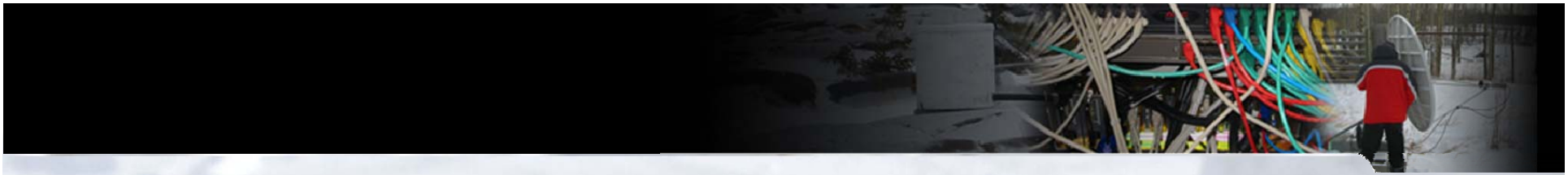

UN COPOUS: New Space Weather Expert Group

Rapporteur: Prof. Ian R. Mann

Department of Physics, University of Alberta, Edmonton, AB, Canada

Thanks to Terry Onsager (NOAA, USA) and Lika Guhathakurta *(NASA HQ, USA)*

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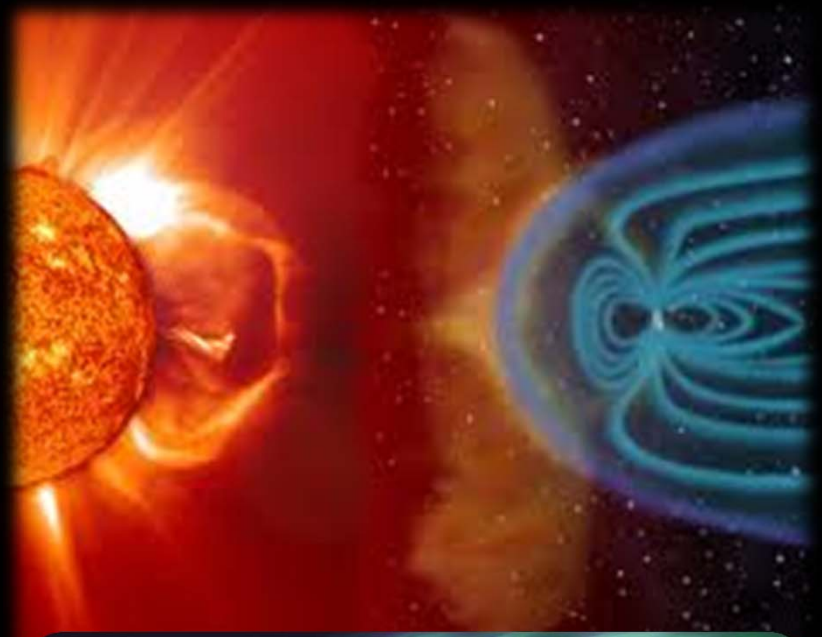
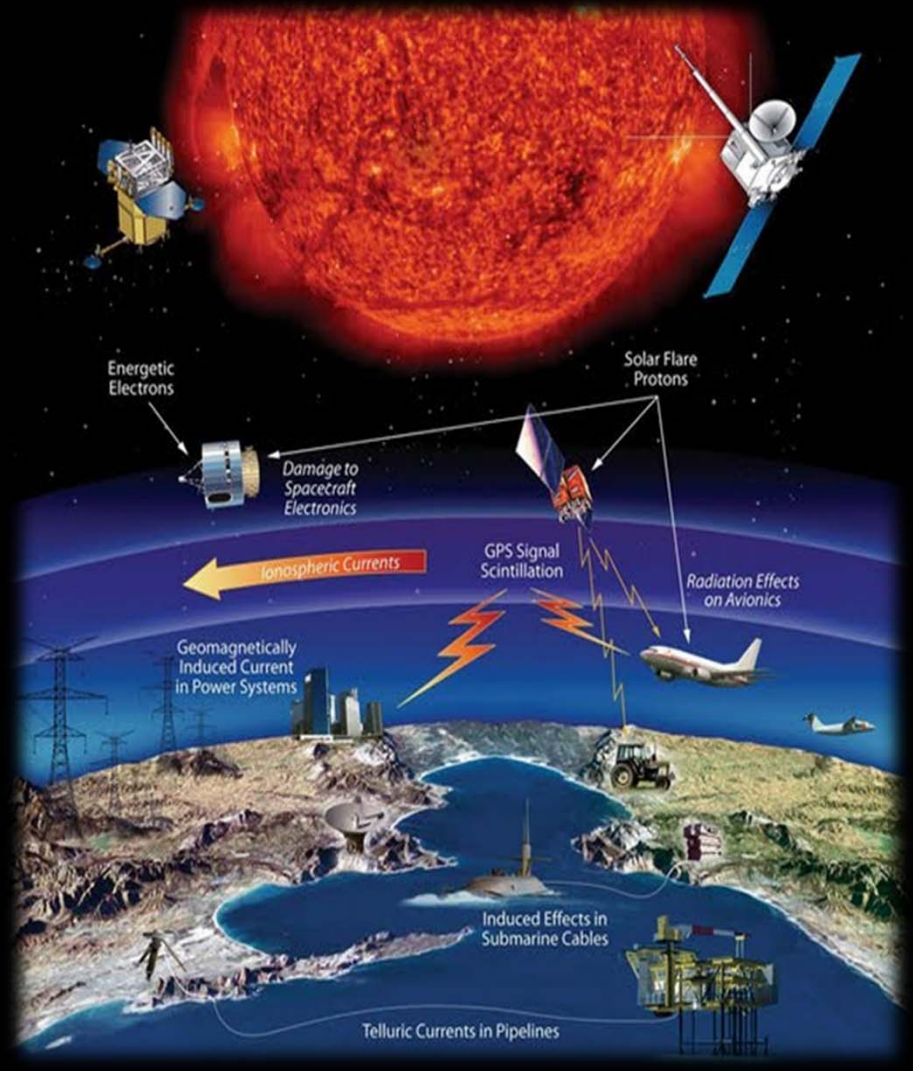
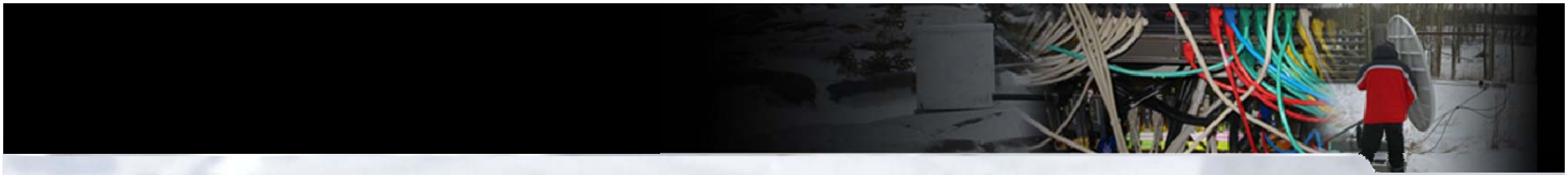
Space Weather has a wide range of impacts on terrestrial and space-based infrastructure.

International co-ordination and collaboration is critical for ***long-term sustainability of outer space activities*** (LTOSA).





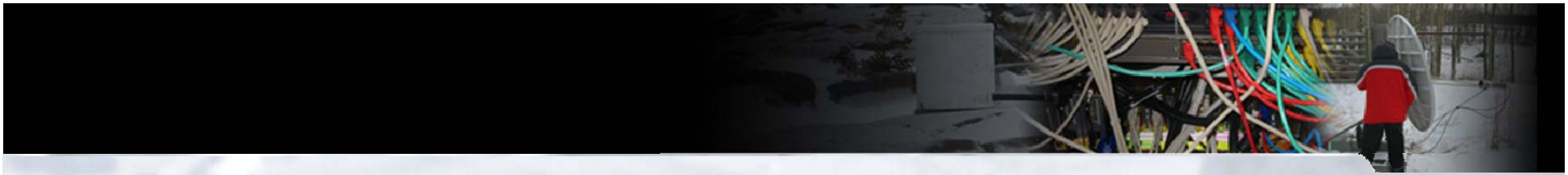


Heritage

- Builds on work of Expert Group C on Long-Term Sustainability of Outer Space Activities (LTS) in UN Committee on Peaceful Uses of Outer Space (COPUOS). 2011- 2015.

- New future as Space Weather Expert Group with Rapporteur, reporting to UN COPUOS under permanent agenda item. Approved Feb. 2015 in Vienna.

Opportunity to define activities of the new Space Weather Expert Group to meet needs of international community.



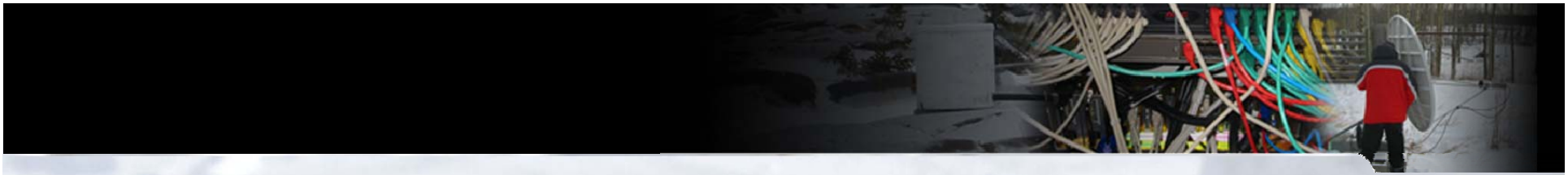
As approved at the February 2015 United Nations Committee on Peaceful Uses of Outer Space (COPUOS) STSC, an Expert Group on Space Weather was formed with the following initial work plan:

1. Examine the report and conclusions of the LTS Expert Group C on space weather (A/AC.105/C.1/2014/CRP.15)) and other information related to space weather including the recent report from the COSPAR-ILWS Roadmap team "Understanding Space Weather to Shield Society". The group will examine the guidelines, recommendations and best practices to identify mechanisms to promote their implementation, including an assessment of prioritization. [year 1]

2. Complete an inventory of relevant United Nations organizations, including the World Meteorological Organisation (WMO) and International Civil Aviation Authority (ICAO) and others, and those within States members of the Committee and national and international organizations. Identify and assess their role in the global space weather effort, promote coordination and communication between them, and ensure that the efforts of STSC are complementary. [years 1-2]

3. Recognizing the impacts of space weather, the group will promote increased and expanded member State involvement in providing space weather monitoring, from the ground and in space, and in developing, advancing, and sharing and delivering space weather services. [years 2-4]

4. The group will report yearly to the STSC on its progress, on important issues which have been identified, and where specific action is recommended. The group will also make a recommendation for its continuing and future work plan.



Agenda

Day 1: (am and pm) Review National and International Activities (open to all).

Day 2: (am and pm) Focus on COSPAR-ILWS Space Weather Roadmap (open to all)

Consider Geomagnetically Induced Currents (GICS) - Pathway 1 from COSPAR-ILWS Space Weather Roadmap.

Review GIC impacts then assess pathways and routes to implementation.

Workshop mode:

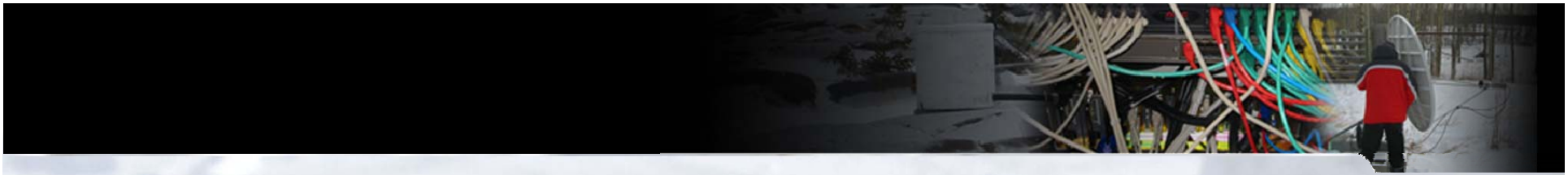
WG-1 on Pathway I-1: "Quantify active-region magnetic structure for nascent CMEs"
- Co-Lead Carolus Schrijver and Sergey Bogachev

WG-2 on Pathway I-2: "Solar wind-magnetosphere-ionospherecoupling inducing strong GICs"
- Co-Lead Hermann Opgenoorth and Jan Thoemel (support from Antti Pulkkinen)

WG-3 on Pathway I-3: "Global corona and heliosphere to drive models for solar wind plasma and field"
- Co-Lead Don Hassler and Nat Gopalswamy

Day3: (am only) Formal Expert Group Meeting (open to all)

- Define specific actions and definite outcomes for Expert Group moving forward.
- Ensure that the work is complementary to other space weather coordination activities such as those within the WMO, ISES, COSPAR, ILWS, ICAO etc.



Agenda

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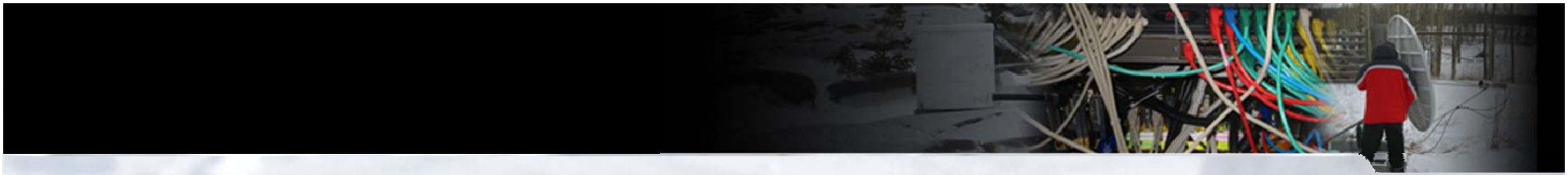
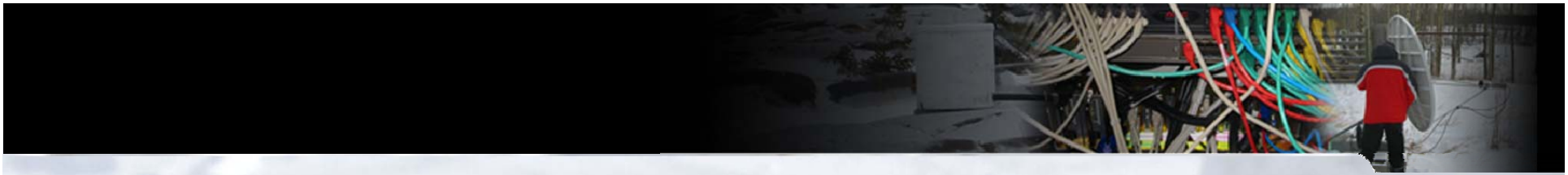


UN Space Weather Expert Group

- Mandate: Promote awareness, provide guidance, and enable communication and cooperation in space weather related activities among Member States and related national and international organisations.

- Focus: To promote awareness, communication, and provide guidance and enable cooperation in space weather related activities.

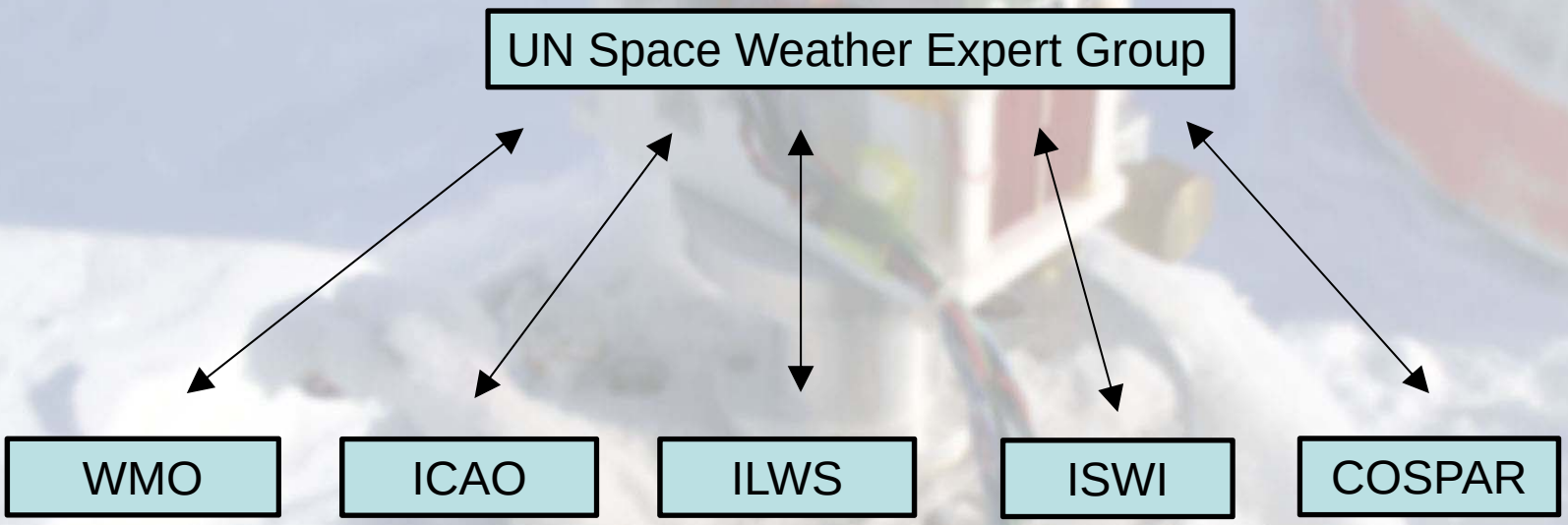
- Specific actions and definite outcomes: Ensure that the work is complementary to other space weather coordination activities such as those within the WMO, ISES, COSPAR, ILWS, ICAO etc.



Opportunities?

- Sharing of data, data products, and forecasts including data on space weather impacts such as power line GICs and satellite anomalies.
- International collaboration targeting maintaining critical data sets and filling key measurement gaps.
- Facilitate improved understanding of importance of space weather by Member State Governments.
- Space weather impact studies in Member States and need for SSA?
- Leverage developing regulatory requirements for Civil Protection and mitigating space weather risks?
- Coordinate and review implementation through other UN bodies, including WMO, ICAO and other national and international organisations.
- Promotion and support of role of ISWI in future space weather training, research and space weather operations in UN context?
- More…

Communication and Implementation of Best Practices?



Plus others….

Active Participation Critical to Success

the UN EG Space Weather

Ask not what ~~your country~~ can do for you….

the UN Expert Group

…ask what you can do for ~~your country~~.

John F. Kennedy

- *Email: imann@ualberta.ca*

UN COPUOS Space Weather Expert Group Work Plan

- Examine the report and conclusions of the ***LTS Expert Group C*** on space weather (A/AC.105/C.1/2014/CRP.15)) and other information related to space weather including the recent report from the ***COSPAR-ILWS Roadmap team*** "Understanding Space Weather to Shield Society". The group will examine the guidelines, recommendations and best practices to ***identify mechanisms to promote their implementation, including an assessment of prioritization.*** [year 1]

- ***Complete an inventory of relevant United Nations organisations***, including the World Meteorological Organisation (WMO) and International Civil Aviation Authority (ICAO) and others, ***and those within Member States and national and international organisations***. Identify and assess their role in the global space weather effort, ***promote coordination and communication between them***, and ensure that the efforts of STSC are complementary. [years 1-2]

- ***Promote increased and expanded member State involvement*** in providing ***space weather monitoring,*** from the ground and in space, and in ***developing, advancing, and sharing and delivering space weather services***. [years 2-4]

- ***Report yearly to the COPUOS STSC*** on its progress.