

ERA-CLIM2 M48 Review Meeting Introduction and project management

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European Centre for Medium-Range Weather Forecasts

Welcome

Welcome and thank you to:

- The WP Leaders for their leadership role
- *Monika Kacik* and *Alexia Massacand* for their work and support
- *Stefan Brönnimann* for organizing this final 4th General Assembly, Symposium and M48 Review Meeting



Outline



- ➔ 1) Project overview and deliverables' status
- 2) 5th International Conference on Reanalysis (Rome, 13-17/11/17)
- 3) ERA-CLIM2 Symposium

The 4th General Assembly (12-13/11/17)



Hosted by the University of Bern (12-13 Dec 2017) and attended by 26 people.

It follows:

- GA1 (ECMWF, Nov '14)*
- GA2 (EUMETSAT, Dec '15)*
- GA3 (Univ Vienna, Jan '17)*



The Symposium

A great outreach activity.

Stefan, thank you for proposing it, and organizing it!!

And thank you to the Univ. of Bern for hosting it.



PROGRAM

0915-0920	Welcome Christian Leumann (Rector) Univ. Bern, Switzerland
0925-0940	Introduction Roberto Buizza, ECMWF, UK
0940-1000	New Reanalyses for Society Patrick Laloyaux, ECMWF, UK
1000-1020	Ocean data assimilation for reanalysis Matthew Martin, Met Office, UK
1020-1050	Coffee break
1050-1110	Coupled Data Assimilation Methods Andrea Storto, CMCC, Italy
1110-1130	Observations for Reanalyses Nick Rayner, Met Office, UK
1130-1150	Importance of Satellite Data Jörg Schulz, EUMETSAT, Germany
1150-1210	Reducing uncertainties in reanalysis input and products Leopold Haimberger, Univ. Vienna, Austria
1210-1230	Discussion
1230-1430	Lunch break
1430-1450	Developing a truly global framework for climate services: the GFCS Michel Jarraud (former Secretary General of WMO)
1450-1510	Overview of ERA-CLIM2 Roberto Buizza, ECMWF, UK
1510-1530	Reanalysis within Europe's Copernicus Initiative Jean-Noël Thépaut, Copernicus C3S, UK
1530-1620	Coffee break
1620-1640	The Swiss National Center for Climate Services Bertrand Galpini, MeteoSwiss, Switzerland
1640-1700	New European capabilities from space Jörg Schulz, EUMETSAT, Germany
1720-1720	The Global Climate Observing System (GCOS) Carolin Richter, GCOS/WMO, Switzerland
1720-1740	Reanalysis Stories Stefan Brönnimann, Univ. Bern, Switzerland
1740-1830	Reception

Participation is free of charge, please register: dimate.services@giub.unibe.ch

Project management

Since GA3 (Jan 2017):

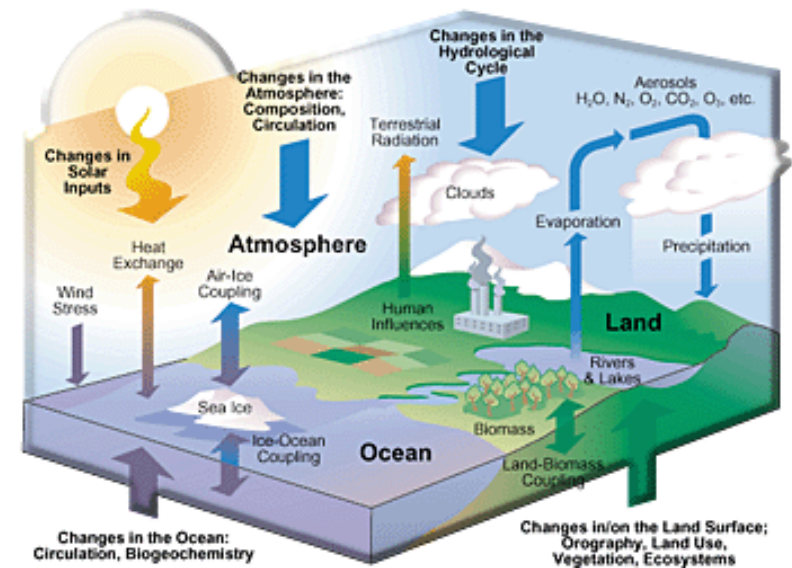
- Regular teleconf with WP Leaders every 2 months
- Regular updates to M Kacik (via teleconf and email)
- Informal discussions vis-à-vis at meetings (e.g. ICR5, ECMWF)

Management has been smooth and effective; all deliverables are being completed, with 3 delayed to Jan instead of by end of M48 due to computer changes at EUMETSAT. More than what was agreed in 2015 when we asked for a 12-month project extension is going to be delivered (e.g. 'carbon' web site; 9y of CERA-SAT instead of only 2-3).

The FP7 ERA-CLIM2 project (2014-2017)



Goal: Production of a consistent 20th-century reanalysis of the coupled Earth-system: atmosphere, land surface, ocean, sea-ice, and the carbon cycle

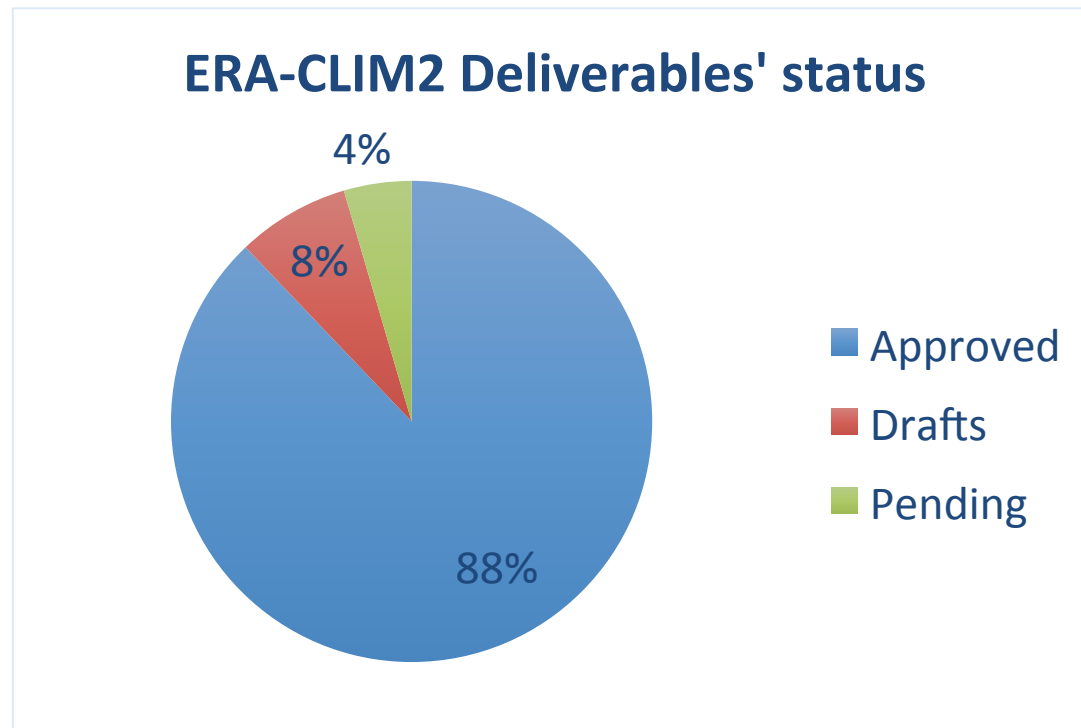


Main components:

- **Production of coupled reanalyses, for 20C and the modern era (WP1)**
- **Research and development in coupled data assimilation (WP2)**
- **Earth system observations for extended climate reanalyses (WP3)**
- **Evaluation of uncertainties in observations and reanalyses (WP4)**
- **Improving access to reanalysis data and input observations (WP5)**

Project deliverables

- 88% of the deliverables (58/66) have been submitted and approved;
- 8% of the deliverables (5/66) are in a draft format;
- 3 deliverables are pending:
 - D3p10: AVHRR polar winds (EUMST) – expected to be completed by 15 Jan
 - D3p12: AMV from MFG (EUMST) – Expected to be completed by 25 Jan
 - D3p13: Radio occultation data (EUMST) – Expected to be completed by 12 Jan



Project deliverables: DRAFTs and pending



5 DRAFT reports uploaded and due by end of M48:

- a) D2.6 - Expected by 18 Dec (only needs minor revision)
- b) D4.10, D4.13 and D4.14 - Expected by 31 Dec (they depend on CERA-SAT that was consolidated only last week, and carbon re-an)
- c) D9.4 - Expected to be completed by 21 Dec (after GA4, so that also GA4's minutes are included)

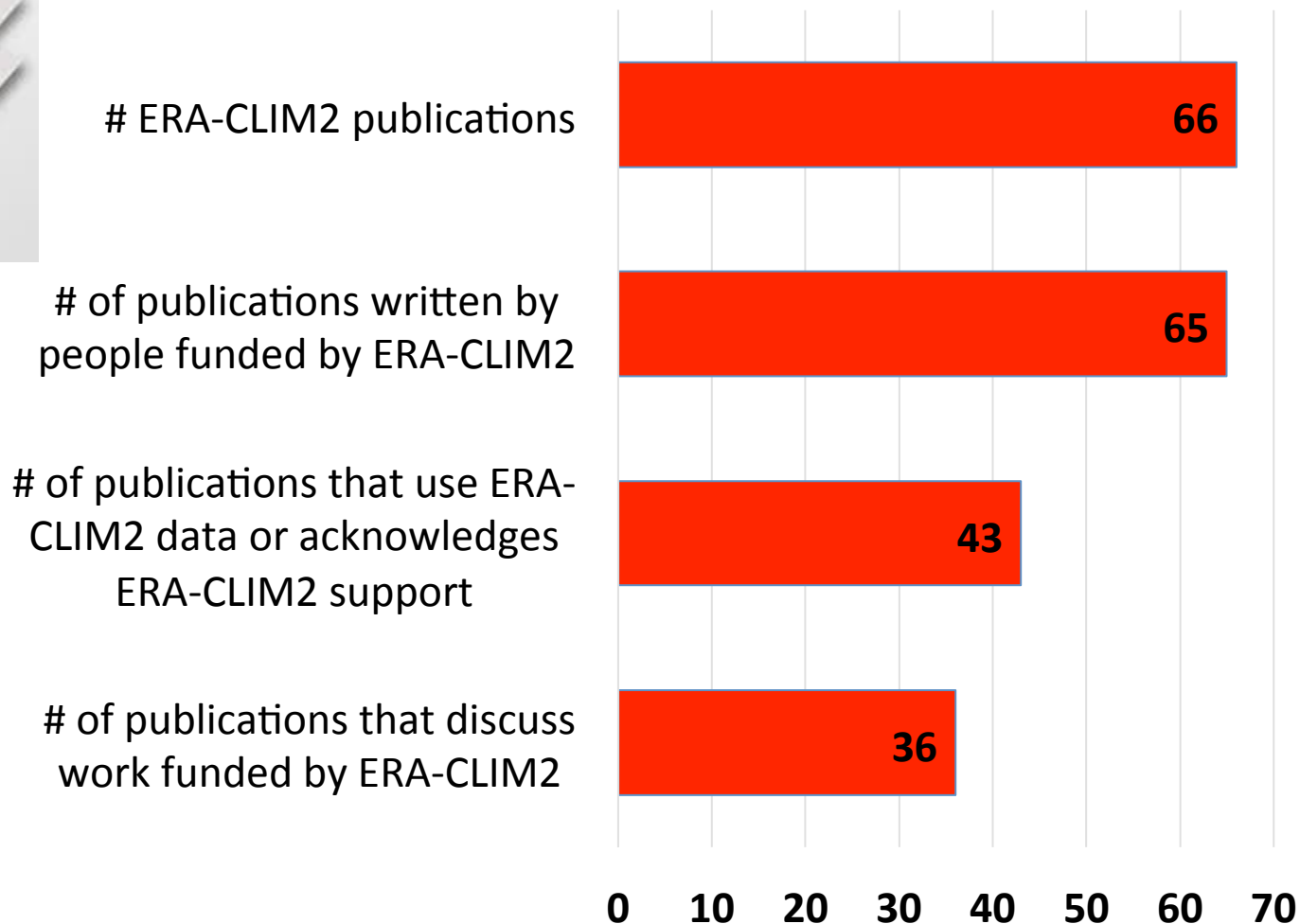
3 pending and delayed to Jan 2018:

- a) D3.10 - Expected by 15 Jan 2018 (data processing to be finished by Monday; then report needs to be prepared)
- b) D3.13 - Expected by 25 Jan 2018 (AMV data processing still ongoing and will take till Jan to be completed)
- c) D3.14 - Expected by 12 Jan 2018 (all re-processing finished; report is being prepared)

Project publications



ERA-CLIM2 publications



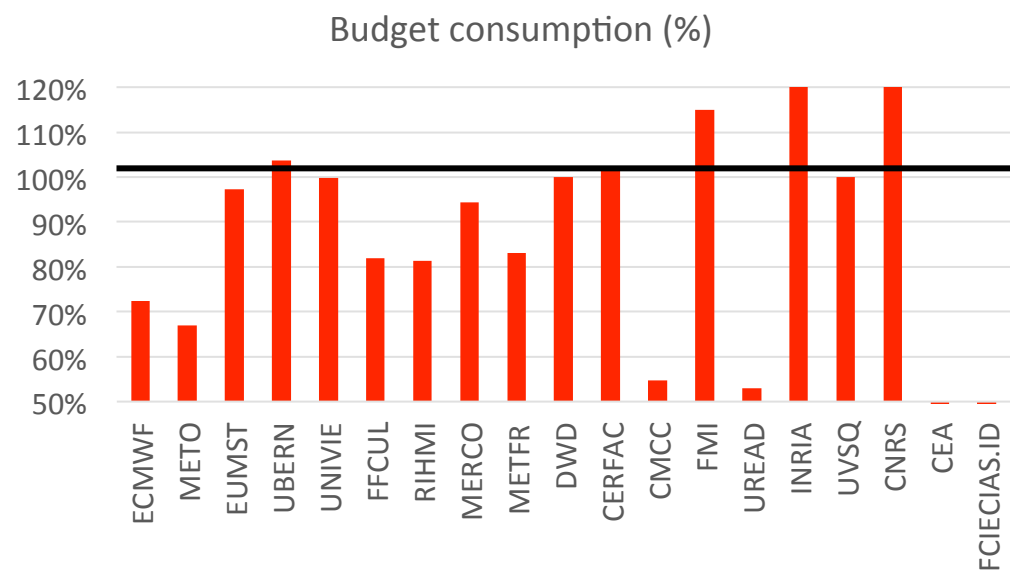
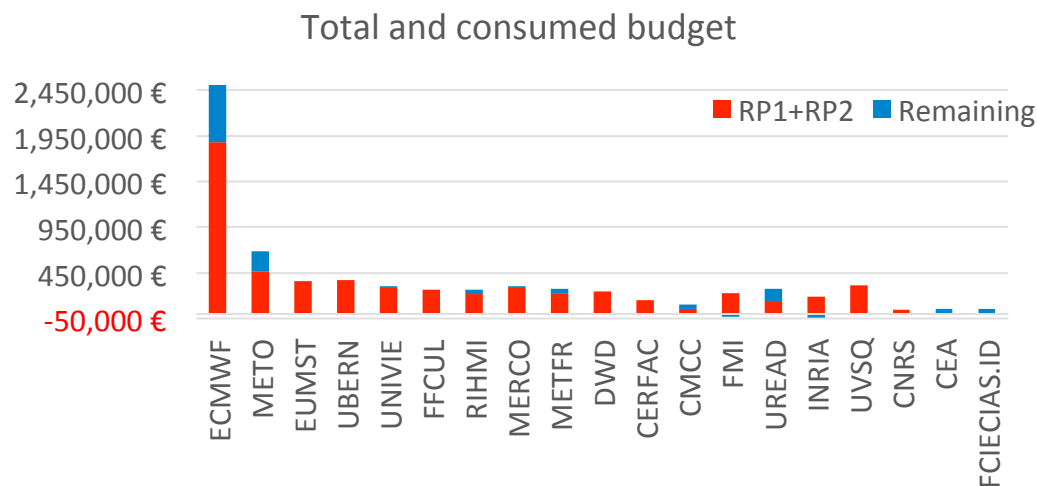
Financials



1. Pre-financing (60% with retention of 5% guarantee fund) – Q1-2014
2. First interim after month 18 (up to 90% of the budget) – Paid by May 2017
3. **Final report needs to be sent by 31/01/2018**
4. Final payment by June 2018

All partners should have received 85% of their agreed reimbursements (5% kept by EC as a guarantee fund).

The following graphs illustrates the budget consumption at 31/12/2016, after RP2.



Outline

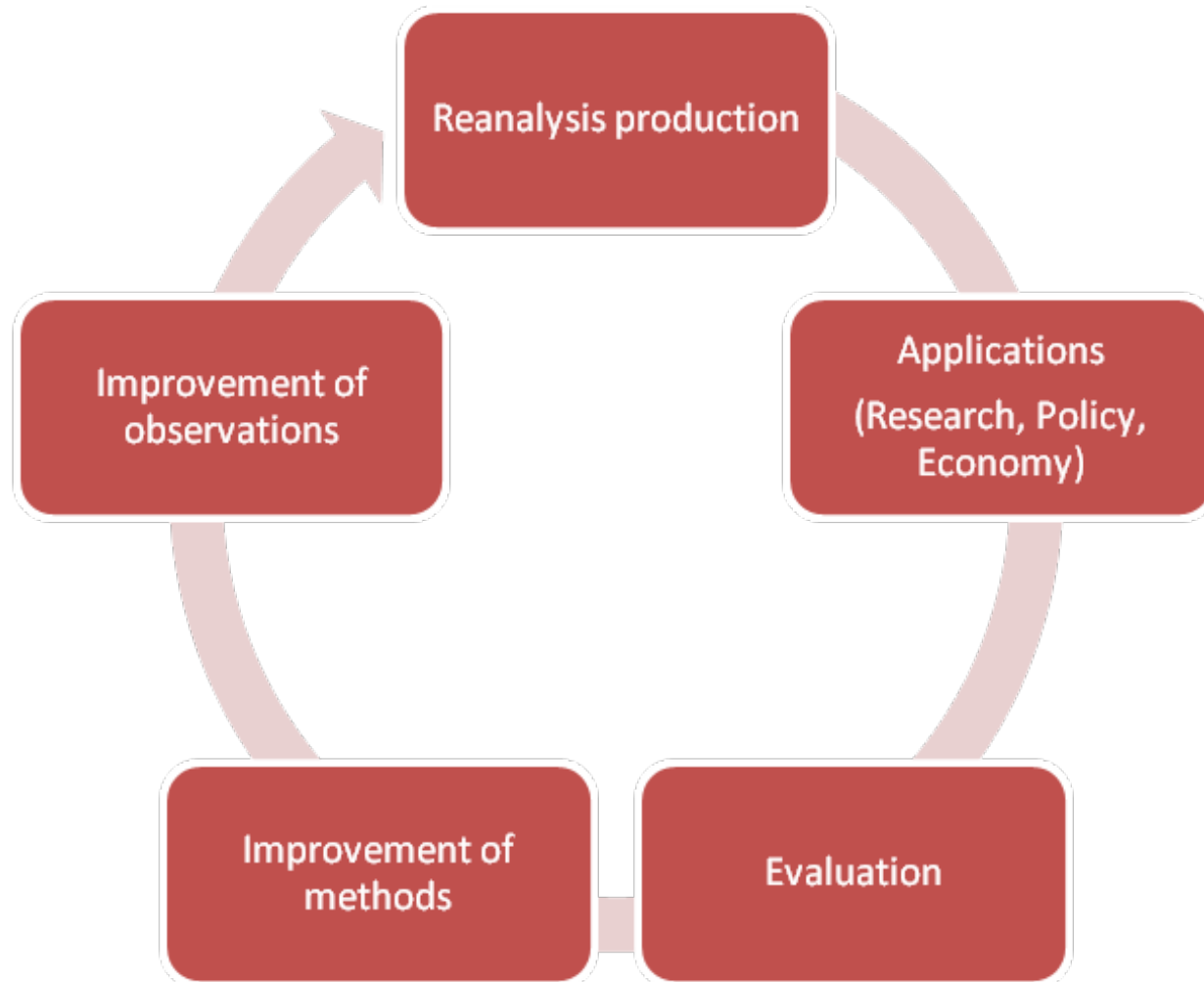


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The 5th International Conference on Reanalysis



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The 5th International Conference on Reanalysis



ICR5 (Rome, 13-17 Nov 2017) saw an important contribution from the ERA-CLIM2 people. ICR5 gave us the opportunity to illustrate the project's results to users.

It is worth to list few key recommendations relevant for the European Union (see D9p1, Policy Brief #4):

Reanalysis production - As production centers move toward coupled Earth-system reanalyses, they should embrace the notion of families of products designed to support different applications. Reduced latency of data products (ideally real-time) should be aimed for, since it can increase reanalyses' value.

Observations for reanalysis - More funding should be made available to support the rescue, reprocessing, recalibration, correction, quality control and use of observations for reanalysis.

The 5th International Conference on Reanalysis



Methods for reanalysis - There is a gap of research funding to improve the design of data assimilation methods for reanalysis. Should the funds for such essential research come from Copernicus or from programs such as H2020?

Evaluation of reanalyses - Diagnostic and evaluation activities that look at the coupled atmosphere-ocean-land Earth System reanalyses should be promoted.

Applications of reanalyses – The communication between reanalyses’ producers and users must be increased. There is a need for better and more ‘actionable’ uncertainty characterization.

Communication - Promote reanalyses as a key resource in policy relevant documents from area planning on the local scale, to IPCC Assessment reports on the global scale.

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