

# ESA Space Weather Working Team

Minutes of 10th Meeting, 30 September 2002  
ESTEC, Noordwijk

## **Attendees:**

Yannick Beniguel, IEEA  
Bob Bentley, RDB  
David Berghmans, SIDC  
Jean Jaques Berthelier, CETP  
Toby Clark, BGS  
Eamonn Daly, ESA-ESTEC  
Gerhard Drolshagen, ESA-ESTEC  
Erwin Flückiger, Univ. Bern  
Alexi Glover, ESA-ESTEC  
Paul Gille, LPCE - CNRS  
Alain Hilgers, ESA-ESTEC  
Nadine Hoffmann, ESA-ESTEC  
Richard Horne, BAS  
Frank Jansen, Univ. Greifswald  
Francois Lefeuvre, LPCE-CNRS  
Jean Lilensten, LPG  
Henrik Lundstedt, Univ. Lund  
Richard Marsden, ESA-ESTEC  
Risto Pirjola, FMI  
Stefan Poedts, K. Univ. Leuven  
Jean-Yves Prado, CNES  
Blai Sanahuja, Univ. Barcelona  
Stanimir Stankov, DLR  
Peter Stauning, DMI  
Hakan Swahn, ELFORSK  
Werner Verschueren, OSTC  
Jean Jaques Valette, CLS

## **Excused:**

Roger Gendrin  
Willi Riedler, AAS  
Reinhart Leitinger, Univ. Graz  
Günther Reitz, DLR  
Mike Hapgood, RAL  
Norbert Jakowski, DLR  
Bo Thide, IRF

Welcome address by A. Glover

1. Matters Arising From SWWT-9, Alpbach Minutes

R. Marsden referred to a typo in the previous minutes.

W. Verschueren did not attend the SWWT meeting in Alpbach and therefore he asked if any new conclusions had been drawn at this meeting.

A. Glover stated that this had been an ad-hoc meeting and that, as such, most decisions had been deferred to this meeting.

2. The Space Weather Pilot Project (A. Hilgers)

**Appendix 1: The Space Weather Pilot Project**

A. Hilgers gave an overview of the pilot project status in the context of the space weather roadmap. It was pointed out that the space weather roadmap is an internal SWWT document. A high level of response was received following the first pilot project AO. However, it was pointed out that no further information could be divulged at this time since the bidding process is still competitive. Following the evaluation of the draft proposals already received, all bidders will be notified of the result. Those successful will be invited to submit a full proposal by 15<sup>th</sup> November. Up to 15 SDA's (service development activities) will be selected for funding from the proposals received in response to this call. Other proposals received in draft form but not selected for a full proposal have been redirected to other ESA programmes, such as the Technology Transfer Programme or Artes.

It was asked what level of funding would be available to each individual SDA activity.

A. Hilgers reminded the members that ESA would be able to co-fund up to 15 SDA projects for an amount not exceeding 100, 000 Euro each. This should be matched by an equivalent amount from other sources identified by the bidder. As such,, each project could benefit from a total 200,000 Euros funding.

R. Horne enquired whether it would be possible to include additional partners in the complete proposal or if the complete proposal would be

restricted to the participants included in the draft version already submitted

A. Hilgers confirmed that new (additional) partners can participate in the full proposal even if they were not involved in the outline proposal. He also mentioned that proposals for SDAs requiring no funding are still welcome.

The role of space weather within GSTP (General Studies Technology Programme) was discussed. Alain Hilgers pointed out that there is currently a GSTP space weather activity which is appropriate for long-term developments not covered by the pilot project, e.g., physics based numerical models and instrument development.

E. Daly stated that all delegations can formally register interest in a GSTP activity. It was suggested that all SWWT members contact their delegations and request that they do so.

It was suggested that an updated briefing pack should be prepared for next IPC meeting (date to be confirmed).

**ACTION (AG)**

**Update Space Weather Briefing Pack prior to next IPC meeting.**

F. Lefeuvre stated that the first action in this context should be on ESA to issue recommendations for a specific project. Following this, the SWWT should contact their respective delegates.

R. Horne stated that a paper to be proposed to the delegates is needed. This should be issued by ESA. R. Horne agreed to assist in producing this paper if others would contribute as well. Several volunteers agreed to assist.

**ACTION (RH et al.)**

**Write SWWT paper recommending support for space weather in the context of GSTP for transmission to delegates.**

3. EU Framework Programme 6: Expressions of Interest (A. Glover)

**Appendix 2-10a: Expressions of Interest**

CRISIS – R. Pirjola  
EASE – F. Lefeuvre & P. Gille  
Eu- ISWP - B. Bentley  
MOPLE – S. Stankov  
SACE – H. Lundstedt  
SATPRO – R. Horne  
SWEEC – P. Stauning  
WATCSA – H. Lundstedt  
SWAN – A. Glover

Nine expressions of interest submitted in response to the June FP6 call were presented. Details of each can be found in the accompanying presentation material. Some additional comments follow:

CRISIS, R. Pirjola on behalf of B. Merz

It was pointed out that space weather is a small part of a much larger project in this case. CRISIS focussed on natural hazards e.g. floods or earthquakes. Space weather is considered here in the context of *risk*.

EASE - F. Lefeuvre and P. Gille  
Effects on Aircrafts and satellite of Space Environment.

F. Jansen asked which airlines are involved in this project. He stated that Litef is a German company that produces aircraft navigation systems and proposed that they be contacted. J- Y. Prado mentioned another potential contact in this field. It was also suggested that Eurocontrol be contacted.

MOPLE- S. Stankov.  
Monitoring of the Geo-Plasma Environment  
This consortium consists of government bodies, private and industrial users.

R. Horne enquired which companies are involved in this project.

S. Stankov responded that Alsat and Sensis, both German companies, are involved.

### SATPRO – R. Horne

This project would also address the impact of space weather on the users of GPS. R. Horne stated that the proposing team hope that this project will form part of any future space weather related network of excellence.

A. Glover presented a short summary of the points contained in the EoI documents, and asked for input regarding how these individual activities might be linked to form a single proposal.

### **Appendix 10b: EoI Summary**

The relevance of space weather for the Framework 6 Programme was discussed along with the connection between COST and a possible space weather network of excellence or integrated project.

R. Horne stated that COST should have a separate identity in order to facilitate interaction with the EU.

P. Gille stated that any proposal would need to comply with the EU objectives. In this case, FP6 is application driven. As a result, we will not be able to submit a scientific project. Instead, the rationale for the project would need to indicate a benefit for the European community.

F. Lefeuvre stated that there had been too little circulation of the ESA proposal.

Following several members comments that the indexing technique used on the CORDIS website is difficult to use, A. Glover suggested that all space weather related proposals be made available via the SWWT website.

### **ACTION (AG)**

#### **Create EoI link from SWWT Web pages**

P. Gille announced that he had organised a meeting scheduled to take place in Brussels on 8<sup>th</sup> October. Luc Tytgat from the science policy unit of the EC and several other representatives from the European Commission had agreed to attend. The goal of this meeting will be to try to identify a role for space weather within the priorities of the framework 6 programme. SWWT members were invited to attend this meeting along with representatives of the individual EoIs.

F. Lefevre proposed information be circulated now and not be delayed until the 8<sup>th</sup> October meeting.

R. Horne asked which management structure would be preferable for a NoE or an IP. Would a project led by ESA be more successful or would it be preferable for ESA to be a partner only.

It was agreed that this question would be discussed at the Brussels meeting on 8<sup>th</sup> October.

4. COST 724 Action (T. Clark)

**Appendix 11: COST 724**

T. Clark gave a short overview of the goals of the COST 724 action. The role of COST as a networking and coordination facility was stressed.

T. Clark announced that, due to a change in his personal circumstances, he would no longer be able to coordinate this COST action. Jean Lilensten has already agreed to take over coordination activities at least until the management board is established in 2003.

5. GMES and GSE

A. Space Weather and GMES Introduction (A. Hilgers)

**Appendix 12: GMES Introduction**

A.Hilgers presented an overview of the ESA activity associated with GMES which was approved at the last council meeting. This is the GSE: GMES Service Element. He announced that a call for proposals has recently been issued. The deadline for submission of proposals to the ESA GSE ITT is 15<sup>th</sup> November.

The GMES website can be found at:  
[www.gmes.jrc.it/index.htm](http://www.gmes.jrc.it/index.htm)

W. Verschueren stated that 6-monthly open GMES meetings take place. SWWT members could attend these.

A. Hilgers gave a presentation of the GMES priorities and how they might be related to Space Weather. This summary was partly based on inputs provided by Roger Gendrin who was unable to attend.

W. Verschueren reported that, last year, the health policy of GMES and climate were introduced as applications. These applications both have relevance for space weather. Risk management mentions man-made structures. This implies relevance for space weather in the context of intervention such as humanitarian aid.

E. Flueckiger stated that Global Atmospheric Watch is an international programme already run by the UN. This programme closely resembles GMES.

W. Verschueren stated that Eumetsat satellites are also considered to be operational Earth-Watch satellites.

W. Verschueren enquired whether the ESA director of Earth Observation had been briefed on space weather.

A. Hilgers confirmed that the director of ESA's Earth Observation Programmes is aware of the space weather initiative following a briefing made by Eamonn Daly to the ESA management board and subsequently by Franco Ongaro. The management board noted that there had been difficulties in successfully developing markets for EO products and that space weather was embarking on a similarly difficult path. The possible links with GMES were noted and it was recommended that the Directorate of Earth Observation Programmes be informed and involved.

## B. GMES and Global Change (H. Lundstedt)

### **Appendix 13: GMES and Global Change**

H. Lundstedt gave a presentation describing potential users of space weather services in the USA. Comparisons were made with similar industries in Europe and the question addressed of adaptation to the needs of equivalent European users. The impact of solar activity on the North Atlantic oscillation was discussed.

It was pointed out that the California wine industry maintains contact with NASA. It is thought that, through climate influences, solar activity is able to impact wine production for a given year.

H. Lundstedt will travel to the Napa Valley following the October COSPAR meeting in order to discuss space weather services with representatives of the wine industry.

R. Horne expressed concern at how significant a correlation with space weather or solar events could be and whether the understanding of the mechanism was mature enough.

W. Verschueren pointed out that Earth-Observation services are often sponsored by food companies.

C. GMES and Ionospheric Issues (Y. Beniguel)

**Appendix 14: GMES and Ionospheric Issues**

D. GMES Discussion (A. Hilgers)

A. Hilgers summarised the previous two discussions and questioned how best to proceed with efforts to identify a role for space weather within GMES.

W. Verschueren expressed his opinion that a small proposal focussing on space weather in the context of “risk” could be relevant.

It was concluded that a leader for this task needed to be identified.

**ACTION (SWWT)**

**Identify a coordinator to be responsible for preparing a response to the GSE ITT (deadline 15<sup>th</sup> November).**

It was pointed out that a space weather related proposal would experience strong competition from other activities already well established in the more obvious fields of Earth-Observation.



## 6. National Activities

### **Appendix 15: Contacts with Flight Safety Board (B. Jones)**

A. Glover gave a short presentation on behalf of B. Jones who was unable to attend the meeting. This described contact established with the UK Flight Safety Board.

D. Bergmans mentioned strong ongoing involvement in SDO (Solar Dynamics Observatory), part of the International Living with a Star (ILWS) programme.

E. Daly pointed out that ILWS is a science based programme. However, it does include some technology elements. In the context of the SWWT, the application element is most important.

## 7. A.O.B.

Two workshops were announced

- a. A Space Weather Workshop will take place at ESTEC between 16-18 December.
- b. The ESPRIT NATO Workshop on space weather applications will take place from the 25<sup>th</sup> March in Rhodes, Greece.

The next SWWT meeting will take place on 5<sup>th</sup> November 2002 in Berlin at the Zeiss Gross Planetarium. The contact person for this meeting is F. Jansen.

F. Jansen advertised the Berlin space weather forum that will take place on the 4<sup>th</sup> November. All SWWT members are invited to attend. A CD-Rom has been produced and will be distributed to all SWWT members. Two press-conferences will be held in Germany beforehand. During the forum itself, a live connection with ISS will take place.

W. Verschueren enquired as to the status of contact with Eumetsat.

E. Daly stated that contact will be reinitiated following the start of the pilot project.

**ACTION (ED)**

**Reinitiate contact with EUMETSAT after start of pilot project**

It was agreed that the next SWWT meeting would take place on 5<sup>th</sup> November. The meeting will be an ad-hoc meeting and will take place at the Zeiss Grossplanetarium in Berlin, following the Space Weather Forum.