



**Committee on the Peaceful
Uses of Outer Space
Fifty-sixth session
Vienna, 12-21 June 2013****Draft report****Chapter II****Recommendations and decisions****B. Report of the Scientific and Technical Subcommittee on its
fiftieth session**

1. The Committee took note with appreciation of the report of the Scientific and Technical Subcommittee on its fiftieth session (A/AC.105/1038), which contained the results of its deliberations on the items considered by the Subcommittee in accordance with General Assembly resolution 67/113.
2. The Committee expressed its appreciation to Félix Clementino Menicocci (Argentina) for his able leadership during the fiftieth session of the Subcommittee.
3. The representatives of Canada, China, Colombia, the Czech Republic, Germany, Japan, Mexico, the Russian Federation, Saudi Arabia, South Africa, the United States and Venezuela (Bolivarian Republic of) made statements under the item. A statement was also made by the representative of Chile on behalf of the Group of Latin American and Caribbean States. During the general exchange of views, statements relating to the item were also made by other member States.
4. The Committee heard the following presentations:
 - (a) The latest development of the Beidou Global Navigation Satellite System, by the representative of China;
 - (b) Japan's contributions to the International Space Station (ISS), by the representative of Japan;
 - (c) Satellite "Miranda", by the representative of the Bolivarian Republic of Venezuela;



(d) The state of utilization of space technologies by the National Weather Service of Tunisia, by the representative of Tunisia;

(e) Next steps in space exploration, by the representative of the United States;

(f) Indian Earth observation, space science and planetary missions: status 2013, by the representative of India;

(g) Japan's contribution to space weather: research and applications, by the representative of Japan;

(h) Crisis of floods and mines: Iraq 2013, by the representative of Iraq;

(i) Deflecting hazardous asteroids from collision with the Earth by using small asteroids, by the representative of the Russian Federation.

1. United Nations Programme on Space Applications

(a) Activities of the United Nations Programme on Space Applications

5. The Committee took note of the discussion of the Subcommittee under the item on the United Nations Programme on Space Applications, as reflected in the report of the Subcommittee (A/AC.105/1038, paras. 28-50, and annex I, paras. 2 and 3).

6. The Committee endorsed the decisions and recommendations of the Subcommittee and its Working Group of the Whole, which had been convened under the chairmanship of V. K. Dadhwal (India) to consider the item (A/AC.105/1038, paras. 31 and 40).

7. The Committee noted that the priority areas of the Programme were: (a) environmental monitoring; (b) natural resources management; (c) satellite communications for tele-education and telemedicine applications; (d) disaster risk reduction; (e) developing capabilities in the use of global navigation satellite systems; (f) the Basic Space Science Initiative; (g) space law; (h) climate change; (i) the Basic Space Technology Initiative; and (j) the Human Space Technology Initiative.

8. The Committee took note of the activities of the Programme that had been carried out in 2012, as presented in the report of the Scientific and Technical Subcommittee (A/AC.105/1038, paras. 36-39) and in the report of the Expert on Space Applications (A/AC.105/1031, annex I).

9. The Committee expressed its appreciation to the Office for Outer Space Affairs for the manner in which the activities of the Programme had been implemented. The Committee also expressed its appreciation to the Governments and intergovernmental and non-governmental organizations that had sponsored the activities.

10. The Committee noted with satisfaction that further progress was being made in the implementation of the activities of the Programme for 2013, as described in the report of the Subcommittee (A/AC.105/1038, para. 40).

11. The Committee noted with satisfaction that the Office for Outer Space Affairs was helping developing countries and countries with economies in transition to participate in and benefit from activities being carried out under the Programme.

12. The Committee noted with concern the limited financial resources available to implement the Programme and appealed to States and organizations to continue supporting the Programme through voluntary contributions.

13. The Committee took note of the conference room papers on the Basic Space Science Initiative 1991-2012 (A/AC.105/2013/CRP.11), the Basic Space Technology Initiative: activities in 2012-2013 and plans for 2014 and beyond (A/AC.105/2013/CRP.14) and the Human Space Technology Initiative: activities in 2011-2013 and plans for 2014 and beyond (A/AC.105/2013/CRP.16).

(i) *Conferences, training courses and workshops of the United Nations Programme on Space Applications*

14. The Committee endorsed the workshops, training courses, symposiums and expert meetings planned for the remainder of 2013 and expressed its appreciation to Austria, Belarus, China, Croatia, Indonesia, Pakistan and the United Arab Emirates, as well as ESA, IAF and the International Committee on Global Navigation Satellite Systems (ICG), for co-sponsoring and hosting those activities (see A/AC.105/1031, annex II).

15. The Committee endorsed the programme of workshops, training courses, symposiums and expert meetings relating to environmental monitoring, natural resources management, global health, global navigation satellite systems (GNSS), basic space science, basic space technology, space law, climate change, human space technology and the socioeconomic benefits of space activities to be held in 2014 for the benefit of developing countries.

(ii) *Long-term fellowships for in-depth training*

16. The Committee 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 fellowships for postgraduate studies on GNSS and related applications.

17. The Committee expressed its appreciation to the Government of Japan, which, through the Kyushu Institute of Technology, had provided fellowships for postgraduate studies on nanosatellite technologies. The Committee also noted with satisfaction that the Long-Term Fellowship Programme on Nanosatellite Technologies will be extended from 2013 to 2015 and will annually accept up to four doctoral and two master's degree students.

18. The Committee noted that it was important to increase opportunities for in-depth education in all areas of space science, technology and applications and space law through long-term fellowships and urged Member States to make such opportunities available at their relevant institutions.

(iii) *Technical advisory services*

19. The Committee 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.105/1031, paras. 38-43).

(iv) *Regional centres for space science and technology education, affiliated to the United Nations*

20. The Committee noted with satisfaction that the United Nations Programme on Space Applications continued to emphasize, promote and foster cooperation with Member States at the regional and global levels to support the regional centres for space science and technology education, affiliated to the United Nations. The highlights of the activities of the regional centres supported under the Programme in 2011-2012 and the activities planned for 2013 were presented in the report of the Expert on Space Applications (A/AC.105/1031, annex III).

21. The Committee noted with satisfaction that an educational curriculum on GNSS (ST/SPACE/59) had been developed for nine-month postgraduate courses at the regional centres for space science and technology education, affiliated to the United Nations.

22. The Committee noted with appreciation that the host countries of the regional centres for space science and technology education, affiliated to the United Nations, were providing the centres with significant financial and in-kind support.

23. The Committee noted with satisfaction that an evaluation mission facilitated by the Office for Outer Space Affairs to Beihang University in Beijing would take place in September 2013, in accordance with the proposal by the Government of China to establish a regional centre for space science and technology education (A/AC.105/1038, para. 45). The Committee further noted that a meeting had been held on the margins of its present session to develop and agree on the terms of reference for the evaluation mission. The terms of reference are contained in conference room paper A/AC.105/2013/CRP.21/Rev.1.

(b) International Satellite System for Search and Rescue

24. The Committee noted with satisfaction that the International Satellite System for Search and Rescue (COSPAS-SARSAT) currently had 41 member States and two participating organizations and that there was additional interest in being associated with the programme. The Committee noted with appreciation that the worldwide coverage for emergency beacons had been made possible by the space segment, which consisted of six polar-orbiting and six geostationary satellites provided by Canada, France, the Russian Federation and the United States, along with the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), as well as by the ground segment contributions made by 26 other countries. The Committee also noted that, since becoming operational in 1982, COSPAS-SARSAT had provided assistance in rescuing at least 34,900 persons in 9,700 search and rescue events and that in 2012 alert data from the System had helped to save 1,950 lives in 662 search and rescue events worldwide.

25. The Committee further noted that the use of satellites in medium-Earth orbit continued to be explored, with a view to improving international satellite-aided search and rescue operations. The Committee welcomed the testing of global positioning system satellites to improve the capabilities of beacons to best take advantage of medium-Earth orbit satellites.

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

26. The Committee took note of the discussion of the Subcommittee under the item on implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), as reflected in the report of the Subcommittee (A/AC.105/1038, paras. 51-59).

27. The Committee endorsed the recommendations and decisions on the item made by the Subcommittee and its Working Group of the Whole (A/AC.105/1038, para. 59, and annex I, paras. 10, 11, 13 and 14).

28. The Subcommittee recalled that the General Assembly, in its resolution 67/113, had recalled that a number of the recommendations set out in the plan of action of the Committee on the Peaceful Uses of Outer Space on the implementation of the recommendations of UNISPACE III (A/59/174, sect. VI.B) had been implemented and that satisfactory progress was being made in implementing the outstanding recommendations through national and regional activities.

29. The Committee noted that its long-standing achievements encompassed the three United Nations Conferences on the Exploration and Peaceful Uses of Outer Space (UNISPACE I, II and III), held in Vienna in 1968, 1982 and 1999 respectively, and had resulted in many important actions of the Committee and programmatic activities of the Office for Outer Space Affairs.

30. The Committee agreed to rename the agenda item as “Space technology for socioeconomic development in the context of the United Nations Conference on Sustainable Development and the post-2015 development agenda” and further agreed that the item should be closely interlinked with the new agenda item of the Committee on “Space and sustainable development”.

31. The Committee noted that, in relation to the recommendations of the Action Team on Public Health (action team 6), a strategy meeting was held on the margins of the fiftieth session of the Scientific and Technical Subcommittee to discuss a follow-up initiative for an open community approach to tele-health and telemedicine and the use of space technology in spatial epidemiology and spatial ecotoxicology issues, emanating from the international expert meeting on “Improving public health through space technology applications: an open-community approach”, held from 30 July to 1 August 2012 in Bonn, Germany.

3. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth’s environment

32. The Committee took note of the discussion of the Subcommittee under the item on matters relating to remote sensing of the Earth by satellite, including

applications for developing countries and monitoring of the Earth's environment, as reflected in the report of the Subcommittee (A/AC.105/1038, paras. 60-72).

33. In the course of the discussion, delegations reviewed national and cooperative programmes on remote sensing. Examples were given of national, bilateral, regional and international programmes to further socioeconomic and sustainable development, notably in the following areas: agriculture and fishery; monitoring climate change; disaster management; hydrology; managing ecosystems and natural resources; monitoring air and water quality; mapping biodiversity resources, coastal zones, land use, wasteland and wetlands; ice-cover monitoring; oceanography; rural development and urban planning; and safety and public health.

34. The Committee noted the increased availability of space-based data at little or no cost, including the remote sensing data, made available free of charge, from the China-Brazil Earth resources satellites, the SAC-C international mission, Landsat of the United States, Shizuku of Japan and OCEANSAT-2 of India.

35. The Committee took note of the number of continued launches of Earth observation satellites and the innovative research conducted using such satellites, data from which could be used to develop advanced, global-integrated Earth-system models.

36. The Committee noted with satisfaction that a growing number of developing countries had been actively developing and deploying their own remote sensing satellite systems and utilizing space-based data to advance socioeconomic development, and it stressed the need to continue enhancing the capacities of developing countries with regard to the use of remote sensing technology.

37. The Committee noted with appreciation that on 20 June 2013 Israel had donated a model of an Earth observation satellite "OpSat 2000" to the permanent exhibit of the Office for Outer Space Affairs.

4. Space debris

38. The Committee took note of the discussion of the Subcommittee under the item on space debris, as reflected in the report of the Subcommittee (A/AC.105/1038, paras. 73-106).

39. The Committee endorsed the decisions and recommendations of the Subcommittee on the item (A/AC.105/1038, paras. 101, 103, 104 and 106).

40. The Committee noted with appreciation that some States were already implementing space debris mitigation measures consistent with the Space Debris Mitigation Guidelines of the Committee 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 Committee also noted that other States were using the IADC Guidelines and the European Code of Conduct for Space Debris Mitigation as reference points in their regulatory frameworks for national space activities. The Committee further noted that other States had cooperated, in the framework of the ESA space situational awareness programme, to address the issue of space debris.

41. The Committee urged those countries that had not yet done so to consider voluntary implementation of the Space Debris Mitigation Guidelines of the

Committee on the Peaceful Uses of Outer Space and/or the IADC Space Debris Mitigation Guidelines.

42. The Committee welcomed the symposium on the theme “Overview of studies and concepts for active orbital debris removal”, organized by IAF during the fiftieth session of the Subcommittee.
43. Some delegations expressed the view that national and international efforts should be intensified to reduce the creation and proliferation of space debris.
44. Some delegations called on the Subcommittee to continue its thorough consideration of the issue of space debris mitigation, in particular by paying greater attention to the problem of debris coming from platforms with nuclear power sources in outer space and to collisions of space objects with space debris and their derivatives, as well as to ways of improving the technology and the collaborative networks for monitoring space debris.
45. Some delegations expressed the view that it would be beneficial for Member States to exchange information on measures to reduce the creation and proliferation of space debris and to mitigate the effects of space debris; on the collection, sharing and dissemination of data on space objects; and on re-entry notifications.
46. Some delegations expressed the view that States, especially those States that were largely responsible for the situation with space debris, and those that had the ability to take action for space debris mitigation, should disseminate information on actions taken to reduce the generation of space debris.
47. Some delegations expressed the view that the Scientific and Technical Subcommittee and the Legal Subcommittee should cooperate in developing legally binding rules relating to space debris.
48. Some delegations expressed the view that the issue of space debris should be addressed in a manner that would not jeopardize the development of the space capabilities of developing countries.
49. The view was expressed that space debris mitigation solutions should not impose undue costs on the emerging space programmes of developing countries.
50. The view was expressed that States that have space objects should follow up on and continuously monitor them.
51. The view was expressed that the early detection and precise tracking of natural and manmade space debris should be encouraged.
52. The view was expressed that it was necessary to promote closer coordination of efforts by spacefaring nations in increasing understanding of the actual status of space debris, including space debris of small size, as well as to establish international practice aimed at enhancing safety of space activities and raising the level of trust through mutual exchange of information.
53. The view was expressed that spacefaring nations should promptly provide relevant reliable information and data to the countries that might be affected by the re-entry of space debris to allow for timely assessment of potential risks.
54. The view was expressed that more consideration should be given to the issue of space debris in the geostationary orbit and low-Earth orbits.

55. The view was expressed that, during the removal of space debris, no unilateral action should be taken by any State with respect to a space object of another State.

56. The view was expressed that retro-reflectors should be mounted on all massive objects, including those that would become inactive after launch, which would enable greater accuracy in determining the position of orbital elements and increase the efficiency of collision avoidance manoeuvres.

5. Space-system-based disaster management support

57. The Committee took note of the discussion of the Subcommittee under the item on space-system-based disaster management support, as reflected in the report of the Subcommittee (A/AC.105/1038, paras. 107-128, and annex I, paras. 4 and 5).

58. The Committee had before it a report on the International Expert Meeting on Crowdsourcing Mapping for Disaster Risk Management and Emergency Response, held in Vienna from 3 to 5 December 2012 (A/AC.105/1044) and a conference room paper entitled "UN-SPIDER Regional Support Offices meeting on the implementation of the planned 2013-2014 programme activities" (A/AC.105/2013/CRP.12).

59. The Committee noted with satisfaction the voluntary contributions being made by Member States, including cash contributions from Austria, China and Germany, and encouraged Member States to provide, on a voluntary basis, all the support necessary, including financial support, to UN-SPIDER to enable it to carry out its workplan for the biennium 2014-2015. The Committee noted with appreciation that the programme had also benefited from the services of associate experts and experts provided by Austria, China, Germany and Turkey.

60. The Committee noted with satisfaction the ongoing activities of Member States that were contributing to increasing the availability and use of space-based solutions in support of disaster management, and also supporting the UN-SPIDER programme, including the following: the Sentinel Asia project and its coordination of emergency observation requests through the Asian Disaster Reduction Centre, the European Earth Observation Programme (Copernicus) emergency mapping service, and the Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters (also called the International Charter on Space and Major Disasters).

61. The Committee noted that the information and services being delivered under the UN-SPIDER programme were making a valuable contribution to mitigating the consequences of natural disasters and called on Member States to continue supporting the programme.

62. The Committee noted with satisfaction the signature of the UN-SPIDER regional support office agreement between the Office for Outer Space Affairs and the Ministry for Civil Defence, Emergencies and Elimination of Consequences of Natural Disasters (EMERCOM) of the Russian Federation, which took place in Vienna on 19 June 2013, during the session of the Committee.

63. The view was expressed that attendance by representatives of UN-SPIDER Regional Support Offices at training courses for project managers for the International Charter on Space and Major Disasters, including the upcoming one to be held at ESA in Italy in June 2013, would strengthen the role of the Regional

Support Offices and UN-SPIDER in supporting the implementation of the Universal Access initiative of the Charter, which opens the service to all Member States.

6. Recent developments in global navigation satellite systems

64. The Committee took note of the discussion of the Subcommittee under the item on recent developments in global navigation satellite systems, as reflected in the report of the Subcommittee (A/AC.105/1038, paras. 129-155).

65. The Committee noted with appreciation that ICG continued to make significant progress towards encouraging compatibility and interoperability among global and regional space-based positioning, navigation and timing systems and promoting the use of GNSS and their integration into infrastructures, particularly in developing countries.

66. The Committee expressed its appreciation to the Office for Outer Space Affairs for its continued support as executive secretariat for ICG and its Providers' Forum. In that regard the Committee noted with appreciation the publication of an educational curriculum on GNSS (ST/SPACE/59), which was a unique result of the deliberations of the regional workshops on GNSS applications since 2006, had been available to the regional centres for space science and technology education, affiliated to the United Nations, and supplemented the proven standard model education curricula of the regional centres developed through the programme on space applications.

67. The Committee noted with appreciation that the seventh meeting of ICG and the ninth meeting of its Providers' Forum had been held in Beijing from 4 to 9 November 2012 and that the eighth meeting of ICG would be held in Dubai, United Arab Emirates, from 10 to 14 November 2013. The Committee also noted the expression of interest by the European Union in hosting the ninth meeting of ICG, in 2014.

68. The Committee noted that South Africa and the European Union had agreed to cooperate on GNSS applications and services.

69. The Committee noted that the United Kingdom and the United States had reached a common understanding of intellectual property rights related to Global Positioning Systems (GPS). It was noted that this understanding was part of a broader, shared effort to advance compatibility and interoperability among civil satellite navigation systems and transparency in civil service provision.

70. The Committee noted that two additional operational satellites had been successfully launched in October 2012 as part of the Galileo satellite navigation system, and that these satellites had joined the two existing satellites that had been orbiting the Earth since October 2011, forming together a mini-constellation of four satellites needed for validation and fine-tuning of the Galileo navigation satellite system. In this regard, the Committee noted that the responsibility for operating the Galileo satellite navigation system would be conferred to the European GNSS Agency (GSA), based in Prague.

71. The Committee also noted that the Government of the Russian Federation had declared the prolongation of its commitment to provide Global Orbital Navigation Satellite System (GLONASS) standard precision signals to the international community, including the International Civil Aviation Organization, on

a non-discriminatory basis for a period of not less than 15 years without levying a direct charge on users.

72. The Committee noted a series of successful launches of China's BeiDou satellite navigation system and that the system had started providing initial positioning, navigation and timing services to China and surrounding areas.

73. The Committee noted that the Quasi-Zenith Satellite System of Japan would be expanded and upgraded into an operational and regional satellite-based GNSS for the benefit of the countries of the Asia-Pacific region.

74. The Committee noted that India was planning to launch the first satellite of the Indian Regional Navigation Satellite System, IRNSS-1A, as the first satellite of the seventh satellite constellation designed for providing position, navigation and timing services over India and its neighbourhood.

75. The Committee noted that SGAC through its Youth for Global Navigation Satellite Systems group continued to support public education and outreach about the importance of GNSS systems, including updating its brochure on "GNSS and youth".

76. The Committee noted with appreciation that on 10 June 2013, on the margins of the tenth meeting of the Provider's Forum, the European Commission had donated a model of the Galileo navigation satellite systems, provided by Astrium, to the permanent exhibit of the Office for Outer Space Affairs.

7. Space weather

77. The Committee took note of the discussion of the Subcommittee under the item on space weather, as reflected in the report of the Subcommittee (A/AC.105/1038, paras. 156-166).

78. The Committee noted that the agenda item allowed member States of the Committee and international organizations having permanent observer status with the Committee to exchange views on national, regional and international activities related to space weather science and research with a view to promoting greater international cooperation in that area.

79. The Committee noted with satisfaction the objectives of the item on space weather (A/AC.105/1038, para. 160).

80. The Committee welcomed the fact that the United Nations Programme on Space Applications had organized three workshops on the International Space Weather Initiative, hosted by Egypt in 2010, Nigeria in 2011 and Ecuador in 2012, and the first United Nations/Austria Symposium on Data Analysis and Image Processing for Space Applications and Sustainable Development: Space Weather Data, hosted by Austria in 2012.

81. The Committee also welcomed the upcoming second United Nations/Austria Symposium on Space Weather, scheduled to take place in September 2013, to be hosted by the Austrian Academy of Sciences on behalf of the Government of Austria.

82. The Committee noted that the activities which had begun under the International Heliophysical Year and were continued under the International Space

Weather Initiative provided an understanding of the effects of the sun on the space infrastructure and the Earth's environment.

83. The Committee noted with satisfaction that a special workshop on space weather was planned to be held on the margins of the fifty-first session of the Scientific and Technical Subcommittee, in 2014.

84. The Committee noted that the International Space Weather Initiative and the Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) had been organizing space science schools on solar terrestrial physics and space weather, beginning in 2007 with the International Heliophysical Year, and that the 2013 space science school would be held in Nairobi. This school was a continuation of the previous successful schools conducted in Ethiopia in 2010, Slovakia in 2011 and Indonesia in 2012.

85. The Committee also noted the National Space Weather Laboratory, an initiative set up by the National Space Agency of Malaysia (ANGKASA) and the Malaysian Meteorological Department, continued to monitor space weather and to issue notifications to various stakeholders and to the public.

8. Use of nuclear power sources in outer space

86. The Committee took note of the discussion of the Subcommittee under the item on the use of nuclear power sources in outer space, as reflected in the report of the Subcommittee (A/AC.105/1038, paras. 167-178).

87. The Committee endorsed the decisions and recommendations of the Subcommittee and the Working Group on the Use of Nuclear Power Sources in Outer Space, reconvened under the chairmanship of Sam A. Harbison (United Kingdom) (A/AC.105/1038, para. 178, and annex II, paras. 10 and 11).

88. The Committee noted with satisfaction the work of the Working Group on the Use of Nuclear Power Sources in Outer Space under its multi-year workplan.

89. Some delegations expressed the view that it was exclusively States, irrespective of their level of social, economic, scientific or technical development, that had an obligation to engage in the regulatory process associated with the use of nuclear power sources in outer space and that the matter concerned all humanity. Those delegations were of the view that Governments bore international responsibility for national activities involving the use of nuclear power sources in outer space conducted by governmental and non-governmental organizations and that such activities must be beneficial, not detrimental, to humanity.

90. Some delegations expressed the view that more consideration should be given to the use of nuclear power sources in terrestrial orbits in order to address the problem of potential collisions of nuclear power source objects in orbit, as well as to their accidental re-entry into the Earth's atmosphere. Those delegations were of the view that more attention should be given to the matter through adequate strategies, long-term planning and regulations, including the Safety Framework for Nuclear Power Source Applications in Outer Space.

9. Near-Earth objects

91. The Committee took note of the discussion of the Subcommittee under the item on near-Earth objects, as reflected in the report of the Subcommittee (A/AC.105/1038, paras. 179-198, and annex III).

92. The Committee endorsed the recommendations of the Subcommittee and its Working Group on Near-Earth Objects for an international response to the near-Earth object (NEO) impact threat (A/AC.105/1038, para. 198, and annex III).

93. The Committee noted with satisfaction that implementation of the recommendations would ensure increased awareness, coordination of protection and mitigation activities and further international collaboration with regard to NEOs.

94. The Committee noted that the Working Group on Near-Earth Objects had finalized its work in 2013 and expressed sincere gratitude to Sergio Camacho (Mexico) for the successful chairmanship of the Working Group.

95. The Committee noted that the Working Group on Near-Earth Objects had had before it the final report of the Action Team on Near-Earth Objects (A/AC.105/C.1/L.330) and the recommendations of the Action Team on Near-Earth Objects for an international response to the NEO impact threat (A/AC.105/C.1/L.329), which contained a summary of the findings on which the Action Team had based its recommendations for a coordinated international response to the NEO impact threat.

96. The Committee noted that the Action Team on Near-Earth Objects would continue its work to assist in the establishment of an international asteroid warning network and a space mission planning advisory group, in accordance with the recommendations of the Working Group on Near-Earth Objects (A/AC.105/1038, para. 198, and annex III).

97. The Committee noted with satisfaction that, on the margins of its fifty-sixth session, the third meeting of the representatives of space agencies had been held to discuss draft terms of reference for a space mission planning advisory group. In that regard, the Committee also noted that the Action Team should continue to inform the Subcommittee of the progress in the establishment of both groups, and that once established, the international asteroid warning network and the space mission planning advisory group should report on an annual basis on their work.

98. The Committee noted the importance of international collaboration and information-sharing in discovering, monitoring and physically characterizing the potentially hazardous NEO population to ensure that all nations, in particular developing countries with limited capacity in predicting and mitigating an NEO impact, were aware of potential threats.

99. The Committee noted that the Action Team on Near Earth Objects, in collaboration with ESA, would organize the first official meeting of representatives of space agencies and relevant space bodies prior to the fifty-first session of the Scientific and Technical Subcommittee, in 2014. The Office for Outer Space Affairs would transmit an invitation to all member States of the Committee to designate a space agency or a relevant space body, as well as intergovernmental organizations

with space faring capabilities, to participate in the first official meeting of the space mission planning advisory group.

10. Long-term sustainability of outer space activities

100. The Committee took note of the discussion of the Subcommittee under the item on the long-term sustainability of outer space activities, as reflected in the report of the Subcommittee (A/AC.105/1038, paras. 199-225).

101. The Committee endorsed the recommendations and decisions on the item made by the Subcommittee and the Working Group on the Long-term Sustainability of Outer Space Activities, reconvened under the chairmanship of Peter Martinez (South Africa) (A/AC.105/1038, para. 225, and annex IV, paras. 8 and 11).

102. The Committee had before it a note by the Secretariat presenting a compilation of the proposed draft guidelines of expert groups A to D of the Working Group on the Long-term Sustainability of Outer Space Activities, as at the fiftieth session of the Scientific and Technical Subcommittee, held in February 2013 (A/AC.105/1041), made available in accordance with the agreement reached by the Working Group during the fiftieth session of the Subcommittee (A/AC.105/1038, annex IV, para. 8); a working paper submitted by the Russian Federation on the long-term sustainability of activities in outer space (A/AC.105/2013/CRP.13); a conference room paper on the development of the report and guidelines of the Working Group on the Long-term Sustainability of Outer Space Activities, including a draft outline for the report of the Working Group (A/AC.105/2013/CRP.20); and a conference room paper containing a list of points of contact for the Working Group and members of expert groups A through D (A/AC.105/2013/CRP.17).

103. The Committee welcomed the progress made under the agenda item within the Working Group and in the four expert groups and the timely distribution of the document containing the compilation of the proposed draft guidelines, which presented an important step forward in the preparation of a draft set of guidelines of the Working Group.

104. The Committee noted that the draft guidelines of each expert group were still under development and that the document containing the compilation of the proposed draft guidelines contained an account of the work done thus far and was produced for the purpose of assisting delegations in giving their considered views on the emerging guidelines and in guiding the expert groups and the Chair of the Working Group in drafting the report of the Group.

105. The Committee recalled that a joint meeting of the expert groups had been held on the margins of the fiftieth session of the Subcommittee, where the co-chairs of the expert groups had presented the current status of their work and highlighted overlaps in the emerging guidelines which would be addressed as the guidelines were consolidated into the final report of the Working Group.

106. The Committee recalled that in accordance with the multi-year workplan (see A/66/20, annex II, para. 23), a workshop had been held in conjunction with the fiftieth session of the Scientific and Technical Subcommittee and that States members of the Committee had been invited to include in their delegations representatives of national non-governmental organizations and private sector

entities having experience in space activities, so as to collect information on their experience and practices in the conduct of sustainable space activities.

107. The Committee noted that in accordance with the agreement reached at its fifty-fifth session (A/67/20, para. 348), the Working Group met during the current session of the Committee, benefiting from interpretation services.

108. The Committee noted that expert groups A to D of the Working Group had met on the margins of the current session of the Committee, in accordance with the terms of reference and methods of work of the Working Group, and as agreed by the Working Group at the fiftieth session of the Subcommittee (A/AC.105/1038, annex IV, para. 11).

109. The Committee also noted that the expert group held a joint meeting on [...] June 2013. During that meeting, the co-chairs of the expert groups and the Chair of the Working Group presented the progress that had been made during the current session and addressed questions relating to the preparation of the draft Working Group report.

110. The Committee noted that the draft report of the Working Group, containing also the set of guidelines, would be made available in the six official languages of the United Nations during the fifty-first session of the Scientific and Technical Subcommittee, in accordance with the multi-year workplan.

111. The Committee noted that the final reports of the expert groups of the Working Group would be made available in conference room papers during the fifty-first session of the Scientific and Technical Subcommittee, in 2014.

112. The Committee noted that the four expert groups had decided to meet informally on the margins of the sixty-fourth International Astronautical Congress, to be held in Beijing from 23 to 27 September 2013.

113. The Committee agreed that the Chair of the Working Group would inform the Legal Subcommittee at its fifty-third session of the progress achieved by the Working Group in the period leading up to and during the fifty-first session of the Scientific and Technical Subcommittee.

114. Some delegations expressed the view that the guidelines should be clarified and made more concise and more precise, and that there should be a clear path for their implementation.

115. Some delegations expressed the view that the processes that were under way within the Working Group and the group of governmental experts on transparency and confidence-building measures in outer space activities, and in relation to the discussions on a proposed international code of conduct for outer space activities, shared goals of promoting stability, safety and security in the space environment, and it was therefore necessary for the Working Group to take into consideration progress made under the other initiatives, and vice versa.

116. The view was expressed that discussions on the long-term sustainability of outer space activities were also highlighting the contribution of space activities to sustainable development on Earth, and that developing countries should actively participate in the work of the Working Group.

117. The view was expressed that the Working Group and the expert groups should identify concrete near-term, medium-term and long-term goals to achieve the long-term sustainability of outer space activities.

118. The view was expressed that the complex technical, political and legal nature of the issues at hand necessitated the allotment of sufficient time for deliberations, so that the emerging guidelines could be clarified and made more concrete so as to facilitate their successful and effective implementation.

119. The view was expressed that achieving long-term sustainability of outer space activities necessitated the further advancement of international and regional cooperation, and that the recommendations and guidelines of the Working Group should not limit access to outer space by developing countries with emerging space capabilities.

120. The view was expressed that the focus of the guidelines should be shifted from the interests of the private sector to the interests of people, and that the Working Group should endeavour to go beyond the status quo in its efforts to promote the long-term sustainability of outer space activities.

121. The view was expressed that the use of nuclear power sources in outer space should also be considered with regard to implications for the safe and sustainable use of outer space, and that there should be interaction between the Working Group on the Long-term Sustainability of Outer Space Activities and the Working Group on the Use of Nuclear Power Sources in Outer Space.

11. 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

122. The Committee took note of the discussion of the Subcommittee under the 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, without prejudice to the role of the International Telecommunication Union, as reflected in the report of the Subcommittee (A/AC.105/1038, paras. 226-232).

123. Some delegations reiterated the view that the geostationary orbit was a limited natural resource at risk of becoming saturated, which threatened the sustainability of outer space activities. Those delegations were of the view that the exploitation of the geostationary orbit should, with the participation and cooperation of ITU, 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 and the geographical position of certain countries.

124. Some delegations were of the view that the geostationary orbit offered unique potential for the implementation of social programmes, educational projects and

medical assistance. Those delegations therefore considered that the item on the geostationary orbit should remain on the agenda of the Subcommittee for further discussion through working groups, intergovernmental panels or task forces, for the purpose of continuing to analyse the scientific and technical characteristics of the orbit and in order to ensure the use of the geostationary orbit in accordance with international law.

12. Draft provisional agenda for the fifty-first session of the Scientific and Technical Subcommittee

125. The Committee took note of the discussion of the Subcommittee under the item on the draft provisional agenda for the fifty-first session of the Scientific and Technical Subcommittee, as reflected in the report of the Subcommittee (A/AC.105/1038, paras. 233-242).

126. The Committee endorsed the recommendations and decisions on the item made by the Scientific and Technical Subcommittee and its Working Group of the Whole (A/AC.105/1038, paras. 235, 237, 238 and 242, and annex I, paras. 3, 5 and 15).

127. On the basis of the deliberations of the Scientific and Technical Subcommittee at its fiftieth session, the Committee agreed that the following substantive items should be considered by the Subcommittee at its fifty-first session:

1. Election of the Chair.
2. General exchange of views and introduction of reports submitted on national activities.
3. United Nations Programme on Space Applications.
4. Space technology for socioeconomic development in the context of the United Nations Conference on Sustainable Development and the post-2015 development agenda.
5. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment.
6. Space debris.
7. Space-system-based disaster management support.
8. Recent developments in global navigation satellite systems.
9. Space weather.
10. Near-Earth objects.
11. Use of nuclear power sources in outer space.

(Work for 2014 as reflected in the multi-year workplan in paragraphs 8 and 10 of annex II to the report of the Scientific and Technical Subcommittee on its forty-seventh session (A/AC.105/958))

12. Long-term sustainability of outer space activities.

(Work for 2014 as reflected in paragraph 23 of the terms of reference and methods of work of the Working Group on the Long-term Sustainability

of Outer Space Activities, contained in annex II to the report of the Committee on its fifty-fourth session (A/66/20))

13. 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.

(Single issue/item for discussion)

14. Draft provisional agenda for the fifty-second 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.
128. The Committee agreed that the Working Group of the Whole, the Working Group on the Use of Nuclear Power Sources in Outer Space and the Working Group on the Long-term Sustainability of Outer Space Activities should be reconvened at the fifty-first session of the Scientific and Technical Subcommittee.
129. The Committee agreed that the topic for the symposium to be organized in 2014 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 “Commercial applications of global navigation satellite systems”.