



# General Assembly

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**Committee on the Peaceful  
Uses of Outer Space  
Scientific and Technical Subcommittee  
Fiftieth session  
Vienna, 11-22 February 2013**

## **Draft report**

### **Addendum**

#### **[...]. Space weather**

1. In accordance with a decision taken at its forty-ninth session, in 2012, the Subcommittee considered agenda item 10, "Space weather". The Subcommittee recalled that, at its forty-ninth session, it had agreed that an agenda item entitled "Space weather" should be introduced as a regular item on the agenda of the Subcommittee, in order to allow member States of the Committee and international organizations having permanent observer status with the Committee to exchange views on national, regional and international activities related to space weather research with a view to promoting greater international cooperation in that area. The Subcommittee noted that it could, through that item, serve as an important advocate for efforts to close existing gaps in the space weather research field (A/AC.105/1001, para. 226).
2. The representatives of Canada, China, Ecuador, Egypt, Germany, Indonesia, Japan, the Republic of Korea, the Russian Federation and the United States made statements under agenda item 10. A statement was also made by the representative of Chile on behalf of the Group of Latin American and Caribbean States. During the general exchange of views, statements relating to the item were made by representatives of other member States. The observer for WMO also made a statement under the item.
3. The Subcommittee heard the following scientific and technical presentations:
  - (a) "Space weather application for navigation and radio communication in Indonesia", by the representative of Indonesia;



(b) “Space weather: South Africa’s abilities and capabilities”, by the representative of South Africa;

(c) “International Centre for Space Weather Science and Education”, by the representative of Japan;

(d) “International Space Weather Initiative update”, by the representative of the United States;

(e) “Solar Max”, by the representative of the United States;

(f) “MiniMax24 observation campaign”, by the representative of SCOSTEP;

(g) “International Committee on Global Navigation Satellite Systems and its programme on applications of global navigation satellite systems (GNSS)”, by the representative of the Office for Outer Space Affairs.

4. The Subcommittee had before it the following:

(a) Education Curriculum: Global Navigation Satellite Systems (ST/SPACE/59);

(b) Report on the United Nations/Austria Symposium on Data Analysis and Image Processing for Space Applications and Sustainable Development: Space Weather Data, held in Graz, Austria, from 18 to 21 September 2012 (A/AC.105/1026);

(c) Report on the United Nations/Ecuador Workshop on the International Space Weather Initiative, held in Quito from 8 to 12 October 2012 (A/AC.105/1030).

5. The Subcommittee noted that the objectives of the Space weather item were:

(a) To provide benchmark measurements of the responses of the magnetosphere, the ionosphere, the lower atmosphere and the Earth’s surface in order to identify global processes and drivers that affected the terrestrial environment and climate;

(b) To further the global study of the Sun-Earth system in order to understand the external and historical drivers of geophysical change;

(c) To foster international scientific cooperation in the study of current and future space weather phenomena;

(d) To communicate the unique scientific results of space weather research and societal impacts to interested members of the scientific community and to the general public.

6. The Subcommittee expressed its appreciation to the secretariat of the International Space Weather Initiative and the Office for Outer Space Affairs for conducting an international campaign, from 2010 to 2012, aimed at exploring solar-terrestrial interaction and deploying ground-based worldwide instrument arrays for space weather investigation, particularly in developing countries. As a result of that campaign, more than 100 States, of which more than 80 were developing countries, were actively collecting data to be used to understand how space weather, caused by solar variability, could affect space systems and human space flight, electric power transmission, high-frequency radio communications,

GNSS signals, long-range radar and the well-being of passengers in high-altitude aircraft.

7. The Subcommittee expressed its appreciation to the secretariat of the International Space Weather Initiative and the Office for Outer Space Affairs for the numerous publications, posters and leaflets they had published and disseminated and for the exhibitions they had organized to promote the International Living with a Star programme and the International Space Weather Initiative among the space science and technology community and the general public, particularly in developing countries.

8. The Subcommittee noted with appreciation that the International Space Weather Initiative newsletter, published by the International Center for Space Weather Science and Education of Kyushu University (Japan), and the Initiative's website ([www.iswi-secretariat.org](http://www.iswi-secretariat.org)), maintained by the Bulgarian Academy of Sciences, provided a comprehensive overview of the extensive activities conducted worldwide between 2010 and 2012 to implement the objectives of the Initiative.

9. The Subcommittee noted with appreciation that Canada, Chile, Ecuador, Germany, Indonesia, Japan, the Republic of Korea, the Russian Federation, South Africa, the United States, SCOSTEP and the Office for Outer Space Affairs had reported on their achievements and on the activities they had carried out in 2012 in the framework of the Initiative.

10. The Subcommittee expressed its gratitude for the holding during its current session of the symposium celebrating the tenth anniversary of the International Living with a Star programme at the United Nations and the Austrian Academy of Sciences.

11. The Subcommittee welcomed the fact that the United Nations Programme on Space Applications had organized three workshops on the International Space Weather Initiative, hosted by Egypt in 2010, Nigeria in 2011 and Ecuador in 2012, and the first United Nations/Austria Symposium on Data Analysis and Image Processing for Space Applications and Sustainable Development: Space Weather Data, hosted by Austria in 2012. The Subcommittee also welcomed the upcoming second United Nations/Austria Symposium on Space Weather, scheduled to take place in September 2013, to be hosted by the Austrian Academy of Sciences on behalf of the Government of Austria.

### **[...]. Long-term sustainability of outer space activities**

12. In accordance with General Assembly resolution 67/113, the Scientific and Technical Subcommittee considered agenda item 13, "Long-term sustainability of outer space activities", under the workplan contained in the report of the Committee on the Peaceful Uses of Outer Space on its fifty-second session.<sup>1</sup>

13. The representatives of Austria, China, Germany, Japan, the Russian Federation, South Africa and the United States made statements under agenda item 13. A statement was made under the item by the representative of Chile on behalf of

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<sup>1</sup> *Official Records of the General Assembly, Sixty-fourth Session, Supplement No. 20 (A/64/20)*, para. 161.

the Group of Latin American and Caribbean States. During the general exchange of views, statements relating to the item were also made by representatives of other member States.

14. The Subcommittee heard the following scientific and technical presentations:

(a) “International Association for the Advancement of Space Safety: goals and initiatives”, by the observer for IAASS;

(b) “Overview of the Workshop on the Protection of the Space Environment”, by the representative of Japan;

(c) “Status and current activities at the German Space Situational Awareness Centre”, by the representative of Germany;

(d) “An International Civil Aviation Organization for Space”, by the observer for IAASS;

(e) “Project QB50”, by the representative of Belgium.

15. The Subcommittee had before it the following:

(a) Note by the Secretariat and conference room paper on experiences and practices related to the long-term sustainability of outer space activities (A/AC.105/C.1/104 and A/AC.105/C.1/2013/CRP.15);

(b) Working paper submitted by the Russian Federation and Ukraine on technology safeguards associated with cooperation in the field of the exploration and use of outer space for peaceful purposes and in the development and operation of space rockets and rocket equipment (A/AC.105/C.1/L.322);

(c) Working paper submitted by the Russian Federation on the long-term sustainability of outer space activities (A/AC.105/L.285);

(d) Working papers prepared by expert groups A-D of the Working Group on the Long-term Sustainability of Outer Space Activities (A/AC.105/C.1/L.324-327);

(e) Conference room papers containing the preliminary draft reports and proposed candidate guidelines prepared by expert groups A-D of the Working Group (A/AC.105/C.1/2013/CRP.11, A/AC.105/C.1/2013/CRP.12, A/AC.105/C.1/2013/CRP.13 and A/AC.105/C.1/2013/CRP.14);

(f) Conference room paper containing a progress report by the Chair of the Working Group (A/AC.105/C.1/2013/CRP.10);

(g) Conference room paper containing a list of points of contact for the Working Group and members of expert groups A through D (A/AC.105/C.1/2013/CRP.18).

16. In accordance with General Assembly resolution 67/113, the Working Group on the Long-term Sustainability of Outer Space Activities was reconvened under the chairmanship of Peter Martinez (South Africa).

17. The Subcommittee welcomed the progress made under the agenda item within the Working Group and in the four expert groups, in accordance with the terms of reference and methods of work of the Working Group.

18. Some delegations expressed the view that the long-term sustainability of outer space activities was a matter of concern not only for current and aspiring space actors but also for the international community as a whole.
19. Some delegations expressed the view that any measures or sets of guidelines that might be recommended should be consistent with international law, including the five United Nations treaties on outer space.
20. Some delegations expressed the view that the consideration of the long-term sustainability of outer space activities should not result in any instrument to be used as a pretext for States that had been able to develop space capabilities to restrict or impose controls on other States wishing to exercise their legitimate right to use space technology for societal benefit.
21. The view was expressed that in the development of guidelines and recommendations on the long-term sustainability of outer space activities, there was a need to address the common responsibility of States for the protection of the space environment, or parts of it, at the national, regional and global levels. There was also a need to take into account the different circumstances, particularly each State's contribution to the evolution of a particular problem and its ability to prevent, reduce and control the extent of that problem.
22. The view was expressed that the Subcommittee should align its work on the long-term sustainability of outer space activities with the objectives of maintaining the stability, security and safety of space activities, and that it was essential to take into consideration current political and strategic contexts, as well as the work done in other bodies on transparency and confidence-building measures in outer space.
23. The view was expressed that current practices, regulations and guidelines would not resolve some of the major problems relating to the sustainability of outer space activities facing all States today. It was therefore important to thoroughly assess the nature of the draft guidelines and recommendations being prepared by the Working Group, in particular their effectiveness in implementation and how they related to other guidelines and principles adopted by the Committee. As voluntary guidelines were being proposed, for instance, on timely and accurate information-sharing, there was a need for further analysis on how effective those guidelines would be if there were no binding rule.
24. The view was expressed that serious consideration should be given to the complex issues involved in the long-term sustainability of outer space activities. In that sense, it was important not to rush the process. The preliminary reports and draft guidelines put forward by expert groups had to be carefully considered at the national level.
25. The view was expressed that the Subcommittee should provide more support to the Working Group and to the expert groups for more effective and coordinated work. It was important for the expert groups to be guided in their work, and closer coordination between them should be established.
26. The view was expressed that the Subcommittee should focus on formulating consensus-based and targeted solutions, as well as political and technical options, on the basis of best practices and experiences, including standards, rather than considering national regulations of individual States as models to be recommended.

27. The view was expressed that the Working Group, in its examination of the long-term sustainability of outer space activities, through the consideration of current practices, operating procedures, technical standards and national policies associated with the safe conduct of space activities throughout all phases of the mission life cycle, should give due regard to the role of space systems in affecting sustainable development on Earth and take into account the concerns and interests of all countries, consistent with the peaceful uses of outer space.
28. The view was expressed that the proliferation of space debris and the possibility of collision and interference posed serious threats to the long-term sustainability of outer space activities, particularly in the low-Earth orbit and the geostationary orbit environment, and that the Committee had a fundamental role to play by addressing those challenges through its work in the scientific, technical and legal fields.
29. The view was expressed that an international monitoring centre for near-Earth space should be created to track space objects.
30. The Subcommittee welcomed with satisfaction the holding on the afternoon of 14 February of a workshop on experiences and practices in the conduct of sustainable space activities, organized by the Working Group in accordance with its terms of reference and methods of work and with the participation of national non-governmental and private sector entities.
31. The Subcommittee expressed its gratitude to ESPI and SWF for organizing a seminar on the margins of the current session in support of that workshop.
32. The Subcommittee noted with appreciation that the chair of the group of governmental experts on transparency and confidence-building measures in outer space activities, Viktor Vasiliev, had addressed the Working Group during the present session, providing information on the work being currently carried out within the framework of the Group.
33. At its [...]th meeting, on [...] February, the Subcommittee endorsed the report of the Working Group on the Long-term Sustainability of Outer Space Activities, which is contained in annex IV to the present report.