

Minutes of Meeting

1.1 Agenda

Meeting	SWENET Developers Forum
Date	Tuesday November 6 th , 2007
Location	4th European Space Weather Week – Splinter Session 1 Music Room, Royal Library of Belgium, Brussels
Start	15:00
End	16:00
Objective	The main objective of the Developers Forum meeting is to review the status of the Space Weather European Network (SWENET) and its internet portal, describe recent updates, including new Service Development Activities (SDAs), and to solicit and discuss input from the SDA community as to what further developments and services would best support the activities of the community.
Presentation and discussion	<ul style="list-style-type: none"> • Current status of the SWENET Infrastructure (etamax) • Overview of the status of the SDAs (etamax/all)
Discussion items	<ul style="list-style-type: none"> • New ideas and developments (Including new & upcoming SDAs) • Needs and expectations of the SWENET infrastructure in the future

1.2 Minutes

P. Beltrami opens the meeting and presents the current status of SWENET:

- The initial project (SWENET development) was finalised in March 2006
 - The portal is operational since January 2005
- The current maintenance phase is planned up to the beginning of 2008 including the following tasks:
 - General software & hardware maintenance tasks
 - Addition of new features
 - Addition of new data and SDAs
- An additional extension of the project is foreseen for 2008, continuing maintenance and support for the SWENET infrastructure.

1.2.1 Index quality statistics

D. Heynderickx presented the work being done on the indices statistics in SWENET. After reviewing all data available on SWENET, the following quantities were found suitable for producing statistics on (ordered by data provider or SDA)

- BINCASTS:
 - aa and ap forecast
 - Prediction of average sunspot number, F10.7, Ap
- GIFINT: hourly Dst forecast

- IRF: 3hr Kp forecast
- ISGI: definitive, preliminary and quicklook aa and am
- SIDC: daily sunspot number forecast
- TSRS: 1-minute radio fluxes (mean and maximum values) at different frequencies, observed and predicted
- Baselines: Kyoto Dst, Kp and Ap from NGDC

The following graphs and functions will be implemented

- Linear regression of forecast quantities wrt measured quantities
- Distribution of differences between forecast and measured quantities
- Additional types: mean error and RMS error for fixed time intervals
- All these types can be produced at regular intervals (e.g. yearly) to illustrate evolution of forecast quality
- Should also be applied to specific cases (e.g. substorms) to verify if forecast holds up under disturbed conditions

Comments:

- An example of indices statistics on aa, ap was presented. It is noted that the Bincasts table descriptions could be more detailed, D. Heynderickx will clarify this with BGS.
- The scatter plot of GIFINT predicted Dst vs. Kyoto actual Dst show some interesting non-compliant dots, so the example is already effective, as D.Heynderickx and E.Amata noted.
- It was proposed that timeline series could be generated: Regular time spans, but also substorms (or other scientifically interesting times).
- J. Watermann and D. Heynderickx note that all indices (except maybe Kp) operate on a linear axis.

1.2.2 Status of SWENET SDAs

P. Beltrami presents the current status of the SDAs:

- 26 SDAs were involved in the Pilot Project
 - 24 SDAs are currently operational
 - 2 Not operational
 - 13 SDAs currently provide products to the SWENET portal
- Outlook
 - Most SDAs have perspectives up to 2009-2010
 - Funding from National Government
 - Continuations and new development
 - Some funded by customers (mostly Ground Effects)

Comments:

Most SDAs are still operational, some also with increased funding by industry (mostly GIC section).

As part of the talk, the SWENET Latest Data page is discussed. E. Amata suggests that animated time series instead of still images could be interesting, e.g. for the GIFINT foF2 images, but also for others.

1.2.3 Discussion

P. Beltrami presents the summary of the SDA questionnaire as a starting point to the round table discussion with all SDAs.

- SEISOP is interested in importing data from SWENET, preferably per direct database access. K. Ruhl notes that the SDAs already have direct access to the DB, and agrees to send the JDBC credentials. SEISOP also agrees to look into contributing data to SWENET. K. Ruhl agreed to circulate a reminder to all SDAs that this functionality is available.
- It is also noted that in general, data availability is important, so in the long term it may be wise to apply data warehousing principles and achieve some redundancy, if SWENET is to become one of the major space weather databases in Europe.
- N. Jakowski provides a short summary of the SWACI SDA (former SWIPPA) status. The project has funding for the next 3 years. Further data could be uploaded to SWENET, but the question of what kind of data is useful to the user remains. It is clarified that SWACI TEC maps are for Europe. New activities: More area, higher resolution (~100 km), using 200 stations in Germany, also preparing an EU-proposal on getting more stations. Also better time resolution is desired. SWACI users are also interested in perturbation data. Again, it is noted that a switch from SEC to SWENET as a provider would be possible, if a certain degree of availability is guaranteed.
- It is also noted that in general, it is recommended get into a dialog with end users, clarifying what data they want; this has until now been mainly handled by the individual SDAs. It was recommended that etamax also adopt this role
- SIDC currently provides forecasts, but no measurements (nowcasts). Forecasts include Ap. It is noted that D. Heynderickx list of indices data should be enhanced and include the SIDC indices ap, kp and 10cm flux forecasts.
- BINCASTS is interested in a comparison of indices and sees a good opportunity in the solution proposed by D. Heynderickx. This would improve the indices quality considerably.
- Also on the improvement of the indices quality it is noted that (at least) the forecast data should come with a description of which models were used to produce them, preferably also including the input parameters, such that the models can be run by third parties without looking up many publications on paper.
- It is proposed to improve the data table descriptions by asking all SDAs to review the data table description on their tables, and supplying new descriptions if required.
- It was agreed to also ask SDAs to review and update their project 1-page summaries on the SWENET server
- To increase the value of SWENET to the users, it would help if SWENET would provide some unique data (i.e. data that is not available somewhere else). Also, data of higher resolution and including more stations than elsewhere would help.
- It is noted that SWENET should be used as a platform to reach out to end users, e.g. the pilots.
- The issue of obtaining data from end users who have been affected by space weather was discussed. A. Glover noted that this is often the case in commercial markets as companies will not want to declare susceptibility to space weather effects when their competitors will not.
- K. Ruhl asks which kind of data browsing would be useful for the SDAs. A data summary would be a useful addition; currently, the data browsing is sorted by provider and in this a "Super-FTP" rather than a structured collection. It was agreed that this makes data initially hard to find. It is proposed to order the data by theme (e.g. ground vs. space based, forecasts vs. nowcasts, indices vs. measurements, etc.), instead of by provider.
- E. Amata (GIFINT) notes that it would be helpful if SWENET provided a number on how frequently users access SDA data through SWENET; this would e.g. be beneficial for acquiring funding for both SDAs and SWENET.