



# General Assembly

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## Committee on the Peaceful Uses of Outer Space

### Report of the Inter-Agency Meeting on Outer Space Activities on its thirty-second session\*

(Rome, 7-9 March 2012)

#### I. Introduction

1. The Inter-Agency Meeting on Outer Space Activities held its thirty-second session at the headquarters of the World Food Programme (WFP) in Rome from 7 to 9 March 2012, under the chairmanship of Giorgio Sartori of WFP.
2. The Director of Emergencies of WFP, David Kaatrud, in his welcoming address, stressed the crucial role of space technology for food security and monitoring of agriculture and emphasized the need for strengthening the links with various actors and exploring innovative solutions in order to achieve enhanced access to information and data.
3. The Director of the Office for Outer Space Affairs of the Secretariat, Mazlan Othman, in her opening statement, called on United Nations entities to consider ways of accenting the role of space technology for the benefit of humanity, including in the context of the United Nations Conference on Sustainable Development (“Rio+20”), to be held in Rio de Janeiro, Brazil, in 2012, and the United Nations development agenda beyond 2015.
4. The Chair, in his introductory remarks, informed the Meeting that the open informal session on the theme of “Space for agriculture and food security” would promote a broad exchange of ideas and dialogue among United Nations entities, Member States and other stakeholders.
5. The list of participants at the thirty-second session is contained in annex I to the present report, the agenda adopted by the Meeting is contained in annex II, and

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\* The present report was adopted by the Inter-Agency Meeting on Outer Space Activities at its thirty-second session, held from 7 to 9 March 2012.



the agenda for the open informal session held on 9 March 2012 is contained in annex III.

## **II. Substantive issues considered by the Meeting**

### **A. Coordination of plans and programmes and exchange of views on current activities in the practical application of space technology and related areas**

#### **1. Current and future plans of common interest, including consideration of how the activities of organizations of the United Nations system in the area of space science and technology and its applications relate to their mandated programmes**

6. The Office for Outer Space Affairs, as the secretariat of the Inter-Agency Meeting, informed the Meeting about the work of the Committee on the Peaceful Uses of Outer Space and its subsidiary bodies, bringing to its attention matters relating to inter-agency coordination.

7. Representatives of participating United Nations entities reported mainly on activities related to the use of space-derived geospatial data, as covered by the draft report of the Secretary-General on the coordination of space-related activities within the United Nations system: directions and anticipated results for the period 2012-2013. In that regard, the discussion at the Meeting served as a valuable review of areas of concern with respect to the coordination of use of such information and data. The need, in particular, for enhanced access to geospatial information, sharing of data and harmonization of standards was noted.

8. In the discussions, WFP highlighted the need for more efficient use of remote sensing data in the areas of food security and emergency preparedness and response, and suggested creating a flexible and light ad hoc mechanism to enhance synergies, increase efficiency and avoid duplications. In adopting a pragmatic approach to facilitate accessibility to data and value-added derived products for end-users, WFP suggested involving in the United Nations process the relevant governmental and intergovernmental entities, as well as private sector, in order to enhance the usability of space data. The Economic Commission for Africa underscored that Earth observation technologies were too sophisticated for most common end-users. Thus, there was a need to give close attention to these common issues and develop strategic guidance on making information available to decision makers and relevant communities in a form that they could use expediently.

9. The Office of the United Nations High Commissioner for Refugees referred to the increasing demand for better analysis and use of geographic information, in particular in camp mapping, emergency response and displaced population estimates, and the secretariat of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa reported on the implementation of the Performance Review and Assessment of Implementation System, which provided an overview of performance and impact indicators, and on its activities in the field of early-warning systems for drought management and food security.

10. The Office for Outer Space Affairs referred to its Human Space Technology Initiative, under which studies were undertaken to look into the potential benefits of human space technology research for United Nations entities. The International Telecommunication Union (ITU) reported on the results of the 2012 World Radiocommunication Conference, in particular as related to regulatory and technical provisions for the development of space-based systems. Presentations were given on some of the latest ITU studies concerning Earth observation systems. The United Nations Institute for Disarmament Research referred to its activities in the field of conflict mitigation and prevention, for example, in conflicts over water.

11. The secretariat of the United Nations Framework Convention on Climate Change reported on the outcomes of the seventeenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, held from 28 November to 9 December 2011, in Durban, South Africa, and underlined the continued importance of having solid scientific knowledge and data, including space-based monitoring capacities, to support the implementation of the Convention. In connection with the special report of the Inter-Agency Meeting on Outer Space Activities on the use of space technology within the United Nations system to address climate change issues (A/AC.105/991), the secretariat of the Framework Convention highlighted matters related to the systematic observation of the climate that would be considered in the Framework Convention process in the course of 2012. The World Meteorological Organization (WMO) reported on the 2011 updated Global Climate Observing System (GCOS) essential climate variables, which rely on space-based observations, emphasized progress in developing an end-to-end architecture for monitoring climate from space, together with the Committee on Earth Observation Satellites and the Coordination Group for Meteorological Satellites, and stressed the importance of space data for underpinning the Global Framework for Climate Services.

**2. Report of the Secretary-General on the coordination of space-related activities within the United Nations system: directions and anticipated results for the period 2012-2013**

12. The Meeting recalled that at its thirty-first session, in 2011, it had been agreed that the report of the Secretary-General on the coordination of space-related activities within the United Nations for the period 2012-2013 should address the thematic cluster of work of the Commission on Sustainable Development. Noting that the work in that field was to be determined by the United Nations Conference on Sustainable Development, the Meeting had agreed in the intersessional period that the report of the Secretary-General should instead focus on the use of space-derived geospatial data for sustainable development. In that regard, the report would also provide useful additional information supplementing the contribution of the Committee on the Peaceful Uses of Outer Space to the Conference contained in document A/AC.105/993.

13. The Meeting reviewed and endorsed the report of the Secretary-General on the coordination of space-related activities within the United Nations for the period 2012-2013, as amended (see A/AC.105/1014), and agreed that, in addition to being submitted to the Committee at its fifty-fifth session, it should be made available to the secretariat of the United Nations Conference on Sustainable Development.

14. The Meeting noted that the subsequent report of the Secretary-General on the coordination of space-related activities within the United Nations system: directions and anticipated results for the period 2014-2015 should be prepared for endorsement by the Meeting at its thirty-fourth session, in 2014, and for submission to the Committee on the Peaceful Uses of Outer Space at its fifty-seventh session, in 2014. The Meeting agreed that the focus of that report would be discussed at its thirty-third session, in 2013.

**3. Preparation of a special report and publication on initiatives and applications for space-related inter-agency cooperation**

15. The Meeting noted with appreciation that the special report of the Inter-Agency Meeting on Outer Space Activities on the use of space technology within the United Nations system to address climate change issues (A/AC.105/991), prepared under the leadership of WMO in cooperation with the Office for Outer Space Affairs and with the contributions of other United Nations entities, had been submitted to the Committee on the Peaceful Uses of Outer Space at its fifty-fourth session, in 2011.

16. The Meeting also noted that on the basis of the above-mentioned special report, a colour publication entitled "Space and Climate Change" had been prepared under the leadership of WMO in cooperation with the Office for Outer Space Affairs and with contributions from other United Nations entities. The publication provided an overview of the use of space-based technologies to understand, predict and respond to climate change. As a demonstration of the value of inter-agency coordination, the publication had been distributed widely at the seventeenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change.

17. The Meeting agreed that a special report addressing the use of space technology for agriculture and food security should be prepared under the leadership of the Office for Outer Space Affairs, in cooperation with WFP and the Food and Agriculture Organization of the United Nations and with contributions from other United Nations entities, for endorsement by the Meeting at its thirty-third session, in 2013, and for submission to the Committee on the Peaceful Uses of Outer Space at its fifty-sixth session, in 2013. A publication drawing on the main elements of that special report could be prepared in order to reach a broader community.

**4. Means of strengthening further inter-agency coordination and cooperation in space-related activities**

18. The Meeting noted that the General Assembly, in its resolution 66/71, had welcomed the increased efforts to strengthen further the Inter-Agency Meeting on Outer Space Activities and had urged entities of the United Nations system, particularly those participating in the Inter-Agency Meeting, to continue to examine, in cooperation with the Committee on the Peaceful Uses of Outer Space, how space science and technology and their applications could contribute to implementing the United Nations Millennium Declaration on the development agenda, particularly in the areas relating to, inter alia, food security and increasing opportunities for education.

19. In that regard, the Meeting agreed that the special report addressing agriculture and food security to be prepared, referred to in paragraph 17 above, could provide incentives for further efforts to enhance the role of the Inter-Agency Meeting.
20. The Meeting noted that the Office for Outer Space Affairs had established a dedicated, password-protected web page for the preparation of the report of the Secretary-General on the coordination of space-related activities within the United Nations for the period 2012-2013, with the aim of facilitating its timely finalization and providing clear guidance to United Nations entities for their contributions to the report.
21. The Meeting agreed to continue enhancing the website on the coordination of outer space activities ([www.uncosa.unvienna.org](http://www.uncosa.unvienna.org)) and agreed that the focal points of the Meeting should continue to provide the Office for Outer Space Affairs, on a regular basis, with updated information on their space-related programmes and activities, including relevant website addresses and upcoming activities, for posting on the site.
22. The Meeting recommended that efforts should be made with regard to the branding of the Inter-Agency Meeting on Outer Space Activities to enhance its visibility. One option raised at the Meeting was the title and acronym combination "Inter-Agency Meeting on Outer Space Activities (UN-SPACE)". The matter was to be agreed upon in the intersessional period before the next meeting in 2013.
23. The Meeting agreed that as a means of strengthening inter-agency coordination and cooperation, the use of space-derived geospatial data within the United Nations system should be studied further and that such use could be increased by addressing gaps and bottlenecks by means of the following:
- (a) Raising awareness of the benefits of space-derived geospatial data;
  - (b) Understanding and meeting the requirements of United Nations entities in terms of data discovery, data access and technical capabilities for information processing;
  - (c) Developing the overall capabilities of the United Nations entities relying on space-derived geospatial data in support of their operations;
  - (d) Using existing coordination mechanisms, such as the United Nations Geographic Information Working Group (UNGIWG) and the United Nations Spatial Data Infrastructure (UNSDI), and existing United Nations support mechanisms such as the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) and the United Nations Institute for Training and Research (UNITAR) Operational Satellite Applications Programme (UNOSAT), to the maximum extent possible, taking into account emerging and innovative sources of information;
  - (e) Promoting partnerships with the private sector, academia and Government agencies;
  - (f) Establishing, in a timely manner and where required, informal coordination mechanisms on the use of space-derived geospatial data on specific thematic areas, on a voluntary basis.

24. The Meeting agreed that the actions referred to in paragraph 23 above, which are contained in the report of the Secretary-General on the coordination of space-related activities within the United Nations for the period 2012-2013, endorsed by the Meeting, should be conveyed to the upcoming meeting of UNGIWG by the Office for Outer Space Affairs.

25. In addition, the Meeting suggested that more attention be given by the Inter-Agency Meeting to strengthening coordination within the United Nations system in the areas of emergency response and food security and agriculture, and that the Office for Outer Space Affairs could take the lead in emergency response, and WFP in food security and agriculture.

26. The Meeting noted the importance of further reporting on activities undertaken by WMO, the United Nations Educational, Scientific and Cultural Organization (UNESCO) Intergovernmental Oceanographic Commission, the Food and Agriculture Organization of the United Nations, the United Nations Environment Programme and the International Council for Science through the Inter-Agency Coordination and Planning Committee, and invited WMO to continue reporting on related activities under the agenda item on current and future plans of common interest, including consideration of how the activities of organizations of the United Nations system in the area of space science and technology and its applications relate to their mandated programmes.

## **B. Use of spatial data and activities related to the United Nations Geographic Information Working Group and the United Nations Spatial Data Infrastructure**

27. The Office of Information and Communications Technology of the Secretariat, in its capacity as co-chair of UNGIWG for the period 2011-2013 (which is jointly chaired with the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization) informed the Meeting about the ongoing work of UNGIWG. The Meeting noted that the main tasks of UNGIWG were to improve the coordination of geospatial activities in the United Nations system, such as those for standardizing and improving access to geographic data, including space-based data.

28. It was noted that, to that end, a UNSDI Steering Committee was created in 2012, chaired by WFP, and that the Office of Information and Communications Technology had established the Centre of Excellence for UNSDI, supported by contributions of States Members of the United Nations to a dedicated trust fund established by the United Nations Secretariat. It was also noted that in 2011, UNGIWG had formed specialized, time-bound task groups to address specific issues such as enhancing staff safety and security through geo-informatics, harmonizing licensing and data exchange standards, establishing career paths in geo-informatics for United Nations professionals, administering membership to international standards organizations and coordination of efforts in preparing for high-profile international conferences, including the United Nations Conference on Sustainable Development.

29. The Meeting noted that the twelfth annual session of UNGIWG would be held in Vienna on 28-30 March 2012, at the Vienna International Centre, hosted by the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty

Organization and the Office for Outer Space Affairs. The twelfth plenary meeting of UNGIWG would mark the official launch of the Centre of Excellence for UNSDI by the Assistant Secretary-General and Chief Information Technology Officer of the United Nations Secretariat and the Chair of the UNSDI Steering Committee.

### C. Space and climate change

30. The Meeting recalled its agreement, as reflected in the special report of the Inter-Agency Meeting on space and climate change (A/AC.105/991), *inter alia*, to support the needs identified through ongoing initiatives, such as the Global Framework for Climate Services (GFCS), the Advanced Real-Time Environmental Monitoring Information System (ARTEMIS) and the Rapid Agricultural Disaster Assessment Routine (RADAR) initiatives, and efforts conducted by other United Nations entities.

31. The Meeting noted that as a result of the third World Climate Conference of 2009, GFCS was aimed at the structured, routine and quality-controlled provision of climate information to global, regional and national stakeholders. With the participation of WMO and a wide range of other United Nations entities, national Governments and stakeholders, a GFCS implementation plan and governance model were under development at the time of the thirty-second session of the Meeting, for discussion at the extraordinary session of the WMO Congress, to be held in the final quarter of 2012. GFCS elements would include a user interface, a climate services information system, observations and monitoring, research and modelling and prediction, as well as capacity-building for all elements. Space-based data would provide critical underpinning to observations and monitoring.

32. With the aim of ensuring long-term and sustained space-based observation of the climate system in support of GFCS and the United Nations Framework Convention on Climate Change, WMO, together with the Committee on Earth Observation Satellites and the Coordination Group for Meteorological Satellites, was developing the architecture for monitoring climate from space. Building on existing mechanisms and the updated GCOS requirements for essential climate variables, the architecture called for an end-to-end system involving mission contingency planning, data provision and access, product generation, data stewardship and related training.

33. In late 2011, the GCOS programme had updated the requirements for systematic space-based observations of the essential climate variables,<sup>1</sup> in close collaboration with United Nations partners (in particular, WMO, the Global Ocean Observing System (GOOS) and the Global Terrestrial Observing System (GTOS)) and involving the scientific community in an open review. Those requirements provided a critical basis for GFCS and the architecture for monitoring climate from space. Under the Framework Convention, it was expected that the Subsidiary Body for Scientific and Technological Advice would consider a number of matters related to systematic observations of the climate during its sessions in 2012 and beyond. It was noted that the publication on space and climate change could be further promoted in that context.

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<sup>1</sup> Available at [www.wmo.int/pages/prog/gcos/documents/SatelliteSupplement2011Update.pdf](http://www.wmo.int/pages/prog/gcos/documents/SatelliteSupplement2011Update.pdf).

34. The Meeting took note of the new ITU recommendation ITU-R RS.1883 (“Use of remote sensing systems in the study of climate change and the effects thereof”).<sup>2</sup> The recommendation provides guidelines on the provision of satellite-provided remote sensing data for the purpose of studying climate change and could provide a useful source of information for activities of the United Nations entities.

#### **D. Use of space-based technologies for disaster risk reduction and emergency response**

35. The Office for Outer Space Affairs informed the Meeting about the activities of the UN-SPIDER programme undertaken in 2011. The Meeting noted that in the biennium 2010-2011, UN-SPIDER had facilitated access to imagery from satellite operators for 32 disaster events and had provided technical advisory support to 23 countries<sup>3</sup> for implementation of risk reduction and emergency response activities using space-based information. The Meeting also noted that the UN-SPIDER network currently had a total of 12 regional support offices.

36. WFP informed the Meeting that it had been extensively using space applications, in particular, Earth observation data, to support emergency response activities and operations. The Global Monitoring for Environment and Security (GMES) Services and Applications for Emergency Response (SAFER) project outputs was presented as a good model of services that fully responded to users’ requirements, as well as an example of an effective partnership between a United Nations entity and external partners.

### **III. Other matters**

#### **Future programme of work**

37. The Meeting agreed on the following provisional agenda for its thirty-third session:

1. Opening of the session.
2. Adoption of the agenda.
3. Coordination of plans and programmes and exchange of views on current activities in the practical application of space technology and related areas:
  - (a) Current and future plans of common interest, including consideration of how the activities of organizations of the United Nations system in the area of space science and technology and its applications relate to their mandated programmes;

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<sup>2</sup> Available at [www.itu.int/rec/R-REC-RS.1883/en](http://www.itu.int/rec/R-REC-RS.1883/en).

<sup>3</sup> Bangladesh, Burkina Faso, Cameroon, Chile, Colombia, Dominican Republic, Ecuador, Fiji, Guatemala, Haiti, India, Jamaica, Madagascar, Malawi, Maldives, Mozambique, Namibia, Nigeria, Philippines, Samoa, Sri Lanka, Sudan and Togo.

- (b) Special report on the theme of space for agriculture and food security;
  - (c) Preparation of the report of the Secretary-General on the coordination of space-related activities within the United Nations system: directions and anticipated results for the period 2014-2015;
  - (d) Follow-up on activities and means of strengthening further inter-agency coordination and cooperation in space-related activities.
- 4. Use of spatial data and activities related to the United Nations Geographic Information Working Group and the United Nations Spatial Data Infrastructure.
  - 5. Space and climate change.
  - 6. Use of space-based technologies for disaster risk reduction and emergency response.
  - 7. Other matters.
38. The Meeting expressed its gratitude to WFP for hosting its thirty-second session and for the excellent arrangements made for the session.
39. The Meeting agreed that its thirty-third session should be held in March 2013, in either Geneva or Vienna, and that the host entity would be confirmed in due time. The Meeting agreed that the open informal session should be held on the last day of the session, with a theme to be selected in consultation with the host entity.

**Annex I****List of participants at the thirty-second session of the Inter-Agency Meeting on Outer Space Activities, held in Rome from 7 to 9 March 2012**

<i>Chair:</i>	G. Sartori (World Food Programme)
<i>Secretary:</i>	N. Hedman (Office for Outer Space Affairs)
<i>Assistant Secretary:</i>	A. Duysenhanova (Office for Outer Space Affairs)

*United Nations Secretariat*

Office of Information and Communications Technology	S. Ulgen (through teleconference)
Office for Outer Space Affairs	M. Othman
Economic Commission for Africa	A. Nonguierma

*United Nations programmes and funds*

Office of the United Nations High Commissioner for Refugees	L. St. Pierre
United Nations Institute for Disarmament and Research (observer)	B. Baseley-Walker

*Specialized agencies and other organizations of the United Nations system*

International Atomic Energy Agency	J. Rutkowski
International Telecommunication Union	V. Nozdrin
World Food Programme	D. Kaatrud
World Meteorological Organization	S. Bojinski

*Other United Nations entities*

Secretariat of the United Nations Convention to Combat Desertification	V. Castillo
Secretariat of the United Nations Framework Convention on Climate Change	R. Lichte

## Annex II

### **Agenda for the thirty-second session of the Inter-Agency Meeting on Outer Space Activities, held in Rome from 7 to 9 March 2012**

1. Opening of the session.
2. Adoption of the agenda.
3. Coordination of plans and programmes and exchange of views on current activities in the practical application of space technology and related areas:
  - (a) Current and future plans of common interest, including consideration of how the activities of organizations of the United Nations system in the area of space science and technology and its applications relate to their mandated programmes;
  - (b) Report of the Secretary-General on the coordination of space-related activities within the United Nations system: directions and anticipated results for the period 2012-2013;
  - (c) Preparation of a special report and publication on initiatives and applications for space-related inter-agency cooperation;
  - (d) Means of strengthening further inter-agency coordination and cooperation in space-related activities.
4. Use of spatial data and activities related to the United Nations Geographic Information Working Group and the United Nations Spatial Data Infrastructure.
5. Space and climate change.
6. Use of space-based technologies for disaster risk reduction and emergency response.
7. Other matters.

**Annex III****Agenda for the open informal session of the Inter-Agency Meeting on Outer Space Activities, held in Rome on 9 March 2012****Theme: “Space for agriculture and food security**

Introductory remarks	David Kaatrud, Director of Emergencies, World Food Programme
Introduction of participants	All participants
Presentations:	
Applications of remote sensing to food security analysis at WFP	Rogério Bonifacio (World Food Programme)
Remote sensing application for agricultural monitoring	Renato Cumani and John Latham (Food and Agriculture Organization of the United Nations)
Space information for enhanced risk management, food security and resilience	Krishna Krishnamurthy (World Food Programme)
Crop monitoring and food security: the Joint Research Centre action and prospect	Thierry Nègre (European Commission Joint Research Centre)
Geospatial information services, optical and Cosmo-SkyMed satellite data supporting food quality and security	Remi Alquier (e-GEOS)
The multisource remote sensing activity for the agricultural monitoring and the European Union Common Agricultural Policy (CAP) subsidy controls in Italy	Livio Rossi (Agency for Agricultural Disbursements (AGEA) of Italy)
Agriculture change assessment in Yemen and Somalia	Tomas Soukup (Gisat)
European Space Agency satellite data for agriculture	Benjamin Koetz (European Space Agency)
Space for agriculture monitoring	Ezio Bossoletti (Italian Space Agency)
Concluding remarks	Giorgio Sartori, Chair of the open informal session