Statement by IAWN Representative to STSC 58th session

Thank you, Madame 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 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 30-31 March of this year. Participants at this meeting included a representative of the Space Mission Planning Advisory Group (SMPAG).

There are now thirty (30) official signatories to the IAWN Statement of Intent, representing independent astronomers, observatories, space institutions from Brazil, Canada, China, Colombia, Croatia, France, Israel, Italy, the Republic of Korea, Latvia, Mexico, 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 activites by IAWN signatories in the last year include:

- Approximately, 39.5 million observations of asteroids and comets, including NEOs, were collected in 2020 by the worldwide efforts of astronomical observatories in over 40 countries;
- A record 2,959 NEOs were discovered in 2020, despite the operations challenges introduced by the COVID-19 pandemic;
- The number of known NEOs was 25,647 as of 17 April 2021, with 2,180 asteroids now catalogued whose orbits bring them within 8 million kilometers of Earth's orbit. Yet, with these numbers, it is

estimated only about 40% of the NEOs of significant size have been found.

- On March 27, 2020, Comet NEOWISE was discovered by NASA's mission of the same name. The comet became visible to the naked eye in the summer of 2020, putting on a dazzling display for both astronomers and the public worldwide.
- In late 2020 until spring 2021, the IAWN conducted a coordinated observing campaign of the potentially hazardous asteroid 99942 Apophis – a last opportunity before 2029 where Apophis will come to within ~40,000 km of Earth and will be the first observed approach at such a close distance for such a large asteroid (340 meters).
- Signatories to IAWN and others contributed to an exercise that treated Apophis as a newly discovered asteroid in order to test the worldwide observing and modeling capability. In addition, radar observations during the campaign helped to determine that Apophis poses no impact threat to Earth for the next century and to remove it from the ESA and NASA risk lists.
- 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 enables 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 October 2021 in a virtual format, to review progress, current issues, and future milestones.

Thank you for your kind attention.