



# General Assembly

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

## **Draft report of the Working Group on Near-Earth Objects**

1. Pursuant to paragraph 7 of General Assembly resolution 67/113, the Scientific and Technical Subcommittee, at its fiftieth session, reconvened its Working Group on Near-Earth Objects. The Working Group held [...] meetings, from 15 to [...] February 2013.
2. Sergio Camacho (Mexico) was elected Chair of the Working Group at the [...] session of the Subcommittee, on 11 February 2013.
3. In accordance with the multi-year workplan under the item on near-Earth objects (NEOs) (A/AC.105/987, annex III), the Working Group reviewed the following items:
  - (a) Consideration of the reports submitted in response to the annual request for information on NEO activities and continuation of intersessional work;
  - (b) Review of progress on international cooperation and collaboration on NEO observations and on the capability for the exchange, processing, archiving and dissemination of data for the purpose of NEO threat detection;
  - (c) Finalization of the agreement on international procedures for handling the NEO threat and engagement with international stakeholders;
  - (d) Consideration of the final report of the Action Team on Near-Earth Objects;
  - (e) Review of progress made in activating the work of an international asteroid warning network and the mission planning and operations group, and assessment of their performance.



4. The Working Group heard the following scientific and technical presentations:
  - (a) “Report of the Action Team on Near-Earth Objects: recommendations for an international response to a NEO threat”, by the Chair of the Action Team on Near-Earth Objects;
  - (b) “NEO threat detection and warning: plans for an international asteroid warning network”, by the representative of the United States;
  - (c) “Mitigation of the NEO impact threat (NEOShield)”, by the representative of Germany;
  - (d) “Recommendations of the Action Team on Near-Earth Objects for an international response to the Near-Earth Object impact threat”, by the representative of the United States and the observer for ESA;
  - (e) “Fly-by of 2012 DA14: preliminary results”, by the representative of the United States;
  - (f) “Chelyabinsk event of 15 February 2013: initial preliminary analysis”, by the representative of the United States.
5. The Working Group had before it information on research in the field of near-Earth objects carried out by Member States, international organizations and other entities (A/AC.105/C.1/106).
6. The Working Group noted that, during the current session of the Subcommittee, technical presentations had been given on close-approaching asteroids, new missions to asteroids to learn about their nature and composition, and the recommendations of the Action Team on Near-Earth Objects for an international response to the threat of a NEO impact on Earth. To elucidate the recommendations, technical presentations were made on plans for an international asteroid warning network, on mitigation capabilities being developed by space agencies and international consortia to respond to an asteroid threat, and on functional aspects of the international coordination needed among space agencies for planning and operating mitigation campaigns in case of a NEO impact threat.
7. The Working Group was informed that in 2012 the intersessional work of the Action Team on Near-Earth Objects had been carried out: (a) on the margins of the fifty-fifth session of the Committee on the Peaceful Uses of Outer Space; (b) in a workshop to provide information to the Action Team on the international analysis of the potentially hazardous asteroid known as 2011 AG5; (c) in a teleconference of representatives of entities that could form an international asteroid warning network; and (d) through electronic correspondence. The Working Group noted that a second meeting of representatives of space agencies was held on the margins of the fifty-fifth session of the Committee to discuss the terms of reference for the establishment of a space mission planning advisory group. The Working Group would offer recommendations for consideration by member States.
8. The Working Group had before it the final report of the Action Team on Near-Earth Objects (A/AC.105/C.1/L.330), which contained current knowledge on the structure and organization of ongoing efforts in the field of NEOs, including the number and size distribution of NEOs that had been found. The report also identified gaps in ongoing work where additional coordination was required and/or where member States or organizations could make contributions.

9. The Working Group also had before it the recommendations of the Action Team on Near-Earth Objects for an international response to the near-Earth object impact threat (A/AC.105/C.1/L.329). The Working Group noted that the report 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.

10. The Working Group noted that there were three primary components of threat mitigation: (a) discovering hazardous asteroids and comets and identifying those objects requiring action; (b) planning a mitigation campaign that included deflection and/or disruption actions and civil protection activities; and (c) implementing a mitigation campaign, if the threat warranted it. The Working Group emphasized the value of finding hazardous NEOs as soon as possible in order to better characterize their orbits. This would help to avoid unnecessary NEO threat mitigation missions or facilitate the effective planning of missions, should they be deemed necessary.

11. The recommendations that follow are meant to ensure: (a) awareness among all nations of potential threats; (b) the coordination of civil protection activities by nations that could be affected by an impact, directly or indirectly; and (c) the design and coordination of mitigation activities by those which might play an active role in any eventual deflection or disruption campaign.

12. Upon consideration of the two reports referred to above, which were presented by the Action Team, the Working Group recommended that the following actions should be taken:

(a) An international asteroid warning network (IAWN), open to contributions by a wide spectrum of organizations, should be established by linking together the institutions that were already performing, to the extent possible, the proposed functions, including discovering, monitoring and physically characterizing the potentially hazardous NEO population and maintaining an internationally recognized clearing house for the receipt, acknowledgment and processing of all NEO observations. Such a network would also recommend criteria and thresholds for notification of an emerging impact threat, as well as a strategy using well-defined communication plans and procedures to assist Governments in their response to predicted impact consequences;

(b) A space mission planning advisory group (SMPAG) should be established by Member States of the United Nations that have space agencies. The group should include representatives of spacefaring nations and other relevant entities. Its responsibilities should include laying out the framework, timeline and options for initiating and executing space mission response activities. The group should also promote opportunities for international collaboration on research and techniques for NEO deflection;

(c) The international asteroid warning network should interface with the relevant international organizations and programmes to establish linkages with existing national and international disaster response agencies to plan response activities for potential NEO impact events.

13. The groups recommended above should have their work facilitated by the United Nations on behalf of the international community.

14. The Working Group recommended that the Action Team on Near-Earth Objects should assist in the establishment of IAWN and SMPAG. The Action Team should

inform the Subcommittee of the progress in the establishment of both groups. Once established, IAWN and SMPAG should report on an annual basis on their work.

15. The Working Group agreed that all recommendations contained in the present report should be implemented with no cost to the regular budget of United Nations.

16. The Working Group encouraged the specialized agencies of the United Nations, member States and their institutions to follow near-Earth object developments on a regular basis, for example via the following web pages: <http://neo.jpl.nasa.gov>, [www.jpl.nasa.gov/asteroidwatch](http://www.jpl.nasa.gov/asteroidwatch), <http://neo.ssa.esa.int> and <http://neoshield.net>.

17. At its [...] meeting, on [...] February 2013, the Working Group adopted the present report.

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