

UERRA

Results, status and plans

Year 3 ½ - 4

Per Undén, Coordinator UERRA
Management Support Team
Partner scientists

Objectives of UERRA

To produce long-term high-resolution climate quality datasets over Europe

- 3 and 4D reanalyses and ensemble assimilation over Europe 30-50+ years
- 2D downscaling reanalyses
- extending gridded observation data sets
- estimations of their quality and uncertainty

To provide additional observations for these RAs, other projects and for the community at large

Objectives of UERRA

To make the RA available to a large number of users and downstream applications

- provide data services and visualisation
 - Intense work done on UERRA common archive in MARS
- Provide useful data sets

WP1

Historical observations

Summary of achievements

- Data rescue
 - Digitisation has gone further and faster –
 - more and experienced staff
 - Data dev. Quality control much harder and much more data, small delay but under control and no implications
- Homogenised data and delivered to International Data centres

WP1

Gridded data sets improvements

- Added many obs to E-OBS and CRU TEM
-
- Impact of station density / coverage (D1.9)
-
- New Interpolation methods of precipitation data
-
- Uncertainty estimations of precipitation gridding

WP 2

UERRA Deterministic models

11 km European 3D-VAR re-analysis 55 years

- HARMONIE 2 model physics (ALADIN/ALARO) run for 5 years
- 55+ years running in 6 parallel streams with ALADIN
- Additional observations from MF/SMHI

UERRA Deterministic models

5 km European 2D MESCAN (MF) and cooperation with SMHI

- ALADIN and ALARO inputs and different downscaling and perturbations added
- 5 years ensemble done, 6 or 8 members for humidity/temperature, done for precipitation
- 50 years deterministic done
- SURFEX with TRIP started late

5 km European cloud MESAN analysis (SMHI)

- Super obbing revised and data available
- Half of the period done first – next part to be done

Ensemble Data Assimilation

Met Office EDA

- Full framework set up on the ECMWF system
- observation processing and TOVS bias corr
- Ensemble DA run for almost all the period
-

DWD / Uni Bonn Ensemble Kalman Filter EDA

- Ensemble nudging successfully tested and reported (D2.12)
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 - Nudging ensemble assimilation successful and running - 5 years done as agreed

Production and MARS archiving at ECMWF

SMHI HARMONIE ALADIN

1961-2015 Done and archived in MARS

2nd physics (ALARO)

2006-2010 Done and archived in MARS

Météo-France MESCAN

2006-2010 Ensembles of MESCAN in MARS test

1981-2010 Done and in Mars

All 1961-2015 to be completed in November – December

SMHI MESAN cloud analysis 2004-2008 done (in MARS), 1991-2004 in December/Jan

Met Office UM 4D-VAR/Ensemble 3D-VARs

1979-1990 Done and in MARS

2000-2014 Complete and in MARS (end of 2014 left)

2015-2016 eo October

1991-1999 eo December/January

Uni Bonn COSMO Ensemble 6 years

2006-2010 completed and archived

WP3 evaluation

Task 3.2 – Assessing uncertainties over Europe

- Limited availability of the reanalyses but more later
- MARS available but not all periods from all
- Compared against ECV data sets
- Compared for limited areas, subregions
 - High resolution gridded data sets, Nordic and Alpine

WP4 – Facilitating downstream services

UERRA archiving in common format:

MARS and ESGF, working with CLIPC

- ESGF node and data published

Hydrological downstream modelling- this year

Project Management WP5

Communications within Project

Much with archiving and Deliverables

3 MST meetings this year November

Web site maintained, updated and expanded

Communications with our PO at REA and ESAB

Reporting, legal and financial management

Organize meetings

Scientific coordination WP6 & Deliverables

Communications within Project

Check deliverables, scrutinize and review the reports

Evaluation discussions, variables and periods

Discuss and propose, coordinate between people and different institutes

WP7

Outreach and impact

See also separate presentation

Workshop themes:

Climate change mechanisms in Africa
Climate impacts on eco- and agro-systems
Tropical teleconnections and Monsoon systems
The Mediterranean region

Development of the West-African Climate Assessment and Dataset (WACA&D)

¹Gé Verver, ²Andre Kamga Foamhoue, ¹Albert Klein Tank, ³Per Unden

¹Royal Netherlands Meteorological Institute (KNMI)

²African Centre for Meteorological Applications for Development (ACMAD),

³Swedish Meteorological and Hydrological Institute (SMHI)



User interaction WP8

User requirements

Interaction and involvement with users

User 3rd party 2nd WS prepared and taking place now

Also at other external meetings



UERRA 2nd user workshop

28-29 November, 2017, Tarragona

Set-up:

1.5 day combined WP3 evaluation Workshop and User Workshop

Topics:

- principles of re-analyses
- strengths & weakness of the different datasets
- uncertainties and how to assess fitness for purpose
- getting the data and visualisation



UNIVERSITAT ROVIRA I VIRGILI

Planning:

Early July: programme, flyer & invitation

Additional advertisement on websites and conferences (EMS/ECAC, Copernicus,)



Overarching coordination WP9

Interaction and exchange between the 5 SPACE Projects
Telephone conferences resumed

Coordination of REA WS

Coordination of concerted policy and impact paper after
the Project (February 2018)

WP9 Workshop Brussels 28-29 sept 2016:

Uncertainties in the context of climate services

Representatives from: CLIPC, ERA-CLIM 2, EUCLEIA, FIDUCIO, GAIACLIM,
QA4ECV, UERRA, Copernicus (C3S), ESA-CCI, DG-GROW,



Meetings 2017

General Assembly

- eo 2017 => 28-29 Nov 2017
- Co-locating with User or and evaluation workshop(s) event
- Start at 9 Tue or Mon noon
- in Tarragona

WP 8 Concluding User Workshop M42

- M42 but co-locating with above, 30 Nov - 1 Dec

WP 3 Evaluation synthesis workshop M45

- M45 , co-locating , 30 November