Draft minutes from E-GVAP expert teams and plenary meetings, AEMET, Madrid, 20121115 to 16

Version 2011-11-21

These minutes should be seen as a supplement to the presentations from the meeting. The presentations are available via the web-site, including also the E-GVAP-III bid (= current plan) for the future.

Attending
Christoffer Elo, met.no; Gemma Bennitt, UK Meteoffice; Eric Pottiaux, ROB; Florian Zus, GFZ Henrik Vedel, DMI; Jan Dousa, GOP; Jana Sanchez Arriola, AEMET; Jonathan Jones, UK Metoffice; Jose Antonio Sanchez Sobrino, IGE; Klaus Stephan, DWD; Miguel Angel Cano Villaverde, IGE; Sabine Hafner, EUCOS; Siebren de Haan, KNMI

Friday morning additionel 8 people from AEMET listened to overview presentations about ground based GNSS meteorology by Jan Dousa, Gemma Bennitt and Siebren de Haan.

We had received in advance additional presentations from non present Martin Ridal (SMHI/NGAA), Patrick Moll (Meteo France), Elmar Brockman (Swisstopo/LPT), Yuksel Altiner (BKG), and Rosa Pacione (ASI), which were all presented and discussed at the meeting.

Agenda
Due to the effects of a general strike the day before the meeting, the meeting times and agenda were rearranged: Meeting times 10:30 to 18 Thursday, 9 to 12 Friday.

- Practicalities
- Status and updates on processing and/or use by each expert, status and updates of GNSS meteorology at inst. by each present plenary member, information from the E-GVAP team (combined round the table).
- Sub-hourly processing: New naming format for COST-Format files, small changes to COST Format. On the naming of GNSS sites.
- Active quality control.
- On the MoU being made between EUPOS and EUMETNET and expansion of network in Eastern Europe.
- Global processing.
- On the finish of E-GVAP-II and start of E-GVAP-III.
- On the proposed EU COST action GNSS4SWEC
- **Friday, November 16, 9 to 10: Overview presentations on data processing and data usage for non specialists**
- Outlook, discussion of work in coming programme phase
- The role of the plenary panel and its interaction with the E-GVAP team and Expert teams.
- Date and time of next meeting,
- Other.

Extracts from the discussion and presentations (see presentations for much more details)

Timeline and future
E-GVAP-II finishes by end 2012, a year earlier than in the original plan, due to the reorganisation of the observing programmes under EUMETNET. A proposal for E-GVAP-III has been submitted by the current E-GVAP team to EUMETNET. It has been favorably reviewed by a review team, STAC

and PFAC. At the time of the meeting we are awaiting an EUMETNET Assembly meeting ultimo November, which will determine whether E-GVAP is to enter a third phase. We expect so.

Not knowing with certainty about the future of E-GVAP meant that we could not postpone the meeting to early 2013, despite the problems many had with attending, which would otherwise have been natural.

Economy
According to budget. The only unknown regarding spending of the 2012 budget of 119,000 euro is the travel money. E-GVAP finances travel of E-GVAP experts, and since the main expenses occur in connection with the expert team meeting, final costs are first known late 2012 or early 2013, when the last invoices are received at DMI.

A *surplus of about 25 k-euro* (from previous years) is expected by end of 2012. These money are at EIG EUMETNET Office, and will be used to reduce member payments in 2013 if E-GVAP is continued.

Observing system briefs
The number of unique E-GVAP sites continues to grow. Now more than 1900 sites, including sites from regions with prior poor coverage, such as Greece and Latvia.

There was too a long period early 2012 without NGAA data, otherwise delivery statistics are good.

Quality is in general fine. Periodically NGAA suffer short period offsets due to problems with the "clock and orbit" product used in their processing (see presentation by Martin Ridal). An expected new clock and orbit product will improve this, meanwhile AQC when activated will enable disovery of it. We saw (again) that "faster products" (sub hourly processing) have different error characteristics than hourly products, and that ZTD biases for a given site can be AC specific (because of for example different antenna phase center models used in the processing). This is perfectly OK, as long as NWP users remember to do the NWP-GNSS bias correction in a site and AC specific way.

Four institutes, Meteo France, UK Metoffice, KNMI and DMI assimilate GNSS data in operational products. They report at positive impact from their 4 and 3-DVar assimilation. DWD uses nudging assimilation, and report from tests a positive impact in summer, but negative in winter.

A draft MoU between EUPOS and EUMETNET will be discussed by Assembly ultimo November. When finalised, national MoUs, or EUMETNET AC MoUs where there is no GNSS active national met office, can be made to include data from new ACs in Eastern Europe.

Recent developments with regard to NOAA (US) collaboration, after NOAA BUFR formats has been shown to be not conforming to WMO standard. Either NOAA will change, or E-GVAP will start to download and convert NOAA GNSS data from another NOAA format to the COST-Format and E-GVAP BUFR format.

Specific issues

A new scheme for the naming of COST-Format files, enabling sub-hourly uploads
The proposed scheme, which was distributed prior to the meeting, was discussed. There was a strong wish for additional changes, first of all to enable:

- Improved handling of AC&solution naming. This both regards rules for the naming, but also enlarging the naming string (currently 4 characters), to enable better names (keeping the original 4 letter AC name and allowing for a reasonable number of solutions and upgrades)

- Expansion of the site naming string (currently 4 characters) in the file name, minimum to enable use of Dome numbers (5 characters) which are unique, which is not the case for the current names.

It was appreciated such changes will delay the planned shift to a new file naming scheme, since stringlenghts for site naming and AC&solution naming is a hardcoded part of some of the data assimilation softwares.

I practice it will mean that new ACs starting to produce data for E-GVAP soon, will have to start out using the old/current upload scheme and naming practice.

Nevertheless, it was agreed that now is the right time to define such changes, and to warn the data users in proper time about the changes, once they have been defined and agreed upon.

Rules for upgrading of operational AC solutions
Related to the above, it was discussed what the rules/guidance should be regarding when and how to decide on upgrading of a test solution to become a/the operational solution from an AC.

There are cases where an AC can easily decide upon an upgrade by itself, without risk of mishaps at the user end, and there are cases where users need to be warned in advance about changes (e.g. if biases are different).

Regarding both the above issues, it was agreed the E-GVAP team will expand the naming scheme document to include the proposed solutions to the above concerns. This will then be circulated for comments, and if necessary discussed at one of the upcoming meetings, before being finalised.

Access to O-B data and O-B statistics
Currently the published O-B data made widely available are from UK Metoffice only, and the O-B statistics widely available is found at the EUCOS QMP. It was agreed to:

1. Make available also O-B data from additional NWP centres. These data can then be downloaded by interested partners.
2. Deduce and make available O-B statistics based on the O-B datasets available to E-GVAP. This statistics should be concise, e.g., monthly and AC specific, in order to give an overview of NWP and AC performance, rather than provide detailed site specific monitoring (which is done via the KNMI validation page and EUCOS QMP).

The statistics data will help ACs with validation, help users identify eventual problems with the way their NWP system utilises the ZTD data. And provide an overview of an important aspect of the general E-GVAP performance to our members.

GNSS4SWEC
This is a proposed EU COST action on research in the field of ground based GNSS meteology. If started it will be of enormous benefit to E-GVAP, stimulating relevant work that cannot be funded by E-GVAP itself. See presentation by Jonathan Jones for further details. Final decision on funding of GNSS4SWEC will be taken ultimo November by the EU.

Next meeting
It was agreed that if E-GVAP-II is funded, we'll have both an E-GVAP *kickoff meeting* and a *normal expert&plenary team meeting* in 2013.

The latter will be held in November 2013, the date to be determined when funding is known.

The former will be a WebEx (tele conference) meeting in January 2013 if GNSS4SWEC is not

funded.

If GNSS4SWEC is funded, it is considered to have the E-GVAP kickoff meeting in connection with the GNSS4SWEC kickoff meeting, which is likely to be held in Brussels during February 2013. There is a large overlap between members of the E/GVAP expert teams and the participants in GNSS4SWEC. If "plenary" people want to partake in an E-GVAP kickoff meeting, but cannot come to Brussels, a separate WebEx meeting can be held between plenary members and the E-GVAP team prior to or after the GNSS4SWEC kickoff meeting.

Specific todos

Start of Bulipos data exchange. *Jon*

Contact Metoffice in Marocco about their GNSS network. *Henrik*

Formal rule for naming of new AC-products/solutions. *Proposal to be made by E-GVAP team in connection with update of proposed COST-File naming scheme*

Enabling longer site names and AC&solution names. Proposal to be made be E-GVAP team in connection with update of proposed COST-File naming scheme.

Formal rule for requirements and decision taking when moving solutions from ”test” to ”operational” (or ”demonstration”). *Proposal to be made by E-GVAP team.*

Changing to new naming sheme will await agreements on the above three items.

Formal requirements to quality for inclusion of IWV in E-GVAP data. *Proposal to be made by E-GVAP team.*

Improved access to O-B statistical data. *NWP-centres to provide data, expert teams to guide on the statistical messures they are interested in, E-GVAP team to do statistics.*

Start of realtime E-GVAP AQC (in parallel to current ASI AQC). *E-GVAP team, mainly Henrik*

Acknowledgements

Many thanks to AEMET for hosting the meeting. In particular to Jana and Bartolome from AEMET for dealing with the many changes associated with firstly the movement from Santander to Madrid, and secondly the effects of the general strike in Spain. It was not easy, but they did a very fine job!

Thanks also to Jan, Gemma, and Siebren for taking time to prepare and give the overview presentations.

Minutes made by
Henrik Vedel