

# Space Weather Working Team: Terms of Reference

## {30/04/15}

The SWWT is a forum open to European experts in space weather services, applications and related science as well as users of space weather products.

The SWWT investigates space weather applications' requirements, space weather services, and the underpinning of 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. These will include promoting the coordination of developments at European, national and industry levels. Activities discussed during meetings can include national and international programmatic issues, application development, research into the underpinning of science together with activities to raise awareness of space weather. With these aims, the SWWT seeks to identify and discuss potential collaborations and/or synergies among European and national entities, as well as with other international structures and organisations.

The SWWT will be responsible for establishing and monitoring the execution of a European roadmap for space weather operational services and underpinning research. It will also highlight associated data requirements.

The SWWT will facilitate the exchange of information on European, national and industrial activities. It will integrate activities into the above roadmap where appropriate and will make recommendations to European and national agencies and industry concerning the execution and coordination of activities.

The SWWT will take the necessary steps to organise its work including updating and maintaining Annex A (Mode of Operation).

### **Annex A: Mode of Operation.**

SWWT membership is open to representatives of any European university, institute or company or international organisation currently undertaking space weather related activities or affected by space weather<sup>1,2</sup>. Registration is via the following link:

- [www.jiscmail.ac.uk/swwt](http://www.jiscmail.ac.uk/swwt)

The SWWT meets once per year as a dedicated session during the European Space Weather Week conference. In addition, several "Topical Working Groups" maintain regular contact via email.

<sup>1</sup> Non-European interested parties are welcome to attend the meetings on advance agreement with the Chair. 1

<sup>2</sup> Membership of this group shall be understood to include Canadian experts, following Canada's status as an ESA Associate member.

The Chairperson will be chosen by the membership through an election. The mandate shall be for a period of 2 years with an option to extend by 1 year. An ESA contact person will be identified who will liaise with the Chair.

The SWWT shall establish a Steering Board (SB) to act as an executive group. See Annex B for details.

The SWWT will assist ESA in evaluating the lessons learned from the operation of precursor service activities together with European and international collaborations, providing advice and recommendations on the implementation of this information in the framework of the SSA programme.

All members are invited to participate in topical working groups (TWG). TWGs are responsible for initiating projects, discussing new advances and/or progress in existing research and service development. See Annex C for details.

This document will be made available via the SWWT webpages along with the SWWT document archive:

<http://swe.ssa.esa.int>

&

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

### **Annex B: SWWT Steering Board**

The SB shall meet twice a year or as seen necessary and shall be chaired by the SWWT Chairperson.

The SB shall consist of:

- The SWWT Chairperson
- European experts in areas of technical and strategic importance covering the full range of space weather fields of interest
- ESA representatives will participate in SB meetings in the context of observers, as will representatives of national and European funding agencies supporting significant space weather activities

The SB will synthesise SWWT recommendations based on the roadmap, for presentation to agencies and other concerned parties, as appropriate. The SB shall establish its own working practices.

<sup>1</sup> Non-European interested parties are welcome to attend the meetings on advance agreement with the Chair. 2

<sup>2</sup> Membership of this group shall be understood to include Canadian experts, following Canada's status as an ESA Associate member.

The SB shall also represent the European Space Weather Community in the ESA SSA Programme advisory structure through the SSA User Representatives Group, of which the Chairperson is a permanent member.

The SB will seek to promote synergies between structures or organisations including, but not limited to ESA SSA, ESA SEENoTC, EC FP & COST programmes, ISES, COSPAR, SCOSTEP, ILWS, WMO and UN COPUOS.

## **Annex C: Topical Groups**

The current list of topical groups is as follows:

1. Drivers of Space Weather:
  - a. Subgroup 1: Solar Magnetic Energy
  - b. Subgroup 2: Solar Storms (Solar Flares, CMEs, SEP Events)
2. Ground Effects (GIC, prospecting, tourism)
3. Atmospheric Effects (incl. Drag)
4. Ionospheric Effects
5. Spacecraft, Launcher & Aircraft Environments
6. Education, Outreach and Emerging Markets
7. Space Weather Forecast

In addition to attending regular meetings, all SWWT members will be invited to participate in TWGs.

SWWT members will be free to join as many TWGs as they wish, depending on their interests.

Each TWG will elect a spokesperson and if found necessary a co-spokesperson. TWG webpages are hosted at <http://www.spaceweather.eu/en/swwt>.

The responsibilities of a TWG spokesperson are:

- Maintain regular email contact amongst the TWG members
- Report to the SWWT at each of its regular meetings every 6 months
- Chair meetings of the TWG (at least at the ESWW)
- Promote activities in the field of the TWG
- Maintain the TWG webpage
- Provide input to the SWWT TWG Annual Report
- Provide presentations on topics related to the TWG as requested by structures or organisations such as those mentioned in Annex B

<sup>1</sup> Non-European interested parties are welcome to attend the meetings on advance agreement with the Chair. 3

<sup>2</sup> Membership of this group shall be understood to include Canadian experts, following Canada's status as an ESA Associate member.