presented to the OPAS and OPST for ratification before it is put into action.

5. Next meeting

The next meeting has been scheduled for Thu, 6 June 2024, 11-12 UTC.

Meeting recording can be accessed here:

https://oceanpredict.org/docs/Restricted/OPEC/Meetings/Apr-2024/OPEC3-25April24.mp4

Appendix – 1: Actions from OPEC meeting 1 & 2 (Jan & Feb 2024)

Action OPEC2 1: KWB to provide OP global mailing list to Kristian for further distribution of CP-TT invite. - **DONE**

Action OPEC2 2: KWB to email the OPAS co-chairs to secure a presentation slot for the ECCC server plans at the next OPAS meeting (21 March 2024). - **DONE**

Action OPEC2 3: OPPO to provide web stats on the use of the SynObs pages available on the OP website. – **DONE**

Action OPEC1 1: All TT and WG co-chairs to provide 1 or 2 slides before the next OPEC meeting to give a brief update on the TT or WG status, list questions or suggest discussion items. **- Ongoing**

Action OPEC1 2: Elisabeth to keep the OPEC informed about development at the AG Ocean and engage with OPEC members in case of contributions and questions. **- Ongoing**

Action OPEC1 3: OPOS -WG co-chairs to draft one-page requirement document for GODAE server and run it via the IV-TT co-chairs for revision. At the moment the requirements would not need 24/7 support. **– Ongoing**

Action OPEC1 4: KWB and Yosuke to discuss any updates to the Argo survey and agree on recipients (most likely OPOS-WG or even the OP global. **– On hold**

Action OPEC1 5: KWB and OPOS-WG co-chairs to discuss data survey questions and audience, and once agreed run the survey. **– On hold**