

Space Weather Working Team Plenary Meeting 29 Report

28 June 2011, Brussels, Belgium

Prepared by Norma Crosby, 11 July 2011

The SWWT Plenary 29 Meeting was held on Tuesday 28 June 2011, 09:30-17:00 at the Royal Observatory of Belgium in the “la sale méridienne”. It was convened by Norma Crosby (NC) with Alexi Glover (AG) as ESA contact and was attended by more than 30 people (see Annex for list of participants).

The meeting was divided into two main parts:

1. Welcome and Introduction (Norma Crosby)

PART 1 – REVIEW OF GENERAL ITEMS

2. Review Main Events since ESWW7 (Norma Crosby)
3. SWWT Topical Groups Updates (Norma Crosby)
4. SWWT Roadmaps (status of SWWT resolutions, etc.) (Norma Crosby)
5. SWWT Steering Board (new membership endorsement) (Alexi Glover)
6. ESA SSA Space Weather Segment Update and Planning (Alexi Glover)
7. Action Item Review

PART 2 – OPEN DISCUSSIONS

8. FP8: the Future and FP7 in General (Mike Hapgood)
9. FP7 Consortium Building
 - Space Weather in 2012 FP7 Research Infrastructure Call (Mike Hapgood)
10. SN-1 Asset Review (Eva Robbrecht)
11. Space-based Monitoring
 - Accessing and Exploiting SDO Data in Europe (Veronique Delouille)
 - Space Weather data services provided by PROBA2 (David Berghmans)
12. Ground-based Monitoring Facilities in Europe
 - The Humain Project (Christophe Marqué and Jasmine Magdalenic)
 - Solar Radio Observations in France (Nicole Vilmer)
 - European H-alpha Observing Network Hastenet (Frédéric Clette)
 - EISCAT for Space Weather Applications (Ingrid Mann)

13. International Collaboration

- Introduction
- Space Weather Activities in Ukraine (Aleksei Parnowski)

14. Communications Tools

- ESWeP (Michel Kruglanski and Stijn Calders)
- SWWT wiki

15. Closing Words

[1.] Welcome (Norma Crosby)

NC welcomed the participants to the 29th SWWT Plenary Meeting and presented the above agenda. She acknowledged the Solar-Terrestrial Centre of Excellence and the Royal Observatory of Belgium for their support in the organisation of this meeting.

NC gave a short introduction to the Space Weather Working Team for those participants not familiar with its background. It was mentioned that Mike Hapgood remains as contact person for new memberships to the SWWT [email: mike.hapgood AT stfc.ac.uk]. For more information about SWWT, including presentations from this Plenary, as well as minutes and presentations from previous SWWT Plenary meetings see:

[http://www.esa-spaceweather.net/spweather/esa_initiatives/swwt/index.html].

Thus, all presentations referred to in the minutes can be found on this webpage.

PART 1 – REVIEW OF GENERAL ITEMS

[2.] Review Main Events since ESWW7 (Norma Crosby)

NC presented the main SWWT related events occurring since the ESWW7 meeting in November 2010.

Meetings:

- “Space Weather Working Team Steering Board meeting”, 15 Nov. 2010, 10:00-12:00, ESWW7, Brugge, Belgium.
- “Space Weather Working Team Plenary”, 17 Nov. 2010, 14:30-16:30, ESWW7, Brugge, Belgium.
- COST Action ES0803 “Workshop on Assessment and Validation of Space Weather Models” 16-17 March 2011, Alcalá, Spain.
- EGU General Assembly 2011, 3-8 April 2011, Vienna, Austria.

The above “Workshop on Assessment and Validation of Space Weather Models” programme and presentations from the workshop can be found at

[<http://www.spaceweather.es/cost/workshop.html>].

Project Proposals - Invitations to Tender:

N Crosby highlighted some recent opportunities where SWWT members have been active:

[1.] FP7 Space Call 3 project proposals

- o SPA.2010.2.1-03 Exploitation of space science and exploration data
- o SPA.2010.2.3-01 Security of space assets from space weather events

Selected FP7 Projects officially started in late 2010/ early 2011 and are all very active. Individual projects are being encouraged to provide updates at the upcoming ESWW8 in Brugge, Nov. 28 – Dec. 2, 2011 [<http://sidc.oma.be/esww8/>] as part of the special session on 29th November. It was noted that abstract submission is already open via the conference webpage.

[2.] FP7 Space Call 4 project proposals: [Deadline: Nov. 25, 2010]

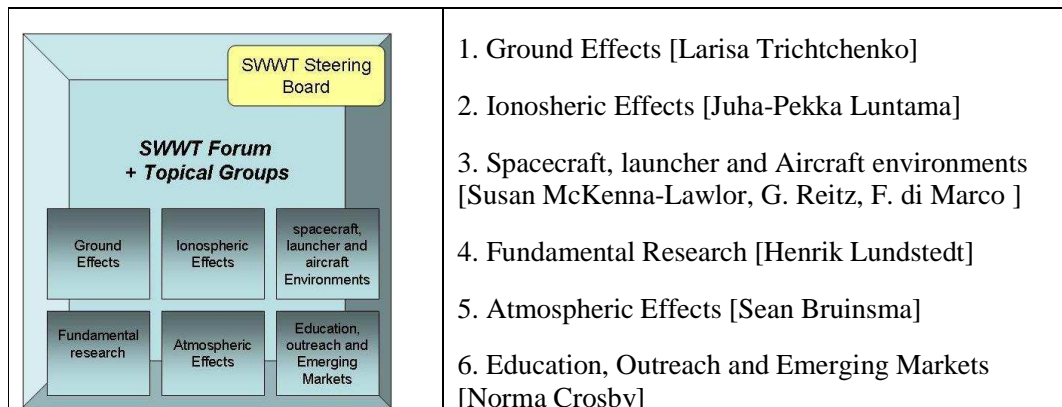
Selected Projects are currently under Negotiations.

[3.] ESA Invitation To Tender (ITT) project proposals:

- o SN-I: Space Weather Services [Currently ongoing.]
- o SN-II: Weather Instruments [Currently ongoing.]
- o CO-I: Requirements and Evaluation [Currently ongoing.]
- o CO-II: Architecture Design [To be issued.]
- o DC-II: SSA Prototype Pilot Data Centres [ITT closed.]
- o SN-IV: Space Weather precursor services operations [To be issued.]
- o SN-VI: Space Weather additional services [To be issued.]
- o GSTP-5 ITTs

[3.] SWWT Topical Groups Updates (Norma Crosby)

NC explained the objective of having the various SWWT topical groups. The below figure presents the topical groups with the name of their current spokesperson.



Reports about the following SWWT Topical Groups were given by their respective spokesperson:

- Spacecraft, Aircraft and Launcher Environments by Susan McKenna Lawlor
- Atmospheric Effects by Sean Bruinsma
- Education, Outreach and Emerging Markets by Norma Crosby

NC presented on behalf of Larisa Trichtchenko her Ground Effects Topical Group “GETG report” that she had sent NC prior to the Plenary. After the presentation there was a lot of discussion about geomagnetically induced currents (GICs) in general. It was emphasised that GICs not only occur in the most northern countries, but that they can also occur in the southern part of South America and South Africa. It was suggested that somebody from one of the most southern countries should participate in / present at the annual ESWW.

There was discussion regarding education and outreach efforts, especially the language issue. The Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) cartoons are excellent examples of the multi-language approach, see [<http://www.yorku.ca/scostep/> , click on “Outreach”], the main purpose being to raise the awareness of the general public on selected scientific topics.

The International Space Weather Initiative [<http://www.iswi-secretariat.org/>] supports ISWI schools organized at the UN Regional Centers. Viviane Pierrard mentioned that it is planned to organise a school in Morocco in December 2011 where the working language will be French. AG also mentioned a UN-Nigeria workshop coming up in Abuja, Nigeria this October [<http://www.iswinigeria.org.ng/>].

It was recalled that there would be an annual SWWT Topical Group joint space weather report (to be published in the new European Space Weather Space Climate Journal). NC had contacted the SWWT Topical Group spokespeople in early January 2011 asking for input. Unfortunately, not everybody sent her their two to three page reports to be used as input for the joint report. For this reason NC contacted again these people prior to the current SWWT Plenary reminding them that the goal of the yearly joint report is to make the work performed under the umbrella of the SWWT topical groups more visible to the whole community. In summary input from all the Topical Groups is important for the annual SWWT Topical Group joint space weather report. The report is to be ready/ submitted prior to ESWW8.

[4.] SWWT Roadmaps (status of SWWT resolutions, etc.) (Norma Crosby)

NC recalled the participants that she had initiated a long-term (next two to three decades) European space weather Roadmap Activity within the SWWT. She highlighted again that the Roadmap Activity document represents community input and is a live document, meaning that it will be updated as a function of developments in the community. Its overall objective is to take into account all expected key players and addressing the current and future critical elements and user community (/communities).

NC highlighted some key elements that she would like to see in the Roadmap Activity document:

- European Ground-based Monitoring Facilities
- International Collaboration
- COST Action ES0803 Metric Activity (On the 27 June 2011 Dr. Ioanna Tsagouri sent out the report “Assessment and Validation of Space Weather Models in the framework of the European COST Action ES0803” to the SWWT mailing list. See PDF for more information.)

It was highlighted that Europe also has ground-based observatories outside of Europe (e.g. Antarctica, Tahiti).

What should be included in the document was discussed among the participants and two more key elements were added to the above list:

- Space-based Monitoring Facilities
- SWWT Topical Group Report

The community is welcome to add more key items to the list and is encouraged to use the SWWT wiki [<http://swwt.aeronomie.be>] for discussion and/ or contact NC directly.

The first release of the Roadmap Activity document will be presented and discussed at the upcoming ESWW8 meeting in Namur. Prior to that, NC will finalise the draft version by end of August 2011 and send it to the SWWT Steering Board (they will have September 2011 to provide feed-back).

SWWT Resolutions:

The SWWT should develop and adopt formal resolutions as one of the methods by which it could influence decision-makers with respect to the development of space weather activities. This was briefly mentioned at the end of last summer’s SWWT Steering Board meeting [17 June 2010] and refers to the SWWT resolutions mentioned in the Annex of the minutes taken by Mike Hapgood at the SWWT Steering Board meeting held on 3 September 2009. It was noted in the minutes taken on 17 June 2010 that these resolutions will be built into the SWWT Roadmaps. Resolutions for Consideration noted in the 3 September 2009 minutes are:

[R1.] To maintain awareness of space weather conditions, and to progress the science underpinning our understanding of space weather, it is essential to carry out long-term monitoring of the space environment, using an appropriate mix of space-based and ground-based sensors. This dependence on long-term monitoring is characteristic of the environmental sciences. The Space Weather Working Team therefore recommends that European funding agencies should consider space weather and its underpinning science as part of the environmental sciences.

[R2.] National space weather programmes are now developing in several countries - especially in Germany, Belgium, Italy and France. The Space Weather Working Team welcomes these developments and recommends that ESA, through its R&D or other actions, supports European coordination of these national activities, e.g. by ensuring maintenance of coordination tools such as SWENET.

[R3.] A key factor controlling most space weather phenomena is the state of the solar wind, including its embedded magnetic field, that impacts the Earth's magnetosphere. Upstream monitoring of the solar wind and magnetic field (e.g. at the L1 Lagrangian point) is critical for many space weather services and also for studies of the underpinning science. The Space Weather Working Team therefore recommends that the relevant agencies (NOAA, ESA, etc....) consider a followup to the current provision based on the aging NASA Advanced Composition Explorer spacecraft and the associated data infrastructure established by NOAA.

[R4.] Space weather is potentially of wide interest outside the expert community. For example, it is important to raise and maintain awareness of space weather effects among the engineers and managers responsible for the many systems affected by space weather. Experience suggests that effective awareness requires repeated training at intervals of no more than two years. Space Weather Working Team therefore recommends that more effort be put in education and outreach based on space weather activities.

Nicole Vilmer suggested that one should also establish a resolution concerning solar energetic particle events similar to [R3].

Raising and maintaining awareness among engineers and managers [R4], as well as policy makers could be placed as an objective under the EOEM Topical Group.

It was jointly suggested by the participants that a resolution concerning education and outreach should be established.

[5.] SWWT Steering Board (new membership endorsement) (Alexi Glover)

AG presented the list of nominated SWWT Steering Board members and gave an overview presentation describing the scope of this group's work as it presently stands.

The list covers a broad range of ESA Memberstates, as well as Space Situational Awareness (SSA) space weather (SWE) user domains and services. However, it should be noted that the presentation of nominees according to SSA domains is intended to be illustrative and in no way implies assignment of responsibility. Twenty people had confirmed their nomination. There were five people that had not yet replied "yes" or "no" to their nomination, so their names were not listed. No objections were received to any of the proposed members. AG invited members to comment by email if preferred. This item will be considered closed on 10th August.

See Annex for current list of nominated members.

[6.] ESA SSA Space Weather Segment Update and Planning (Alexi Glover)

AG presented an update on the ESA Space Situational Awareness (SSA) programme as well as SSA plans for the future. An external review of the SSA System Requirements will take place in early autumn at the latest. The SWWT Steering Board will be involved in providing comments.

Work on the proposal for the next phase of the SAA programme will start this year. See presentation for more details.

[7.] Action Item Review

AI M26/1: NC, AG, HL – Coordination of the Fundamental Research topical group with the ongoing Cost Action ES0803 in regard to science to applications. [ONGOING]

HL agrees that having this topical group is important. Earlier in the year he noted that he would be prepared to be spokesperson for a “solar magnetic field topology group” and that this could be a subgroup of the Fundamental Research Topical Group or a whole group by itself.

Ronald Van der Linden suggested a new title for this Topical Group “Drivers of Space Weather” and participants agreed with it.

Other ideas for sub-groups were proposed among the participants: Fundamental plasma (Sun-Earth), solar wind drivers (e.g. solar wind coupling, propagation, magnetotail processes). This Action Item remains open until these new details have been communicated to HL and that the way forward for this topical group (one group or several sub-groups) is agreed upon by the concerned parties.

AI M26/4: AG and Ronald Van der Linden to find out what has happened to the UN activity: “Outline document on Long-Term Sustainability of Space Activities” and whether there could be a link between this and the SWWT initiative. [DONE]

Ronald Van der Linden is a member of the group that has had the task of drafting this decision document. He had previously mentioned that a formal group was created in June 2010 to advise on the above. He mentioned that work is ongoing in this group and it is agreed that this Action Item is now closed as the working group activities will be followed up in future SWWT meetings.

AI M27/1: Ioanna Tsagouri, Anna Belehaki, Alexi Glover, Sean Bruinsma, Daniel Heynderickx, Jens Rodmann and Norma Crosby to write up a resumé concerning the COST Action ES0803 metric activity. [DONE]

On 27 June 2011 Dr. Ioanna Tsagouri sent out the report “Assessment and Validation of Space Weather Models in the framework of the European COST Action ES0803” to the SWWT mailing list. See PDF in annex for more information.

AI M28/1: The white paper on the SSA preparatory programme is open for feedback from the SWWT community. [DONE]

Some days prior to the November 2010 SWWT Plenary meeting at ESWW7 Noël Parmentier (NP) sent out an email to the SWWT mailing list regarding a white paper on the SSA preparatory programme that had been written by the Belgian Institute for Space Aeronomy (BIRA-IASB) and the Royal Observatory of Belgium (ROB). The paper is entitled “Space Weather in Europe: the way forward”.

NP presented this white paper and there was some general discussion on the issues raised in the paper. It was agreed that the white paper should be made available for the community. The white paper was placed on the SWWT webpage:

[http://www.esa-spaceweather.net/spweather/esa_initiatives/swwt/index.html]

NC received some feed-back from the community in regard to the white paper and in parallel a meeting between BIRA-IASB, ROB and ESA was held at BIRA-IASB in early December 2010. There seemed to have been some misunderstandings between the community and ESA in regard to the what the direction of the SAA space weather programme would be. These issues were discussed and clarified during the meeting. It was specifically clarified that the programme will consider both ESA and non-ESA assets. This Action Item is now closed.

PART 2 – OPEN DISCUSSION

8. FP8: the Future and FP7 in General (Mike Hapgood)

Mike Hapgood (MH) gave an update on FP7, as well as looked at the future FP8. Specifically he highlighted the upcoming expected Research Infrastructure Call. The expected release is 19/20 July 2011 and the EU expects ONE PROPOSAL on space weather (the competition is between topics, NOT within). See presentation for more details.

9. FP7 Consortium Building

- Space Weather in 2012 FP7 Research Infrastructure Call (Mike Hapgood)

Following the presentation by MH there was a brainstorming session. Mervyn Freeman presented some SuperDARN data. MH mentioned that he has booked a meeting room in London for 26 July 2011 for a first meeting for Consortium building and project proposal definition. An email concerning this has been circulated via the SWWT mailing list.

10. SN-1 Asset Review (Eva Robbrecht)

Eva Robbrecht (EV) gave an update on the ESA SSA SN-I: Space Weather Services asset review [<http://catalogue.ssa-sn1.eu/>]. See presentation for more details.

She noted the importance of the community inputs received and thanked those present who contributed. It was also noted that the database is closed, but additional information can still be provided by email.

AI M29/1: Following discussion, the SWWT recommends to ESA to make available to the community the SN-I list of assets document.

11. Space-based Monitoring

- Accessing and Exploiting SDO Data in Europe (Veronique Delouille (VD))

VD presented the Solar Dynamic Observatory (SDO) and the SDO data that now is available in Europe. See presentation for more details. SDO data available at the Royal Observatory of Belgium can be found here [<http://wisSDOm.oma.be>].

- Space Weather data services provided by PROBA2 (David Berghmans (DB))

DB presented results from PROBA2 [<http://proba2.oma.be/index.html/>]. He emphasised the opportunities available for the scientific community involvement in PROBA2, specifically the Guest Investigator Programme. The submission deadline for the second call was June 30 2011. A third call will be made in spring 2012 covering the period July until December 2012. For more information, see: [<http://proba2.oma.be/index.html/community/>]. See presentation for more details.

12. Ground-based Monitoring Facilities in Europe

- The Humain Project (Christophe Marqué (CM) and Jasmine Magdalenic)

CM presented the Humain Project in Belgium [<http://sidc.be/humain/>] in regard to solar monitoring. Solar radio monitoring capabilities covers the corona (since 2008), lower corona (summer 2011) and transition region (scheduled for 2012). See presentation for more details.

- Solar Radio Observations in France (Nicole Vilmer (NV))

NV presented the solar radio capabilities in France. Specifically, the Nançay Radioheliograph is a solar-dedicated radioheliograph operating between 150-450 MHz (emissions originating from 0.1 to 0.5 solar radii), see: [<http://secchirh.obspm.fr/nrh.php>]. See presentation for more details.

- European H-alpha Observing Network Hastenet (Frédéric Clette (FC))

FC gave an overview on the ground-based solar monitoring capabilities in Europe highlighting many European assets (e.g. image processing, databases), as well as international solar monitoring networks in which Europe participates with their assets. See presentation for more details.

- EISCAT for Space Weather Applications (Ingrid Mann (IM))

IM gave a presentation about the European Incoherent Scatter Scientific Association (EISCAT) [<http://www.eiscat.se/>]. She spoke about EISCAT in general, current EISCAT measurement capabilities, as well as the new EISCAT_3D project [<http://www.eiscat3d.se/>]. See presentation for more details.

13. International Collaboration

- Introduction

Due to lack of time NC briefly introduced International Collaboration as an important topic supported by many funding agencies (e.g. European Commission). Indeed, no individual country has the capability of doing everything by themselves in regard to efforts in space weather; this is a world-wide effort.

- Space Weather Activities in Ukraine (Aleksei Parnowski (AP))

AP presented the main activities in Ukraine (space missions, projects, etc.). It was highlighted that Ukraine is involved in several international projects including FP7 projects (e.g. Advanced Forecast For Ensuring Communications Through Space (AFFECTS)). For the first time in Ukraine an “I Love My Sun” event was held this spring. It was organised by AP as part of the COST ES0803/ SWWT OEM Topical Group “I Love My Sun” initiative. See presentation for more details.

14. Communications Tools

- ESWeP (Michel Kruglanski and Stijn Calders)

Stijn Calders presented the European Space Weather portal in general and the most recent updates [<http://spaceweather.eu/>]

SM-L asked if the ESWeP could be used as an archive for relevant documents, etc. for the SWWT Spacecraft, Launcher and Aircraft Environments Topical Group. This was agreed upon and will be used as a test example for the other SWWT Topical Groups.

AI M29/2: Stijn Calders to create an archive for relevant documents of the SWWT Spacecraft, Launcher and Aircraft Environments Topical Group.

- SWWT wiki

NC briefly asked the participants if they would be interested in having a joint calendar for example via the ESWeP. This would help in organising upcoming events to avoid conflicting scheduling of events. Participants found that such a calendar would be very useful.

AI M29/3: NC to investigate with Stijn Calders and Michel Kruglanski the possibility of having a joint calendar for example via the ESWeP.

15. Final Words

NC thanked the participants for attending and contributing to the SWWT Plenary. The meeting ended at 17:30.

ANNEX

SWWT Plenary meeting

Tuesday 28 June 2011, 09:30 to 17:00, Brussels, Belgium

Royal Observatory of Belgium, la salle méridienne

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SWWT Plenary meeting

Tuesday 28 June 2011, 09:30 to 17:00, Brussels, Belgium

Royal Observatory of Belgium, la salle méridienne

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SWWT Steering Board Membership

21st July 2011

Chairperson:

Norma Crosby
BIRA-IASB, Belgium

Members

Peter Beck
ARC, Austria

Susan McKenna Lawlor
NUIM, Ireland

Anna Belehaki
NOA, Greece

Mauro Messerotti
INAF Trieste, Italy

Volker Bothmer
Univ. Gottingen, Germany

Minna Palmroth
FMI, Finland

Sean Bruinsma
CNES, France

Günther Reitz
DLR, Germany

Ioannis Daglis
NOA, Greece

Pierre Rochus
CSR, Belgium

Lars Eliasson
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Angela Rivera
INTA, Spain

Peter Gallagher
TCD, Ireland

Susanne Vennerstrøm
DTU, Denmark

Truls Hansen
TGO, Norway

Werner Schmutz
PMOD-WRC, Switzerland

Mike Hapgood
STFC, UK

Larisa Trichtchenko
Natural Resources Canada

Norbert Jakowski
DLR, Germany

Ronald Van der Linden
ROB, Belgium

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