17 February 2016

English only

Committee on the Peaceful Uses of Outer Space
Scientific and Technical Subcommittee
Fifty-third session
Vienna, 15-26 February 2016
Item 12 of the provisional agenda*
Near-Earth Objects

Proposal for a proclamation of the International Asteroid Day

Proposal submitted by the Association of Space Explorers (ASE)[1]

Introduction

1. The Association of Space Explorers (ASE) recognizes the work by the United Nations and its Committee on the Peaceful Uses of Outer Space (COPUOS) in strengthening the cooperation and coordination efforts at the global level in the area of mitigating a potential near-Earth object (NEO) threat, which requires cooperative action on the part of the global community in the interest of public safety.

2. Our association of astronauts and cosmonauts believes that space capabilities play a crucial role in ensuring human security through enhanced coordination efforts at the global level to respond to the NEO impact hazards. We believe that preventing future asteroid collisions will be one of the most important benefits of 21st century space exploration. To reach this ambitious but achievable goal, the ASE recommends that COPUOS adopts and approves the International Asteroid Day as an annual educational event aimed at raising awareness among the general public about potential asteroid threats, the work done in this area at the global level, and at promoting public support for international response to the near-Earth asteroid (NEA) hazard.

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* A/AC.105/C.1/L.336.

[1] Submitted by Thomas D. Jones, PhD and Dumitru-Dorin Prunariu, PhD. For the Association of Space Explorers.

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3. Asteroid impacts are an ancient yet ongoing cosmic process that present a global hazard to Earth's present and future population. Every human being faces a lifetime risk of approximately 1 in 50,000 of dying in a future asteroid collision with Earth. Even smaller objects, as we observed at Chelyabinsk, Russian Federation in 2013, pose a risk to humans due to the local blast and heat effects generated by an asteroid collision with our atmosphere. About a million asteroids 40 meters and larger that reside in Earth-approaching orbits, could cause damage sufficient to destroy a city, and remain largely undiscovered. The 13,000 or so near-Earth objects discovered and catalogued so far represent only about 1 per cent of this potentially dangerous population.

4. In February 2013, the Chelyabinsk asteroid broke up in the atmosphere some 30 km above the city with an energy release equivalent to about 500 kilotons of TNT. The explosion of this small asteroid created a blast wave that knocked people from their feet, burned the skin and retinas of some residents, and sent more than 1200 people to the hospital with mostly minor injuries. Damage to windows, doors, walls, and roofs exceeded USD $33 million, according to local estimates. The Chelyabinsk object, just 17- to 20-m wide, was too small to be detected easily by search telescopes, and approached Earth from the daytime sky, making advance detection with existing facilities very difficult. Millions of such objects exist in the inner solar system and pose a future collision risk to Earth.

5. The United Nations and its Committee on the Peaceful Uses of Outer Space have recognized asteroid impacts as a global concern, and endorsed the recommendations for an international response to a NEO impact threat, which resulted in the establishment of the International Asteroid Warning Network (IAWN) and the Space Mission Planning Advisory Group (SMPAG) to implement the recommendations.[2] The ASE has supported the formation of these two entities, which pool the ideas and resources of space agencies and scientific institutions around the world to detect hazardous asteroids and develop technical plans to divert them from a collision with Earth.

6. IAWN seeks to share information on the detection, orbit, characteristics, and collision probability of near-Earth objects. The member institutions and space agencies that comprise IAWN share orbital data on near-Earth objects and would communicate any predicted impacts to COPUOS. No funding from the United Nations is used for IAWN operations and activities; instead, the Network is supported through its member institutions and space agencies.

7. Likewise, SMPAG is an inter-space agency forum that identifies technologies needed for NEA deflection, and develops reference plans for a future asteroid deflection campaign. SMPAG meets several times a year and is funded by its member space agencies.

8. To build support for an international campaign to detect and divert rogue asteroids, we will need increased public awareness of the asteroid impact hazard and what society can do, working together, to mitigate it. ASE supports educational

[2] The recommendations for an international response to the near-Earth object impact threat are contained in document A/AC.105/1038, annex III, paragraphs 11-14, endorsed by the General Assembly resolution 68/75 of 16 December 2013.

efforts worldwide to inform the public and enlist its support for international action on the asteroid hazard.

9. ASE believes that the International Asteroid Day is a good and worthy vehicle to educate the public and promote such worldwide action on the impact hazard. Intended as an annual event held for the general public on the anniversary of the 1908 Tunguska impact over Siberia, 30 June, the International Asteroid Day presents information on the asteroid hazard and what efforts are being made to prevent a future impact. In particular, the International Asteroid Day informs the public of the work undertaken in this area by COPUOS and its member States, facilitated by the Office for Outer Space Affairs.

10. The global observance of the International Asteroid Day is further an opportunity to inform the public about the crisis communication efforts at the global level in case of a credible NEO threat and the work in this area by SMPAG and IAWN, facilitated by the Office for Outer Space Affairs.

Purpose

11. The International Asteroid Day is to be observed annually on 30 June to raise awareness among the public and generate their support for renewed action on the asteroid impact hazard. Because early warning of an impact is so important for preparing a timely, global response, the International Asteroid Day emphasizes the essential step of greatly increasing the rate at which near-Earth objects are discovered and characterized, using a combination of advanced ground-based and space-based telescopes.

12. The International Asteroid Day encourages and promotes events around the globe on 30 June, including community panel discussions, lectures, concerts, exhibits and screening of educational videos.

13. In view of the successful results of last year's Asteroid Day[3] and the goals and plans for Asteroid Day 2016[4] and beyond, the Association of Space Explorers asks the member States of the Committee on the Peaceful Uses of Outer Space to support Asteroid Day's goals, and to propose that the United Nations General Assembly at its 71st session in 2016 declares the International Asteroid Day as the annual global observance. The purpose of such an Asteroid Day declaration is to promote and raise each year at the international level the awareness of NEO hazards, the potential for space science and technology to protect humanity against future damaging impacts, and the need to act together to end the threat of an asteroid collision with Earth. Because 30 June was the date of the largest impact of an asteroid on Earth in historical times, we propose that the United Nations General Assembly resolve that the International Asteroid Day be celebrated and promoted annually on that date.

14. All Member States, organizations of the United Nations system, other international and regional organizations, as well as civil society, including non-governmental organizations and individuals, would be invited to observe the International Asteroid Day in an appropriate manner and in accordance with national priorities, in order to raise public awareness of the risk caused by asteroids.

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[3] See Annex.

[4] Ibid.

15. The global observance of the International Asteroid Day could be facilitated by the Office for Outer Space Affairs, mindful of the provisions of the annex to Economic and Social Council resolution 1980/67, and the cost of all activities that may arise from the implementation of the present proposal should be met from voluntary contributions.

Annex

Information on the inaugural Asteroid Day, held in 2015

1. In 2015, there was the inaugural observance of the Asteroid Day by the space community that created and promoted over 150 self-organized events worldwide. Its media campaign received over 4 billion media impressions, reached over 4 billion people around the globe and generated thousands of media articles and reports. On social media, more than 50,000 tweets went out on Asteroid Day itself, and the #AsteroidDay theme itself maintained a high profile for five days around the event.

2. Over one hundred private, educational and government organizations were involved in Asteroid Day-related activities. The official media partner Discovery Science ran an 11 day long campaign "Countdown to Asteroid Day", which reached over 40 million households across Europe, the Middle East and Africa daily. They have expanded their campaign for 2016 and will air it worldwide, with a projected reach of over one hundred million homes.

Asteroid Day Goals

3. The goals of each Asteroid Day are to:

(a) Create outreach opportunities for asteroid scientists and policy experts to educate the public about the impact hazard;

(b) Highlight the need for a global response to this challenge;

(c) Call for an increase in the rate of discovery of NEOs in order to identify any that pose a risk to Earth;

(d) Promote locally organized events focused on asteroid education and the science and technology of detecting and deflecting hazardous NEOs.

Asteroid Day Benefits

4. The benefits of Asteroid Day include:

(a) Increasing public awareness of the results of NEO surveys and robotic exploration missions;

(b) Raising awareness in the public of the progress made by United Nations and Member State space agencies in preventing NEO impacts;

(c) Increasing support for global action to prevent asteroid impacts;

(d) Creating an opportunity for the public to communicate to policymakers their support for action on NEO impact prevention;

(e) Raising support for a greatly increased pace of NEO detection;

(f) Raising public interest in and support for an international NEO deflection demonstration mission;

(g) Raising support among the public for continued UN COPUOS action on preventing a future damaging impact.

Asteroid Day 2016 Plans

5. Plans for Asteroid Day 2016 include:

(a) Obtaining recognition of Asteroid Day as annual event to raise awareness of the NEO hazard;

(b) Increasing Member States' support of their own space agency NEO research and technology programmes;

(c) Connecting global Asteroid Day events in support of the United Nations-organized NEO impact prevention actions;

(d) Engaging with the United Nations Office for Outer Space Affairs in the promotion of Asteroid Day.