



OP- OS – WG MEETING #2

- 0:00 Welcome (Fraser David )
  - New member Jennifer Veitch
  - Membership (anybody missing from list)
- 0:05 Housekeeping
  - Agenda Adoption
  - Minutes of previous meeting
  - ToR adoption with suggested changes from previous OP-OS-WG meeting
  - OPOS-WG as name
- 0:10 Preparing for OPST - 6 System report approach
  - What are the capabilities we want from the system reports
  - How to submit/present the report
  - How to structure reports
- 0:25 OPOS-WG relationships and Decade Activities
  - Overall objectives Better representation and connectivity/integration of prediction systems
- Collaborations
  - ETOOFS
  - Task Team
  - Decade Programs DITTO, ObsCODE, ForeSea, DCC
- Best Practices
  - Which best practice to start with
- OPOS-WG strategy for Digital Ocean approach
- 0:45: Round Table:
  - System updates
- 0:55: Recap / tasks for OPST-6
  - System reporting
  - System presentation slide needs
  - Timelines
- 1:00 Meeting end
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- 0:05 Housekeeping

- Agenda Adoption
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- OPOS-WG as name

## Operational Ocean Forecasting Systems

### Producing and delivering ocean forecasts

OceanPredict fosters the development and improvement of operational ocean analysis and forecasting systems worldwide. The most important aspects of this work relates to scientific advances in ocean modeling and data assimilation. The particular challenges for the future will be on high resolution physical modeling, downscaling, biogeochemical and ecosystem modelling, ocean/wave/atmosphere coupling, coupled data assimilation, error estimates, long-term reanalyses and use of new observations.

The current systems linked to OceanPredict range from basin-scale to global coverage and from low to eddy-resolving resolutions. Most of the systems assimilate real-time observations and provide daily short-term forecast. Their products are available through web services.

### System descriptions

OceanPredict provides a communication and knowledge exchange platform for leaders of operational ocean analysis and forecasting systems. Mainly connecting global systems, OceanPredict also engages with basin-scale and regional system.

[FIND OUT MORE](#)

### Ocean products & services

Operational ocean forecasting systems provide their data, analysis and forecasts through data & product services.

[FIND OUT MORE](#)

### Operational Systems Working Group

A new working group will be set up to coordinate the national efforts of the OP operational systems

[FIND OUT MORE](#)

### Ocean models

Operational ocean prediction systems run Oceanic General Circulation Models (OGCMs) to analyse and forecast the ocean with different domains, resolutions, levels and atmospheric forcing.

[FIND OUT MORE](#)

### System reports

OceanPredict collects annual reports from the all the linked in operational systems which give a detailed overview of the

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## Science

### Operational Ocean Forecasting Systems

[System Descriptions](#)

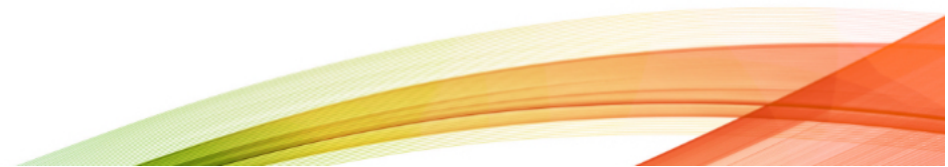
[Ocean Models](#)

[Ocean Products & Services](#)

[System reports](#)

[Task team activities](#)

[Projects](#)



- 0:10 Preparing for OPST - 6 System report approach
  - What are the capabilities we want from the system reports
  - How to submit/present the report
  - How to structure reports

### Setting up an Ocean Best Practice to define ?

- A consistent way/framework of reporting on Ocean Prediction Systems on which it can evolve
- Exploitable in future for contributing information for Ocean Prediction Readiness index (see Enrique Alvarez DCC ETOOFS)

### What do we want from Prediction System report

- 1) system status
- 2) System progress
- 3) to present overall status of systems by theme/area or component
- 4) to feed into web site information
- 5) to steer end users to interfaces

Do we want individual group / common report or individual report  
 Item 13, evolution of best practices and developments ?  
 National or system report

### Current Format of report template

- Background
  1. Input Data
  2. Data Serving
  3. Models
  4. Assimilation Method
  5. Systems Descriptions (Operational)
  6. Link to Observations
  7. Internal Metrics and intercomparison plans
  8. Targeted users and envisions external metrics
  9. Reanalysis and Hindcasting Activities
  10. Computing Resources
  11. Consolidation phase and transition to operational systems (activities)
  12. GODAE OceanView related achievements and measures of success
  - System Information Overview table
  - Publications

- 0:10 Preparing for OPST - 6 System report approach
  - What are the capabilities we want from the system reports
  - How to submit/present the report
  - How to structure reports
- For Mid June OPST
  - What can we achieve on reporting?
  - What can we contribute for presentation?
  - **Option 1:**
    - provide a structure for the reports
    - each group provides 2-3 slides with overall OPST presentation:
      - Proposing report structure
      - Presenting status/advanced of forecast systems
    - Full report to be done following OPST 6 and one structure of reports agreed
  - **Option 2:**
    - Each system submits report per present format with incremental updates from previous report
    - Provides slides for some of the elements in the report which co-chairs can use in pulling presentation together from the reports
  - Option 3: ?

- 0:25 OPOS-WG relationships and Decade Activities (20 min)
  - Overall objectives Better representation and connectivity/integration of prediction systems
- Collaborations
  - ETOOFS
  - Task Team
  - Decade Programs DITTO, ObsCODE, ForeSea, DCC
- **Best Practices**
  - **Which best practice to start with**
- **OPOS-WG strategy for Digital Ocean approach**

- **Best Practices :**
  - Covering prediction systems with other components of value chain
    - Prediction Output  $\leftrightarrow$  DITTO
    - Observing system  $\leftrightarrow$  Prediction systems

DITTO: has several groups, architecture group we may want to connect too

## 0:45: Round Table:

- System updates



# ★ Collaboration of Observing System Simulation Experiment (OSSE)

## Observing System Simulation Experiment (OSSE)

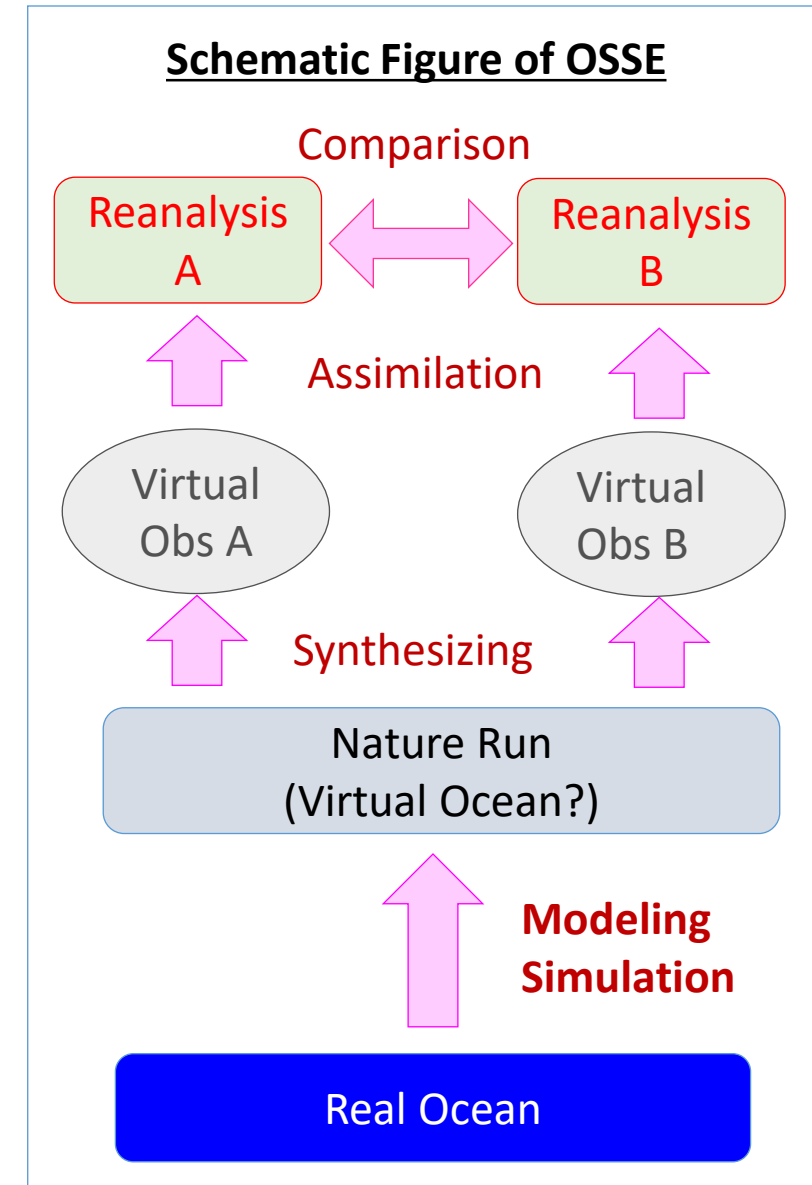
- Also called as Identical Twin Experiments
- Variety of virtual Observation data are synthesized from a virtual ocean data, called “Nature Run”
- Assess the impacts of observation data by comparing assimilation results with/without specific type of virtual obs data.

## Requirement for Nature Run.

- A “Nature Run” must imitate the real ocean well. In particular, they needs to share a similar statistical natures.
- Very high-resolution is required for Nature Runs.
- Huge computer resources are required to generate a Nature Run.

## Suggestion of Collaboration

- Collaboration for generating the Nature Run. (“Nature Run” is a kind of the virtual ocean or the digital twin ocean).
- Actually, OSSE can be considered as a familiar application of the concept of the digital twin ocean.



# ★ Sharing ocean prediction systems and user-interface technologies

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## Ocean prediction systems

- The concept of the digital twin ocean indicates it has ability to predict ocean variations under some artificial assumption.
- Developing/improving ocean prediction systems which can predict ocean variations is the main target of OceanPredict and ForeSea, and they put considerable efforts for that.
- OceanPredict and ForeSea can share the ocean prediction systems with DITTO.



## User-interface Technologies

- User-interface technologies are the core part of the digital twin ocean because it will increase the value when many users use it for various purpose through functional user-interface. Therefore, we expect that many user-interface technology will be developed in DITTO.
- OceanPredict and ForeSea aim to enhance the ocean prediction value chains among observing systems, prediction systems, and end-users. They also need user-interface technologies to achieve the purpose.
- Collaboration for developing user-interface technologies is fascinating!

- ▶ 0:55: Recap / tasks for OPST-6
  - ▶ System reporting
  - ▶ System presentation slide needs
  - ▶ Timelines
- ▶ 1:00 Meeting end