

ECSN Quarterly Report April-June 2006

Prepared by the ECSN Manager and the Project Leaders

General remarks

The 11th ECSN Advisory Committee (EAC) Meeting has taken place in Exeter, UK, 21-23 June 2006. The ECSN Manager, Walter Kirchhofer, thanked the organizers of the UK Met Office, especially John Prior, for their invitation and for their kind hospitality. Again, it was an interesting and fruitful meeting, also with regard to new activities.

This year's Conference of the European Meteorological Society (EMS) together with the European Conference on Applied Climatology (ECAC), EMS/ECAC-2006, will take place in Ljubljana, Slovenia, 4-8 September 2006.

The scientific part of the ECAC Conference is managed by the ECAC Advisory Board (EAB) and by selected conveners.

The ECAC Conference will contain the following 12 main topics:

1. Climate prediction and climate variability
2. Climate change detection and climate trends
3. Regional climate scenarios
4. Statistics in climatology
5. Synoptic climatology
6. Weather and climate related extremes and risks
7. Climate reconstruction and monitoring
8. Information systems in climatology
9. Remote sensing in climatology
10. Agrometeorology and phenology
11. Human biometeorology, urban climatology and tourism

12. International climate projects and programmes.

This EMS/ECAC-2006 Conference will grow to a big event, about 500 oral and poster presentations are announced.

The next combined Conference of the European Meteorological Society (EMS) and the European Conference on Applied Meteorology, EMS/ECAM-2007, will take place in Madrid - El Escorial (EuroForum), 1-5 October 2007.

This EMS/ECAM Conference will possibly also contain a substantial part of climate topics, assisted by ECSN.

The Met Office Austria, ZAMG, has agreed to host the 6th ECSN Data Management Workshop in Vienna, probably in November 2007.

The ECSN Manager thanked for this kind invitation.

Implementation of the Showcase EUROGRID project (SMHI)

At the 27th EUMETNET Council meeting the revised proposal on the Showcase EUROGRID project has been approved, but unfortunately only a small majority of 7 Member countries, namely Austria, Iceland, The Netherlands, Norway, Spain, Sweden and Switzerland declared their financial support. But with the support of this small core group the project can be launched.

After the Council meeting the ECSN Manager informed the EAC Members that they have to discuss the fine tuning of the project in order to improve the partnership and to convince the aside standing NMHSs to come on board of the yacht EUROGRID. A European partnership is fundamental, also because of the costs.

At the 11th EAC meeting in Exeter, the Delegates discussed the Showcase EUROGRID project in depth. The decision was to postpone the start of the project to 1st January 2007. It was also indicated that the project should be extended in time to 24 months. Furthermore, it was recommended that the cost of the project should be further reduced to cover just the part of management and workshops.

The reason behind these recommendations was, that the EUROGRID concept is a key concept within the EUMETNET climate undertaking. On the other side, the low number of participating NMHS's in the project is small and those that normally provide the essential funding are not there. The new proposals for the ECSN EUROGRID Showcase project will be worked out in close contact with Météo-France, DWD, UK Met Office and other NMHS's in order to have their agreement to contribute in kind. In that way we will create an ECSN project that is financed in a way similar to COST Actions. It will be easier for the NMHS's to enter the project by supporting it mainly by manpower.

The potential Responsible Member (SMHI) has the intention to revise the proposal on the Showcase EUROGRID in this respect. Such a revised proposal should provide the Council with evidence on acceptable progress. It is up to the new RM to assemble an editorial board to assist the

proposed undertaking.

European Climate Assessment & Dataset (KNMI)

The ECSN Programme ECA&D is widely recognized as a EUMETNET baseline dataset. ECA&D is also the platform for data collation for ENSEMBLES Wp 5.1. Now, with the introduction of the series collected for ENSEMBLES, the ECA&D database contains 1864 stations, of which 1100 stations provide free downloadable series of next to temperature and precipitation also pressure, sunshine, cloudiness, humidity and snow depth. Altogether 7301 series.

In the beginning of 2007 the launching of the third European Climate Assessment Report is foreseen. The various composing chapters and the input, generally in the form of text-boxes, will be prepared by international partners as Slovenia, Hungary, Austria, Poland, France, Finland, Portugal, Italy, Latvia, Ireland, Switzerland and The Netherlands.

ENSEMBLES (KNMI, MeteoSwiss)

As the ENSEMBLES dataset is embedded in ECA&D, the homogeneity of each temperature and precipitation series is tested with the absolute homogeneity test of Wijngaard et al. (2003) that is implemented in the database. Additionally, at the same time, a first version of the ENSEMBLES dataset has been tested by MeteoSwiss using an automated relative homogenization procedure. It combines a method to derive deviation series (Steinacker et al., 2000) with Alexandersson's homogeneity test (Alexandersson, 1986). The results of this relative procedure revealed that only 9 to 32 % of the series are homogeneous for the period 1960-2000, depending

on the climate variable. A journal paper in which this homogeneity procedure is tested and the results for the ENSEMBLES dataset are described is in progress.

At the same time, new series have been collected and a second version of the dataset has been created. The number of series available for the gridding project is now 1357 for maximum temperature, 1361 for minimum temperature, 1218 for mean temperature, 1838 for precipitation, 266 for air pressure and 154 for snow depth.

Further progress has been made investigating methodologies for gridding daily station data. Much effort has gone into improving the kriging method so that it now provides the most skillful estimates of all methods in a cross validation exercise. This is very promising as extensions to the kriging method using simulations provides one of the most robust ways to assess spatial uncertainty arising from the interpolation process. The conditional interpolation method is now implemented and a comparison is currently being made with the other methods. Since this method estimates area average rainfall directly we can not assess its skill using the cross validation procedure that has been used until now. The reduced space optimal interpolation method was investigated as another potential method but deemed inappropriate for this exercise due to insufficient spatial density of the station network. Our final comparison will therefore focus on five interpolation methods.

Generate Climate Monitoring Products (DWD)

The ECSN project Generate Climate Monitoring Products had been completed successfully early in 2004. Since then the GCMP communication

platform: <http://www.gcmp.dwd.de> is maintained quasi operationally. Meanwhile 18 NMHS's contribute to this platform. All European NMHSs who are not yet represented in the GCMP are encouraged to join and to contribute appropriate climate monitoring products to the communication platform.

Most recently, the GCMP system and responsibility has been moved from DWD-Hamburg to DWD-Offenbach, and it is expected to switch operations from GCMP to EuCLIS by January 2007.

As stated in the preceding reports, the development of a successor system, EuCLIS, is under way. The development of the software design is completed. Further planning indicates that EuCLIS will be fully operational in the third quarter of 2006. In the meantime the GCMP platform will be continued.

The implementation of the EuCLIS system will be accompanied by an RA VI questionnaire, inviting Members to specify their requirements for the further evolution of a European climate monitoring platform.

Alpine Tmap (ZAMG)

Alpine Tmap, the ECSN project „High Resolution Temperature Climatology in Complex Terrain - demonstrated in the test area Greater Alpine Region (GAR)".

For the Alpine region, a number of national climatologies are representing national or regional temperature distributions, (e.g. for Austria, Croatia, France, Hungary, etc.). However, all those are not comparable at all, due to different methods and scales. The final goal for the project is to pro-

vide a temperature climatology for the GAR (4-19°E, 43-50°N) in monthly resolution in a spatial resolution of 1 km. In addition to the value itself, the product will allow for various applications. For example, a merge of the GAR climatology and the HISTALP temperature data will provide high resolution monthly temperature fields back to 1760. The method was successfully applied to the HISTALP precipitation data and the Alpine precipitation climatology in a collaboration of the University of East Anglia, ZAMG and Meteo Swiss.

The kick-off meeting took place in Vienna on 2-3 February 2006, gathering participants from Switzerland, Slovenia, Norway, Croatia, Bosnia, Herzegovina, Hungary, Czech Republic, Italy and Austria. It was agreed to form a core group for spatial modelling (CGSM) with one representative from Switzerland, Italy, Slovenia, Croatia, Bosnia, Herzegovina, Hungary, Germany and France. The lead of the group was given to ZAMG. However, the group is open and other participants may join. During the ECSN Meeting the UK's representative showed its interest to send representatives into this core group as well.

In the meantime, ZAMG has collected the data of 1885 stations and could adopt 1733 stations. 1696 of those could be used for the first analyses, 37 will be used later due to their special locations (eg. urban stations). The coordinates of all stations were controlled and corrected if necessary, by contacting the data holders and using metadata. All series were adjusted to the Kämtz mean, the most common mean calculation algorithm of the respective NMSs. Utilising the optimal data situation of the WMO's reference period all data were adjusted to the mean 1961-1990. The period 1971-1990 is foreseen to be prepared in a later step.

First analyses were undertaken by calculating multiple linear regressions using altitude, latitude and longitude for the entire GAR, and the respective residuals. A stepwise linear regression was applied to all stations above 1500 m, the so called "high Alpine region". For the lower elevated sites the input of the CGSM for the computation of sub-regional MLRs has to be taken into account, however sub-regions have to be large enough to ensure robust statistical models.

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