

Space Weather Working Team Plenary 30

Wednesday 30 Nov. 2011, 14:00-16:00

ESWW8, Palais des Congrès, Namur, Belgium

1. Welcome and Introduction



SWWT Plenary 30 Agenda

1. Welcome and Introduction

PART 1: REVIEW OF GENERAL ITEMS

2. Review Main Events since SWWT Plenary Meeting 29
(Norma Crosby)

3. SWWT Topical Groups Updates (Norma Crosby)

4. SWWT Roadmaps (Norma Crosby)

5. Updated SWWT Terms of Reference (Norma Crosby and
Alexi Glover)

6. SWWT Steering Board Input to SSA (Norma Crosby)

7. ESA SSA Space Weather Segment Update and Planning
(Alexi Glover)

8. Action Item Review (Norma Crosby)

PART 2: OPEN DISCUSSION

9. Space weather in EU programmes: FP7 & FP8/Horizon 2020
(Mike Hapgood)
10. International Collaboration: Recent Meetings
 - Report on “Society and Space Weather” Workshop (Mike Hapgood)
 - Report on “EU Space Weather Awareness Dialogue” (Mike Hapgood + others)
11. WMO ICTSW Activities (Jerome Lafeuille)
12. Recent Activities on SSA in NATO SCI-229 RTG (Consuelo Cid)
13. Space Weather Activities in Ukraine. Winter 2011 Report
(Aleksi Parnowski)
14. Nominees for next SWWT Chair and Vice-Chair (Norma Crosby)
15. Closing Words (Norma Crosby)

SWWT: its history

1. The SWWT was set up to coincide with the start of ESA's two parallel space weather studies (1999).
2. When the SWWT became open to the wider European space weather community, during the Space Weather Pilot Project (2003).
3. Creation of SWWT Steering Board (2006).
4. Start of the ESA SSA Preparatory Programme (2009).

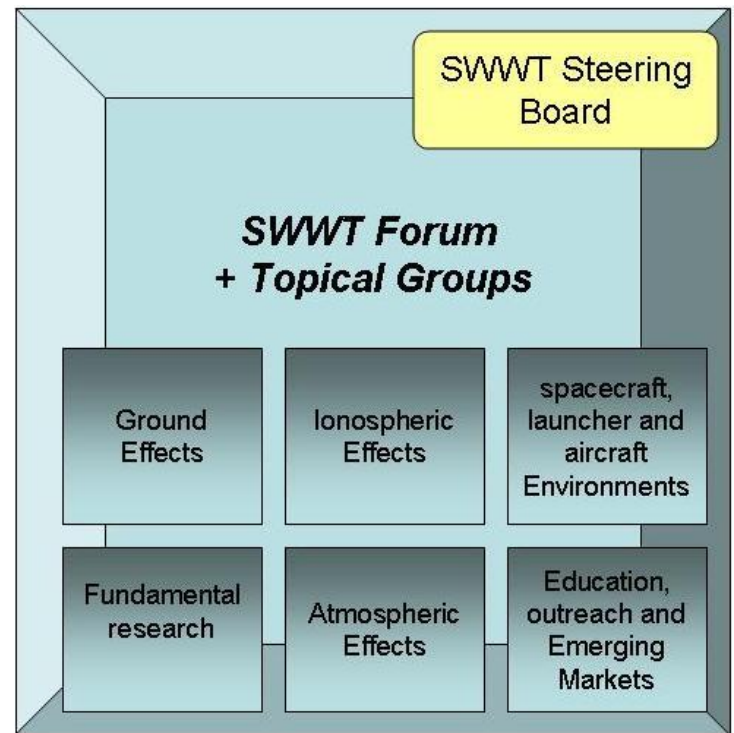
SWWT: its role

- SWWT is a forum open to European experts in a variety of both scientific & application oriented fields relating to space weather.
- SWWT advises ESA in space weather strategy and currently acts as a forum for discussion amongst the European space weather community.
- Other, non-ESA funded opportunities for space weather are regularly discussed and projects initiated by members.

The SWWT consists of:

- Community
- Steering Board
- Chair

SWWT Topical Groups



SWWT membership is open to representatives of any institute or private company currently undertaking space weather related activities.

Contact: Mike Hapgood [mike.hapgood AT stfc.ac.uk]

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

2. Review Main Events since SWWT Plenary 29

Meetings:

- “Space Weather Working Team Plenary 29”, 28 June 2011, 09:30-17:00, Royal Observatory of Belgium, Brussels, Belgium.
- “Space Weather Working Team Steering Board meeting”, 29 June 2011, 09:00-16:00, Royal Observatory of Belgium, Brussels, Belgium.
- “IUGG” conference, Melbourne, Australia, 28 June - 7 July 2011, [IAGA Symposia: A12 Space Weather and Space Climate
 - A12.1 Quantitative prediction of space weather
 - A12.2 Geomagnetic networks, computation and definition of products for space weather and space climate
- “AOGS”, 8 - 12 August 2011, Taipei, Taiwan, [Space Weather and Space Climate: Coupling Processes from the Sun to the Earth]

Meetings:

- “Space Weather Risks and Society” Workshop at NASA’s Ames Research Center, Moffett Field, Calif., U.S.A., 15-16 Oct. 2011
- “United Nations/Nigeria Workshop” on the International Space Weather Initiative (ISWI) , Abuja, Nigeria, 17-21 October 2011
- “Space Weather Awareness Dialogue” Meeting in Brussels, Belgium, 25-26 Oct. 2011

Schools:

- University of Alabama in Huntsville co-hosted a “Joint Space Weather Summer School” with German Aerospace Center (DLR), and the University of Rostock. U.S.A. and Germany, 16 July - 14 August 2011.
- “1st Annual Los Alamos Space Weather”, 6 June - 29 July 2011, Los Alamos, New Mexico, U.S.A.
- Several schools/ workshops organised by ISWI (International Space Weather Initiative)

Project Proposals - Invitations to Tender:

FP7 Space Funding (2007-2013)

~14 space weather related projects

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 Projects started in late 2010/ early 2011.]

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

[Selected Projects under Negotiations.]

FP7 Space Call 5 project proposals: [Deadline: Nov. 23, 2011]

Next (last) FP7 Space Call 6 [July 2012]

- Possibility for space weather topic to be included

Next Framework Programme FP8: 2014-2020

[“Space Hearing on Space Research in FP8”, 8 Dec. 2010]

Project Proposals - Invitations to Tender:

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 [Ended in summer 2011]
- o CO-II Architectural Design [under evaluation]
- o DC-II: SSA Prototype Prototype Tasking & Data Centres [Started in Nov. 2011]
- o SN-IV: Space Weather Precursor Services Operations [Under evaluation.]
- o SN-VI: Space Weather additional Services [To be issued. ITT early in 2012]
- o GSTP-5 ITTs (e.g. next generation SPENVIS)

3. SWWT Topical Groups Updates

Spacecraft, Launcher and Aircraft Environments: Chair & Spokesperson Susan McKenna-Lawlor (Space Technology Ireland), Topical Group Co-Chairs: Federico di Marco (VEGA), Guenther Reitz (DLR)

Ionospheric Effects: Spokesperson Juha-Pekka Luntama (ESA)

Atmospheric Effects: Spokesperson Sean Bruinsma (CNES)

Ground Effects: Spokesperson Larisa Trichtchenko (Natural Resources Canada), Co-chair: Magnus Wik (Neurospace)

Fundamental Research: Spokesperson Henrik Lundstedt (Swedish Institute of Space Physics)

Education, Outreach and Emerging Markets: Spokesperson Norma Crosby (BIRA-IASB)

AI SB 2009-2/1: NC to coordinate the first SWWT topical group report next year.

- List Objectives of Your Topical Group (In regard to the space weather community and the general public)
- Main Highlights (Results) of the Year
- National/International Collaborations
- Publications including Reports
- Conferences, Workshops, Meetings
- The Future
- Any Other Ideas?

SWWT Topical Groups 2011 Annual Report

Norma B. Crosby¹, Sean Bruinsma², Henrik Lundstedt³, Juha-Pekka Luntama⁴, Susan McKenna-Lawlor⁵, Larisa Trichtchenko⁶

¹ Belgian Institute for Space Aeronomy, Ringlaan-3-Avenue Circularie, B-1180 Brussels, Belgium

² CNES - DCT/SI/GS, 18, avenue E. Belin, 31401 Toulouse Cedex 9, France

³ Swedish Institute of Space Physics, Scheelev. 17, SE-223 70 Lund, Sweden

⁴ ESAC, P.O. Box 78, E-28691 Villanueva de la Cañada, Madrid, Spain

⁵ Space Technology Ireland, National University of Ireland, Maynooth, Co Kildare, Ireland

⁶ Natural Resources Canada, 7 Observatory Crescent, Ottawa, Canada

Highlights & Updates

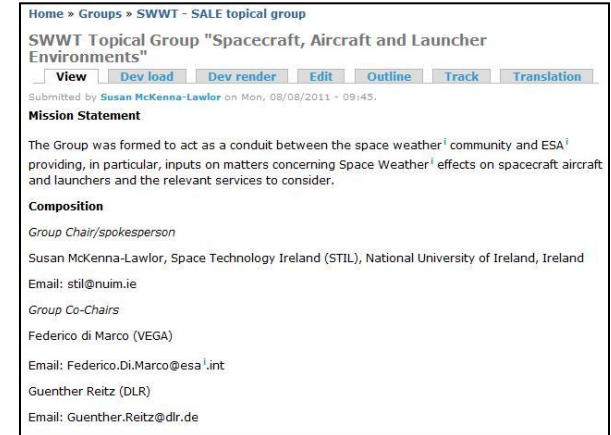
(including ESWW8 Splinter Meetings, etc.)

Spacecraft, Launcher and Aircraft Environments:

- Thursday, Dec. 01, 16:30-18:30, ESWW8 splinter meeting

Topical Group Website @ ESWeP

<http://spaceweather.eu/en/swwt>



Home » Groups » SWWT - SALE topical group

SWWT Topical Group "Spacecraft, Aircraft and Launcher Environments"

[View](#) [Dev load](#) [Dev render](#) [Edit](#) [Outline](#) [Track](#) [Translation](#)

Submitted by [Susan McKenna-Lawlor](#) on Mon, 08/08/2011 - 09:45.

Mission Statement

The Group was formed to act as a conduit between the space weather¹ community and ESA¹ providing, in particular, inputs on matters concerning Space Weather¹ effects on spacecraft aircraft and launchers and the relevant services to consider.

Composition

Group Chair/spokesperson

Susan McKenna-Lawlor, Space Technology Ireland (STIL), National University of Ireland, Ireland
Email: stl@nuim.ie

Group Co-Chairs

Federico di Marco (VEGA)
Email: Federico.Di.Marco@esa.int

Guenther Reitz (DLR)
Email: Guenther.Reitz@dlr.de

ESA's new MEREM models; calculation of the :

- Particle radiation environment on the Martian surface
- Particle radiation environment en route to and at Mars.

[Susan McKenna-Lawlor et al.]

Ionospheric Effects:

- Thursday, Dec. 01, 14:00-16:00, ESWW8 splinter meeting

Multiple research and education projects:

- TRANSMIT (Training Research and Applications Network to Support the Mitigation of Ionospheric Threats)
- CIGALA (Concept for Ionospheric-Scintillation Mitigation for Professional GNSS in Latin America)
- ICARUS (Ionospheric threats and suitable Countermeasures Applicable to satellite Radio systems Under next Solar maximum)
- Etc.

Atmospheric Effects:

- Thursday, Dec. 01, 14:00-16:00, splinter meeting
- Wednesday, Nov. 30, Space Weather Fair Stand

FP7 ATMOP (Advanced Thermosphere Model for Orbit Prediction):
Its primary objective is to develop a new thermosphere model that is sufficiently accurate to meet the requirements set by space agencies for orbit computation, and to initiate work on an operational near-real-time version.

Ground Effects:

- EURISGIC, A. Viljanen (FMI), Monday, Nov. 28, 11:00-12:30
- Session 3A: Advances in GIC Research and Effects Mitigation, Wednesday, Nov. 30 morning session
- User's Lunch

FP7 EURISGIC (European Risk for Geomagnetically Induced Currents): EURISGIC will produce the first European-wide real-time prototype forecast service of GIC in power systems, based on in-situ solar wind observations and comprehensive simulations of the Earth's magnetosphere.

Fundamental Research:

Projects: FP7 SOTERIA, COST ES0803 Action

RESTRUCTURING

Old Name: “Fundamental Research”

New Name: “Drivers of Space Weather”

Creation of 2 sub-groups:

[1.] Solar Magnetic Energy

Henrik Lundstedt

[2.] Solar Storms (Solar Flares, CMEs, SEP Events)

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.

Education, Outreach and Emerging Markets:

- Thursday, Dec. 01, 16:30-18:30, splinter meeting
- Wednesday, Nov. 30, Space Weather Fair Stand

Pål Brekke “Sola – vår livgivende stjerne”



“I LOVE MY SUN” initiative
<http://www.ilovemysun.org/>

4. SWWT Roadmaps

This “SWWT Roadmaps” document:

- represents community inputs
- is a live document
- is updated as a function of developments in the community.

“Long-term European Space Weather Roadmap Activity
(next two to three decades)”

Overall Objective: Take into account all expected key players and addressing the current and future critical elements and user community (/communities).

AI SB 2009-2/5: NC to prepare a draft version of the SWWT Roadmap for the next SWWT meeting.

OUTLINE

Draft Version 1
(25 Nov. 2011)

1. User Community (current and future)
 - 1.1 Who are the users ?
 - 1.2 What does society (the users) need ?
2. Major unanswered Questions
 - 2.1 Puzzles in solar physics
 - 2.1.1 The coronal heating problem
 - 2.1.2: The nature of solar flares and CMEs
 - 2.1.3: The origin of the sunspot cycle
3. Space-based Monitoring Facilities
4. European Ground-based Monitoring Facilities
 - 4.1 Rationale for the role of ground-based solar data
 - 4.1.1 Assets
 - 4.1.2 Handicaps
 - 4.1.3 Key developments: instruments and software
 - 4.2 Solar radio observations and space weather

5. Ionospheric Measurements

5.1. High-quality, sustained, global observations of the topside ionosphere

5.2. The real-time ionosphere/space weather (nowcast and forecast)

6. Access to Helio- and Solar Data through Virtual Observatory

7. Standards and Interoperability

8. COST Action ES0803 Metric Activity

9. International Collaboration and Cooperation

9.1 Data exchange

9.2 Specific case: the ionosphere

9.3 Collaboration among communities

10. SWWT Topical Groups 2011 Annual Report

11. SWWT Resolutions

Splinter - Forecaster Forum

Monday, Nov 28, 09:00-12:30

Larisa Trichtchenko

Recommendations:

1. Regular observational satellite at L1
2. Possible improvement of the quality of real-time data provided by scientific missions
3. Making this into an annual event.

5. Updated SWWT Terms of Reference

AI SB 2011-1/4: NC and AG to propose updated terms of reference at next SWWT meeting.

Fourth Update:

1. Start of ESA Parallel Studies (1999).
2. When the SWWT became open to the wider European space weather community, during the Space Weather Pilot Project (2003).
3. Creation of the SWWT Steering Board (2006)
4. *Start of the ESA SSA Preparatory Programme (2009).*

Space Weather Working Team: Terms of Reference.

{26th January 2007}

The SWWT is a forum open to European experts in space weather applications and related science.

The SWWT investigates space weather applications' requirements, space weather services and the underpinning research and development. It also advises ESA on strategies and activities related to space weather.

The SWWT will promote activities aiming towards the development of European operational space weather capabilities. This will include coordination of developments at European, national and industry levels. Activities can include development of applications and/or research into the underpinning science.

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

6. SWWT Steering Board Input to SSA

Contributed to the SSA SWE System Requirements Document [403 pages] and Product Specification [340 pages] Review.

RIDs Importance: Major, Minor, Editorial

SA-SRR Collocation Meeting, 17th-18th November 2011 at ESAC where the RIDs (REVIEW ITEM DISPOSITION) from the review were discussed. 74 RIDs were discussed.

	Total number of Rids	Rids accepted	Major RIDs	Closed during collocation	Accepted with Action	Board	Open
SWE Panel	357	302	134	1	6	2	293

7. ESA SSA Space Weather Segment Update and Planning

8. 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. [DONE]

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

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

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

http://spaceweather.eu/en/event/future

EUROPEAN SPACE WEATHER PORTAL

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The European gateway to Space Weather resources

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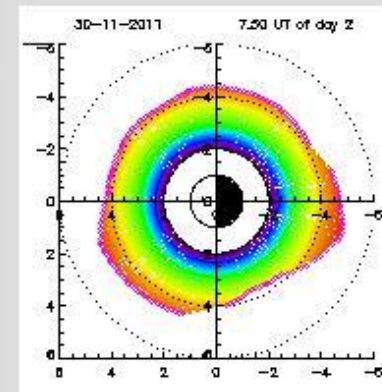
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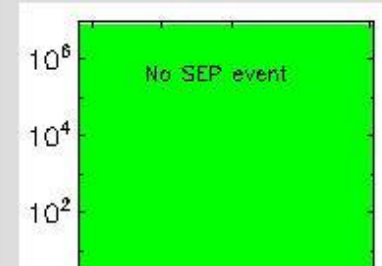
Future Events

Title	Start Date	End Date
AGU Fall Meeting	05-Dec-2011	09-Dec-2011
National Radio Science Meeting	04-Jan-2012	07-Jan-2012
2nd Nagoya Workshop on the Relationship between Solar Activity and Climate Changes	16-Jan-2012	17-Jan-2012
From the Heliosphere into the Sun in Physikzentrum Bad Honnef, Germany	31-Jan-2012	03-Feb-2012
SDO-4/IRIS/Hinode Workshop: "Dynamics and energetics of the coupled solar atmosphere", in Monterey, CA.	12-Mar-2012	16-Mar-2012
Spectroscopy of the Dynamic Sun	18-Apr-2012	20-Apr-2012
EGU General Assembly in Vienna, Austria	22-Apr-2012	27-Apr-2012
26th NSO Workshop: "Solar Origins of Space Weather and Space Climate: Connecting the Interior to the Corona"	30-Apr-2012	04-May-2012
HELAS-5: The Modern Era of Helio- and Asteroseismology	20-May-2012	25-May-2012
Workshop on Coronal Magnetism at Boulder, Colorado (USA)	21-May-2012	23-May-2012

Plasmasphere density



SEP event forecast



PART 2: OPEN DISCUSSION

9. Space weather in EU programmes: FP7 & FP8/Horizon 2020 (Mike Hapgood)
10. International Collaboration: Recent Meetings
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11. WMO ICTSW Activities (Jerome Lafeuille)
12. Recent Activities on SSA in NATO SCI-229 RTG (Consuelo Cid)
13. National Space Weather Activities
 - Space Weather Activities in Ukraine. Winter 2011 Report (Aleksei Parnowski)

14. Nominees for next SWWT Chair and Vice-Chair

Elections to be held in Spring 2012