



# General Assembly

Distr.: General  
6 March 2009

Original: English

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**Committee on the Peaceful  
Uses of Outer Space**  
Fifty-second session  
Vienna, 3-12 June 2009

## **Report of the Scientific and Technical Subcommittee on its forty-sixth session, held in Vienna from 9 to 20 February 2009**

### **I. Introduction**

1. The Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space held its forty-sixth session at the United Nations Office at Vienna from 9 to 20 February 2009, under the chairmanship of Aboubekr Seddik Kedjar (Algeria).
2. The Subcommittee held 20 meetings.

#### **A. Attendance**

3. Representatives of the following 54 member States of the Committee attended the session: Algeria, Argentina, Austria, Belgium, Bolivia, Brazil, Bulgaria, Burkina Faso, Canada, Chile, China, Colombia, Cuba, Czech Republic, Ecuador, France, Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Italy, Japan, Kenya, Libyan Arab Jamahiriya, Malaysia, Mexico, Morocco, Nigeria, Pakistan, Peru, Philippines, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Sierra Leone, Slovakia, South Africa, Spain, Sweden, Switzerland, Syrian Arab Republic, Thailand, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Venezuela (Bolivarian Republic of) and Viet Nam.
4. At the 698th meeting, on 9 February, the Chairman informed the Subcommittee that requests had been received from Angola, Azerbaijan, Croatia, the Dominican Republic, Israel and Tunisia to attend the session as observers. Following past practice, those States were invited to send delegations to attend the current session of the Subcommittee and address it, as appropriate, without



prejudice to further requests of that nature; that action did not involve any decision of the Subcommittee concerning status but was a courtesy that the Subcommittee extended to those delegations.

5. The following United Nations entities were represented at the session by observers: the International Telecommunication Union and the International Atomic Energy Agency.

6. The following were also represented by observers: the African Organization of Cartography and Remote Sensing, the Association of Space Explorers, EURISY, the European Space Agency, the European Organisation for Astronomical Research in the Southern Hemisphere, the European Space Policy Institute, the secretariat of the Group on Earth Observations, the International Academy of Astronautics, the International Astronautical Federation, the International Astronomical Union, International Institute for Applied Systems Analysis, the International Mobile Satellite Organization, the International Society for Photogrammetry and Remote Sensing, the International Space University, the Prince Sultan Bin Abdulaziz International Prize for Water, the **Secure World Foundation**, the Space Generation Advisory Council and the World Space Week Association.

7. A list of the representatives of States, United Nations entities and other international organizations attending the session is contained in A/AC.105/C.1/2009/INF/38.

## **B. Adoption of the agenda**

8. At its 698th meeting, on 9 February 2009, the Subcommittee adopted the following agenda:

1. Adoption of the agenda.
2. Statement by the Chairman.
3. General exchange of views and introduction of reports submitted on national activities.
4. United Nations Programme on Space Applications.
5. Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III).
6. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment.
7. Space debris.
8. Space-system-based disaster management support.
9. Recent developments in global navigation satellite systems.
10. Use of nuclear power sources in outer space.
11. Near-Earth objects.

12. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries.
13. International Heliophysical Year 2007.
14. Draft provisional agenda for the forty-seventh session of the Scientific and Technical Subcommittee.
15. Report to the Committee on the Peaceful Uses of Outer Space.

### C. General statements

9. The Subcommittee welcomed the European Organisation for Astronomical Research in the Southern Hemisphere (ESO), the European Telecommunications Satellite Organization (EUTELSAT-IGO), the International Institute of Space Law (IISL), the Prince Sultan Bin Abdulaziz International Prize for Water (PSIPW) and the **Secure World Foundation (SWF)** as the newest permanent observers of the Committee.

10. Statements were made by representatives of the following member States during the general exchange of views: Algeria, Austria, Argentina, Brazil, Canada, Chile, China, Cuba, Czech Republic, France, Germany, India, Indonesia, Iran (Islamic Republic of), Italy, Japan, Libyan Arab Jamahiriya, Malaysia, Mexico, Nigeria, Pakistan, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Saudi Arabia, South Africa, Spain, Switzerland, Syrian Arab Republic, Thailand, United States, Ukraine and Venezuela (Bolivarian Republic of). Statements were also made by the representative of Bolivia on behalf of the Group of Latin America and Caribbean States and by the representative of the Czech Republic on behalf of the European Union. The observer for Croatia made a general statement. General statements were also made by the European Space Policy Institute, the International Academy of Astronautics (IAA), the International Astronautical Federation (IAF), the International Astronomical Union (IAU), the Prince Sultan Bin Abdulaziz International Prize for Water (PSIPW), the **Secure World Foundation** and the Space Generation Advisory Council.

11. At the 698th meeting, the Chairman made a statement outlining the work of the Subcommittee at its current session and reviewing the global space activities of the previous year, including important advances that had been made as a result of international cooperation.

12. Also at the 698th meeting, the Director of the Office for Outer Space Affairs of the Secretariat made a statement reviewing the work programme of the Office and the budgetary cuts expected for the biennium 2010-2011.

13. The Director of the Office for Outer Space Affairs informed the Subcommittee that following the Committee's agreement, expressed at its fifty-first session, that the Inter-Agency Meeting on Outer Space Activities should report directly to the Committee, the General Assembly, in its resolution 63/90, had invited the Inter-Agency Meeting to report to the Committee on the work conducted at its annual

sessions. The Inter-Agency Meeting was expected to hold its twenty-ninth session in Vienna from 4 to 6 March 2009 and to report to the Committee at its fifty-second session under a new agenda item on the use of space technology in the United Nations system.

14. The view was expressed that the Subcommittee should consider whether States that had not acceded to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,<sup>1</sup> should participate in the sessions as observers. The view was also expressed that the status of non-governmental organizations having permanent observer status with the Committee should be reviewed.

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

(a) “60th International Astronautical Congress: space for sustainable peace and progress”, by the representative of the Republic of Korea;

(b) “GOSAT greenhouse gases observing satellite ‘IBUKI’ and its contribution to improve our understanding of global warming”, by the representative of Japan;

(c) “The Canadian space program: a brief report on current activities and future directions”, by the representative of Canada;

(d) “Phoenix, the first mission to the Mars polar region”, by the representative of the United States;

(e) “Programme VENESAT-1”, by the representative of the Bolivarian Republic of Venezuela;

(f) “THEOS: a new era in space missions of Thailand” by the representative of Thailand;

(g) “Chandrayaan-1: India’s first lunar mission”, by the representative of India;

(h) “Omid satellite launch report”, by the representative of the Islamic Republic of Iran;

(i) “New beginnings: commercial space transportation regulations of the Federal Aviation Administration”, by the representative of the United States.

#### **D. National reports**

16. The Subcommittee took note with appreciation of the reports submitted by Member States (A/AC.105/923 and A/AC.105/C.1/2009/CRP.3) for its consideration under agenda item 3, “General exchange of views and introduction of reports submitted on national activities”. The Subcommittee recommended that the Secretariat continue to invite Member States to submit annual reports on their space activities.

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<sup>1</sup> United Nations, *Treaty Series*, vol. 610, No. 8843.

## **E. Symposium**

17. On 9 February 2009, IAF organized, pursuant to General Assembly resolution 63/90, a scientific symposium on the theme “The role of Earth observation satellites in promoting understanding of and addressing climate change concerns”. The symposium consisted of two round tables: one on the theme “Space systems observation/monitoring of climate change” and the other on the theme “Space systems contribution to understanding and forecasting climate behaviour”. The symposium was moderated by Gérard Brachet of IAF. The presentations given at the symposium included the following: “Concept to reality”, by Valanathan Munsami of the secretariat of the Group on Earth Observations (GEO); “Space systems observation/monitoring of climate change”, by Barbara Ryan of the World Meteorological Organization; “Space observation and monitoring of climate changes: Indian initiatives”, by K. Radhakrishnan of the Indian Space Research Organisation (ISRO); “Climate change, the oceans and sea-level rise”, by Stan Wilson of the National Oceanic and Atmospheric Administration of the United States; and “Space technologies and climate change: the socio-economic angle”, by Claire Jolly of the Organization for Economic Cooperation and Development.

## **F. Adoption of the report of the Scientific and Technical Subcommittee**

18. After considering the items before it, the Subcommittee, at its 717th meeting, on 20 February 2009, adopted its report to the Committee on the Peaceful Uses of Outer Space, containing its views and recommendations, as set out in the paragraphs below.

## **II. United Nations Programme on Space Applications**

19. In accordance with General Assembly resolution 63/90, the Scientific and Technical Subcommittee continued its consideration of agenda item 4, “United Nations Programme on Space Applications”.

20. At the 703rd meeting, the Expert on Space Applications made a statement outlining the activities carried out and planned under the United Nations Programme on Space Applications.

21. The representatives of Greece, India, Japan, the Russian Federation, and the United States made statements under agenda item 4.

22. In accordance with General Assembly resolution 63/90, the Subcommittee, at its 703rd meeting, reconvened the Working Group of the Whole under the chairmanship of K. Radhakrishnan (India). The Working Group of the Whole held 9 meetings, from 11 to 20 February 2009. At its 717th meeting, on 20 February, the Subcommittee endorsed the report of the Working Group of the Whole, which is contained in annex I to the present report.

23. The Subcommittee heard a presentation on the theme “Telemedicine: status and future”, by the representative of Germany.

## A. Activities of the United Nations Programme on Space Applications

24. The Subcommittee had before it the report of the Expert on Space Applications, which outlines the mandate and orientation of the United Nations Programme on Space Applications (A/AC.105/925, paras. 2-8). The Subcommittee noted that the Programme for 2008 had been carried out satisfactorily and commended the work accomplished by the Office under the Programme.

25. The Subcommittee noted with appreciation that, since its previous session, additional resources for 2008 had been provided by various Member States and organizations, as acknowledged in the report of the Expert (A/AC.105/925, paras. 46 and 47).

26. The Subcommittee expressed its concern that the financial resources available for carrying out the Programme remained limited. The Subcommittee noted that the expected reduction in resources from the regular budget of the United Nations for the biennium 2010-2011 would have an impact on whether the full range of activities under the Programme could be carried out. The Subcommittee appealed to Member States to continue supporting the Programme through voluntary contributions. The Subcommittee was of the view that the limited resources of the United Nations should be focused on activities with the highest priority.

27. The Subcommittee noted that, in addition to the United Nations conferences, training courses, workshops, seminars and symposiums planned for 2009 (see para. 32 below), other activities of the Programme in 2009 would place emphasis on the following areas:

(a) Providing support for education and training for capacity-building in developing countries through the regional centres for space science and technology education, affiliated to the United Nations, and by continuing the long-term fellowship programmes for training;

(b) Promoting the use of and access to space-based technologies and information in the fields of climate change, mountainous regions, search and rescue, tele-health and basic space technology;

(c) Increasing the awareness of knowledge-based themes, including in the fields of basic space science and space law, and conducting educational outreach activities for youth;

(d) Providing technical advisory services, upon request, to Member States, bodies and specialized agencies of the United Nations system and relevant national and international organizations.

### 1. Year 2008

#### *Meetings, seminars, symposiums, training courses and workshops*

28. With regard to the activities of the United Nations Programme on Space Applications carried out in 2008, the Subcommittee expressed its appreciation to the following for co-sponsoring the various workshops, symposiums and training courses that had been held within the framework of the Programme referred to in the report of the Expert on Space Applications (A/AC.105/925, para. 43 and annex I):

(a) The Governments of Austria, Bulgaria, Burkina Faso, Colombia, India, Indonesia, Japan, Kenya, Saudi Arabia and the United Kingdom;

(b) The Ministry of Health of Burkina Faso, the European Space Agency (ESA), the Climate Prediction and Applications Centre of the Intergovernmental Authority on Development (IGAD), ISRO, IAA, IAF, the Japan Aerospace Exploration Agency (JAXA), the King Abdulaziz City for Science and Technology, the National Aeronautics and Space Administration (NASA) of the United States, the National Institute of Aeronautics and Space (LAPAN) of Indonesia, PSIPW, the Sanjay Gandhi Postgraduate Institute of Medical Sciences, the Solar-Terrestrial Influences Laboratory of the Bulgarian Academy of Sciences, the Space Research Institute of the Austrian Academy of Sciences and Joanneum Research, the University of Glasgow, the Office of the Vice-President of Colombia and the Colombian Space Commission (CCE).

*Long-term fellowships for in-depth training*

29. The Subcommittee expressed its appreciation to the Government of Italy, which, through the Politecnico di Torino and the Istituto Superiore Mario Boella and with the collaboration of the Istituto Elettrotecnico Nazionale Galileo Ferraris, had continued to provide four 12-month fellowships for postgraduate studies in global navigation satellite systems (GNSS) and related applications.

30. The Subcommittee noted with satisfaction that, in October 2008, the Programme and the National Commission on Space Activities (CONAE) of Argentina had held a second annual six-week training course in the framework of a fellowship programme, established jointly by the United Nations and the Government of Argentina, for advanced training in landscape epidemiology at the Mario Gulich Institute for Higher Space Studies in Córdoba, Argentina.

*Technical advisory services*

31. The Subcommittee noted with appreciation the technical advisory services provided under the United Nations Programme on Space Applications in support of activities and projects promoting regional cooperation in space applications, as referred to in the report of the Expert on Space Applications (A/AC.105/925, paras. 35-42).

**2. Year 2009**

*Meetings, seminars, symposiums, training courses and workshops*

32. The Subcommittee recommended the approval of the following programme of meetings, seminars, symposiums, training courses and workshops for 2009:

(a) United Nations/United States of America Training Course on Satellite-Aided Search and Rescue, Miami, United States, 19-23 January;

(b) United Nations/Azerbaijan/United States of America/European Space Agency Workshop on Applications of Global Navigation Satellite Systems, Baku, 11-15 May;

(c) United Nations/Austria/European Space Agency Symposium on Small-Satellite Technologies for Developing Countries, Graz, Austria, 8-11 September;

(d) United Nations/Peru/European Space Agency/United Nations Environmental Programme/United Nations Educational, Scientific and Cultural Organization Workshop on Integrated Space Technology Applications for Sustainable Development in the Mountain Areas of Andean Countries, Lima, 14-19 September;

(e) United Nations/European Space Agency/National Aeronautics and Space Administration/Japan Aerospace Exploration Agency Workshop on the International Heliophysical Year 2007, Jeju, Republic of Korea, 22-25 September;

(f) United Nations/International Astronautical Federation Workshop on Integrated Space Technologies and Space-based Information for Analysing and Predicting Climate Change, Daejeon, Republic of Korea, 9-11 October;

(g) United Nations/International Academy of Astronautics Workshop on Small Satellites in the Service of Developing Countries, Daejeon, Republic of Korea, 13 October;

(h) United Nations/Islamic Republic of Iran Workshop on Space Law, Tehran, late 2009;

(i) Training Course on Satellite Navigation and Location-Based Services at the African Centre for Space Science and Technology—in French language, Rabat, 29 September-24 October 2009;

(j) Training course on satellite navigation and location-based services at the regional centre for space science and technology education for Latin America and the Caribbean, Puebla, Mexico, 2009.

## **B. International Space Information Service**

33. The Subcommittee noted with satisfaction the publication of *Highlights in Space 2008*,<sup>2</sup> which had been compiled in a CD-ROM from a report prepared in cooperation with IAF, the Committee on Space Research (COSPAR) and the International Institute of Space Law. The Subcommittee expressed its appreciation to the contributors for their work.

34. The Subcommittee noted with appreciation that the Secretariat had continued to enhance the International Space Information Service and the website of the Office for Outer Space Affairs (<http://www.unoosa.org>).

## **C. Regional and interregional cooperation**

35. The Subcommittee noted that the highlights of the activities of the regional centres for space science and technology education, affiliated to the United Nations, supported under the United Nations Programme on Space Applications in 2008 and planned activities for 2009 and 2010 were included in the report of the Expert on Space Applications (A/AC.105/925, annex III).

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<sup>2</sup> United Nations publication, Sales No. E.09.I.4.

36. The Subcommittee noted that the China National Space Administration and the Secretariat of the Asia-Pacific Multilateral Cooperation in Space Technology and Applications had provided full and partial scholarships for participants from developing countries in the region of Asia and the Pacific who were attending postgraduate courses on space technology applications at Beihang University in Beijing, based on the educational curricula developed by the United Nations.

37. The Subcommittee noted that the fifteenth session of the Asia-Pacific Regional Space Agency Forum (APRSAF) had been held in Hanoi and Ha Long Bay, Viet Nam, from 9 to 12 December 2008. The theme of the session had been "Space for sustainable development". Participants at the session had considered activities related to Sentinel Asia, the APRSAF Satellite Technology for the Asia-Pacific Region (STAR) Programme, the Space Application for Environment programme, communication satellite applications, space education and awareness and space environment utilization.

38. The Subcommittee also noted that the Asia-Pacific Space Cooperation Organization, headquartered in Beijing, formally started operating on 16 December 2008.

39. The Subcommittee further noted that the proceedings of the Second African Leadership Conference on Space Science and Technology, held in Pretoria from 2 to 5 October 2007, had been disseminated in issue 12 of the journal *African Skies/Cieux Africains* and that the third African leadership conference on space science and technology for sustainable development would be held in Algeria in 2009. The Subcommittee also noted that the 2009 IAA African Regional Conference would be held in Abuja from 24 to 26 November.

40. The Subcommittee further noted the preparations being undertaken for the Sixth Space Conference of the Americas and that a second meeting with representatives of the pro tempore secretariat of the Fifth Space Conference of the Americas, the International Group of Experts and the Office for Outer Space Affairs was held in the Galapagos Islands, Ecuador, on 28 and 29 August 2008, following a regional seminar on space law held in Quito on 26 and 27 August 2008.

### **III. Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III)**

41. In accordance with General Assembly resolution 63/90, the Scientific and Technical Subcommittee continued its consideration of agenda item 5, on the implementation of the recommendations of the United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III). Pursuant to paragraph 13 of Assembly resolution 63/90, the Subcommittee requested the Working Group of the Whole, reconvened at its 703rd meeting, on 11 February, to consider the issue.

42. At its 717th meeting, on 20 February, the Subcommittee endorsed the recommendations of the Working Group of the Whole concerning the implementation of the recommendations of UNISPACE III, as contained in the report of the Working Group (see annex I).

43. The representatives of Canada, India, Japan, Nigeria and the United States of America made statements on the item.
44. The Subcommittee heard the following scientific and technical presentations:
  - (a) “Education activities at the German Aerospace Center: aligning strategies and capabilities for equal opportunities”, by the representative of Germany;
  - (b) “A youth’s perspective on the future of a space programme in Kuwait”, by the observer for the Space Generation Advisory Council;
  - (c) “The African Leadership Conference on Space Science and Technology for Sustainable Development: review and outcomes of the second conference”, by the representative of South Africa;
  - (d) “World Space Week 2008: Turkey’s activities”, by the representative of Turkey.
45. The Subcommittee recalled the importance of implementing the Plan of Action contained in the report of the Committee on the Peaceful Uses of Outer Space on the implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (A/59/174, sect. VI.B), as endorsed by the General Assembly in its resolution 59/2 of 20 October 2004. The Subcommittee noted that, in accordance with paragraph 18 of Assembly resolution 59/2, the Committee should continue to consider, in its future sessions, the implementation of the recommendations of UNISPACE III until the Committee considered that concrete results had been achieved.
46. The Subcommittee noted with appreciation that additional recommendations, as set out in the Plan of Action, had been implemented and that further progress had been made in implementing the remaining recommendations.
47. The Subcommittee endorsed a proposal by the Working Group of the Whole to celebrate the tenth anniversary of UNISPACE III by organizing a panel discussion at the fifty-second session of the Committee, to be held from 3 to 12 June 2009.
48. The Subcommittee noted that the tenth anniversary of the declaration of World Space Week would be celebrated in 2009.
49. The Subcommittee expressed its satisfaction with the flexible approach that had been adopted for implementing the recommendations of UNISPACE III. By making use of multi-year workplans and establishing action teams, the Committee was able to address a wide range of issues, thereby enabling maximum implementation of the recommendations of UNISPACE III.
50. The Subcommittee noted with appreciation that a number of activities and initiatives had been undertaken by Member States, United Nations entities and other observers of the Committee in the previous year with a view to contributing to the further implementation of the recommendations of UNISPACE III.
51. The Subcommittee noted that the Action Team on Sustainable Development (action team 11) and the Action Team on Near-Earth Objects (action team 14) had held meetings during the forty-sixth session of the Subcommittee. The Subcommittee also noted the progress made in the work of the action team on Public Health (action team 6) and that action team 11 had decided to meet again

during the fifty-second session of the Committee (see A/59/174, paras. 29-31 and annex V).

52. In accordance with a recommendation of the Working Group of the Whole, the Subcommittee invited member States of the Committee to provide, by e-mail to the Secretariat (oosa@unvienna.org), input to the report of the Committee on its contribution to the work of the Commission on Sustainable Development under the thematic cluster for the period 2010-2011 by no later than 30 April 2009. That report was to be finalized by the Committee at its fifty-second session.

53. The view was expressed that the Office for Outer Space Affairs should integrate, through the United Nations Programme on Space Applications, activities relevant to the work of the Commission on Sustainable Development under the thematic cluster for the period 2010-2011, which included the themes of transport, chemicals, waste management and mining, as well as a 10-year framework of programmes on sustainable consumption and production patterns, while building on existing efforts of Member States, in particular developing countries, and encouraging developed countries to share experiences and best practices and contribute to building capacity for addressing challenges associated with those themes.

#### **IV. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment**

54. In accordance with General Assembly resolution 63/90, the Subcommittee continued its consideration of agenda item 6, "Matters relating to remote sensing of the Earth by satellite".

55. In the course of the discussions, delegations reviewed national and cooperative programmes on remote sensing. Examples were given of national programmes and bilateral, regional and international cooperation. The representatives of Brazil, Canada, China, India, Japan, Malaysia, Nigeria, South Africa and the United States made statements under the agenda item.

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

(a) "Remote sensing for marine security and safety", by the representative of Germany;

(b) "Progress in GEOSS implementation", by the observer for the GEO secretariat;

(c) "International Society for Photogrammetry and Remote Sensing", by the observer for ISPRS.

57. The Subcommittee emphasized the importance of Earth observation satellites for sustainable development and noted with satisfaction that an increased number of developing countries were becoming actively engaged in developing and deploying their own remote-sensing satellite systems and in utilizing space-based data to improve socio-economic development.

58. The Subcommittee noted that the increased convergence of space-based data, geographic information systems and GNSS technologies was generating valuable information for policy- and decision-making. The Subcommittee also noted that regional and international cooperation and partnerships were important for all countries. As no single State could afford to develop a complete system that would meet all its needs, sharing data and information was essential.

59. The Subcommittee recognized the important role played by organizations such as the Committee on Earth Observation Satellites (CEOS), IAF and the International Society for Photogrammetry and Remote Sensing and by international initiatives such as the Integrated Global Observing Strategy Partnership in promoting international cooperation in the use of remote sensing technology, in particular for the benefit of developing countries.

60. The Subcommittee noted the increased availability of space-based data at little or no cost, including the high-resolution global digital elevation model provided by Japan and the data from the China-Brazil Earth resources satellites provided free of charge by Brazil and China to users in Latin America via the Internet. The Subcommittee also noted with satisfaction that, in August 2008, the United States Secretary of the Interior had announced a schedule for making the entire satellite image archive built up through the Land Remote Sensing Satellite (Landsat) available over the Internet at no cost. The Landsat archive is a record of the Earth's surface that is valuable for a variety of uses, from climate change to forestry management and emergency response.

61. The Subcommittee also took note of the intention of Canada to make data from future RADARSAT missions available internationally, consistent with its national legislation.

62. The Subcommittee also noted that the issue of data dissemination, which in the past had been identified as a major hurdle preventing access to and use of satellite-based data, was now being addressed by low-cost data dissemination systems such as GEONETCast and regional initiatives such as Sentinel Asia.

63. The Subcommittee acknowledged the progress made by GEO in the implementation of the Global Earth Observation System of Systems (GEOSS). At the fifth plenary session of GEO, held in Bucharest on 19 and 20 November 2008, GEO members and participating organizations reviewed the GEO workplan for the period 2009-2011. The Subcommittee noted the substantial contributions made to GEOSS by member States of the Committee, entities of the United Nations system and other organizations having permanent observer status with the Committee. The Subcommittee also noted that, as part of its contribution to GEOSS, Japan would make available information from its recently launched GOSAT (IBUKI) mission.

## **V. Space debris**

64. In accordance with General Assembly resolution 63/90, the Scientific and Technical Subcommittee continued its consideration of agenda item 7, "Space debris".

65. The representatives of Brazil, Canada, China, the Czech Republic, France, Germany, Greece, India, Indonesia, Italy, Japan, the Russian Federation, the United States and Venezuela (Bolivarian Republic of) made statements on the item.
66. The Subcommittee heard the following scientific and technical presentations:
- (a) “United States space debris environment and operational updates”, by the representative of the United States;
  - (b) “2008 space debris activities in France”, by the representative of France;
  - (c) “Estimation of current status of geostationary orbit based on results of research in the framework of the ISON international project”, by the representative of the Russian Federation;
  - (d) “Activities carried out by the Russian Federation on the space debris problem”, by the representative of the Russian Federation;
  - (e) “International civil space situation awareness”, by the observer for the Secure World Foundation;
  - (f) “Space Security Index”, by the observer for the Security World Foundation;
  - (g) “ESA activities on space debris mitigation”, by the observer for the European Space Agency (ESA);
  - (h) “IADC re-entry prediction campaigns”, by the observer for ESA.
67. The Subcommittee had before it a note by the Secretariat and a conference room paper on national research on space debris, safety of space objects with nuclear power sources on board and problems relating to their collision with space debris, containing replies received from Member States on the issue (A/AC.105/931 and Add.1 and A/AC.105/C.1/2009/CRP.11).
68. The Subcommittee agreed that the implementation of voluntary guidelines for the mitigation of space debris at the national level would increase mutual understanding on acceptable activities in space, thus enhancing stability in space and decreasing the likelihood of friction and conflict.
69. The Subcommittee noted with satisfaction that some States were implementing space debris mitigation measures consistent with the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space and/or the Inter-Agency Space Debris Coordination Committee (IADC) Space Debris Mitigation Guidelines and that other States had developed their own space debris mitigation standards based on those guidelines. The Subcommittee also noted that other States were using the IADC Guidelines and the European Code of Conduct for Space Debris Mitigation as references in the regulatory framework established for national space activities.
70. The Subcommittee welcomed the information provided by the Chairman of IADC on re-entry prediction campaigns and requested IADC to inform the Subcommittee of any revisions made to the IADC Space Debris Mitigation Guidelines in the light of evolving technologies and debris mitigation practices. The Subcommittee also noted that the Space Debris Mitigation Guidelines of the Committee might have to be amended in accordance with such revisions.

71. The Subcommittee noted with appreciation that States had adopted a number of approaches and concrete actions to mitigate space debris, including the reorbiting of satellites, passivation, end-of-life operations and the development of specific software and models for space debris mitigation. The Subcommittee also noted that research was being conducted in the areas of technology for space debris observation, space debris environmental modelling and technologies to protect space systems from space debris and to limit the creation of additional space debris.

72. The Subcommittee noted that a collision involving an active commercial Iridium 33 satellite and an inactive Cosmos-2251 satellite had occurred in low-Earth orbit on 10 February 2009. In that regard, the Subcommittee was informed that the Space Surveillance Network of the United States was tracking about 700 pieces of space debris, in two separate clouds, that had resulted from that collision. The Subcommittee was also informed that additional information on the possible creation of further debris by the collision would be posted on the Internet (<http://www.space-track.org>).

73. Some delegations expressed the view that the collision, which was the first of its kind, demonstrated the need for collective efforts to implement space debris mitigation measures.

74. In that context, the Subcommittee agreed that Member States, in particular space-faring countries, should pay greater attention to the problem of collisions of space objects, including those with nuclear power sources (NPS) on board, with space debris and to other aspects of space debris, including its re-entry into the atmosphere. It noted that the General Assembly, in its resolution 63/90, had called for the continuation of national research on that question, for the development of improved technology for the monitoring of space debris and for the compilation and dissemination of data on space debris and had agreed that international cooperation was needed to expand appropriate and affordable strategies to minimize the impact of space debris on future space missions. The Subcommittee agreed that research on space debris should continue and that Member States should make available to all interested parties the results of that research, including information on practices that had proved effective in minimizing the creation of space debris.

75. The Subcommittee agreed that Member States and space agencies should once again be invited to provide reports on research on space debris, the safety of space objects with NPS on board and problems relating to the collision of such space objects with space debris.

76. The view was expressed that there was a need to increase international coordination to promote a voluntary early warning system by creating an international database. That delegation was of the view that the Working Group on Space Debris should be re-established with the task of studying the establishment of such a voluntary system.

77. Some delegations expressed the view that the States most responsible for the creation of space debris and the States having capability to take action on space debris mitigation should make a greater contribution to space debris mitigation efforts than other States.

78. The view was expressed that some States used concepts like “to the extent possible” to take advantage of technological resources without control, which led to

an increase in the creation of space debris, while requiring aspiring space-faring States to report on controls and restrictions implemented within their programmes.

79. The view was expressed that the problem of space debris should also be considered in detail by the Legal Subcommittee, with a view to preparing an international legal framework relating to that issue.

80. Some delegations expressed the view that the proposal by France for an agenda item entitled “Long-term sustainability of space activities” would provide an important opportunity for the Scientific and Technical Subcommittee to consider the safety of future space traffic, which included the issue of space debris mitigation.

81. The view was expressed that since space was becoming an increasingly congested environment, heightened space situational awareness and closer international cooperation between Governments and industry would be critical in the future.

82. The Subcommittee noted the project of the European Union to adopt a code of conduct for outer space activities. The draft text, approved by the Council of the European Union in December 2008, included transparency and confidence-building measures and recognized a comprehensive approach to safety and security in outer space that would be guided by the following principles: freedom of access to space for all for peaceful purposes, preservation of the security and integrity of space objects in orbit and due consideration to the legitimate defence interests of States. The Subcommittee also noted that consultations with space-faring States were under way with a view to reaching consensus on a text that would be acceptable to as many States as possible. The Subcommittee further noted that, following the conclusion of those consultations, an ad hoc conference would be organized for States to subscribe to the code.

## **VI. Space-system-based disaster management support**

83. In accordance with General Assembly resolution 63/90, the Scientific and Technical Subcommittee considered agenda item 8, “Space-system-based disaster management support”.

84. At its 717th meeting, on 20 February, the Subcommittee endorsed the report of the Working Group of the Whole (see annex I), including its consideration of and its recommendations on the item on space-system-based disaster management support.

85. The representatives of Austria, Burkina Faso, Canada, China, Germany, India, Iran (Islamic Republic of), Italy, Japan, Nigeria, Romania, South Africa, Switzerland, Ukraine, the United Kingdom and the United States made statements under the agenda item.

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

(a) “Satellite information as input for ILS-based decision-making support in the delivery of health services”, by the representative of Germany;

(b) “Sentinel Asia: enhancing disaster management support capability from space”, by the representative of Japan;

(c) “Space-technology-based disaster management support: the Indian experience”, by the representative of India;

(d) “Introduction to the contributions of KIZUNA and KIKU No. 8 to disaster management”, by the representative of Japan;

(e) “Space technology application for Wenchuan earthquake relief”, by the representative of China;

(f) “Report on APRSAF-15”, by the representative of Japan.

87. The Subcommittee had before it the report on the activities carried out in 2008 in the framework of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (A/AC.105/929) and the report of the Secretariat on outreach activities carried out in 2008 in the framework of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (A/AC.105/927).

88. At the 706th meeting of the Subcommittee, the Programme Coordinator for the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) made a statement on the activities carried out in 2008 within the framework of UN-SPIDER and on the proposed UN-SPIDER workplan for the biennium 2010-2011 (A/AC.105/C.1/2009/CRP.8).

89. The Subcommittee noted with satisfaction the progress made with regard to the activities carried out within the framework of UN-SPIDER in 2008, including the establishment of the UN-SPIDER office in Bonn, Germany, and the progress made towards the objective of establishment of the UN-SPIDER office in Beijing in 2009.

90. The Subcommittee noted with satisfaction the level of voluntary contributions that had been made by Member States in 2008, including cash contributions from Austria, the Czech Republic, Germany and Spain and in-kind contributions from Algeria, China, France, Iran (Islamic Republic of), Nigeria and the Republic of Korea. In-kind contributions from China went to supporting the implementation of activities assigned to the future UN-SPIDER office in Beijing.

91. The Subcommittee noted with appreciation that Austria, China, Croatia and Germany would be providing cash contributions for UN-SPIDER in 2009.

92. The Subcommittee noted that the Office for Outer Space Affairs was coordinating the establishment of regional support offices with Algeria (for North Africa), Iran (Islamic Republic of) (for Asia) and Nigeria (for West Africa) and that those regional support offices had already contributed significantly to a number of UN-SPIDER activities. The Subcommittee expressed its appreciation to Romania, South Africa and Ukraine for having offered to act as host to UN-SPIDER regional support offices and requested the Director of the Office for Outer Space Affairs to take advantage of those offers, taking into account the guidelines for selecting and setting up such regional support offices set by the General Assembly in its resolution 63/90.

93. The Subcommittee noted the activities and initiatives of member States that were contributing to increasing the availability and use of space-based solutions in support of disaster management, including: the Mesoamerican Regional Visualization and Monitoring System (SERVIR); the Famine Early Warning

Systems Network (FEWSNET); GEONETCast, a satellite-based data dissemination system of almost global reach; and the Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters.

94. The Subcommittee also noted the activities and initiatives of member States carried out in the framework of regional and international cooperation, including: the Global Monitoring for Environment and Security (GMES) initiative; the International Satellite System for Search and Rescue (COSPAS-SARSAT); the Sentinel Asia project; projects carried out in the framework of APRSAF; and the COSMO-SkyMed programme.

95. The Subcommittee further noted that several member States were contributing to international efforts relating to disaster management, including: GEOSS initiative and CEOS.

## VII. Recent developments in global navigation satellite systems

96. In accordance with General Assembly resolution 63/90, the Scientific and Technical Subcommittee considered agenda item 9, “Recent developments in global navigation satellite systems”. The Subcommittee reviewed issues related to the International Committee on Global Navigation Satellite Systems (ICG), the latest developments in the field of GNSS and new GNSS applications.

97. The representatives of Canada, China, India, Italy, Japan, Mexico, the Russian Federation and the United States made statements under the agenda item.

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

(a) “Update on the Indian Satellite Navigation Programme”, by the representative of India;

(b) “European Position Determination System (EUPOS): Central and Eastern European differential GNSS infrastructure and cooperation”, by the representative of Germany;

(c) “YGNSS: the necessity of educating on the use and benefits of GNSS”, by the observer for the Space General Advisory Council.

99. The Subcommittee had before it the report of the Secretariat on activities carried out in 2008 in the framework of the workplan of ICG (A/AC.105/922).

100. The Subcommittee noted with appreciation that ICG had been established on a voluntary basis as a forum to promote cooperation, as appropriate, on matters of mutual interest to its members related to civil satellite-based positioning, navigation, timing and value-added services, as well as compatibility and interoperability of GNSS, while increasing their use to support sustainable development, particularly in developing countries.

101. The Subcommittee noted with satisfaction that ICG had held its third meeting in Pasadena, California, United States, from 8 to 12 December 2008 (A/AC.105/928).

102. The Subcommittee noted with appreciation that the fourth meeting of ICG would be held in St. Petersburg, Russian Federation, from 14 to 18 September 2009 and that the fifth meeting of ICG, to be held in 2010, would be hosted by Italy in cooperation with the European Commission.

103. The Subcommittee commended the support provided by the Office for Outer Space Affairs and agreed that it should continue to serve as the executive secretariat of ICG and its Providers' Forum.

104. The Subcommittee noted with appreciation that, since 2001, the United States had provided over 1 million United States dollars to the Office for Outer Space Affairs in support of GNSS-related activities, including regional workshops, and in support of ICG and the Providers' Forum.

105. Pursuant to General Assembly resolution 62/217, the Chairman of ICG and its Providers' Forum made a statement on the deliberations of ICG and the Forum.

106. The Subcommittee noted that each of the four working groups of ICG focused on one of the following issues: compatibility and interoperability; enhancement of the performance of GNSS services; information dissemination and capacity-building; and interaction with national and regional authorities and relevant international organizations. The Subcommittee also noted the substantive progress that had been made in developing the ICG workplan and terms of reference.

107. The Subcommittee noted that the Providers' Forum, which had been established to enhance the compatibility and interoperability of current and future regional and global navigation satellite systems, and whose membership currently included China, India, Japan, the Russian Federation and the United States, as well as the European Community, had held its third meeting in conjunction with the third meeting of ICG. The Subcommittee also noted that the Providers' Forum had adopted its own terms of reference and workplan.

108. In that regard, the Subcommittee noted that interoperability referred to the ability of global and regional systems and augmentations, and the services they provide, to be used together in order to strengthen the capabilities of users, who would otherwise have to rely solely on the open signals of one system. The Subcommittee also noted that compatibility referred to the ability of global and regional systems and augmentations to be used, separately or together, without causing unacceptable levels of interference and/or other harm to individual systems or services.

109. The Subcommittee noted that the Providers' Forum had agreed that, consistent with the principle of transparency in the provision of open services, each provider would strive to publish and disseminate all the signal and system information necessary to allow manufacturers to design and develop GNSS receivers on a non-discriminatory basis.

110. The Subcommittee noted with appreciation that ICG had decided that the regional centres for space science and technology education, affiliated to the United Nations, would act as ICG information centres and that ICG had agreed to establish task forces on geodetic and time references in order to promote progress in its workplan.

111. The Subcommittee noted that the ICG website (<http://www.icgsecretariat.org>) provided valuable information on the activities of ICG and the Providers' Forum.

112. The Subcommittee noted that the United States was committed to keeping the global positioning system (GPS) as a central pillar in any emerging international system of GNSS. The Subcommittee also noted that new applications for GPS were constantly being introduced and that the system had grown into a global utility providing space-based positioning, navigation and timing solutions.

113. The Subcommittee noted that the fleet of the Global Navigation Satellite System (GLONASS), operated by the Russian Federation, would increase from 19 to 24 operating satellites in 2010, and that a new generation of GLONASS-K satellites was scheduled to be launched to increase precision and operational capabilities. Those satellites would carry not only the existing frequency-division multiple access signals but also new code-division multiple access signals.

114. The Subcommittee noted that the Compass/BeiDou Navigation Satellite System (CNSS), operated by China, comprised five geostationary satellites and 30 non-geostationary satellites and that it was to become a global navigation satellite system. The Subcommittee noted that in April 2007 the first CNSS medium-Earth orbit (MEO) satellite, the COMPASS-M1, had been successfully launched and that three other satellites were planned to be launched in 2009.

115. The Subcommittee also noted that Italy was planning a series of satellite navigation projects that would increase safety in the transportation sector, including the introduction of services for air traffic control through the European Geostationary Navigation Overlay Service (EGNOS) and Galileo.

116. The Subcommittee noted that, while the GPS-aided Geostationary Augmented Navigation System was being implemented, the Indian Regional Navigation Satellite System, a regional system that would be built indigenously, would be capable of providing optimal position accuracy using a stand-alone satellite system and would comprise seven satellites: three in geostationary orbit and four in geosynchronous orbit.

117. The Subcommittee noted that Japan was promoting the Quasi-Zenith Satellite System (QZSS) and the Multi-functional Transport Satellite Satellite-based Augmentation System (MSAS), both of which were augmentation systems of GPS. QZSS, which consisted of satellites with highly inclined geosynchronous orbits, could transmit signals free from obstruction in urban and mountainous areas and, when used together with GPS, improved availability, enlarged the area of GPS usage and ensured more accurate positioning information.

118. The Subcommittee noted that the next generation of COSPAS-SARSAT, known as the Medium-Earth Orbit Search and Rescue (MEOSAR) system, was being developed and tested. The system would utilize search and rescue payloads on future global navigation satellites in MEO, such as GPS, GLONASS and Galileo, to improve coverage and the speed of detecting and locating 406 megahertz emergency distress beacons worldwide.

## VIII. Use of nuclear power sources in outer space

119. In accordance with General Assembly resolution 63/90, the Scientific and Technical Subcommittee continued its consideration of agenda item 10, "Use of nuclear power sources in outer space", under the multi-year workplan for the period 2007-2010, adopted at its forty-fourth session (A/AC.105/890, paras. 112-113 and annex II).

120. The representatives of Nigeria, South Africa, the United States and Venezuela (Bolivarian Republic of) made statements under the agenda item.

121. The Subcommittee noted with satisfaction the progress made by the Joint Expert Group of the Scientific and Technical Subcommittee and the International Atomic Energy Agency, established at the forty-fourth session of the Subcommittee, in the development of an international technically based framework of goals and recommendations for the safety of planned and currently foreseeable nuclear power source (NPS) applications in outer space.

122. The view was expressed that the progress achieved by the Joint Expert Group demonstrated the value of combining the expertise of the Subcommittee in the use of NPS in outer space with that of IAEA in designing a nuclear safety framework.

123. The view was expressed that it was exclusively States, irrespective of their level of social, economic, scientific or technical development, that had an obligation to engage in regulatory activity associated with the use of NPS in outer space and that the matter concerned all of humanity. That delegation was of the view that Governments bore international responsibility for national activities involving the use of NPS in outer space conducted by governmental or non-governmental organizations and that such activities must be beneficial and not detrimental to humanity.

124. The view was expressed that the application of NPS to space missions was important because it could help States to further the objectives of space exploration.

125. Some delegations were of the view that the possibility of spacecraft equipped with nuclear reactors being damaged as a result of collisions with orbital debris was cause for concern, as Earth's orbital environment could become contaminated with radioactive debris, which could be a threat to Earth's biosphere.

126. The view was expressed that no justification existed for contemplating the use of NPS in Earth orbits when other sources of energy were available that were much safer and that had proved to be efficient.

127. The Subcommittee noted the continuation by Member States of the NPS-based space missions Cassini-Huygens and New Horizons and the Opportunity and Spirit Mars rovers. It also noted the plans to use NPS on the Mars Science Laboratory mission to Mars in 2011.

128. Pursuant to General Assembly resolution 63/90, the Subcommittee, at its 704th meeting, on 12 February, reconvened its Working Group on the Use of Nuclear Power Sources in Outer Space under the chairmanship of Sam A. Harbison (United Kingdom). The Working Group held seven meetings.

129. The Subcommittee noted that, at its current session, the Working Group had finalized and approved the safety framework.

130. At its 715th meeting, on 19 February, the Subcommittee adopted the Safety Framework for Nuclear Power Source Applications in Outer Space (A/AC.105/C.1/L.292/Rev.4).

131. The Subcommittee noted the reservations expressed by the representative of the Bolivarian Republic of Venezuela with regard to the draft Safety Framework. The specific reservations of that representative's Government were expressed as follows:

(a) The inadmissibility of the use of NPS in Earth orbits, based on the premise that any activity conducted in outer space should be governed by the principles of preservation of life and maintenance of peace;

(b) The responsibility of States for national activities carried out by Government agencies or non-governmental organizations that use NPS in outer space; States should ensure the regulation, authorization and monitoring of such activities and that authority may not be delegated in any way.

132. The view was expressed that adoption of the Safety Framework by the Subcommittee should be followed by detailed and technical guidelines that might help to alleviate the concerns of many developing countries about the effectiveness of the Safety Framework.

133. Some delegations expressed the view that it was necessary to promote a process that would create international norms and modify those already in existence to regulate the use of nuclear power sources in outer space and that the Committee should be strengthened to achieve its role in advancing the development of space law.

134. Some delegations were of the view that the Safety Framework represented a significant advance in the development of safe NPS applications and that implementation of the Safety Framework by Member States and international intergovernmental organizations would provide assurance to the global public that space NPS applications would be launched and used in a safe manner.

135. At its 715th meeting, on 19 February, the Subcommittee endorsed the report of the Working Group (see annex II).

## **IX. Near-Earth objects**

136. In accordance with General Assembly resolution 63/90, the Scientific and Technical Subcommittee considered agenda item 11, "Near-Earth objects", under the amended multi-year workplan adopted by the Subcommittee at its forty-fifth session (A/AC.105/911, annex III). Pursuant to the workplan, in 2008, international organizations, regional bodies and others active in the field of near-Earth object research were invited to report to the Subcommittee on their activities.

137. The representatives of Austria, Canada, France, Japan, Mexico, Poland, Romania, the Russian Federation and the United States made statements on the item.

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

(a) “Asteroid-comet impact hazard problem: recent developments in Russia”, by the representative of the Russian Federation;

(b) “Near-Earth object observation program”, by the representative of the United States;

(c) “NEOSSat: the near-Earth objects surveillance satellite”, by the representative of Canada;

(d) “French activities related to Apophis”, by the representative of France;

(e) “The Large Millimeter Telescope”, by the representative of Mexico;

(f) “Dealing with the threat to Earth from asteroids and comets”, by the observer for IAA;

(g) “Asteroid threats: a call for a global response”, by the observer for the Association of Space Explorers (ASE);

(h) “Assessment of the proposal, by the Association of Space Explorers International Panel on Asteroid Threat Mitigation, on the theme ‘Asteroid threats: a call for a global response’”, by the observer for IAF.

139. The Subcommittee had before it the following documents:

(a) Note by the Secretariat on information on research in the field of near-Earth objects carried out by Member States, international organizations and other entities (A/AC.105/926);

(b) Interim report of the Action Team on Near-Earth Objects (2008-2009) (A/AC.105/C.1/L.298).

140. The Subcommittee noted that near-Earth objects were asteroids and comets with orbits that could cross the orbit of planet Earth. The Subcommittee also noted that the interest in asteroids was largely fuelled by their scientific value as remnant debris from the inner solar system formation process, the potentially devastating consequences of such objects colliding with Earth and the possession of a wide range of natural resources.

141. The Subcommittee noted that early detection and precision tracking were the most effective tools for the management of threats posed by near-Earth objects. In that regard, the Subcommittee noted with satisfaction that a number of international teams in various countries were currently searching for, investigating and cataloguing near-Earth objects and that new partnerships were emerging among national space agencies and research institutions to enhance those efforts.

142. The Subcommittee noted with satisfaction that a number of institutions were investigating possibilities for mitigating the threats posed by near-Earth objects. The Subcommittee also noted that any measures to mitigate such threats would require coordinated international efforts, as well as increased knowledge of the properties of near-Earth objects.

143. The Subcommittee noted with satisfaction that the ASE International Panel on Asteroid Threat Mitigation had prepared a report on the theme “Asteroid threats: a call for a global response”.

144. The Subcommittee noted that some member States had implemented or were planning to implement fly-by and exploration missions to near-Earth objects. The Subcommittee also noted past and upcoming missions investigating near-Earth objects, including: the Dawn, the Deep Impact and the Stardust spacecraft of the United States; the Near Earth Object Surveillance Satellite of Canada; and the Marco Polo near-Earth object sample return mission of ESA; and the Hayabusa near-Earth object sample return mission of Japan. The Subcommittee also noted that a number of international projects and initiatives, such as the Panoramic Survey Telescope and Rapid Response System (Pan-STARRS), the Large Millimeter Telescope, the Large Synoptic Survey Telescope and the Pulkovskaya Observatory, took advantage of potential dual-use facilities to advance detection and characterization capabilities.

145. The Subcommittee noted the significant progress achieved by the United States in reaching its target of detecting 90 per cent of all near-Earth objects greater than one kilometre in diameter. The Subcommittee noted that the United States had determined that fewer than 150 of the 825 near-Earth objects with a diameter greater than one kilometre could pose a collision hazard with Earth. The Subcommittee further noted that the United States was seeking to achieve, by 2020, its target of detecting, tracking, cataloguing and characterizing 90 per cent of objects with a diameter greater than 140 metres.

146. The Subcommittee agreed that efforts to detect, track and characterize near-Earth objects should be continued and expanded at the national and international levels.

147. Pursuant to paragraph 15 of General Assembly resolution 63/90, the Subcommittee, at its 709th meeting, on 16 February, reconvened its Working Group on Near-Earth Objects under the chairmanship of Richard Crowther (United Kingdom). The Working Group on Near-Earth Objects held four meetings.

148. At its 716th meeting, on 20 February, the Subcommittee endorsed the report of the Working Group on Near-Earth Objects (see annex III).

## **X. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries**

149. In accordance with General Assembly resolution 63/90, the Scientific and Technical Subcommittee considered agenda item 12, "Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries", as a single issue/item for discussion.

150. The representatives of Colombia, the Czech Republic, Greece and Venezuela (Bolivarian Republic of) made statements on the item. The observer for the International Telecommunication Union (ITU) also made a statement.

151. The Subcommittee welcomed the information provided in the annual report for 2008 of the ITU Radiocommunication Bureau on the use of the geostationary satellite orbit and other orbits (<http://www.itu.int/itu-R/space/snl/report>). The Subcommittee invited ITU to continue submitting reports to it.

152. Some delegations reiterated the view that the geostationary orbit was a limited natural resource and that it was at risk of becoming saturated. Those delegations were of the view that the exploitation of the geostationary orbit should be rationalized and made available to all States, irrespective of their current technical capabilities, thus giving them the opportunity to have access to the geostationary orbit under equitable conditions, taking into account in particular the needs of developing countries.

153. The view was expressed that a balance should be established between commercial use of the geostationary orbit and the need for equitable access to that resource by developing countries.

154. The view was expressed that equitable access by all States to spectrum resources within the geostationary orbit was severely threatened by commercial operators that, under the protection of a number of Governments, over-exploited a limited resource of strategic importance.

155. The view was expressed that gaps in the regulatory framework for the geostationary orbit made it difficult for developing countries to gain equitable access to spectrum resources within the geostationary orbit. That delegation was of the view that the Committee could assist developing countries in gaining equitable access by preparing a contribution to the World Radio Communications Conference, to be held in Geneva in 2011, and proposed that a working group be established to prepare such a document.

156. The view was expressed that ITU was the sole specialized agency of the United Nations system empowered to regulate telecommunications, including the international allocation of the radio frequencies and associated orbital positions in the geostationary orbit and other orbits, and that it would be inappropriate for a working group to be established with the aim of preparing a document that would intervene in the work of ITU.

## **XI. International Heliophysical Year 2007**

157. In accordance with General Assembly resolution 63/90, the Scientific and Technical Subcommittee considered agenda item 13, "International Heliophysical Year 2007", as a single issue/item for discussion.

158. The representatives of Canada, China, Japan, Nigeria and the United States made statements on the item.

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

- (a) "The Corot mission", by the representative of France;

(b) “Achievements of the International Heliophysical Year 2007”, by the representative of the United States;

(c) “The PICARD mission”, by the representative of France;

(d) “The lunar explorer KAGUYA: one year in operation and early results”, by the representative of Japan.

160. The Subcommittee had before it the following:

(a) “IHY 2007 Final Report” (ST/SPACE/43), published by the Office for Outer Space Affairs;

(b) Report on the Fourth United Nations/European Space Agency/National Aeronautics and Space Administration/Japan Aerospace Exploration Agency Workshop on the International Heliophysical Year 2007 and Basic Space Science, held in Sozopol, Bulgaria, from 2 to 4 June 2008 (A/AC.105/919).

161. The Subcommittee noted that the objectives of the International Heliophysical Year 2007 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-heliosphere system outwards to the heliopause 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 heliophysical phenomena;

(d) To communicate the unique scientific results of the International Heliophysical Year to interested members of the scientific community and to the general public.

162. The Subcommittee welcomed the report by the secretariat of the International Heliophysical Year on relevant activities conducted in 2008.

163. The Subcommittee expressed its appreciation to the secretariat of the International Heliophysical Year and the Office for Outer Space Affairs for conducting an international campaign, from 2005 to 2009, 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 90 States, of which over 70 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.

164. The Subcommittee expressed its appreciation to the secretariat of the International Heliophysical Year 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

Heliophysical Year 2007 among the space science and technology community and the general public, particularly in developing countries.

165. The Subcommittee noted with appreciation that the “IHY 2007 Final Report”, published by the Office for Outer Space Affairs, provided a comprehensive overview of the extensive activities conducted worldwide between 2005 and 2008 to implement the objectives of the International Heliophysical Year 2007.

166. The Subcommittee noted with appreciation that Canada, China, Japan, Nigeria and the United States had reported on their achievements and on the activities they had carried out in 2008 in the framework of the International Heliophysical Year 2007.

167. The Subcommittee agreed that it was important to continue: to explore the solar corona; to deepen understanding of the function of the Sun and the effects that the variability of the Sun could have on Earth’s magnetosphere, environment and climate; to explore the ionized environments of planets; and to determine the limits of the heliosphere and to deepen understanding of its interaction with interstellar space.

168. The Subcommittee agreed to consider, beginning at its forty-seventh session, a new agenda item entitled “International Space Weather Initiative” under a three-year workplan in order to build upon the success of the International Heliophysical Year 2007.

## **XII. Draft provisional agenda for the forty-seventh session of the Scientific and Technical Subcommittee**

169. In accordance with General Assembly resolution 63/90, the Scientific and Technical Subcommittee considered proposals for a draft provisional agenda for its forty-seventh session, to be submitted to the Committee on the Peaceful Uses of Outer Space. Pursuant to paragraph 11 of that resolution, the Subcommittee requested the Working Group of the Whole, reconvened at its 703rd meeting, on 11 February, to consider the draft provisional agenda for the forty-seventh session of the Subcommittee.

170. At its 717th meeting, on 20 February, the Subcommittee endorsed the recommendations of the Working Group of the Whole concerning the draft provisional agenda for the forty-seventh session of the Subcommittee, contained in the report of the Working Group of the Whole (see annex I).

171. The Subcommittee noted that the Secretariat had scheduled the forty-seventh session of the Subcommittee to be held from 8 to 19 February 2010.

## Annex I

### Report of the Working Group of the Whole

#### I. Introduction

1. In accordance with paragraph 13 of General Assembly resolution 63/90 of 5 December 2008, the Scientific and Technical Subcommittee, at its forty-sixth session, reconvened its Working Group of the Whole. The Working Group held four meetings from 11 to 13 February 2009, under the leadership of the Chairman, K. Radhakrishnan (India), and five meetings from 16 to 20 February, under the leadership of the Acting Chairperson, R. Ramachandran (India). The Working Group considered the United Nations Programme on Space Applications, the implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), space-system-based disaster management support and the draft provisional agenda for the forty-seventh session of the Subcommittee, to be held in 2010. At its 9th meeting, on 20 February, the Working Group adopted the present report.

2. The Working Group had before it, *inter alia*, a list of issues for its consideration (A/AC.105/C.1/2009/CRP.7).

#### II. United Nations Programme on Space Applications

3. For its consideration of the United Nations Programme on Space Applications, the Working Group of the Whole had before it the report of the Expert on Space Applications (A/AC.105/925). It was noted that the Expert had supplemented the report by a statement.

4. The Working Group of the Whole noted the workshops, seminars, symposiums, training courses and long-term fellowships for in-depth training, as well as technical advisory services, that had been proposed in the report of the Expert on Space Applications (A/AC.105/925, annex II).

#### III. Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space

5. For its consideration of the implementation of the recommendations of UNISPACE III, the Working Group of the Whole had before it the following:

(a) Status of the implementation of the recommendations of UNISPACE III (A/AC.105/C.1/2009/CRP.4 and Corr.1);

(b) Promoting greater participation of young people in space science and technology (A/AC.105/C.1/2009/CRP.5);

(c) Contribution of the Committee on the Peaceful Uses of Outer Space to the work of the Commission on Sustainable Development for the thematic cluster 2010-2011 (A/AC.105/C.1/2009/CRP.6).

6. The Working Group of the Whole welcomed the note by the Secretariat on the status of the implementation of the recommendations of UNISPACE III (A/AC.105/C.1/2009/CRP.4 and Corr.1). The Working Group agreed with the assessment of the Secretariat.

7. The Working Group of the Whole agreed that the Secretariat would continue to request member States of the Committee, entities of the United Nations system and other organizations having permanent observer status with the Committee to report on their activities in the implementation of the recommendations of UNISPACE III. Information would be requested only on those recommendations that still remained to be implemented. The replies received, as well as other information on implementation activities, including those mentioned in statements made at the sessions of the Committee and its Legal Subcommittee and Scientific and Technical Subcommittee, would be taken into account in preparing a revised status report for consideration by the Working Group during the forty-seventh session of the Subcommittee, to be held in 2010. On the basis of that report, the Working Group would consider the way forward in its consideration of the implementation of the recommendations of UNISPACE III.

8. The Working Group of the Whole welcomed the report of the Secretariat on promoting greater participation of young people in space science and technology (A/AC.105/C.1/2009/CRP.5). The Working Group recommended that member States of the Committee, entities of the United Nations system and other organizations having permanent observer status with the Committee should continue to report on their efforts to promote the education and opportunities for greater participation of youth in space-related activities.

9. The Working Group of the Whole took note of the proposed outline of the contribution of the Committee to the Commission on Sustainable Development for the thematic cluster 2010-2011 (A/AC.105/C.1/2009/CRP.6) and noted that the outline aimed to assist the Committee in finalizing, at its fifty-second session, in 2009, its report to the Commission. The Working Group also noted that the thematic cluster for the period 2010-2011 addressed the themes of transport, chemicals, waste management and mining, as well as a 10-year framework of programmes on sustainable consumption and production patterns. In view of the cross-cutting nature of those and other themes addressed by the Commission under previous thematic clusters, the Working Group agreed that the Committee should contribute to the thematic cluster for 2010-2011 by targeting the following overarching issues: the role of space in transport; the use of space technology in sustainable resource management; and space solutions for sustainable consumption and production. The Working Group agreed that any contribution that member States of the Committee might wish to have included in the report of the Committee should be submitted by e-mail to the Secretariat (oosa@unvienna.org) by 30 April 2009 at the latest.

10. The Working Group of the Whole recommended that the tenth anniversary of UNISPACE III be celebrated by holding a panel discussion, to be organized by the Secretariat during the first week of the fifty-second session of the Committee.

The Working Group recommended that the panel should review the unique organizational aspects and the overall accomplishments of UNISPACE III.

#### **IV. Space-system-based disaster management support**

11. For its consideration of space-system-based disaster management support, the Working Group of the Whole had before it the workplan of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) for the biennium 2010-2011 (A/AC.105/C.1/2009/CRP.8).

12. The Working Group of the Whole noted with satisfaction the progress made in terms of the activities carried out within the framework of UN-SPIDER in 2008 (A/AC.105/927 and A/AC.105/929).

13. The Working Group of the Whole approved the workplan for the biennium 2010-2011 and agreed that it should be made available in the six official languages of the United Nations.

14. The Working Group of the Whole noted that the Office for Outer Space Affairs of the Secretariat would continue to work to raise additional voluntary contributions (cash and in-kind) for UN-SPIDER to support the implementation of all the activities planned for 2009 and for the biennium 2010-2011.

#### **V. Draft provisional agenda for the forty-seventh session of the Scientific and Technical Subcommittee**

15. The Working Group of the Whole noted that, in accordance with General Assembly resolution 63/90, the Scientific and Technical Subcommittee would submit to the Committee its proposal on the draft provisional agenda for the forty-seventh session of the Subcommittee, to be held in 2010.

16. The Working Group of the Whole agreed that the Subcommittee should include "International Space Weather Initiative" as a new item under the following three-year workplan:

2010 Consider reports on regional and international plans. Encourage continued operation of existing instrument arrays and encourage new instrument deployments;

2011 Consider reports on regional and international plans. Identify gaps and synergies in ongoing activities. Encourage continued operation of existing instrument arrays and encourage new instrument deployments;

2012 Finalize a report on regional and international plans. Encourage continued operation of existing instrument arrays and encourage new instrument deployments.

17. The Working Group of the Whole recommended that the Subcommittee should continue its consideration of the agenda item on the examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular

account of the needs and interests of developing countries as a single issue/item for discussion, without prejudice to the role of the International Telecommunication Union.

18. The Working Group of the Whole recommended the following draft provisional agenda for the forty-seventh session of the Scientific and Technical Subcommittee, in 2010:

1. General exchange of views and introduction of reports submitted on national activities.
2. United Nations Programme on Space Applications.
3. Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III).
4. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment.
5. Space debris.
6. Space-system-based disaster management support.
7. Recent developments in global navigation satellite systems.
8. Items to be considered under workplans:
  - (a) Use of nuclear power sources in outer space;  
(Work for 2010 as reflected in the multi-year workplan in paragraph 7 of annex II to the report of the Scientific and Technical Subcommittee on its forty-fourth session (A/AC.105/890))
  - (b) Near-Earth objects;  
(Work for 2010 as reflected in the multi-year workplan in paragraph 11 of annex III to the report of the Scientific and Technical Subcommittee on its forty-fifth session (A/AC.105/911))
  - (c) International Space Weather Initiative.  
(Work for 2010 as reflected in the multi-year workplan in paragraph 16 of annex I to the present report)
9. Single issue/item for discussion: Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union.
10. Draft provisional agenda for the forty-eighth session of the Scientific and Technical Subcommittee, including identification of subjects to be dealt with as single issues/items for discussion or under multi-year workplans.

19. The Working Group of the Whole agreed that the topic for the symposium to strengthen the partnership with industry (the industry symposium), to be organized in 2010 by the Office for Outer Space Affairs in accordance with the agreement reached by the Subcommittee at its forty-fourth session in 2007 (A/AC.105/890, annex I, para. 24), should be “Nurturing the development of space technology”. The Working Group agreed that the symposium should be held during the first week of the forty-seventh session of the Subcommittee.

20. The Working Group of the Whole recognized the importance of the topic of “Long-term sustainability of outer space activities”, which was proposed by France for inclusion as a new item in the agenda of the Subcommittee, beginning with its forty-seventh session, in 2010.

21. The Working Group of the Whole agreed that the proposal made by France for an agenda item would be submitted for a decision by the Committee at its fifty-second session, in 2009, pending the results of informal consultations among all member States.

22. The Working Group of the Whole noted that the proposal by France included a three-year workplan as follows:

- 2010 Establish a working group to discuss present and future challenges of space operations and to examine measures that could potentially enhance the long-term sustainability of outer space activities. The working group would consider the results of informal consultations as a basis for its discussion and subsequent development of recommendations for the Subcommittee;
- 2011 Continue to exchange views within the working group and receive reports from member States and interested private-sector entities involved in outer space activities regarding potential measures to enhance the long-term sustainability of such activities. Start preparing a document entitled “Best practices for the long-term sustainability of outer space activities”, based on the work conducted in 2010 and 2011;
- 2012 Finalize the document entitled “Best practices for the long-term sustainability of outer space activities”, to be presented to the Committee.

## Annex II

### Report of the Working Group on the Use of Nuclear Power Sources in Outer Space

1. At its 704th meeting, on 12 February 2009, the Scientific and Technical Subcommittee reconvened its Working Group on the Use of Nuclear Power Sources in Outer Space, under the chairmanship of Sam A. Harbison (United Kingdom of Great Britain and Northern Ireland).
2. At the 1st meeting of the Working Group, on 12 February, the Chairman recalled the tasks before the Working Group, as contained in the multi-year workplan covering the period 2007-2010 for developing an international technically based framework of goals and recommendations for the safety of planned and currently foreseeable nuclear power source (NPS) applications in outer space, which the Subcommittee had endorsed at its forty-fourth session (A/AC.105/890, paras. 112-113 and annex II).
3. The Working Group noted with satisfaction that the Joint Expert Group of the Scientific and Technical Subcommittee and the International Atomic Energy Agency (IAEA), established at the forty-fourth session of the Subcommittee to develop an international technically based framework of goals and recommendations for the safety of planned and currently foreseeable NPS applications in outer space, held three meetings in 2008, in February, June and October. At those meetings, the Joint Expert Group considered comments on the text of the draft Safety Framework for Nuclear Power Source Applications in Outer Space received from member States of the Committee on the Peaceful Uses of Outer Space, IAEA member States, the IAEA Commission on Safety Standards and the IAEA safety standards committees. This work resulted in a new, updated text of the draft Safety Framework that, while being made available to the Subcommittee in document A/AC.105/C.1/L.292/Rev.2, had not yet been approved by the Joint Expert Group.
4. The Working Group expressed its appreciation to the Joint Expert Group for its work on the draft Safety Framework, which was further updated at the current session of the Subcommittee and was submitted to the Working Group for its consideration in document A/AC.105/C.1/L.292/Rev.3.
5. At its 6th meeting, on 17 February, the Working Group approved by consensus the text of the Safety Framework, which had been finalized by the Joint Expert Group. The approved text of the Safety Framework (A/AC.105/C.1/L.292/Rev.4) was recommended to the Subcommittee for adoption.
6. The Working Group emphasized that the Safety Framework, as a technical document, relied on and was consistent with the principle of responsibility of States set out in international treaties and principles, in particular in article VI of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,<sup>a</sup> in which the following is stated:

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<sup>a</sup> United Nations, *Treaty Series*, vol. 610, No. 8843.

“States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization.”

7. The Working Group noted the reservations expressed by the representative of the Bolivarian Republic of Venezuela with regard to the draft Safety Framework. The specific reservations of that representative's Government were expressed as follows:

(a) The inadmissibility of the use of NPS in Earth orbits, based on the premise that any activity conducted in outer space should be governed by the principles of preservation of life and maintenance of peace;

(b) The responsibility of States for national activities carried out by Government agencies or non-governmental organizations that use NPS in outer space; States should ensure the regulation, authorization and monitoring of such activities and that authority may not be delegated in any way.

8. The view was expressed that it was necessary to promote a process that would create international norms and modify those already existing to regulate the use of nuclear power sources in outer space and that the Committee should be strengthened to achieve its role in advancing the development of space law.

9. Some delegations were of the view that the Safety Framework represented a significant advance in the development of safe NPS applications and that implementation of the Safety Framework by Member States and international intergovernmental organizations would provide assurance to the global public that space NPS applications would be launched and used in a safe manner.

10. The Working Group agreed that, following adoption by the Subcommittee, the Safety Framework would be transmitted by the Secretariat to the IAEA secretariat for consideration and agreement by the IAEA Commission on Safety Standards during its meeting to be held in Vienna from 22 to 24 April 2009.

11. The Working Group requested the Secretariat to make available as a United Nations document,<sup>b</sup> without further editing, the text of the Safety Framework once it had been agreed by the IAEA Commission on Safety Standards.

12. The Working Group noted that the text of the Safety Framework, once agreed by the IAEA Commission on Safety Standards, would be published by the IAEA secretariat on behalf of the Joint Expert Group as an IAEA report and that the electronic version of the United Nations document containing the text of the Safety

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<sup>b</sup> To be issued as A/AC.105/934.

Framework, issued in all official languages of the United Nations, would also be made available by the IAEA secretariat as a CD-ROM, without editing.

13. The Working Group agreed to hold an informal intersessional meeting in Vienna from 2 to 4 June 2009 during the fifty-second session of the Committee, to discuss the next appropriate steps to facilitate consideration by the Subcommittee at its forty-seventh session, in 2010, of a possible new workplan of the Working Group. The discussion would include consideration of approaches for establishing the potential range of technical topics and technical objectives, scope and attributes of such new work that the Working Group could pursue in enhancing the safe development and use of space NPS applications. The Working Group also agreed that, if needed, it would hold a further informal meeting on 20 and 21 October 2009.

14. The Working Group commended its Chairman for his guidance and his outstanding contribution to the work of the Joint Expert Group and the Working Group.

## Annex III

### Report of the Working Group on Near-Earth Objects

1. Pursuant to paragraph 15 of General Assembly resolution 63/90, the Scientific and Technical Subcommittee, at its forty-sixth session, reconvened its Working Group on Near-Earth Objects. The Working Group held three meetings, from 16 to 18 February 2009, under the leadership of the Chairman, Richard Crowther (United Kingdom of Great Britain and Northern Ireland), and one meeting on 20 February 2009, under the leadership of the Acting Chairperson, Creena Lavery (United Kingdom).
2. In accordance with the multi-year workplan under the item on near-Earth objects (NEOs) (A/AC.105/911, annex III), the Working Group considered:
  - (a) Reports submitted in response to the annual request for information on NEO activities and intersessional work;
  - (b) Review of policies and procedures related to the handling of the NEO threat at the international level and drafting of international procedures for handling the NEO threat;
  - (c) Activities undertaken within the framework of the International Year of Astronomy 2009 to raise awareness of the NEO threat;
  - (d) The updated interim report of the Action Team on Near-Earth Objects (2008-2009) (A/AC.105/C.1/L.298).
3. The Working Group had before it a note by the Secretariat on information on research in the field of near-Earth objects carried out by Member States, international organizations and other entities (A/AC.105/926).
4. The Working Group noted with satisfaction the work of the Action Team on Near-Earth Objects, as reflected in the interim report of the Action Team (A/AC.105/C.1/L.298).
5. The Working Group noted that the work accomplished on NEOs in the intersessional period had resulted in important contributions to international cooperation in that area. The Working Group also noted that international conferences such as the conference entitled "Planetary Defense Conference: Protecting Earth from Asteroids", to be held in Granada, Spain, from 27 to 30 April 2009, and the conference entitled "Asteroid-Comet Hazard 2009", to be held in St. Petersburg, Russian Federation, from 21 to 25 September 2009, provided opportunities to raise awareness among decision makers about the NEO threat and to promote further cooperation.
6. The Working Group noted that international cooperation and coordination in improving the Apophis ephemeris was important for obtaining a better understanding of the threat to Earth posed by the Apophis asteroid. The Working Group also noted that the period leading up to 2012 presented the best opportunity to make preparations for carrying out international activities in that regard.
7. The Working Group heard a statement by the observer for the Association of Space Explorers (ASE) on the work carried out by ASE in furthering the

intersessional work of the Action Team on Near-Earth Objects under the item, in accordance with the multi-year workplan of the Working Group.

8. The Working Group agreed that the report of ASE served as a good basis for advancing the implementation of the workplan of the Working Group to continue drafting, and seek agreement on, international procedures for handling the NEO threat. In that context, the Action Team on Near-Earth Objects held four meetings during the forty-sixth session of the Subcommittee to discuss and review the report of ASE on the theme “Asteroid threats: a call for a global response”. On the basis of those discussions, the Action Team prepared a conference room paper entitled “Draft recommendations for near-Earth objects threat mitigation” (A/AC.105/C.1/2009/CRP.13), for consideration by the Working Group.

9. The Working Group agreed that the Action Team on Near-Earth Objects should continue the intersessional work, under the multi-year workplan, to further review and develop draft recommendations for the international response to the threat of NEO impacts, for consideration by the Working Group at the forty-seventh session of the Subcommittee, in 2010. In that context, the Working Group encouraged member States to participate in the intersessional work on NEO and submit their contributions to the chairman of the Action Team.

10. At its 4th meeting, on 20 February 2009, the Working Group adopted the present report.

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