



7th ECSN Data Management Workshop at DMI Copenhagen, November 4-6, 2009

Summary of findings from workshop session

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On the topic:

Major challenges the participants at the 7th ECSN Data management workshop (Copenhagen 4-6 November 2009) see **for the NMHS's to address** within the field of data management **in a time perspective of 1-5 years from now:**



It is a fact that the topic of **quality assurance and control of in-situ observational data** is one of the most important challenges of today's European NMHS's.

The overall message from the workshop on the Quality Assurance issue is that it is **recommended to extend the responsibility for the quality of observations as far back in the workflow as possible.**

The workshop underlined this importance of giving attention to the quality assurance already at the station/instrument level as such an approach is proved to give the highest benefit for whatever later use of data one may need, be it use in Numerical Weather Prediction models, real time data presentations in decision aiding systems, public service internet portals etc or aid for the meteorologist and climatologist in their work.

As part of this Quality assurance it is important to pay **attention to all steps through out the dataflow.** From instrumentation and basic meta data including classification of measurement sites and the procedures for reference measurements and bridging in case of changes in the station network, thinning of the network density, change of instrumentation, change of location or the shift from manual observers to automatic stations etc.

Homogenisation – the important highest level in the Quality Assurance Chain – is of overall importance in the field of climate (change) research. The workshop notes that the scientific and technical development of methods and tools to conduct standardized homogeneity tests and corrections is possessed by only a limited number of persons in our community. It is therefore considered of major importance to keep focus on this line of work and expertise in order not to loose the knowledge and expertise; like done in the ECSN ad-hoc meetings and projects or the WMO co-sponsored series of homogeneity workshops.

Noting that "everybody" talks about different levels of Quality Control and (almost) nobody uses the same wording or nomenclature – it is recommended that an **overview of QC-nomenclature in ECSN is worked out.** It might be considered if such an overview could form the basis for a recommended set of QC-wordings.



It is recommended that an **overview of existing** (and for ECSN members relevant) **recommendations and standards for best practices in data management** is provided - for the benefit of the individual members in their national work, as well as a basis for possible future work in the ECSN data management community.

It may be considered if such an overview may be of broader interest than for ECSN alone – in which case the idea for working out such an overview may be shared with the WMO Commission for Climatology.

It may be considered if the demand for such an overview could initiate work within ECSN that aimed to present such an overview at a possible future data management workshop following the line of the 7th DMWS in Copenhagen addressing "best practices".

It is realized that **major new requirements** from our surroundings, like the required switch to **WMO BUFR** before November 2010 or the practical implementation of the **EU Inspire** directive, are topics relevant for exchange of information – or even better – topics where the members of ECSN may benefit from a mutual understanding of guidelines and best practices.

Data rescue is of high relevance in many countries including many ECSN countries. It is suggested that ECSN-members continue to focus on this very important aspect of securing the data heritage. It is noted that data rescue not necessarily means that data has to be digitized and stored in databases. It may be simple physical acts (like photographing or depositing material in professional archive facilities) that secure that the information from former notebooks or prints won't be lost.

It is a common challenge to make integrated climatological datasets where in-situ data are used together with satellite, radar and gridded data. It is suggested that a **survey of the practical use of remote sensing data** (like weather radar & satellite images) **in the climate data work of the ECSN members** is carried out and distributed – to the inspiration and clarification of options and possibilities amongst the ECSN members. Such a survey and overview may not only serve as inspiration on an individual national basis, but too initiate future ECSN projects for the benefit of the members.

Realizing that the lack of an overview/knowledge of the data policies of the member countries regularly is found to be prohibitive for exchange of data and project proposals it is suggested that an **overview of the ECSN members data policies** with respect to observational and climate data is worked out. As policies change over time – it is recommended that such an overview may be a "live" part of the ECSN website and thus updated when relevant.

Design of databases poses new challenges for the near future. As the amount of digital data, user requirements for real-time or gridded data and technological progress keeps rising, database performance poses a new challenge for all parties engaged in data management compared to when climate data concerned a more limited number of time series of monthly and annual values.

In relation to the upcoming opportunity and challenges of the **EUMETGRID** project, the participants of the workshop emphasizes the



importance of network design and density in relation to the required high quality of grid data at a national level as input to the new common European approach.

It is the overall impression by the workshop participants that The Network of European Meteorological Data Providers should be **encouraged to work towards a more common and more coordinated Data Management approach** taking into account both activities on national and international level with respect to Data Policy, Data Practice, Data exchange and Outreach.