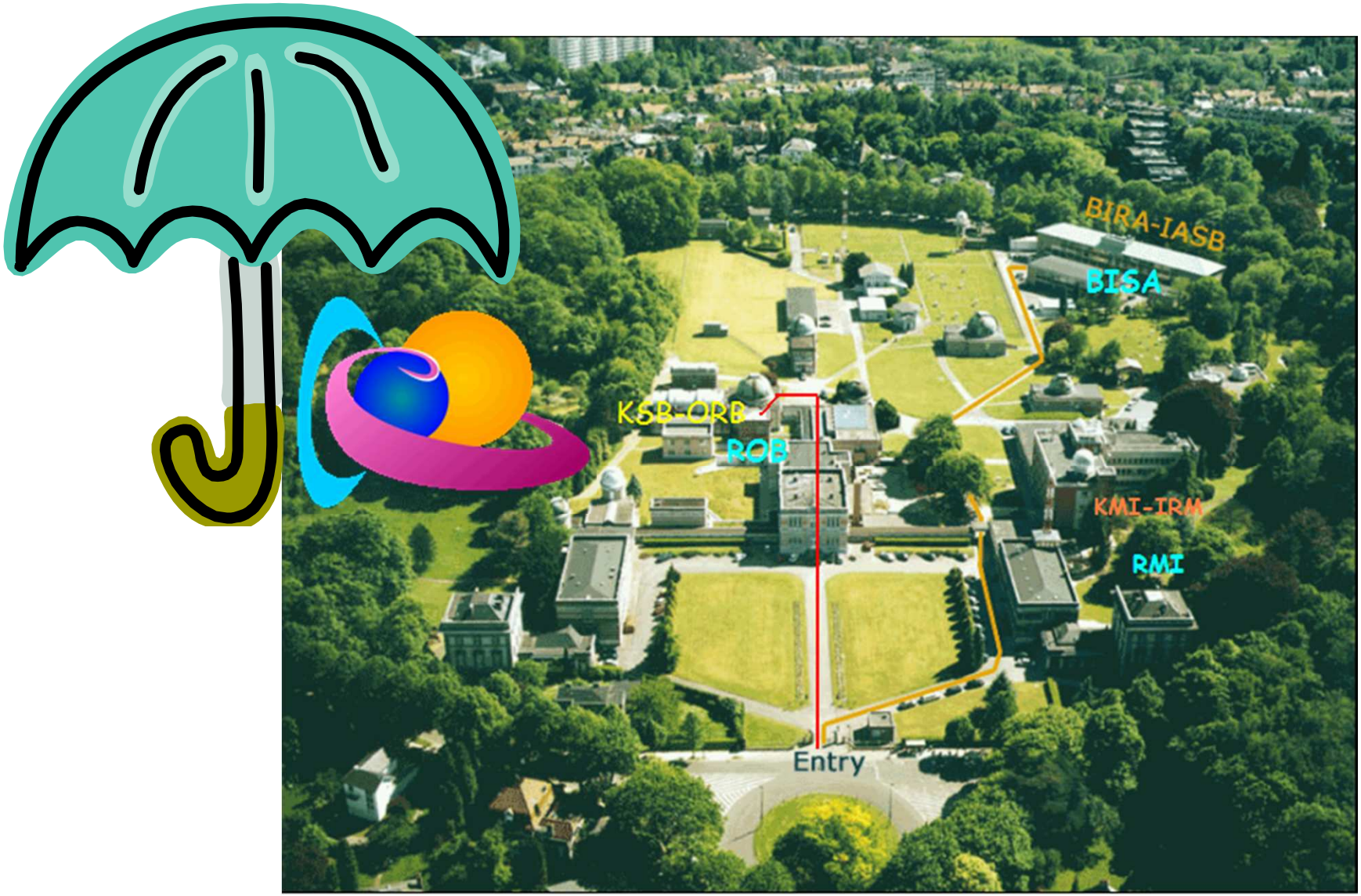
Space Weather Working Team Plenary 29

Tuesday 28 June 2011, 09:30-17:00

Royal Observatory of Belgium, la salle méridienne, Avenue Circulaire 3
1180 Brussels, Belgium

1. Welcome and Introduction



SWWT Plenary Agenda

1. Welcome and Introduction

PART 1: REVIEW OF GENERAL ITEMS

2. Review Main Events since ESWW7
3. SWWT Topical Groups Updates
4. SWWT Roadmaps (status of SWWT resolutions, etc.)
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 DISCUSSION

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

ESA Space Weather Working Team [SWWT]

- 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.

SWWT History

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

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

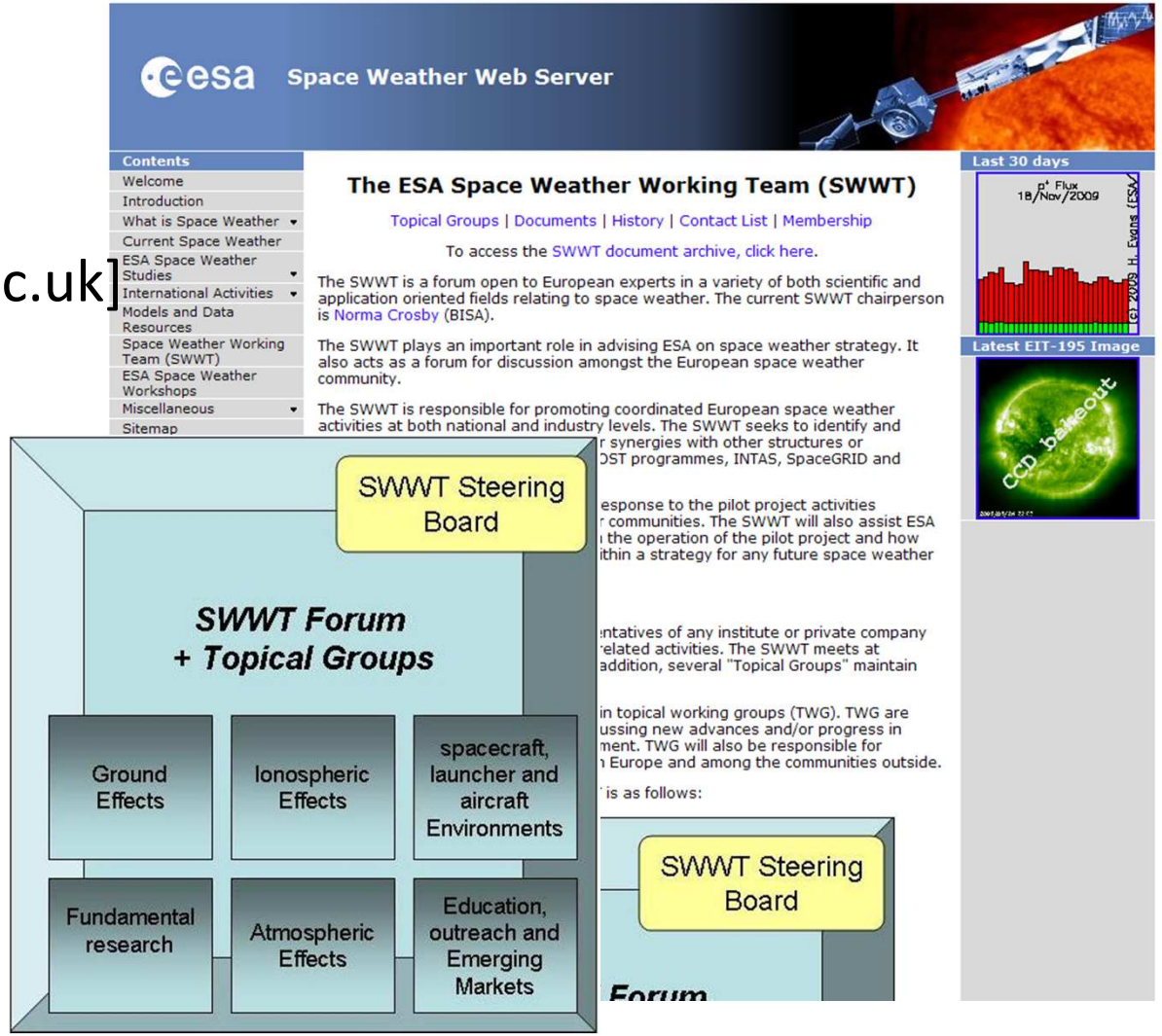
Contact:

Mike Hapgood

[mike.hapgood AT stfc.ac.uk]

The SWWT meets at approximately 6 monthly intervals.

In addition, several “Topical Groups” maintain regular contact via email.



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

2. Review Main Events since ESWW7

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, Alcala, Spain.

EGU General Assembly 2011, 3-8 April 2011, Vienna, Austria.

Project Proposals - Invitations to Tender:

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.]

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.]

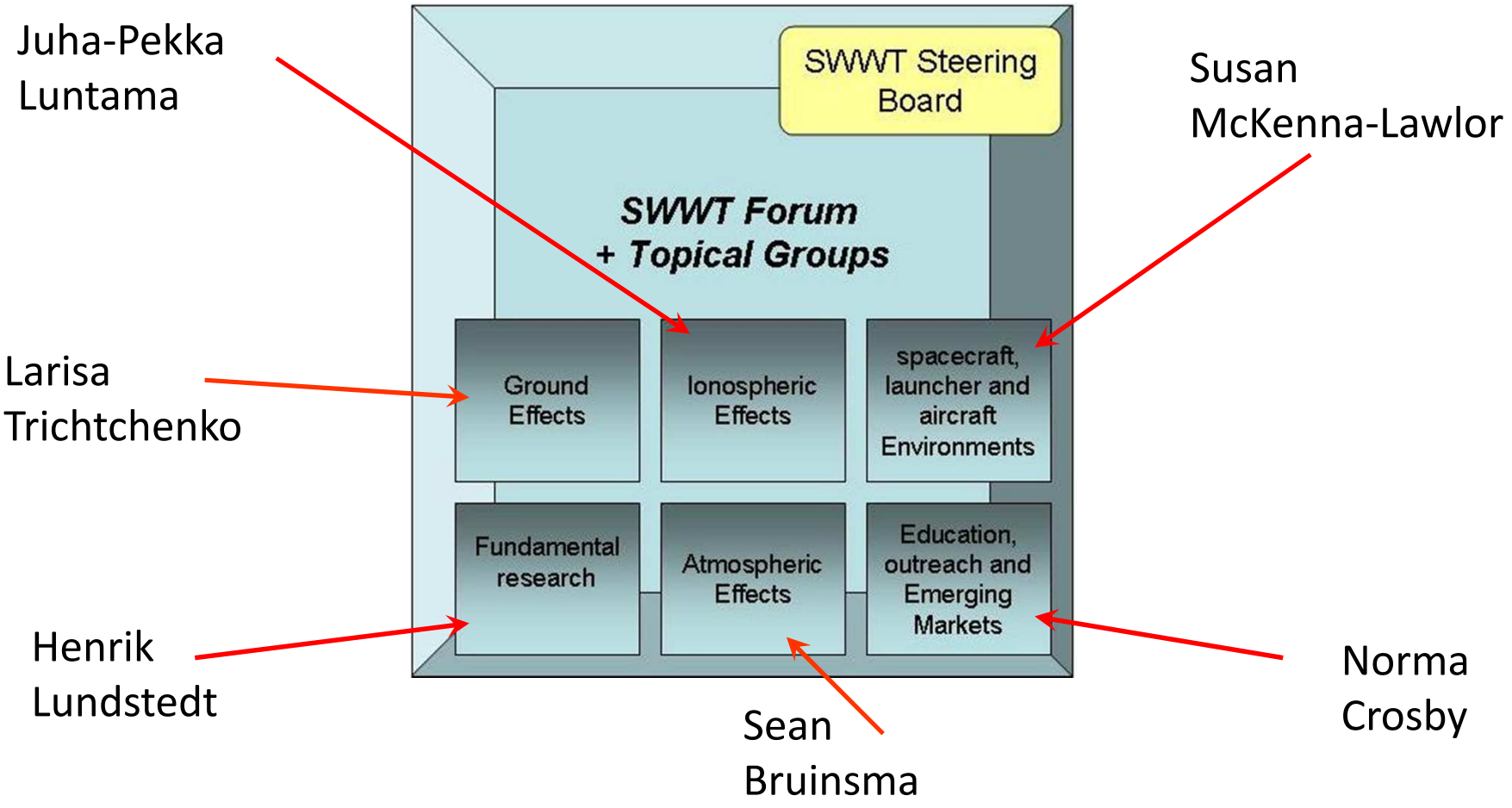
o DC-II: SSA Prototype Pilot Data Centres [Closed.]

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



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

4. SWWT Roadmaps

(status of SWWT resolutions, etc.)

This “SWWT Roadmaps” document will:

- 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).

Draft Table of Contents

- Review of phenomena
- Rationale for embarking on long term activity
- Current landscape and ongoing studies
  - Existing assets
  - Current understanding of phenomena
  - Ongoing collaborations (e.g. COST)
- Potential development and deployment strategy alternatives
  - Including major expected milestones external to SSA/FP7 with potential to significantly influence the field (e.g. Galileo service start)
- Organisational aspects
  - Including contribution to global programme & coordination with e.g. ISES, UN, ILWS, COSPAR

Specific Elements

- European Ground-based Monitoring Facilities
- International Collaboration
- COST Action ES0803 Metric Activity

During the discussion two more elements were added to the above list:

- Space-based Monitoring Facilities
- SWWT Topical Group Report

SWWT Resolutions

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.

Resolutions for Consideration

[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.

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]

AI M26/2:NC/AG to send out contact information for Steering Board to SWWT mailing list. Prior to this the individual Steering Board members will be asked if they agree to have their contact details listed on the SWWT web-page: http://www.esa-spaceweather.net/spweather/esa_initiatives/swwt/index.html [DONE]

AI M26/3:NC to add FP8 to the agenda of next SWWT plenary meeting. [DONE]

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]

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]

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

13. International Collaboration

Effects of Space Weather have no Boundaries

Space Weather: The Next Big Solar Storm Could Be a Global Katrina

[http://aaas.confex.com/aaas/2011/webprogram/Session2954.html]

We are increasingly realizing the importance of space weather, i.e., the dynamics of near-Earth space and the sun, as a critical element of Earth's environment. This is happening as our economic and security infrastructures have expanded far above Earth's atmosphere into space. Space has no borders. Our satellites all share the same orbits, and the impacts of space weather affect the entire planet, including airline transportation, navigation, communication, and electric power generation. The coupled sun-Earth system is far too vast and complex for any single nation or region to monitor and predict. Through global coordination, we have the opportunity to improve our understanding of this critical component of Earth's environment and to prepare for the continuous growth in our reliance on space-based assets. This symposium will explore the state of our understanding of space weather as well as strategies for coordinating our global efforts to mitigate its impacts. Recent efforts have focused on the international coordination of our research and services, as well as the development of our emergency-management-response procedures for large-scale infrastructure damage caused by space weather. The presentations and discussion at this symposium are intended to foster a greater awareness of space weather as a critical component of Earth's environment and to increase opportunities to cooperate across borders to enhance our science and our preparedness.

The European Commission

http://cordis.europa.eu/fp7/public_en.html

The international dimension is no longer confined to a specific scientific and technological (S&T) cooperation programme but is now inherent in all European Community research activities. This international policy has three objectives:

- To support European competitiveness through strategic partnerships with third countries in selected fields of science and by engaging the best third country scientists to work in and with Europe.
- To enhance the production of knowledge and scientific excellence by enabling European universities, research institutions and firms to establish contact with their partners in third countries, thereby facilitating access to research environments outside Europe and promoting synergies on a global scale.
- To address specific problems that third countries face or that have a global character, on the basis of mutual interest and mutual benefit.

International Science and Technology Center

http://www.istc.ru/

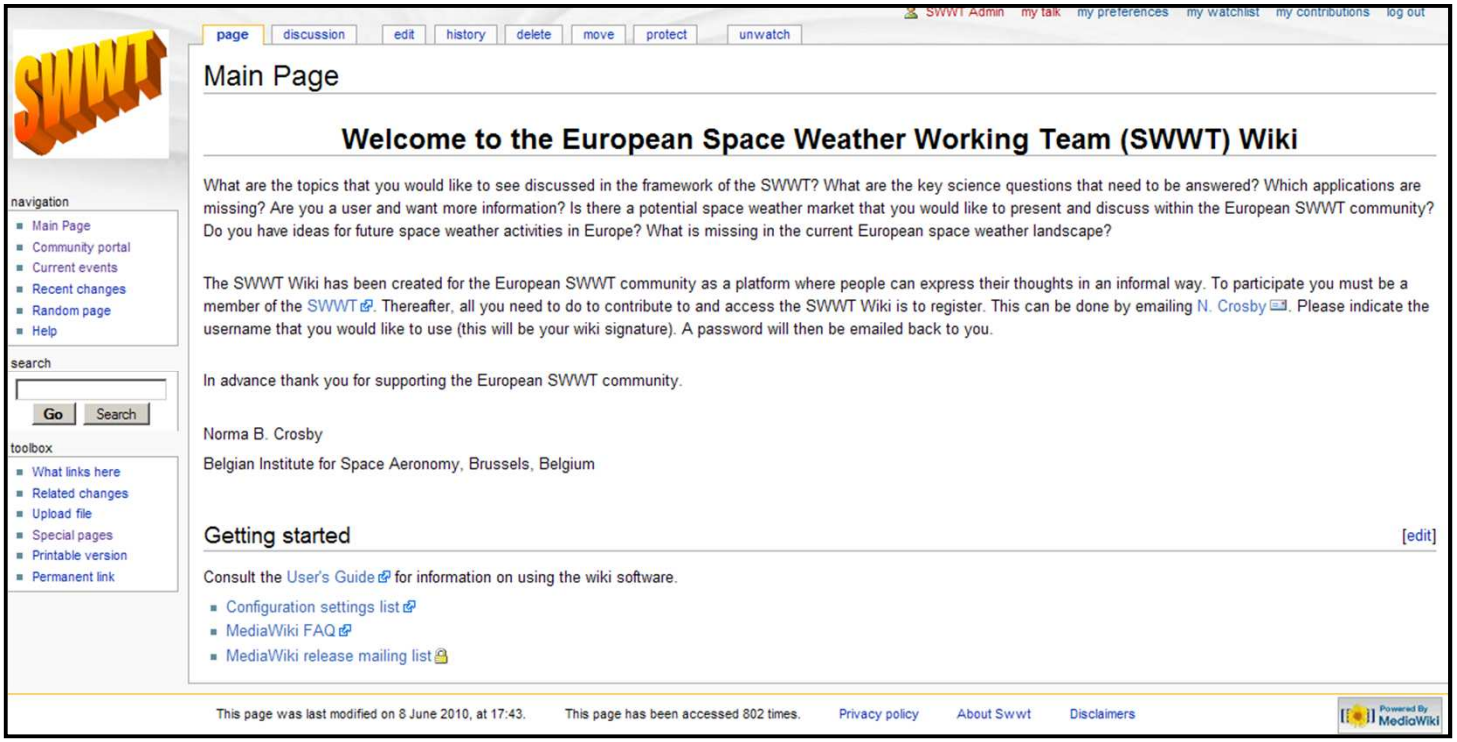
The International Science and Technology Center (ISTC) is an intergovernmental organization connecting scientists from Russia, Georgia and other countries of the Commonwealth of Independent States (CIS) with their peers and research organizations in Canada, EU, Japan, Republic of Korea, Norway and the United States.

ISTC facilitates international science projects and assists the global scientific and business community to source and engage with Russian and CIS institutes that develop or possess an excellence of scientific know-how.

14. Communications Tools

SWWT Wiki:

It has been created for the European SWWT community as a platform where people can express their thoughts in an informal way.



http://swwt.aeronomie.be