

ESA Space Weather Working Team: Terms of Reference

Document updated: 21-06-2024

The ESA Space Weather Working Team (SWWT) is a forum open to both space weather experts and users of space weather information.

The SWWT investigates space weather applications' requirements, space weather services, and the underpinning research and development. It advises ESA, particularly the Space Weather Office within the Space Safety Programme, 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 to be addressed can include, but are not limited to, national and international coordination issues, service and measurement infrastructure development, research into the underpinning science along with activities to raise awareness of space weather within existing and new user communities. With these aims, the SWWT seeks to identify and discuss avenues of potential collaboration and/or synergies among European and national entities, as well as with other international structures and organisations.

The SWWT will seek to recommend strategic priorities for space weather operational services and underpinning research. These recommendations may for example build on ongoing community initiatives and roadmaps. The SWWT will also highlight associated data requirements including availability and timeliness needs.

In order to keep the strategic priorities current, the SWWT will facilitate exchange of information on national, European, international and industrial activities in Space Weather.

Annex A: Mode of Operation

SWWT membership is open to representatives of any European entity or individual currently undertaking space weather related activities or affected by space weather¹²

The SWWT has a Chair, a Steering Board (SB), and Topical Working Groups (TWGs). The Chair shall be a recognised and active member of the European Space Weather Community in Europe. The Steering Board acts as an executive group; see Annex B for details. Topical Working Groups provide a forum for focused discussion; see Annex C for details. In addition, ad hoc service focus panels can be formed. These panels would constitute an independent review board to aid with the regular ESA Space Weather Service Network Reviews³.

¹ Non-European interested parties are welcome to join the mailing list and attend the meetings on advance agreement with the Chair

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

³ The mode of operation of these panels shall be established by the SB in advance of the next Network Review.

Registration for the SWWT mailing list is via the following link:

- www.jiscmail.ac.uk/swwt

The SWWT meets once per year as a dedicated session during the European Space Weather Week conference. The Steering Board meets twice per year in person or online, and more frequently online if necessary, while the Topical Working Groups maintain regular contact via email and may meet as necessary online/in person.

The mandate of the Chair corresponds to a full Space Safety Programme Period, nominally expected to be three years, starting within the three months following an ESA Ministerial Council meeting. The mandate may be renewed once. An ESA contact person will be identified who will liaise with the Chair.

The Steering Board shall be tasked with identifying suitable Chair candidates from the membership and make a recommendation for ESA to nominate the chair.

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 Space Safety Programme.

These Terms of Reference are made available via the SWWT webpages along with the SWWT document archive: <https://swe.ssa.esa.int/swwt>.

Updates to these Terms of Reference must be proposed and agreed at a SWWT Steering Board meeting. Any changes shall be provided to the full membership for consultation prior to being adopted.

Annex B: SWWT Steering Board

The Steering Board nominated by ESA from SWWT members shall meet twice a year, or as seen necessary, and shall be chaired by the SWWT Chair.

Steering Board members shall be nominated for a three-year period, equivalent to that of the chair, which may be renewed once. Members are expected to participate actively in the board and absence from more than two consecutive meetings without due notification to the Chair may result in the member forfeiting their participation in the board.

The Steering Board shall target a maximum of around 20 members who shall consist of:

- The SWWT Chair;
- European experts in areas of technical and strategic importance covering (as much as possible) the full range of space weather fields of interest including end users of space weather information and data; and

- An ESA representative who shall also be the vice Chair of the Steering Board.

Additional experts may be invited to participate in Steering Board meetings on agreement with the Chair. Participation of additional ESA representatives in Steering Board meetings shall also be foreseen.

The Steering Board shall synthesise SWWT Strategic Priorities, for presentation to ESA Space Weather office representatives and other concerned parties, as appropriate. The Steering Board shall establish its own working practices.

Annex C: SWWT Topical Working Groups (TWGs)

The Topical Working Groups (TWGs) are intended to cover key areas of space-weather phenomena and/or impacts and are agreed upon by the SWWT SB. Their purpose is to form strategic guidance in relation to ongoing space weather activities targeting their subject area while highlighting the most-relevant new activities to the SB and to the wider community at the SWWT Plenary meetings when pertinent to do so.

TWGs shall maintain awareness of ongoing international coordination efforts and shall seek to report on scientific and technical developments ongoing internationally in their subject area. These may be seen to be of high relevance in the European context.

Members of the community (including members of the SB) can propose to start new/additional TWGs by writing a short justification for doing so (~one page of text) and submitting this to the SB for consideration via the Chair and/or the ESA representative on the SB as described in Annex B. Changes in the list of TWGs shall be approved at each SB meeting as applicable.

The current list of TWGs, along with the leads and any vacancies is given on the ESA SWWT web page: <https://swe.ssa.esa.int/swwt>.

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

Each TWG will elect a lead and a co-lead where their responsibilities will include:

- Maintaining regular contact amongst the TWG members;
- Report to the SWWT plenary at each of its regular meetings when pertinent;
- Chair meetings of the TWG (at least one meeting should be held per year - this may be in-person, online, or in hybrid form, and could be organised to take place at or around the annual European Space Weather Week (ESWW) conference);
- Provide up to date content for a TWG webpage to be hosted on the ESA SWE Portal ; and
- Provide presentations on topics related to the TWG as requested by ESA and/or the SB when required.

All TWG members will be responsible for aiding the lead/co-lead in assembling the content required for reporting into the SB and/or into the presentations requested by ESA and/or the SB.

TWG members are also expected to:



- Promote activities in the area/remit of the TWG; and
- Engage with ongoing space weather research, development, and service provision activities in view of their TWG's main objectives.