

SWWT Plenary meeting 32 wrap-up

Wednesday, 07 November 2012, 14:00 to 16:15

Belgian Royal Academy, Brussels, Belgium

Prepared by Stefaan Poedts, 07 November 2012

Room Albert II

This SWWT Plenary Meeting was attended by 84 people.

Wrap-up

1. Welcome and Introduction (Stefaan Poedts (SP))

Stefaan Poedts (SP) welcomed everybody to the SWWT Plenary meeting and presented the agenda.

2. SSA Precursor Service Review SWE Panel, final report summary (AG)

AG first reviewed the three main objectives of the precursor service review, and then discussed the scope of the SWE Panel which was responsible for the review of the SSA SWE segment Precursor Services. The review process took place over a long period and involved a lot of services which were listed (see slides in Annex 1). RIDs were generated by the panel members. There were 28 major RIDs, 42 minor and 27 editorial RIDs, i.e. 97 in total. Then AG discussed the five main findings from the review report in some detail and also the recommendations these findings gave rise to. These findings will now be taken into account in upcoming precursor service updates and actions to improve the portal look and feel are already underway. The next SSA period will consider further actions in the area of metrics and validation in consultation with Expert Service Centres.

AG ended with a statement on "SN-1 Roadmap Consultation". A set of roadmaps have been produced as part of the SN-1 activity with the aim to provide a bottom-up assessment of the current capabilities, organised according to the 37 SWE services. They provide a proposed way forward to meet CRD objectives based on existing assets. The SWWT SB is invited to provide comments and feedback on the assessment provided. The schedule is as follows: the documents will be provided by 1st December. The consultation period is foreseen till January 31st. The comments are to be provided in a similar manner to the Precursor service review (excel sheet with RIDs). The overall results will be presented during the summer SWWT meeting.

AG ended with thanking the SWWT SB for the important feedback it provided and announced that the SSA/SWE segment will continue to consult the SWWT.

3. Short SWWT Topical Working Groups reports

a. Drivers of Space Weather - Solar Magnetic Topology (H. Lundstedt)

Henrik could not attend this Plenary meeting but suggested by email to rename this TWG to "Solar Magnetic Topology" (instead of "Solar Magnetic Energy"), which was decided by the SB last Monday. Henrik also announced a workshop on "Solar magnetic activity and topology" in Lund in 2014 the planning of which is on-going.

b. Drivers of Space Weather - Solar Storms (N. Vilmer)

Nicole showed the updated web pages for this TWG which has two subgroups: one on CMEs and one on SEPs, which are interlinked of course. Nicole also mentioned the agenda of the splinter organised by this TWG on Thursday afternoon. She hopes to be able to organise two splinters next year, one for each of the subgroups.

c. Ground Effects (M. Wik)

Magnus reported on the outcomes of the splinter he organised.

Volker Bothmer suggested to be also involved in the Electric Infrastructure Security World Summit Meetings.

d. Atmospheric Effects (S. Bruinsma)

Sean reported on four items.

- He first referred to the updated webpages which contain an evaluation report and many density maps and profiles with comparisons with DTM (semi-empirical thermosphere model) and other models for validation of these models.
- GOCE mission data have been processed.
- A standard model for satellite drag coefficients has been presented last month in Boulder, Colorado, to the ISO Working Group 4 (on space weather).
- MURI/NADIR finished in August 2012. At least two new proposals have been submitted for FP7 to continue the efforts.

e. Ionospheric Effects (M. Angling)

The past year was a transitional one since Matthew Angling has taken over as chair. He thanked J-P Luntama for his efforts previously. Matthew reported on the splinter meeting (1400 to 1600, Thursday, Nov 8, Roi Baudouin Room) the agenda of which contained an update of issues from full SWWT meeting; a review of the existing terms of reference; a discussion on the possible future roles of group (incl. an outline of the options, a discussion on contribution to the ESA propagation network of experts led by Roberto Prieto Cerdeira (ESA), a presentation on extreme space weather events by Paul

Cannon (QinetiQ)); a technical presentation by Estefania Blanch (Observatori de l'Ebre). During the splinter Matthew also solicited volunteers for co-chair.

f. *Spacecraft, Launcher and Aircraft Environments (S. McKenna-Lawlor)*

A Splinter Meeting of SALE will take place during ESWW on 8 November, 16.30-18.30. The SALE Executive, through an initiative of G. Reitz, has arranged, in addition to short presentations from SMcKL (STIL), G.Reitz (DLR) and Alain Hilgers (ESA), for the presentation at the Splinter of a set of five specialist talks concerning the energetic particle radiation hazard posed to aircraft personnel. Susan presented the synopsis of the latter 5 Splinter talks. Moreover, Susan reported that a technical paper is being prepared by the Executive, by members of ESA and by members of the Aerospace Division of QinetiQ for the ESA Bulletin which will provide a state of the art overview of *Space Weather user requirements for Launch Service Personnel, for Trans-polar Flight and Human Space Flight Providers and for Spacecraft Operators*. Also, arrangements have been made with U.S. scientists to mount solar shock arrival predictions on the SALE website at the European Space Weather Portal, in effective continuation during Solar Cycle 24 of the Fearless Forecasts that were available during Solar Cycle 23. These data will be analyzed statistically during the rise, maximum and decay phases of the new cycle and the results combined with those obtained during Solar Cycle 23.

g. *Education, Outreach and Emerging Markets (N. Crosby)*

EOEM covers education (primary to university), both formally (schooling, textbooks, etc. and informally (e.g. museums, webcasts, etc.), as well as public outreach activities (TV/radio programmes, popular books, etc.). Furthermore it considers potential future space weather markets acting as an umbrella in this context. The EOEM webpage has been revised and is now located on the ESWeP: <http://spaceweather.eu/swwt/eoem>

As an emerging space weather market, the possible effects of space weather on the health of humans on Earth is being considered in connection with space weather induced health effects on humans in space. The "Space Weather Effects on Humans: in Space and on Earth" conference was held at the Space Research Institute of Russian Academy of Sciences in Moscow, Russia, 4-8 June 2012. Presentations from the conference are available on the conference website [<http://swh2012.cosmos.ru/>]. Main topics of the conference included: 1. Space Weather and its role in defining the local environment, 2. Space weather and human health on Earth, 3. Assessment and paths of risks reduction of diseases caused by the impact of weather and climatic and environmental factors in a changing climate, 4. Space weather and human health in Space.

The Chapter "Potential effects of solar and geomagnetic variability on terrestrial biological systems", In *Advances in Solar and Solar-Terrestrial Physics*, Maris G. and

Demetrescu C. (Eds), Research Signpost (in press, 2012) by Babayev E.S., Crosby N.B., Obridko V.N., Rycroft M.J., reviews the numerous works that have been performed in this field during the last decades.

EOEM also raises and maintains awareness of space weather effects on systems affected by space weather and how space weather impacts modern society. The target group includes engineers and managers, policy makers, and the general public (e.g. educational institutions at all levels).

The EOEM topical working group splinter meeting was held on Tuesday, 06 Nov. 2012, 16:30-18:30. It was attended by more than 25 people indicating that each year more people are interested in this splinter meeting.

4. Short overview of the upcoming R&D programme (GSP, TRP, GSTP...) activities (AH)

There are a lot of R&D programs at ESA. Alain presented a non-exhaustive list of 20 of them, incl. general programs (like ACT and GSP), domain specific programmes, strategic programs and two generic technology programs (TRP and GSTP).

5. Suggestion for new TWG on SW Forecast (SP and LT)

On the last SB meeting, Larisa argued that forecast is not the same as modelling and different kinds of forecasting need different models, procedures, data, etc. She suggested to create a new TWG on SW Forecast provided the idea is welcomed by the SW forecasters on the Forecaster Forum which was held yesterday. Larisa reported that xxx

The meeting ended at 16:15.