Third Announcement: COST/CLIVAR Workshop on ocean reanalyses and inter-comparisons

Toulouse, France, 29-30 June

Info: http://www.clivar.org/events/workshop-ocean-reanalyses-and-inter-comparisons

The EOS ("Evaluation of Ocean Syntheses") COST action is supporting the assessment of strengths and weaknesses of ocean reanalyses, and the preparation of guidelines for reanalyses to fit different purposes. Previously, the Ocean Reanalysis Inter-comparison project (ORA-IP) consisted in a volunteer-based inter-comparison of the 2011 vintage of global ocean reanalyses, including coupled atmospheric-ocean products and objective analyses, for a number of key ocean diagnostics, generally compared to appropriate validation datasets. The project has led to several scientific publications, collected in a special issue of Climate Dynamics, extensively exploiting the concept of mean signal-to-spread ratio to detect the consistency among the reanalyses, and providing a baseline against which future progress can be assessed.

There is a now clear need to review progress in ocean reanalyses. We need to be sure we have metrics for assessing improvements in order to evaluate the advances made in the reanalysis community (data assimilation methods, observations, boundary forcing, ocean and sea-ice modeling, etc.) and extend the investigations to metrics driven by a broader scientific community, for instance at regional scale (currently Polar ORA-IP is underway http://eos-cost.eu/announcement-2/networks) or ocean process studies (e.g. cross-equatorial and inter-basin transports). The demand for linking the inter-comparison with other similar initiatives, in particular the ocean model inter-comparison initiatives and GODAE supported comparisons, has recently emerged as a valuable strategy to bridge the gap between the ocean modeling, the reanalysis for climate, and the operational communities. Aims of this workshop are to

Review the main outcomes of ORA-IP;

Understand the advances in the ocean reanalysis community in terms of upgrades of individual reanalysis systems;

Identify recommendations and good practices for the reanalysis production (e.g. spin-up, forcing, observations);

Establish a protocol for the next inter-comparison exercise (i.e. timeliness, period, diagnostics, format and grid) and start identifying the metrics that shall be included;

Identify strategies to get a broader scientific community involved in the inter-comparison, for instance establishing a CMIP-like infrastructure that allows external users to inter-compare the products.

Develop a strategy for linking ORA-IP with other inter-comparisons, in particular with the CLIVAR/OMDP sponsored OMIP exercise (e.g. introducing the free simulations counterpart of the reanalyses in ORA-IP);

Discuss strategies for the near real-time extension of the current reanalyses;

Prepare the community for the forth-coming International Conference on Reanalysis (ICR5), to be held in Rome (13-17 November 2017)

Participation is expected from reanalysis producers and experts, ocean modelers, scientists interested in ocean reanalyses and users in general.

Agenda (preliminary version)

Format: *Morning Talks; Afternoon round table; End afternoon: Summarizing conclusions*

Introduction to the Meeting Organization and Objectives

1. Session 1 Current Intercomparisons (20 minutes presentations) (3/4 day)

Short presentation (20 minutes each, including questions, i.e. about 15 minutes talks) on the status and plans for current ocean reanalysis inter-comparison activities, with focus on recommendations and lessons learn. This is conceived as the baseline for the next ORA-IP design.

1) An overview of past ORA-IP (v1) activities (Magdalena Balmaseda, ECMWF)

2) Polar ORA-IP (Keith Haines, U. Reading)

3) CMEMS ocean reanalysis intercomparison activities (Gilles Garric, Mercator Ocean)

4) South Atlantic Intercomparison (Keith Haines Davi Mignac Carneiro, U. Reading)

5) North Atlantic Intercomparison (Lesley Alison, MetOffice)

6) Intercomparison of reanalyses performance for the 2016/2017 sea-ice event (Hao Zuo, ECMWF)

7) Near real-time inter-comparison (Robin Wedd, BoM)

8) Real Time Multiple Ocean Reanalysis Intercomparison and TPOS2020 Intercomparison (Arun Kumar, NOAA/NCEP)

9) CLIVAR/OMDP Panel sustained comparisons (Alicia Karspeck, UCAR)

10) Short overview of regional comparison activities in EOS/COST (Marie Drevillon, Mercator Ocean)

11) Overview of CMEMS Ocean State Report (Karina von Schuckmann, Mercator Ocean)

12) Steric sea level and Ocean heat content in the CMEMS reanalyses (Andrea Storto CMCC)

13) Preliminary intercomparison between NRL high-resolution reanalysis and SODA (Jim Richman, NRL)

14) Budget analysis from ocean reanalysis data (Maria Valdivieso, NCEO)

15) Intercomparison between GODAS releases (Steve Penny, NOAA/NCEP)

16) Intercomparison activities planned within APPLICATE and the Year of Polar Prediciton (YOPP) (Matthieu Chevallier, Meteo-France)

2. Session 2 Future Intercomparisons (1ˢᵗ part) (discussion/round table) (1/4 day)

Topics to be discussed and agreed

- protocol

- organization / practical issues

- common repository for reanalyses

Summary and conclusions of day 1

3. Session 3 Reanalysis and modeling plans (short talks) (1/4 day, depending on participants)

Short presentation (5-8 slides) on the status and plans for ocean reanalysis production, with focus on validation and assessment activities routinely performed by each group. This is conceived to foster the discussion on ORA-IP comparison rather than presenting individual system results.

1) BoM system (R. Wedd)

2) UK MetOffice System (D. Peterson)

3) CMCC system (A. Storto)

4) ECMWF system ORAS (H. Zuo)

5) ECMWF system CERA/ORA-20C (E. de Boisseson)

6) Mercator Ocean System (Y. Drillet)

7) JMA systems (T. Toyoda)

8) JAMSTEC systems (T. Toyoda)

9) CLS system (S. Guinehut)

10) NCEP system (A. Kumar, S. Penny)

11) NRL system (J. F. Shriver)

12) MERRA system (E Hackert)

13) NorCPM system (Y. Wang)

4. Session 2 Future Intercomparisons (continued) (discussion/round table) (1/4 day)

Topics to be discussed and agreed

- parameters / regions

- link with OMIP

5. Session 4 Recommendations for reanalysis productions (discussion / round table) and validation (discussion/round table) (1/4 day)

- ICs and external forcing

- NRT extension for online monitoring

- Validation procedures and independent validating datasets

Summary and conclusions of the Workshop

Agenda / Timing

DAY 1

9.00 – 10.40 5 talks S1 (20')

10.40 – 11.00 Coffee break

11.00 -12.30 5 talks S1 (20')

12.30 – 14.00 lunch break

14.00 – 15.40 6 talks S1 (20')

15.40 – 16.00 Coffee break

16.00 – 17.30 Discussion (S2) / Round table

17.30 – 17.45 Summary

DAY 2

9.00 – 11.15 13 talks S3 (10')

11.15 – 11.30 Coffee break

11.30 – 12.30 Discussion (S2) / Round table

12.30 – 14.00 Lunch Break

14.00 – 15.00 Discussion (S2) / Round table

15.00 – 15.20 Coffee break

15.20 – 16.30 Discussion (S4) / Round table

16.30 – 17.00 Summary

Logistic Information

Meeting Venue:

APSB : Association pour la Promotion des Salles du Belvédère,

11, boulevard des Récollets / CS 97802, 31078 Toulouse Cedex 4, Tél : 05 61 55 58 46

11 minutes walk from « Saint-Michel Marcel Langer » metro stationorabout 15 minutes walk from « Palais de Justice » metro station or Tramway station

Suggested list of hotels:

Provided in separate PDF

Toulouse Tourism Office:

http://www.toulouse-visit.com/Prepare-your-stay/Practical-guide

COST funding:

EOS COST can fund the travel expenses to a limited number of participants from the countries participating the EOS COST Action

(see http://www.cost.eu/COST_Actions/essem/ES1402?parties)

Organizing Committee

Aida Alvera Azcarate (University of Liege / EOS COST, Belgium)

Magdalena Balmaseda (ECMWF, UK)

Nico Caltabiano (CLIVAR)

Marie Drevillon (Mercator-Ocean, France)

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Tony Lee (NASA/JPL, USA)

Steve Penny (NOAA, USA)

Drew Peterson (Met Office, UK)

Andrea Storto (CMCC, Italy)

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