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General dissemination plan

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1 Introduction

Dissemination is about making the results and deliverables of UERRA available to stakeholders and to a wider audience in general. A good and extensive dissemination to a wide range of users increases the impact of the project and will sustain the output for the long term. It will also have a bearing on the continuing regional re-analyses activities for the Copernicus Climate Change Services.

This plan for dissemination builds on the UERRA DoW (Description of Work) and will explain more in detail how the outcome of the project will be shared with stakeholders, institutions, society and individual users.

After some general definitions of dissemination in (Section 2), Section 3 describes what will be disseminated, the content of the information in the UERRA outputs that needs and will be distributed. There will also be more general conclusions and recommendations that deserve to be well known by users in addition to the scientific community.

In Section 4 the different types of audience to receive the results from the project are listed. In connection with that, the different methods and channels for dissemination are listed in Section 5. Section 6 explains the need for adaptation to users' needs. The timing is described in Section 7 and it depends on the types of outputs of UERRA and to some extent on the channels to be used.

There will also be a coordinated dissemination and information effort within the scope of the Overarching Work Package (9). This WP exists in all the 5 Copernicus Projects and dissemination of common results from the 5 Projects to stakeholders and EU bodies will be done through the overarching activities. This is in order to coordinate and communicate common messages from the 5 projects in a unified way, without diminishing the large volume of dissemination from the individual Projects.

2 Why dissemination – Need for effective dissemination

It is important to let the existence of UERRA and particular its output products be well known – in the scientific community as well as other areas of the society where there are potential users and interest. The information should be spread through as many channels as possible.



2.1 Levels of dissemination

The results of UERRA in terms of climate information and outcome of the uncertainty estimations need to be spread to many levels in the community and society so that the project research leads to a general improved knowledge and awareness at the different levels. The output has to be adapted and formulated in a way so it becomes useful and understandable to each category of users. (See also Section 6).

The information and in particular the data from the UERRA project has a large potential to be used in order to improve decision making and product quality for stakeholders, authorities and many general users in society. The data should be exploited as far as possible by these parties to complement other information. If there are aspects of the UERRA output that does not live up to users' expectations, it will be important to get such feedback at an early stage and try to enhance the UERRA products or include user feedbacks in the recommendations by UERRA.

3 What to disseminate

Dissemination of UERRA output can be separated into three different categories:

a) General results, recommendations and information from the project.

The UERRA site will contain or point to all results and information from the Project. The Web site has a lot of general information with sub-menus that point to more details. All documents and reports will be published there and can be downloaded. A Project Flyer and regular Newsletters will be compiled and mainly be published on the UERRA web site. They will give a general information about UERRA and the course of the project.

The state of the climate as seen from the UERRA results and in particular the Climate Indicator Bulletins produced on the basis of the UERRA datasets will be compiled in the briefing reports (see also the following sections).

b) All the different data sets produced by the project or in close connection to it.

The direct observation gridded data sets which will be further developed as part of UERRA will continue to be distributed through existing channels. The ECA&D and E-OBS data are advertised, updated and downloadable from the www.ecad.eu/E-OBS site. It has a large user community and is well established since several years. There are tools for interpolation and visualisation of the data sets that can be adapted to user's needs. The E-OBS data will be enhanced by the project.

Other data sets will be used by the project like the CRU data and GPCC precipitation data. Also for these datasets existing data services will be used.

The main and very large efforts in UERRA are related to the actual reanalysis and ensemble reanalysis data sets that will primarily be archived in GRIB2 in the ECMWF MARS archive. Data services will be further extended from there and they will also be visible and downloadable through the ESGF nodes as



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set up by KNMI in the first instance (and others like NSC in Sweden, through the CLIPC project). The data volumes may become very large as they are both 3-dimensional NWP model type data or high resolution 2-dimensional surface and soil data. Through the WP4 in UERRA a subset agreed with WP3 will be archived in a common format in MARS. This means that less data than the full model data will be stored. It is necessary to stay within reasonable limits and make the data services efficient.

c) The quality and uncertainty information associated with the data sets.

The measures of uncertainties are discussed and will be developed in the project, so there is no existing comprehensive list to start from. A range of such measures is however foreseen: Observation differences to the NWP background, differences between reanalysis and observations, to reference data sets and differences between reanalyses and importantly, spread between ensemble members.

4 To who – Targets for dissemination

Dissemination will take place at both regional, national, EU- and International level. There are basically three types of User communities: The Scientific community, Decision makers and the Society at large. To the Scientists (in the Climate area) quite detailed and complete messages and data can be put forward. For Decision makers the information needs to be adapted and filtered to suit their needs. Too much information is not helpful, but the most relevant one for each type of user should be extracted. The Societal users and many other special users need even more adapted information. It is necessary to translate and aggregate the message and information to user specific language and user parameters, see Section 6.

4.1 EU bodies

The EU bodies, and in particular policymakers within their institutions, will receive information first through briefing activities and newsletters, also disseminated via the REA. There will be three briefings during the project.

The developments of the reanalyses and observations and products thereof will be regularly reported and published. Other EU projects and in particular the Copernicus projects (CLIPC, QA4ECV, EUCLEIA, ERA-CLIM2) will stay tightly connected to UERRA through information activities, presentations and especially through the Overarching Coordination activities in WP9.

4.2 Copernicus services

Interaction with Users will take place in several WPs and particularly in WP8 (User Feedback). Surveys and contacts with users and actors in the Copernicus Climate Change Services will take place and we will strive to reach all potential users of the UERRA products and information. UERRA products will be candidates for inclusion in the Copernicus climate data store and sectoral information system. Contact with the climate change community will be maintained and activities within ESA (CCI)



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will be liaised with.

4.3 Downstream Copernicus services

Downstream Copernicus services will also be involved in the dissemination and outreach process. Climate related projects like GEOLAND2, CRYOLAND, MYOCEAN2 and at the start of UERRA; CORE-CLIMAX and CHARMe, will be informed about our activities and solicited for requirements.

4.4 Climate change community

The Climate change and adaptation communities will be closely interacted with in the EU and EEA, WCRP and through the work and interaction with the IPCC. The climate change community at the national levels will also be informed directly by the partners, especially those who are NMS:s.

4.5 Scientists in other parts of the world

The Science community is one of the two main targets of dissemination as described above. Also scientists in other parts of the world and in particular the developing countries will be served through educational activities within the WMO GFCS programme. UERRA will contribute to this.

Members of UERRA will also inform about the project when attending Scientific meetings overseas. (E.g. in the US and conferences such as the AMS meetings and others WMO-related meetings).

4.6 Users in the Society

Interaction with Users will take place in several WP s and particularly in WP8 (User feedback). Surveys and contacts with users and actors in the Copernicus services will take place and the Project will strive to reach all potential users of the UERRA products and information.

The society at large is the other main target for dissemination. Users and early adaptors of UERRA products will be identified through workshops (WP8 and WP3 mainly) and already known contacts that the partners have. There are national users of climate data services that are provided by several of the participants' NMS:s. These services are very likely to grow in numbers. A diverse set of users and stakeholders were identified in the EURO4M project and UERRA will build on this information. In WP8 there are more activities to find and involve third-parties that provide climate services. These external parties include stakeholders and decision makers dealing with climate impact in the different sectors of society.

5 How to disseminate – the channels and vehicles

5.1 The UERRA Web Site

The UERRA web site has general information about UERRA and all the details about the Description of Work (DoW), the Work Packages and its deliverables and more. News about the projects are



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published on the main Home page. There is an Outreach page where material used for information and presenting the project are stored. Other information and educational material will also be there. News letters and leaflets will be published in this area too. Documents in the form of reports and papers can be downloaded from the menus under Documents.

The Logo (Fig. 1) was designed at the start of the project and is visible on the website www.uerra.eu (Fig. 2) and used for all publications and presentations about the project. It carries some schematic colour axes of change of some ECV (e.g. Temperature) over time and in similar colour codes as the EURO4M logo (thereby symbolising a continuity from this predecessor FP7 project).

Scientific news will be reported about and highlighted on the web site.

A separate Wiki area wiki.uerra.eu has been set up and will be filled with knowledge, a kind of knowledge data base as indicated in the UERRA DoW.

5.2 The CLIPC web portal

In the Copernicus CLIPC project a web portal will be built in order to have a common entry point to the data and information from the 5 adjoining projects (ERA-CLIM2, UERRA, QA4ECV, CLIPC and EUCLEIA). There will be a data portal and tools for accessing data from the 5 projects, as well as many other climate data sets and tools.

As part of the Overarching (WP9) activities, there will be a common web page with information from the 5 projects together. This will be highlighting common achievements and messages that will be passed on to European bodies and other institutions or users. It will complement the detailed information from the individual projects.

5.3 Interactive Data Services

The CLIPC portal as well as the UERRA Web site will interface or direct users to a number of Data services built by the project. Web Map Services (WMS) from ESGF nodes will be one way of viewing and accessing the UERRA reanalysis data. Other INSPIRE compliant api:s will get data from MARS archives at ECMWF, where all the regional reanalysis data will be available.

5.4 Leaflet and Newsletters

An UERRA information leaflet will be compiled and both be printed and exist in digital form on the web site.

Newsletters will be written and compiled at least annually. Events, reports and results in UERRA will be described. The Coordinator will initiate the process and put up a first version of the contents whereas the WP leaders and partners then can add and extend with own material. The newsletters will be in digital form, in the first instance. In addition e-mailing may be used to reach a large number of interested users and policy makers all over Europe.



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5.5 General Scientific meetings

There are regular meetings in the meteorological, climate change and observational communities which UERRA members take part in, the Coordinator, WP leaders and partners. On these occasions UERRA and its results will be presented.

Examples of these are:

EGU meetings in April each year

WMO Technical Conference on Climate Services.

World Weather Open Science Conference,

EMS/ECAM (ECAC) meeting in September or October each year

International Symposium CLIMATE-ES 2015 Progress on climate change detection and projections over Spain since the findings of the IPCC AR5 Report, Tortosa, Spain, on 11-13 March 2015.

5.6 UERRA Workshops

The project has a schedule and plan of Meetings and Workshops in the DoW. These are the User oriented ones where external participants will be invited. They will first provide input to UERRA and then, at the later workshops, take part in evaluation of the output data, uncertainty estimations and recommendations from the project.

See Table 5.1 for a list of UERRA meetings.

5.7 National meetings and activities

Most of the partners have climate and climate adaptation services. National meetings with policy makers and users take place usually on an annual basis, and these meetings present excellent possibilities for dissemination of results and for user feedback.

5.8 Reports and Briefing material

Briefing reports with results from UERRA and derived products describing climate change in Europe for policymakers will be written at intervals in the project (as mentioned in 4.1).

Reports and deliverable reports will be published on the UERRA web site.

5.9 Literature

Scientific papers will be written during the project and publication costs will be covered by the Project. The normally relevant journals are: Journal of Climate, Quarterly Journal of the Royal Meteorological Society, International Journal of Climatology and more.



Meeting	Time	Target participants
Definition of evaluation Workshop (DWD)	26-27 June 2014	WP3 and some WP2 and WP4. Users of products at DWD.
WP8 User interaction Workshop	M24, October-December 2015.	WP8 and others, Climate services providers, Users
WP3 Evaluation Synthesis Workshop	M45, September 2017 appr.	WP3, some from other WPs and Users from different sectors
WP8 User Evaluation Workshop	M42, September 2017 appr.	WP8 and others, Users
African climate services WS	M24, December 2015 appr.	Climate service providers in Africa
UERRA showcase event	M32, September 2016 appr.	All WPs, other projects, Users and stakeholders

Table 5.1 List of UERRA meetings

6 User adaptation of language and message

The messages coming from UERRA will often need to be adapted or translated into user specific language. The scores and measures used in the NWP and general scientific world may not be meaning full for general users.

There are thus different levels of users, in terms of expertise and requirements. The detailed meteorological or hydrological original information needs to be translated to the level of input required for the different user categories.

It is a question of adapting the message to user related climate indicators. Together with existing knowledge in the project (including the knowledge from EURO4M and other projects) the User interaction in the Workshops and on other occasions, will guide UERRA to which user indicators and which form of uncertainties are suitable.



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7 When dissemination takes place

Depending on the dissemination channel and the contents, dissemination will take place at different time scales and with varying frequency.

- a) The web site will be updated quasi-continuously.
- b) Reports and Deliverables several times shall be added as soon as available and many times per year. (Sometimes a few times per month)..
- c) Briefings and Climate Information Bulletins and Newsletters on about annual basis.
- d) Data will be disseminated during the latter part of the Project, once they become available and the data services have been built.

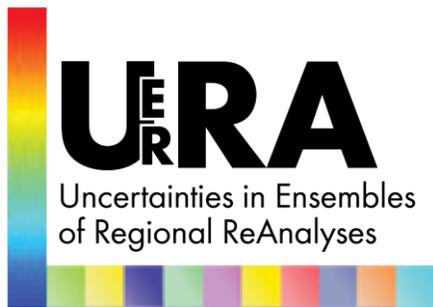


Figure 1. The UERRA Logo.



UERRA
Uncertainties in Ensembles
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SEVENTH FRAMEWORK PROGRAMME

Work Packages

Subcategories

WP1
Data Rescue and development, gridded and observational datasets

WP2
Ensemble Data Assimilation Regional Reanalysis Dataset

WP3
Assessing uncertainties by evaluation against independent observational datasets

WP4
Facilitating downstream services (data, derived products and outreach)

WP5
Consortium Management

WP6
Scientific Coordination

WP7
Dissemination & Outreach

WP8
User feedback

WP9
Overarching Coordination FP7 Copernicus climate change projects

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Figure 2. Example of the view of the UERRA web site (and including the UERRA logo at the top).