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**Committee on the Peaceful Uses  
of Outer Space**  
**Scientific and Technical Subcommittee**  
**Sixty-first session**  
Item 10 of the provisional agenda\*  
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**Information on an initiative for UN-designated international  
year of asteroid awareness and planetary defence, 2029  
(IYPD2029): a collaborative effort**

**Paper submitted by the Coordinator of the International Asteroid Warning  
Network (IAWN) and the Chair of the Space Mission Planning Advisory Group  
(SMPAG)**

**I. Introduction**

1. The issue of near-Earth objects (NEOs) has long been on the agenda of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), with Member States acknowledging the importance of information-sharing and strengthening international collaboration in case an asteroid impact hazard should be detected. To this end, COPUOS, as the primary United Nations body for coordinating and facilitating international cooperation in space activities, to which the United Nations Office for Outer Space Affairs (UNOOSA) acts as the Secretariat, recommended to the General Assembly in 2013 the establishment of the International Asteroid Warning Network (IAWN, [www.iawn.net](http://www.iawn.net)) and the Space Mission Planning Advisory Group (SMPAG; [www.smpag.net](http://www.smpag.net)) as mechanisms at the global level to address the global challenge posed by NEOs.

2. The purpose of IAWN and SMPAG are ensuring information-sharing in discovery, monitoring and physical characterization of potentially hazardous NEOs with a view that all countries, in particular developing countries with limited capacity in predicting and mitigating a NEO impact, are aware of potential threats, and emphasize the need for an effective emergency response and disaster management in the event a NEO impact threat is detected. UNOOSA, through the IAWN and SMPAG, facilitates the dissemination of information related to NEOs to UN Member States. Important linkages are also being made with civil protection communities, including through UNOOSA's UN-SPIDER programme and its global network of Regional Support Offices (RSOs).

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\* A/AC.105/C.1/L.412



## II. Why now, why 2029?

3. Over the past years, several important events have contributed to our understanding of NEOs and to a better preparedness in case of a real impact threat: In the last three years, four very small asteroids were observed only hours before they entered the Earth's atmosphere. Also, the US DART mission (Double Asteroid Redirection Test) impacted the 160 m-sized asteroid moon called Dimorphos of the binary near-Earth asteroid Didymos and successfully demonstrated that we can actually deflect an asteroid's orbital path. In late 2026, the ESA Hera mission will rendezvous with the same object to fully characterize the asteroid system and document the effects of the DART impact, emphasizing the international cooperation aspect of planetary defence.

4. On 13 April 2029, the asteroid 99942 Apophis will pass safely between the distance of geostationary orbit and Earth. In astronomical terms, that is an extremely close approach. It is so close that the asteroid will be visible with the naked eye to anyone under a dark sky. This is a once-in-a-lifetime event and is a unique occasion to dedicate the year 2029 to a worldwide campaign on raising awareness about asteroids that come near the Earth, their scientific and resource value as well as the potential hazard they present. It would highlight the collaborative efforts being undertaken at COPUOS to mitigate the hazard that a NEO impact on Earth poses and provide an excellent opportunity for a worldwide educational campaign about NEOs.

5. It is therefore proposed that the year 2029 be designated by the United Nations as the "International Year of Planetary Defence 2029 (IYPD2029)". As such, the year is intended as an opportunity to raise global understanding of asteroids and comets that might impact our planet in the future and how we might protect our planet and ensure human security considering possible impacts by these natural objects. With a particular focus towards young people, IYPD29 will stimulate worldwide interest in asteroids and comets – not only as a precious source of information about the origins of our Solar System, but also about planetary defence and its role in keeping our planet safe and societies resilient to potential hazards from space.

6. IYPD2029 is, first and foremost, an activity for the citizens of Planet Earth. It aims to convey the excitement of personal discovery, the pleasure of sharing fundamental knowledge about asteroids, comets, and their remnant meteorites when they impact Earth, as well as spreading the taste for new challenges to the young generation, and the value and necessity of nations working together to defend our home planet. Moreover, while the case of Apophis in 2029 will be very noteworthy, it is also interesting to understand that in the period between mid-2028 and the end of 2029 there will be two large NEOs that will have close approaches with the Earth, with IYPD serving as a broad reminder for such events.

7. The proposed IYPD2029 is in line with the global sustainable development agendas. Through resolution [A/RES/76/3](#),<sup>†</sup> "The 'Space2030' Agenda: space as a driver of sustainable development", Member States of the United Nations committed to pursuing four overarching objectives that are structured around the four pillars of space economy, space society, space accessibility and space diplomacy. Under those pillars, Member States committed to promote the use of space-based technologies in all phases of the disaster management cycle, applicable to both natural and human-made disasters, including prevention, mitigation, preparedness, response, recovery, reconstruction, and rehabilitation. Member States also committed to build more resilient societies by monitoring and assessing elements, such as exposure, hazards, disaster risk and damage in different regions of the world; and promote the sharing of disaster monitoring data. Increased knowledge of outer space, including that on NEOs, through enhanced access to astronomical and space science data, for the benefit of

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<sup>†</sup> [A/RES/76/3](#) – The "Space2030" Agenda: space as a driver of sustainable development (unoosa.org).

humankind, is also an integral part of the objectives set in the Space2030 Agenda: space as a driver of sustainable development.

### III. Goal of such an international year

8. The goal for the IYPD 2029 is to educate and prepare humankind on the issues related to close approaches of asteroids, their science value, their potential for future impacts on Earth and the great challenges accompanying their exploration and mitigation efforts. This effort can further support generating resilient societies by enhancing preparedness, human security, and most importantly debunking misinformation on the nature of catastrophic impact.

### IV. Lead entities and partners

9. The IYPD is proposed to build upon partnerships among Member States, space agencies, academia, civil society, and to engage young people and public at large. It is proposed to build upon existing resources and interagency cooperation among relevant entities and their global networks, such as the United Nations Office for Outer Space Affairs (UNOOSA), the International Astronomical Union (IAU), the Committee on Space Research (COSPAR), the European Southern Observatory (ESO), among others.

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#### **IYPD2029: Vision, mission, objectives, goals, and evaluation<sup>‡</sup>**

##### **Vision**

The vision of the International Year of Planetary Defence (IYPD2029) is to assist the citizens of the world to understand the nature of near-Earth Objects, including Potentially Hazardous Asteroids, to eliminate the misconceptions regarding these bodies, to promote the science and objectives of planetary defence, and thereby to engage a personal sense of wonder and discovery. All humans should realize the importance of basic sciences on our daily lives, the need for the capabilities of Planetary Defence, and understand better how scientific knowledge can contribute to a more equitable and peaceful society.

##### **Mission**

IYPD2029 will be a global commemoration of the scientific discoveries of asteroids and comets and how this enables the capabilities for planetary defence and its contributions to society and culture, highlighted by the near-Earth passage of the asteroid Apophis as a means to stimulate interest in events and activities organized during IYPD2029.

##### **Goals, Objectives, Evaluation**

The primary goal of the IYPD 2029 is to educate leaders and the public on the subject of asteroid close approaches and the potential of a future significant impact event. We hope this effort will support the generation resilient societies by enhancing

<sup>‡</sup> The detailed proposal and timelines are being developed by a small working group comprising IAWN and SMPAG members and Observers, taking into account the United Nations General Assembly resolutions 53/199 of 15 December 1998 in the proclamation of international years and Economic and Social Council Resolution 1980/67 of 25 July 1980 on international years and anniversaries and the guidelines contained in the annex thereto, adopted by the General Assembly in its decision 35/424 of 5 December 1980 as well as the General Assembly resolution [A/61/185](#) of 20 December 2006.

preparedness, human safety and, most importantly, debunking the misinformation about catastrophic impacts.

**The effort is based on a foundation of international partnerships that support four major pillars:**

1. Astronomical observation and scientific awareness
2. Preparations for planetary defence
3. Communication to governments, academia, the public and the news media
4. Resilient societies and disaster preparedness

**In support of these pillars, we will work toward the following goals:**

1. *Increase scientific awareness;*
2. *Promote widespread access to new knowledge and observing experiences;*
3. *Empower science and planetary defence communities in developing countries;*
4. *Provide an accurate and relatable image of planetary defence and related sciences;*
5. *Facilitate new and strengthen existing networks related to planetary defence.*

IYPD2029 will be evaluated by a qualitative and quantitative analysis of how well each objective, as implemented in hundreds of national, regional, and global activities, has been reached. Data will be collected by online questionnaires after the completion of each activity. The IYPD2029 Secretariat will coordinate the evaluation. A rigorous evaluation procedure will follow each of the four phases of the project:

**PROPOSED TIMELINE**

- I. Planning (2022–2024)
- II. Proclamation by the GA (2024/25)
- III. Preparation (2025–2028)
- IV. Implementation (2029)
- V. Closing, follow-up, evaluation (2030)

**DETAILED TIMELINE**

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|----------|--|
| 2022/23: | Define IYPD2029 goals and objectives, present the initiative in relevant scientific conferences and engage relevant organizations.   |
| 2023/25: | Present the proposal to COPUOS and work towards UNGA resolution/endorsement.   |
| 2025/26: | Establish IYPD Secretariat ⇔ Central Office / Hub Acquire seed funding;<br>Formulate Strategic plans;<br>Web page, Logo.   |
| 2026/27: | Establish Partnerships and National Nodes;<br>Start National Leads ⇔ Single Points of Contact Planning Meetings.   |
| 2027/28: | Establish International Cornerstone Projects;<br>Project Definition;<br>National Leads ⇔ Single Points of Contact Planning Meetings;<br>Support National Nodes in finding national funding;<br>Coordinate activities during the planning and execution the Year;<br>National Leads ⇔ Single Points of Contact Planning Meetings. |
| 2028     | <b>Preparation:</b> National Nodes;  |

Organizational Nodes;  
Cornerstones Projects;  
Special Projects.

**2029**

International Year of Planetary Defence: **Implementation.**

## Annex I

<b>Goals</b> To:	<b>Objectives<sup>§</sup></b> To:	<b>Evaluation estimator</b>
1. <i>Increase the awareness of the scientific element in Planetary Defence</i> among the general public through the communication of scientific results, as well as the process of research and critical thinking that leads to these results.	<ul style="list-style-type: none"> <li>• Increase general awareness of the nature and characteristics of asteroids and comets.</li> <li>• Make Near-Earth Objects, Asteroids, and any small bodies' observations and breakthroughs, more visible in the daily lives of billions of people through all available means of communication (TV/radio documentaries, newspapers, web pages, exhibitions, stamps, blogs, web portals, advertising campaigns etc).</li> <li>• Increase awareness of techniques that might be used to deflect a threatening object.</li> <li>• Highlight research on consequences of and responses to impacts of asteroids.</li> </ul>	<p>The number of people "touched":</p> <ul style="list-style-type: none"> <li>• Number of press clippings and readership.</li> <li>• Number of people visiting national, regional and global web pages (webstats).</li> <li>• Number of activities.</li> <li>• Number of new products etc.</li> </ul>
2. <i>Promote widespread access to the universal knowledge of fundamental science</i> through the excitement of sky-observing experiences.	<ul style="list-style-type: none"> <li>• Enable as many laypeople as possible, especially children, to look at the sky through a telescope and gain a basic understanding of Near-Earth Objects, Asteroids, and close approaches.</li> <li>• Highlight recent discoveries that relate to the consequences of past asteroid and comet impacts.</li> <li>• Highlight worldwide efforts to discover and characterize asteroids and comets that might threaten Earth.</li> </ul>	<ul style="list-style-type: none"> <li>• Number of laypeople, especially young people and children, viewing the sky through a telescope at street astronomy events, star parties, professional observatory webcasts etc.</li> </ul>
3. <i>Empower Planetary Defence communities in developing countries</i> through the initiation and stimulation of international collaborations.	<ul style="list-style-type: none"> <li>• Involve Small Bodies astronomical communities of the developing nations in IYPD2029, thereby providing examples of how outreach and education is carried out in different parts of the world.</li> <li>• Invite institutional representation in IAWN.</li> <li>• Highlight cooperative international efforts to search for and respond to threatening objects.</li> </ul>	<ul style="list-style-type: none"> <li>• Number of participating developing nations as measured by the establishment of National IYPD Nodes.</li> <li>• Number of new international partnerships and joint programmes formed or becoming members of IAWN. Number of people reached by new initiatives.</li> </ul>
4. <i>Provide an accurate and relatable image of planetary defence and its science</i> and thereby help eliminate the misconception regarding impacts and prepare nations in planning a pro-active planetary defence strategy. In addition, energize and stimulating a long-term increase in student enrolment in the fields of science and technology, and	<ul style="list-style-type: none"> <li>• Popular talks by scientists of all ages, genders, races. Facilitate accurate portraits – on TV, in web blogs, movies, biographies – of planetary defender of all expertise, showing the excitement of scientific discovery, the international aspect of scientific and disaster response collaborations and portraying the social sides of scientists.</li> </ul>	<ul style="list-style-type: none"> <li>• Number of popular talks.</li> <li>• Number of scientist portraits.</li> <li>• Public response questionnaires. Evidence for penetration of astronomy into popular culture (media, web, TV, radio talk shows...).</li> </ul>

<sup>§</sup> The fulfilment of these objectives will be achieved through the national, regional and global activities.

an appreciation for lifelong learning.		
5. <i>Facilitate new, and strengthen existing, networks</i> by connecting amateur astronomers, educators, planetary defenders, scientists, and communication professionals through local, regional, national and international activities.	Connect as many individuals (named “IYPD ambassadors”) as well as organizations (amateur and professional) in networks, for instance by creating of new internal and external electronic communication infrastructures. These networks will become part of the heritage of IYPD2029.	<ul style="list-style-type: none"> <li>• Number of National IYPD Nodes.</li> <li>Number of new networks and partnerships formed.</li> </ul>

## Appendix A.

### GUIDELINESS: as per GA res 1980/67 – Annex I

IYPD2029 in the context of the Agenda 2030 and its United Nations Sustainable Development Goals (UN-SDGs) and the objectives of the Sendai Framework for Disaster Risk Reduction (2015-2030)

#### Criteria for the proclamation of international years

UN GUIDELINES	Comments on the International Year of Planetary Defence plans.
The proposed subject of the year should be consistent with the purpose and principles of the UN, as stated in the Charter of the UN.	In accordance with Art 1 of the UN Charter, a UN activity primarily should preserve international peace and security. PD is critical to global security. A large-scale asteroid strike could cause substantial loss of life and human suffering, seriously destabilize the global economy, and lead to a variety of security threats from the resultant disruption.
The subject should be of priority concern in the political, social, economic, cultural, humanitarian or human rights fields.	Planetary defence is fundamental to preserving all political, social, and economic activity and the long-term future of humanity.
The subject should be of concern to all or a majority of countries, regardless of their economic and social systems, and should contribute to the development of international cooperation in solving global problems, with special attention to problems affecting developing countries.	An asteroid strike could indiscriminately affect any country, yet there are only a few countries with the technical capabilities to mitigate the threat. It is in the global interest to raise awareness of the topic to ensure that nations commit more attention to scientific study of the problem and the long-term preparation for emergency management. Countries in development of their national space capacities would be encouraged to also consider the development of asteroid defence capabilities. The establishment of international cooperation would be an important output to ensure that those countries possessing the mitigating capability would establish robust information sharing and exchange mechanisms, joint technology development and missions planning, in addition to the already existing but limited systems of cooperation.
The desirability of proclaiming international years and the selection of their themes should in general be determined from the point of view of their possible contribution to solving existing international problems, thus contributing to the strengthening of universal peace.	This is in line with the global goal of building more resilient societies. Also, as per GA omnibus resolution to ensure that all countries are aware of potential threats, and have access to information, to ensure effective capacity-building.
The subject should be one involving action at the international and national levels.	International actions at COPUOS, IAWN, SMPAG. National actions – various astronomy and space programmes, educational programmes.
The subject should be one for which there is a reasonable expectation that an international year would generate significant follow-up at both the national and international level in the form of new activities or the strengthening of existing ones.	Uniqueness of close approach of Apophis will lead to significant public interest in PD topics.
Every effort should be made to ensure that there is an interval of at least two years between international years and a longer interval between years designated for similar subjects.	Noted.



Years should be designated to focus on one subject or on closely related subjects.	Focus on planetary defence and its various elements (astronomy, space technology demonstration missions, education etc)
International years should be proclaimed only when celebrations of shorter duration, such as a month, a week or a day will not suffice.	The scope of planetary defence activities is very broad, constituting a wide range of political activities, national space programme coordination, astronomical cooperation, UN, technical development, and also the ground-based emergency management aspects.
When a world conference on a particular subject has been or is being separately convened, or when a subject is already of wide international concern and effective organizations and programmes exist to further its ends, an international year should not be normally proclaimed.	Noted.
<i>Procedures preceding the proclamation of international years</i>	
A final decision on a proposal for an international year should be taken by the General Assembly, not earlier than one full year after the introduction of the proposal, this allowing the view of all Member States to be taken into account and allowing the competent organs to make a thorough assessment of the proposal in the light of its practical desirability and the probability of real results.	Noted.
Proposals for international years made under the auspices of organizations within the United Nations system should, before the proclamation of the years, be brought to the attention of the Economic and Social Council, to enable the Council, in so far as the proposals fall within its competence, to advise on the timing of the proposed years and to evaluate their purpose in the light of the present guidelines.	Noted.
A year should not be proclaimed before the basic arrangements necessary for its financing have been made and such financing should in principle be based on voluntary contributions.	Noted.
A year should not be proclaimed before the basic arrangements necessary for its organization have been made.	Noted.