

Statement by IAWN Representative to STSC 59th session

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

Distinguished delegates,

The International Asteroid Warning Network (IAWN) was established in 2014 as an international collaboration of astronomical organizations involved in discovering, tracking, and characterizing near-Earth objects (NEOs) that could pose an impact hazard to Earth. Since the inception of operations in 2014, the IAWN has seen continued growth in the worldwide astronomical observation capabilities. The Steering Committee of IAWN has held review meetings generally twice each year, most recently on 8 February of this year. Participants at this meeting included a representative of the Space Mission Planning Advisory Group (SMPAG).

There are now thirty eight (38) official signatories to the IAWN Statement of Intent, representing independent astronomers, observatories, and space institutions from Brazil, Canada, Chile, China, Colombia, Croatia, France, Greece, Israel, Italy, the Republic of Korea, Latvia, Mexico, Poland, Russia, Spain, the United Kingdom, the United States, and international European organisations. These participants bring to bear a variety of ground-based and space-based telescopic assets to discover and observe 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.

Significant activities by IAWN signatories in the last year include:

- Approximately, 38.4 million observations of asteroids and comets, including NEOs, were collected in 2021 by the worldwide efforts of astronomical observatories in over 40 countries;
- A record 3,097 NEOs were discovered in 2021, despite the operations challenges introduced by the COVID-19 pandemic;
- The number of known NEOs was 28,340 as of 8 February 2022, with 2,263 asteroids now cataloged whose orbits bring them within 8 million kilometers of Earth's orbit and with diameters larger than about 140 m.

Yet, with these numbers, it is estimated only about 41% of the NEOs of that size range have been found.

- In late 2021, IAWN conducted a coordinated campaign to observe a well known near-Earth asteroid, 2019 XS, in order to evaluate the quality of the technical capabilities of the the worldwide observing network and to identify areas for improvement.
- The observing campaign was coordinated with the International Astronomical Union's Minor Planet Center; sixty nine (69) observatories across the globe participated.
- Preliminary results indicate largely high quality data from the worldwide network, and the results are expected to be fully analyzed and published in a peer-reviewed publication and posted to the IAWN website by Summer of 2022.
- Two new NASA-supported NEO survey telescopes have gone into operation in Chile and South Africa with the support of collaborator host organizations in those countries.
- ESA and NASA are both continuing development of a new generation of survey telescopes in order to accelerate the discovery of NEOs.

Distinguished delegates,

The IAWN brings together international experts across a variety of relevant disciplines for the discovery, characterization and notification of the potential hazard to the Earth posed by asteroids and comets, and facilitates the planning of actions that could be taken to prevent or minimize the devastating effects of an asteroid impact. 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.

The next IAWN Steering Committee meeting is planned for the Autumn of 2022 to review progress, current issues, and future milestones.

Thank you for your kind attention.