

ECSN Quarterly Report July-September 2008

Prepared by the ECSN Manager and the Project Leaders

General remarks

This quarterly report is a sequel on the minutes of 13th EAC meeting that are also cover the Quarterly Report April-June 2008

On 16 and 17 September the forthcoming Presidency of the European Union, France and the European Commission jointly organised a Forum to mark the launch of the first GMES services in pre-operational mode at Lille (France).

The European Union and its member states have been working for 10 years on a major public initiative to provide information on the environment and safety: for better husbandry of the planet's resources, improved understanding and knowledge to help in decision-making, advance warning of any threat to the safety of the population and ways of reacting more effectively. These services include fields such as territorial management, the marine environment, air quality and emergency situations, whether created by natural disasters or human activity.

The GMES Forum 2008 was intended to present GMES and its earliest services both to end-users and to the intermediary companies providing services based on this type of information and wishing to use the results of this public investment to develop new markets.



ECSN contributed to a EMI stand, developed, funded and manned by ECMWF, EUMETSAT and EUMETNET by means of a poster (see poster pp6) and attendance (Aryan van Engelen). All over coordination of "our" stand was managed by Christophe Jacob (EUMETRep Office) and Steve

Noyes, and Marja-Liisa Tuomola (from the EUMETNET Coordination Office).

At the Forum a new name for GMES was launched: Kopernikus. We observed a growing interest to in situ observations (matching the satellite observations). EEA (European Environmental Agency) is coordinating the in situ observations. EUMETNET is approached to offer a proposal for a joint EC/EUMETNET/EEA project. This proposal is now evaluated. EUMETNET will be represented by a dedicated team (Noyes, Jacob and Tuomola) that will meet monthly with the GMES Bureau and a representative from EEA.

The 7th European Conference on Applied Climatology, organised together with the 8th EMS Annual Meeting, that took place in Amsterdam from 29 September to 3 October was, according to the many positive responses, a success. The conference was attended by 625 officially registered participants. We met many colleagues not only from "own" ECSN community, but also from the research and user communities. Again I want to express my gratitude to the EAB, to all convenors and to the support from EMS, especially from the EMS secretariat.



During the conference the first meeting of the organising committee for the next EMS/ECAM convened with as theme "High resolution meteorology – applications and services" (see poster pp7). The ECSN EAB will take care of the establishment of a session on climatology with as tentative title "High resolution climate adaptation services" but this might be changed in order to get better attuned to the next ECAC conference in 2009 in Switzerland for which MeteoSwiss has as theme in mind "High resolution climatology"

The 9th EMS Annual Meeting and 9th ECAM will take place from 28 September to 2 October 2009 in Toulouse, France (see also meetings.copernicus.org/ems2009).

RAVI matters (DWD)

The RA VI Working Group on Climate-related Matters (WG CRM) is going to hold its intercessional meeting from 3 to 6 November in Bucharest on the kind invitation of the Romanian NMHS. Top themes to be discussed comprise the evolution of the RA VI RCC network, the contributions of the Working Group to the RA VI Strategic Plan and the monitoring of the WG's work plan w.r.t. the upcoming RA VI Session (RA VI-XV, September 2009 in Brussels/Belgium).

Members of the WG CRM organised a successful RA VI RCC Implementation Meeting at the WMO premises (20-21 October 2008, Geneva/Switzerland). In conclusion, an RCC network structure was created ensuring the provision of the RCC mandatory functions as described in the drafted amendments to the Manual on the GDPFS. Subsequently, an important milestone could be reached in order to designate the RA VI RCC network.

Showcase EUROGRID (SMHI)

The Showcase EUROGRID project has entered the phase for summarising the showcase, and demonstrates how the availability within the EUMETNET community of huge amounts of meteorological and hydrological data combined with scientific expertise and infrastructure can be used to generate a portfolio of climate monitoring services to a variety of users in different sectors of the European community. A Final Report, including recommendations for a future EUROGRID within EUMETNET, will be delivered at the end of 2008.

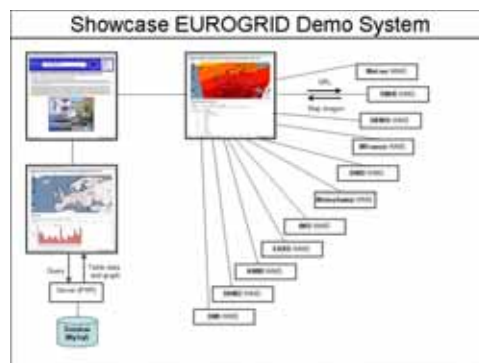
The Showcase project has gathered together examples of both national and European gridded datasets, two datasets of moderate resolution for Europe and eight high resolution datasets for individual European countries. Focus is on temperature and precipitation for the years 2002-2003. The inconsistency between the different datasets regarding methodology, variables, time period, resolution in time and space etc. has to be accepted within the Showcase. Yet, for a future full-scale EUROGRID it will be very important to address this problem, as the need for a consistent high-resolution dataset covering Europe is evident.

During Q3 a new version, including several improvements, of the Showcase EUROGRID Demo

Portal was made available on www.e-grid.eu. Examples of products, which can be selected by mouse-click, are:

- Maps of Essential Climate Variables (ESVs)
- Time-series of ECVs
- Derived products, where information from different existing datasets is combined in a suitable way
- Geospatial aggregations of ECVs.

The technical solution for the Showcase EUROGRID demo system is based on OGC-standards, WMS and WCS protocols, allowing for harmonized visualization of distributed data sources in a simple way, c.f. Figure below. It is regarded as urgent that EUMETNET at an early stage establishes a full-scale EUROGRID in order to create EMI-based continuous and developing services and thereby avoid the establishment of parallel and overlapping organisations and duplication of work.



An extra project meeting took place, arranged as a side-meeting to the EMS/ECAC conference in Amsterdam, on 29 September 2008. The meeting was attended by 18 persons from the project group. The meeting was focused on:

- Preparations for the Final Report
- Discussion on the need for coordination, to avoid duplication of work, with the planned FP7 Proposal (deadline 4 December) regarding European reanalysis and observations for monitoring, coordinated by KNMI
- Discussion on how to proceed to become successful with a future EUROGRID proposal to EUMETNET Council.

There is an obvious need for: a) a European high resolution gridded dataset based upon observations, and b) tools for providing climate services based on such a dataset as well as on a high-quality 3D reanalysis. EUROGRID could provide components of the European high resolution gridded observational climatology which is not

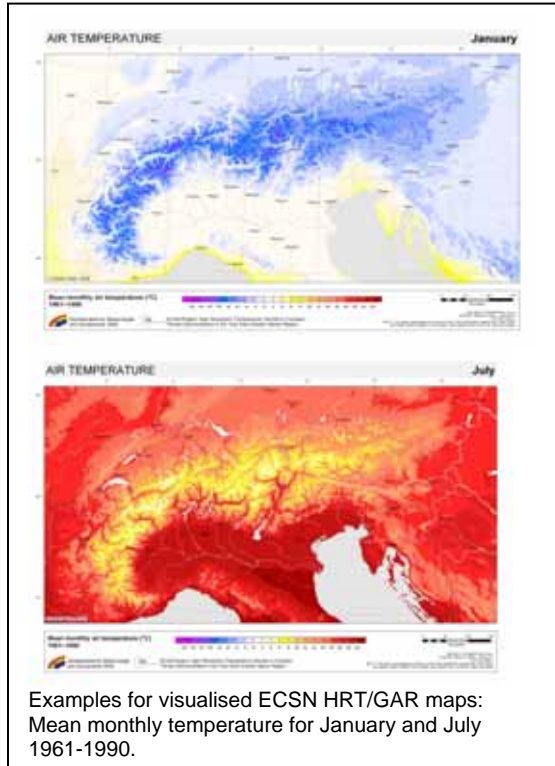
produced by a coming FP7-project and/or tools/portal for climate services.

The conclusion from the side-meeting in Amsterdam was to first focus on the Final Report, including recommendations for the design of a future EUROGRID. This report will be finally discussed in plenum at the Final Meeting at Météo France, 3-4 December 2008. The second half of the Final Meeting is planned to be devoted to the preparation of a proposal to EUMETNET Council. Since the Council-35 meeting also takes place on 4 December, a full EUROGRID proposal is not likely to be ready for C35.

HRT-GAR (ZAMG)

After a successful public project presentation focusing on potential users in April 2008, project ECSN/HRT_GAR has been finalised. The final project report has been sent to EUMETNET by August 2008. The report covers 22 pages plus 4 Annexes. A paper describing methods and results is in preparation and will be submitted to Meteorologische Zeitschrift.

The report will be offered to the Council on its coming meeting in December (C35). The following draft for an introducing letter has recently been sent to the CO.



“The objective of HRT-GAR, that was approved at the 24th EUMETNET Council and started as a EUMETNET-ECSN project in February 2006, was the preparation of a High Resolution Temperature climatology for the Greater Alpine Region. (4-19°E and 43-

50°N) for a 30yrs period with a temporal resolution of 1 month and a spatial resolution of 1 km x 1 km.

The project aimed to provide a high quality data product for a specific European region based on the experience and know-how of the participating countries. The results should be generalised and transferred to other European countries with complicated orography and therefore sub-grid scale problems in special interpolation as Norway and UK (both project partners). This contributed to the exchange of information between neighbouring countries, to a borderless Climate Assessment and the international collaboration of scientists.

For this purpose the monthly temperatures of more than 1700 stations, encompassing 13 different national and even sub national features and different observing practices, have been collected, quality controlled and corrected or rejected. The products (maps and data sets) have been prepared by means of multilinear regressions of air temperature with altitude, latitude and longitude plus further corrections implementing several geographical and morphological parameters, e.g. the distance to coast effect, urban island effect, lake effect etc.

The project was completed on 30 June 2008. The final report is available via the webportal (http://www.zamg.ac.at/forschung/klimatologie/klima/modellierung/ecs_n_hrt-gar/). Other deliverables are (downloadable) maps and data sets.

Austria (ZAMG) was responsible member, Dr. I. Auer the programme manager. The members of the project team were Dr. R. Böhm, Dr. W. Schöner and Mr. J. Hiebl (all ZAMG). The project partners were the EUMETNET-ECSN members from France, Germany, Hungary, Italy, Luxembourg, Norway, Switzerland, UK, Slovenia and Croatia. Informal support has been offered by partners from the University of Milan and the Institute of Atmospheric Sciences and Climate, Italian National Research Council, Bologna.

This project, that could profit from an only limited funding from EUMETNET (10k€ for the whole project period), yielded within a relatively short time span excellent results and is a good example of collaboration between the NMHS and Research Community. The ECSN Advisory Committee expressed on its latest meeting (June 2008) its gratitude to ZAMG and the project leader Ingeborg Auer and her team and the project partners for the excellent management and outcomes and of the HRT-GAR project.

Outlook

Within ECSN it will be evaluated whether the findings and outcomes of HRT-GAR could be implemented in other European countries. In the report some suggestions for follow up actions are memorized.”

Pep725 initiative (ZAMG)

At the 13th Meeting at ECSN in Longyearbyen, Svalbard, 16-19 June 2008 Ingeborg Auer, the Austrian national delegate presented the project proposal PEP725. It was unanimously accepted with the recommendation to make some amendments.

The improved version of the proposal was then submitted to the ECSN secretary Steve Noyes on September 16, 2008. Fritz Neuwirth agreed to present it at the council of EUMETNET in December 2008; the proposal was also distributed among the members of ECSN.

The 8th Annual Meeting of the European Meteorological Society / 7th European Conference on Applied Climatology (ECAC) held from 29 September to 3 October 2008 was used for lobbying among the stakeholders.

The proposal will probably be submitted to the Council in 2009.

Generate Climate Monitoring Products GCMP / European Climate Information System EuCLIS / European Climate System Monitoring ECSM (DWD)

The quasi-operational dissemination of climate monitoring products by the GCMP platform <http://www.gcmp.dwd.de> continued further on without any significant changes or problems. Products are still available from all 21 contributing countries. Only slight updates of some national web pages were carried out. GCMP "lives" for 10 years now since it had been proposed to ECSN for the first time in 1998.

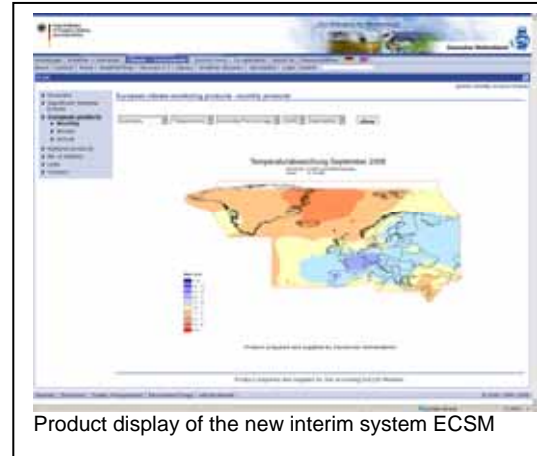
The new preliminary successor platform ECSM is now in a state of expansion. 10 ECSN countries already are contributing climate monitoring products (maps and texts) to the new system. Since ECSM is a preliminary system, the product suite has been restricted to a few standard products which can be provided by most of the ECSN countries to realise a uniform product suite for all countries as far as possible. These are maps of monthly and annual mean temperature, precipitation and sunshine totals, corresponding normal values (1961-1990 or 1971-2000 as an option) and monthly and annual anomalies from the normal, as well as climatological text descriptions of significant weather events, all this as national or European products. Also the new Annual Bulletin on the Climate in WMO Region VI for the year 2007 (recently published) is accessible online from ECSM. Some of the GCMP products are available in ECSM as well, whereas some others (especially some temperature and sunshine duration maps of WMO Region VI) are new or updated. ECSM has got a new shorter URL: <http://www.dwd.de/ecsm>. It is integrated

in the new web portal of DWD and thus accessible also for the public. As promised, GCMP will not be switched off until all its products will be available in ECSM or the future EuCLIS.

The next step will be to extend the present ECSM product suite by addressing all RA VI Members. An official call for products will be sent to all representatives of the RA VI Members within the next weeks. ECSM is thus to be envisaged also the preliminary platform for the pilot phase of a Regional Climate Centre (RCC) node on climate monitoring.

ECSM has been developed as a quick solution with standard web software and is able to offer only very limited web functionalities (just selecting and displaying products). The administration of this platform presently is done manually by DWD staff.

The future platform EuCLIS which will provide some more functionality, particularly the possibility of a self-administration by the contributing members, is still under technical revision to get it implemented into the cluster environment of the new DWD web portal. A solution is expected for 2009.



Product display of the new interim system ECSM

European approach on climate change scenarios - ENSEMBLES (MeteoSwiss)

An excellent overview of the European activity related to climate change scenarios was given on the well-perceived session on "Climate prediction and scenarios from months to decades to century" (session UC2 / NWP4) that took place at the 8th EMS / 7th ECAC in Amsterdam from 29 September to 3 October 2008. The session covered the entire spectrum of challenges of long-range forecasts and climate prediction. Take ranged from the basic scientific hurdles down to end user needs and climate impact assessments (session program:

http://www.cosis.net/members/meetings/programme/session_programme.php?m_id=53&p_id=328&day=1&view=session). The strong interest of society and science community in this field was reflected by the huge number of attendees and contributions (60 oral and 25 poster presentations), many of them stemming from the FP6-ENSEMBLES community.

In many of these presentations, the state of ENSEMBLES transient climate simulations (on the basis of 22 models chains of 6 GCMs and 12 RCMs) and the ENSEMBLES seasonal to decadal (s2d) hindcasts were discussed, as well as related questions like model-weighting, reliability, model assessment and statistical downscaling for user needs. Most of the transient climate simulations and s2d hindcast runs have been completed now and can be accessed (described in detail in a Technical Report: http://ensembles.eu.metoffice.com/tech_reports/ETR_4_vn1.pdf). A more in-depth discussion of all ENSEMBLES-related issues was carried out later from 20-23 October 2008 during the ENSEMBLES 5th General Assembly in Santander (http://ensembles.eu.metoffice.com/meetings/GA5_Santander_2008/GA5_reg_2008.html).

In respect to other issues within ENSEMBLES MeteoSwiss kept involved in RT5, providing an analysis and the theoretical foundation of the effect of multi-model combination, as well as in RT6, providing an assessment of wind storm risk from ENSEMBLES data. It can be expected that in the near future a number of MetServices will make use of ENSEMBLES data, for example within national projects to derive climate change scenarios with high spatial and temporal resolution.

European Climate Assessment & Dataset (KNMI)

The European Climate Assessment & Dataset (ECA&D) project provides indices for monitoring and analysing changes in climate extremes, as well as the daily dataset needed to calculate these indices. Currently, some 40 different indices are calculated for ca. 2300 stations throughout Europe and the Mediterranean.

These data are provided by the 53 ECA&D participants from 41 countries which has resulted in a database of 7033 daily station records for tem-

perature, precipitation, air pressure, snow depth, cloud cover, sunshine duration and relative humidity. These data are updated on a monthly basis.

Recently, ECA&D has been submitted to grant the status of RRC Node on climate data by the WMO for Region VI (Europe and the Middle East). In order to meet the challenge of the RRC status, the ECA&D system has seen a major software upgrade and migrated to a new platform. In the coming year, this process is finalized. Additionally, ECA&D is now a fully operational system. Further improving the spatial coverage of the ECA&D station network and adding more variables and metadata to ECA&D is one of the aims to live up to this newly reached status.

The ECA&D infrastructure is used in several related activities.

Within the EU-project ENSEMBLES, a gridded dataset of daily temperature and precipitation for model evaluation is developed on four different grids with a high spatial resolution.

These gridded products are based exclusively on ECA&D data and made publicly available through the ENSEMBLES and ECA&D websites. By October 2008, the number of people registering for download of the ENSEMBLES data is ca. 450. The next update of the gridded datasets with the ECA&D station dataset is scheduled for early 2009.

Millennium – European climate of the last millennium (KNMI)

Next to improvements of the Millennium “outlet” of the ECA&D web portal, based on the millennium data set (monthly aggregations of the daily ECA&D data), contributions have been made to three papers that will be published (2009) in a special issue of Climatic Change “European Climate of the past 500 years based on documentary and instrumental data”

The Millennium community was strongly represented with oral and poster presentations in the session “Climate reconstructions and historical climatology” of the 7th ECAC (Amsterdam, 29-31/10/2008).

European Climate Support Network

ECSN

The objective of ECSN is to support its (25) members in their climate practices in order to better serve the European user community with climate products and services for the benefit of environment, safety, economy and health.

This objective is reached by carrying out projects as *ECA&D*, *EuClis*, *S-Eurogrid*, *HRT-GAR*, and *Regional Climate Scenarios*, focussing on a better understanding of Europe's past present and future climate, by participation in major EU projects like ENSEMBLES, by collaboration with other parties as the EEA (European Environmental Agency) and the WMO (World Meteorological Organisation) and by organizing biennial conferences as the European Conference on Applied Climatology.



ECA&D

The European Climate Assessment and Data set aims to create and maintain a European data set of daily high quality observational series and, on the basis of derived indices, produce assessments of Europe's climate.



Density ECA&D / ENSEMBLES observational network > 2000 stations

HRT-GAR

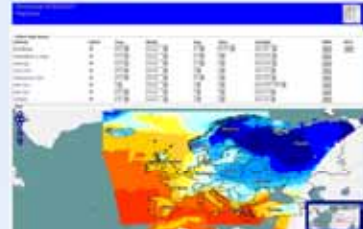
This completed project (April 2008) produced a High Resolution Temperature climatology for the Greater Alpine Region in the form of climate maps, based on high quality observational series from more than 1700 stations.



Station network HRT-GAR data set

S-Eurogrid

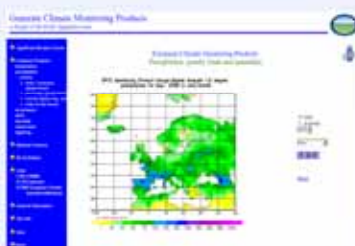
Showcase Eurogrid demonstrates the potential of the full-scale EUROGRID concept that will be the future European central resource for gridded climate, meteorological, hydrological and environmental products.



S-EUROGRID Map View of data sets

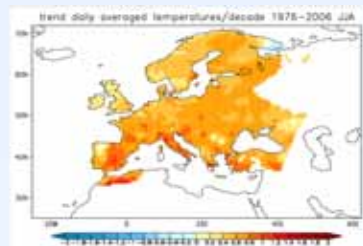
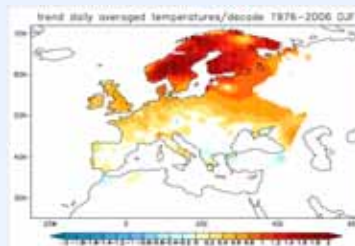
EuCLIS (GCMP)

The European Climate Information System gives access to European national and regional climate monitoring products as generated by ECSN projects like maps, graphs and assessments. The provision of descriptions and analyses of (recent) extreme weather events in Europe can serve as the climatological complementary of the EUMETNET warningsystem for hazardous weather EMMA.



GCMP page with precipitation May 2008

Europe's temperatures are raising; Winter (left) especially in the Scandinavian countries and Summer (right) in the Mediterranean area (Maps based on ECA&D/ENSEMBLES)



Brussels, 29 June 2007 – Press Release EC

"Climate change: Europe must take **adaptation** measures to lessen impacts of current and future warming. Climate change poses a double challenge: Europe must not only make deep cuts in its greenhouse gas emissions but also take measures to adapt to current and future climate change in order to lessen the adverse impacts of global warming on people, the economy and the environment. This is the key message of a Green Paper published by the European Commission today which sets out options for EU action to help the process of adaptation to climate change across Europe."

Contacts

For more information contact:
Prog. Manager: Aryan F.V. van Engelen
KNMI - Netherlands
email: engeleny@knmi.nl
http://www.eumetnet.eu/ECSN_home.htm

7th European Conference on Applied Climatology 2008: "Tools for understanding of and **adaptation** to current and future climate", Amsterdam, 29 September - 3 October 2008.





9TH EMS ANNUAL MEETING AND 9TH EUROPEAN CONFERENCE ON APPLICATIONS OF METEOROLOGY

High resolution meteorology - applications and services

Applications of Meteorology

- Innovative technologies and services: safety, energy, media, health, agriculture, transport on land, sea and in the air

Atmosphere and the Water Cycle

- Dynamical meteorology
- Boundary layer and small scale processes
- Air-sea interactions at all scales
- Hydro-meteorology
- Environmental meteorology & Earth system science
- Agro-meteorology
- Instrumentation and observing strategies

Communication & Education

- Bridging the gap between providers and users through education and communication
- Gender equality

Climatology

- High resolution climate adaptation services

Numerical Weather Prediction

- Technical and scientific developments in NWP
- THORPEX studies



**28 September - 2 October 2009
Toulouse, France**

CONTACT: meetings.copernicus.org/ems2009

Martina Junge
E-mail:
[ems-sec\(at\)met.fu-berlin.de](mailto:ems-sec(at)met.fu-berlin.de)



February 2009: Call for papers
8 May 2009: Receipt of abstracts
10 July 2009: Programme public
28 September 2009: EMS and ECAM