

THE INTERNATIONAL YEAR INITIATIVE FOR PLANETARY DEFENCE 2029. P. Michel¹ and D. Daou²,
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Introduction: 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 of an asteroid impact hazard. To this end, COPUOS, as the primary United Nations body for coordinating and facilitating international cooperation in space activities recommended to the General Assembly in 2013 the establishment of the International Asteroid Warning Network (IAWN, iawn.net) and the Space Mission Planning Advisory Group (SMPAG; smpag.net) as mechanisms at the global level to address the global challenge posed by NEOs, including their detection, tracking and impact risk assessment.

IAWN and SMPAG aim at 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 of a NEO impact threat.

Why 2029: On 13 April 2029, the ~370-meter asteroid (99942) Apophis will pass safely between the geostationary orbit and Earth (impact of an asteroid this size would be catastrophic). 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 world-wide campaign on raising awareness about asteroids, their scientific value, and 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 world-wide educational campaign about NEOs.

Proposal for an International Year of Planetary Defence: It is therefore proposed that the United Nations designate the year 2029 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

on young people, IYPD2029 will stimulate worldwide interest in asteroids and comets – not only as precious sources 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.

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 meteorites, and spreading the excitement of new challenges to the younger generation and making clear the necessity that nations must work together to defend our home planet.

The proposed IYPD2029 is in line with the global sustainable development agendas. Through resolution A/RES/76/31, ‘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 four pillars: 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 by promoting 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 humankind, is also an integral part of the objectives set in the Space2030 Agenda.

The goal for IYPD2029 is to educate and prepare humankind on 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 by debunking the myth of catastrophic impact.

IYPD2029 will build upon partnerships among Member States, space agencies, academia, and civil

society to engage young people and the public at large. It will build upon existing resources and interagency cooperation among related entities and include global networks associated with the International Astronomical Union (IAU), the Committee on Space Research (COSPAR), the European Southern Observatory (ESO), and the United Nations Office for Outer Space Affairs (UNOOSA). For the UN to designate this proposed international year, it should be based on the recommendation by Member States at COPUOS to the UN General Assembly.