

## **Statement by IAWN Representative to STSC 60<sup>th</sup> session**

Thank you, Mr Chair, for the opportunity to address the Subcommittee.

### **Distinguished delegates,**

This year marks 10 years since this Subcommittee endorsed the recommendations of the Working Group on Near-Earth Objects for strengthening international cooperation in case of a near-Earth object (NEO) impact hazard, which was formally endorsed by the Committee and the General Assembly in 2013. This led to the establishment in 2014 of the International Asteroid Warning Network (IAWN) and the Space Mission Planning Advisory Group.

There are now fifty (50) official signatories to the IAWN Statement of Intent, representing independent astronomers, observatories, and space institutions from over 20 countries. This collaboration brings to bear a variety of ground-based and space-based telescopic assets to discover, track, and characterize NEOs, as well as abilities in orbit computation, potential impact prediction and modeling of potential impact effects. The signatories to the Statement of Intent recognize the importance of collaborative data analysis and being adequately prepared for communications with a variety of audiences about NEOs, their close approaches to the Earth, and Earth impact risks.

The Steering Committee of IAWN has held review meetings generally twice each year, most recently on 7 February of this year. Participants at this meeting included a representative of the Space Mission Planning Advisory Group (SMPAG).

Significant activities by IAWN signatories in the last year include:

- Approximately, 36.5 million observations of asteroids and comets, including NEOs, were collected in 2022 by the worldwide efforts of astronomical observatories in over 40 countries;
- A record 3,190 NEOs were discovered in 2022;
- The number of known NEOs was 31,366 as of 5 February 2023, with 2,328 asteroids now cataloged whose orbits bring them within 8 million kilometers of Earth's orbit and with diameters larger than about 140 m. Yet, it is estimated only about 42% of the NEOs of that size range have been found.

- In 2022, two previously unknown asteroids were observed only hours before they impacted the Earth's atmosphere – one over the ocean near Iceland, the other one over Canada. Both were small enough to harmlessly disintegrate in Earth's atmosphere, but they provided a test of the world network's capability to find, track, and characterize them and to accurately predict their impact locations. These also served as a further reminder that an impact by an unknown NEO could occur at any time.
- In late 2022, IAWN conducted a coordinated campaign to observe a well known near-Earth asteroid, 2005 LW3, as a second evaluation of the technical capabilities of the the worldwide observing network, with a record eighty two (82) observatory stations participating.
- On September 26, 2022, telescopes on every continent and in space observed the ejecta plume generated by the Double Asteroid Redirect Test, or DART, spacecraft as it impacted the moon of asteroid Didymos;
- The worldwide astronomical community continued to observe the Didymos system in the weeks that followed; some observatories of IAWN signatories participated in conducting the critical measurements to show that the world's first attempt to change the motion of a body in space was successful; their role was key in confirming the kinetic impactor as a tested, viable option for asteroid threat mitigation
- ESA and NASA are both continuing development of a new generation of survey telescopes in order to accelerate the discovery of NEOs; in late 2022 NASA confirmed that NEO Surveyor, its space-based infrared survey telescope, would launch no later than 2028

### **Distinguished delegates,**

Should a credible impact threat be discovered by the network, the best information available will be provided by the IAWN and disseminated to all member states through the United Nations Office of Outer Space Affairs to facilitate the planning of actions that could be taken to prevent or minimize the devastating effects of an asteroid impact.

The next IAWN Steering Committee meeting is planned for 7 October 2023 to review progress, current issues, and future milestones.

Thank you for your kind attention.