

ERA-CLIM2

27th month Review Meeting



25 April 2016 (ECMWF)

Report

The ERA-CLIM2 27th Month Review Meeting (RM27m), held at ECMWF on 25 April 2016, was attended by 10 people (see the Agenda and the List of Participants in the two Appendices).

During the meeting, the ERA-CLIM2 Co-ordinator and Work Package Leaders informed the project's external reviewers and the European Union project officer on work progress, and the external reviewers provided their comments. Open and outstanding scientific and technical issues were discussed, and the work-packages' plans to advance work were presented.

This is simply a very short report, in bulleted format, prepared by the ERA-CLIM2 Coordinator (Roberto Buizza) and the Leaders of Work Packages 1-5 (Patrick Laloyaux, Matthew Martin, Stefan Brönnimann, Leopold Haimberger and Manuel Fuentes).

A copy of the presentations given during the meeting can be accessed from the ERA-CLIM2 website, hosted by ECMWF (<http://www.ecmwf.int/en/research/projects/era-clim2>).

Meeting summary

The meeting was structured with short presentations from the WP Leaders, followed by questions from the external reviewers and EU project officer, and a general discussion. Hereafter, the key points raised during each presentation are listed.

1. *M Kacik* opened the meeting, and said the '27th month Technical Review Report' will be prepared after the meeting with input from the external reviewers, and circulated about 1-2 months after this meeting.
2. *R Buizza* thanked the WP Leaders for the work performed so far, and the EU Commission for having agreed to amend the project, and extend it for 12 months (to the end of 2017). He highlighted the fact that during the revision of the amended 'Annex I – Part A' of the Description of Work (DoW), the dates of 7 of the 66 deliverables were not correctly amended as detailed in the 'Original Request for Amendment Letter. Table A lists the correct dates that should be considered. It was decided that, if we need to amend the DoW, the dates would be corrected, but that we will not start an amendment process only to review these dates.

		Correct date (as in the 'Original Request' letter)	Wrong Date (as in 'Annex I')
D1.5	Status report for WP1	8 (delivered)	30
D3.10	AVHRR polar winds	36	30
D5.1	MARS support for NetCDF	30	36
D5.2	CERA data server	48	36
D5.3	User requirements	48	24
D6.6	WS report 2	31	48
D6.7	Policy Brief 3	36	48

Table A: correct dates of the 7 (out of the 66) deliverables that were not amended correctly in the amendment process of end of 2015.

3. *P Laloyaux* (newly appointed Leader of WP1 following changes in responsibilities of M Alonso-Magdalena, who has been appointed Head of the Predictability Section at ECMWF), presented the WP1 progress. He reported that the CERA-20C production has been proceeding very well. Thanks to the amount of human and computing resources, production has been faster than anticipated. CERA-20C is expected to complete the first coupled reanalysis of the past 110 years (1901-2010) at the end of May. After quality control and diagnostic, the dataset will be consolidated and given full access by the end of the year. In parallel, work has started to prepare the CERA-SAT system.
4. *M Martin* gave an update of the status of WP2. He described the progress on improvements to the SST and sea-ice assimilation, both of which are progressing well. Underlying developments to the ocean data assimilation system NEMOVAR have been completed to allow use of ensemble information, and improvements to the efficiency of the 4DVar capability are being made. Coordination of code developments being made to NEMOVAR is on-going with strong links between the developers and ECMWF. Improvements to the land carbon model parameters have been made and a 20th century run of the ocean biogeochemistry has been completed. Research into the possibilities for more fully coupled data assimilation is progressing well. The progress on these various research themes will be monitored over the coming months with a WP2 coordination meeting planned in October 2016 in Toulouse, which will focus on ensuring delivery of good quality outputs for the project deliverables which will be mostly due a few months to a year afterwards.
5. *S Broennimann* gave an update of the status of WP3. WP3 consists of three main tasks: T3.1 (Data rescue for in-situ observations, quality control and metadata), T3.2 (Satellite data rescue, reprocessing and inter-calibration), and T3.3 (Boundary constraints and external forcing). The data rescue work is well on track; most of the prioritized data have been digitized. Since many interesting new sources came to light during the project, data rescue work is continuing. A global registry for metadata has been established by FFCUL. Satellite data rescue is also well on track. One deliverable (D3.11) is delayed as code and metadata for processing was missing, but is now on track to be delivered with a 6 months delay. With respect to boundary constraints, all deliverable are on track or have been delivered. A prototype version of the snow course data has been published. The next event in 2016 will be the Conference on Observations for Reanalyses (21 June 2016, Maynooth, Ireland), which is organized jointly together with ACRE
6. *L Haimberger* gave an update of the status of WP4. He reported about progress in the preparation of precipitation and snow validation data sets from RIHMI and DWD. Preliminary validation of CERA-20C with early upper air data suggest equal or better quality compared to ERA-20C or NOAA-20CR. Progress in the publication of a journal paper about an experimental assimilation of the early upper air period 1939-1967 (ERA-preSAT) was discussed. It was suggested to contact representatives of concurrent EC projects such as UERRA for creating a set of benchmarks for

various reanalyses so that the uncertainty estimates from different projects become better comparable. A large number of deliverables will become due in month 48 and responsibilities for those should be allocated soon enough to avoid difficulties towards the end of the project.

7. *M Fuentes* gave an update of the status of WP5. He reported that work is progressing to have the possibility to archive/retrieve NetCDF files in MARS. A prototype tool (shown at the Review meeting) is under testing. Work is expected to be completed by month 36.
8. *R Buizza* gave an update of WP6-9 (these WP deal with management and coordination work). Firstly, he reported that, following a decision made at the 2nd General Assembly, a document was prepared and sent (o 24/2/2016) to *M Kacik* discussing the gap between the end of ERA-CLIM2 and the operational activities in reanalysis foreseen within the Copernicus Climate Change Service (C3S), and highlighting the potential value of having a follow-on project in 2018-2020/21. Secondly, he replied to the 4 comments raised by the external reviewer in the 18th month 'Technical Review Report' (dated 6/11/2015). Finally, he reported that on 1/3/2016, he participated to a tele-conference organized by *P Siegmund* (KNMI), to exchange common lessons learned, between EU-funded projects on reanalysis (see the ERA-CLIM2 deliverable D9.3 for the ERA-CLIM2 contribution to this activity).

Questions and suggestions

- a) Reanalysis naming convention - Should not we use two different naming conventions for (i) a reanalysis produced with a 'fixed observing system' and (ii) a reanalysis produced using 'all available observations'? By calling both of them reanalyses, we give the impression they can provide similar information and could be used for similar scopes, while actually they are very different.
- b) Research-to-Operation (R2O) – ECMWF has shown throughout the years to be able to translate research on data assimilation and reanalysis, into the production of very valuable reanalyses. It would be great if ECMWF could report on the R2O process that they have been following throughout the years.
- c) Hackathon on reanalysis? - One way to promote the use of reanalyses, and design innovative products, could be to organize a 'Hackathon event'. Would this be feasible?
- d) Reviewing process for deliverables – In 2017, there will be many deliverables that will need to be completed. Which reviewing process should we follow, that is effective (i.e. guarantees a good quality control) and efficient (i.e. it does not require too many, possibly unavailable, resources)?
- e) ERA-CLIM2 Workshop on Coupled Data Assimilation – This is one of the ERA-CLIM2 deliverables. Given that WMO is organizing a workshop on this topic in Toulouse in October 2016, with some of the ERA-CLIM2 people already involved in it, should we explore the possibility to co-organize it? This opportunity has been explored by *R Buizza*, *M Martin* and *M Alonso-Balmaseda*, and it has been decided to proceed with a co-organized WS. *M Martin* is working to finalize the agreement (ERA-CLIM2 could partially fund the organization of the joint WS).
- f) ERA-CLIM2 publications – It was decided that it would be valuable to prepare a high-level document that describes the ERA-CLIM2 project, to be published in the peer-reviewed literature

(e.g. the Bulletin of the American Meteorological Society, BAMS). *R Buizza* has agreed to take the lead, with the WP Leaders contributing to sections of this paper. For more topical papers that discuss some key aspects of each single WP, it was agreed that we should aim to be very open, and keep the ERA-CLIM2 people informed on papers in progress. It was suggested that the WP leaders should make sure that all WP partners are informed, and that all key contributors should be involved.

- g) 3rd General Assembly (GA3) Wien – *L Haimberger* confirmed that it will be hold in Wien, over 3 full days, say from Monday 16 January (13.30) to Thursday 19 January (12.30). These dates will be confirmed as soon as feasible, possibly by the end of June 2016.
- h) 36th month Review Meeting (RM36m) – It was suggested that the next review meeting, which should be organized to cover the period between months 27 and 36, could be organized just after GA3, say during the afternoon of 19 January. This date will also be confirmed as soon as feasible, possibly by the end of June 2016.

1 Appendix A – Agenda of the RM27m meeting

Monday 25 April		
13:00-13:10	Opening of the review meeting	Monika Kacik
13:10-13:20	General introduction	Roberto Buizza
Progress and Feedback per Work Package [†] (see below)		
13:20-13:45	WP1: Global 20 th century reanalysis	Magdalena Alonso-Balmaseda & Patrick Laloyaux
13:45-14:10	WP2: Future coupling methods	Matthew Martin
14:10-14:35	WP3: Earth system observations	Stefan Broennimann
14:35-15:00	WP4: Quantifying and reducing uncertainties	Leopold Haimberger
15:00-15:15	<i>Tea/Coffee break</i>	
15:15-15:30	WP5: Service Developments	Manuel Fuentes
15:30-15:45	WP6-WP9: <ul style="list-style-type: none"> ○ WP6 Dissemination and outreach ○ WP7 Consortium management ○ WP8 Scientific Coordination ○ WP9 Overarching coordination FP7 and Copernicus Climate Change Services projects 	Roberto Buizza
15:45-16:45	General discussion , conclusions and feedback of reviewer, including discussion of actions and forthcoming deadlines	All
16:45-17:00	Closure and wrap-up of review meeting	Monika Kacik

[†]Progress and Feedback per WP:

- Progress and scientific/technical achievements with focus on work done between June 2015 and March 2016 (use the objectives as specified in the amended DoW, submitted in Jan 2016, as reference); problems encountered and proposed solutions; deliverables and milestone; indication on how eventual comments from previous review report have been taken into account
- Planning of the next 9 months

For each WP: about 10 minute presentation by WP Leader, 15 minute review (External Reviewers, Dr Alexia Massacand and Dr Pierre-Philippe Mathieu) and discussion

ERA-CLIM2 Work-
Package Leaders will present WP
progress, and External Reviewer
and EU Program Officer will
present review

2 Appendix B – Participants of the RM27m meeting

Name	Affiliation	Role within ERA-CLIM2
Magdalena Alonso-Balmaseda	ECMWF magdalena.balmaseda@ecmwf.int	WP1
Stefan Broennimann	University of Bern stefan.broennimann@giub.unibe.ch	WP3 - Leader
Roberto Buizza	ECMWF roberto.buizza@ecmwf.int	Project Coordinator
Manuel Fuentes	ECMWF manuel.fuentes@ecmwf.int	WP5 - Leader
Leopold Haimberger	UNIVIE leopold.haimberger@univie.ac.at	WP4 - Leader
Monica Kacic	European Commission monika.kacic@ec.europa.eu	EU Program Officer
Patrick Laloyaux	ECMWF patrick.laloyaux@ecmwf.int	WP1 - Leader
Matthew Martin	Met Office matthew.martin@metoffice.gov.uk	WP2 - Leader
Alexia Massacand	Group on Earth Observations a.massacand@gmail.com	External Reviewer
Pierre-Philippe Mathieu	ESA/ESRIN Pierre.philippe.mathieu@esa.int	External Reviewer

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(Completed on 18 May 2016)