

The logo for the International Asteroid Warning Network (IAWN) is located in the top left corner. It features a stylized Earth with a red line representing an asteroid's trajectory passing through it. To the right of the Earth, the text "International Asteroid Warning Network" is written in a blue, sans-serif font, with each word on a new line.

International
Asteroid
Warning
Network

International Asteroid Warning Network (IAWN) Update

Kelly Fast
IAWN Coordinating Officer
Planetary Defense Officer (Acting)
NASA Planetary Defense Coordination Office

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IAWN Administration for NASA, University of Maryland
P.I. NASA Planetary Data System Small Bodies Node

04 February 2026

<https://iawn.net/>

UN Office of Outer Space Affairs Committee on Peaceful Uses of Outer Space

Overview for NEO Threat Response

United Nations
COPUOS/OOSA



*Inform in case of
credible threat*



Parent Government Delegates

Determine Impact time,
location and severity

International Asteroid
Warning Network
(IAWN)
www.iawn.net

Coordinated
by NASA

Observers, analysts, modelers...

Potential deflection
mission plans

Space Missions Planning
Advisory Group
(SMPAG)
www.smpag.net

Chaired
by ESA

Space agencies and offices





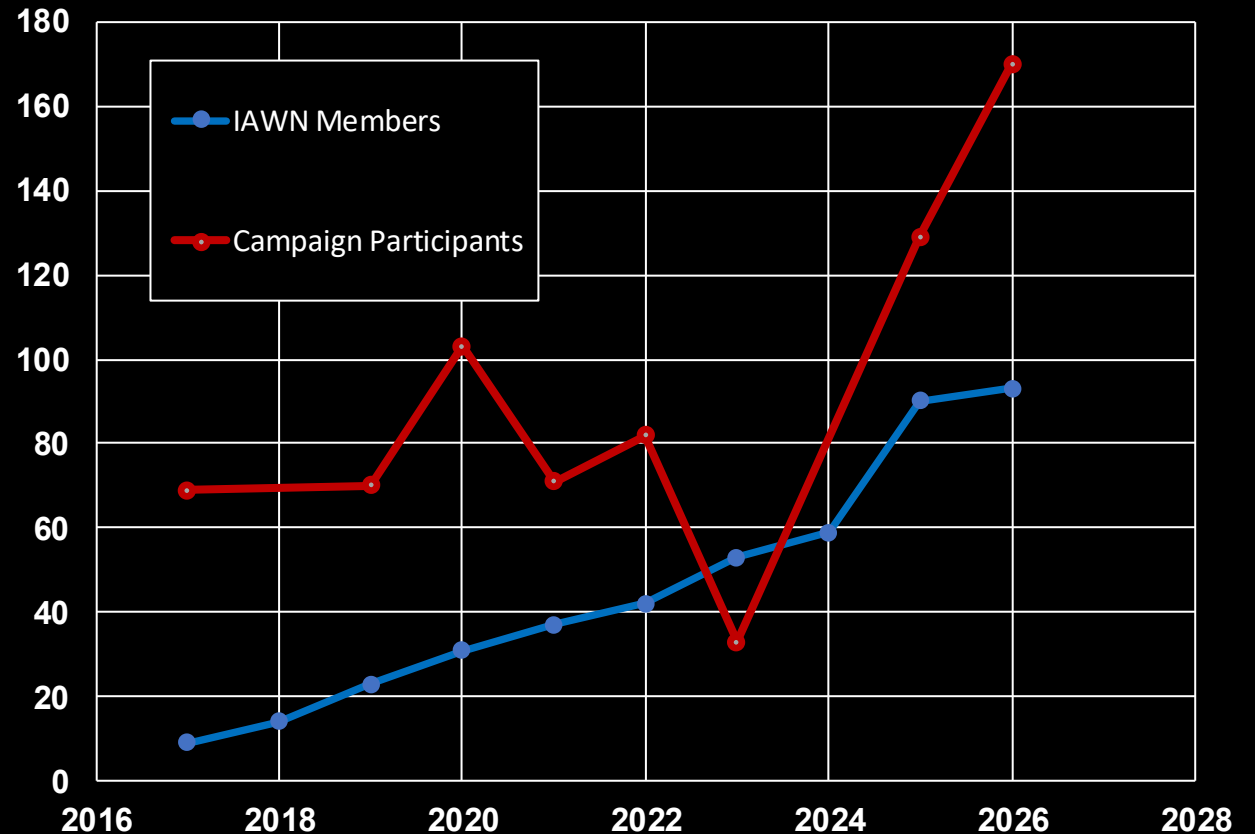
International Asteroid Warning Network (IAWN)

A worldwide collaboration of asteroid observers, analysts, and modelers recommended by the United Nations

**IAWN includes
91 signatories
from 30 countries
(February 2026)**

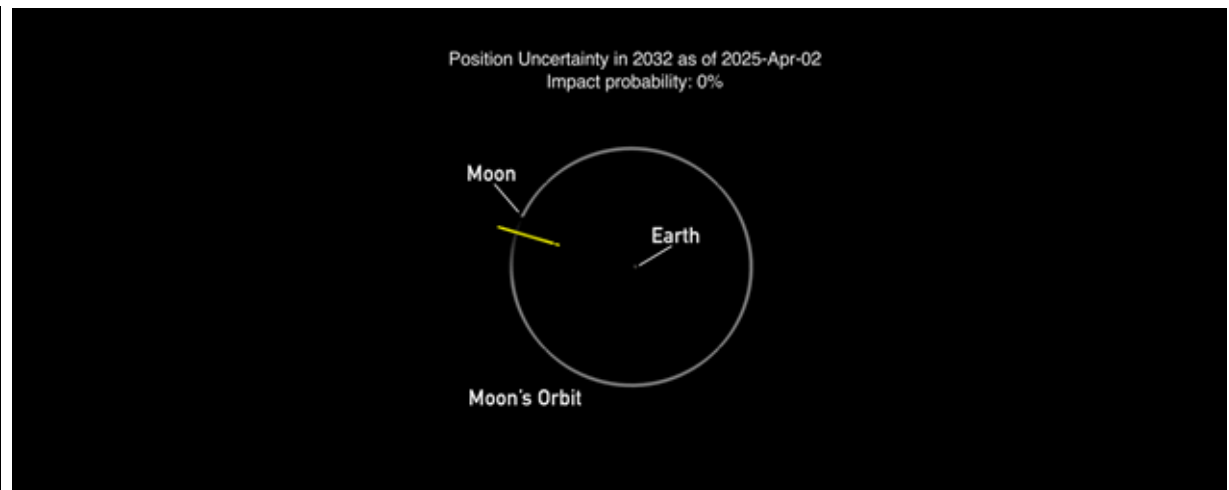
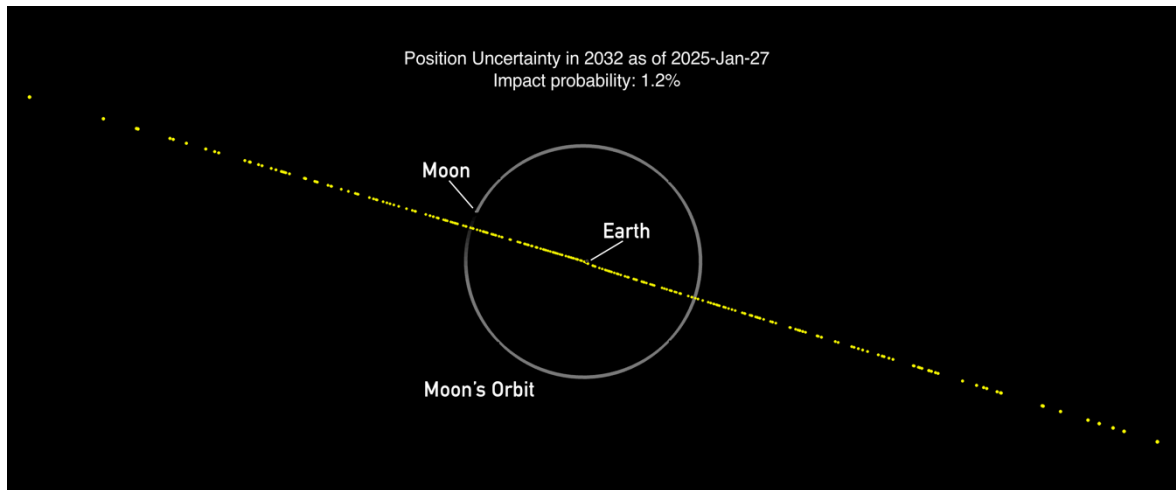
Newest Member - ISRO

IAWN Members and Campaign Participants



Asteroid 2024 YR4: Latest Status

- NASA's JWST observations were used to refine the size estimation to 60 ± 7 meters
 - Previously estimated to be 40 – 90 meters in size from optical ground-based observations
- 2024 YR4 still has a low (4.3%) chance of lunar impact on 22 Dec. 2032
- JWST will attempt to make an additional position measurement in late Feb. 2026; it is otherwise unobservable from Earth until June 2028
- The orbit computation centers of IAWN are responsible for updating the trajectory and lunar impact probability: NASA/JPL Center for NEO Studies | ESA NEO Coordination Centre | NEODyS (Italy)



Monte Carlo modeling of possible asteroid locations relative to Earth (yellow) on 22 Dec. 2032, as of 27 Jan. (left) and 2 April (right) 2025
Credit: NASA/JPL Center for Near-Earth Object Studies

International Asteroid Warning Network (IAWN) Observing Campaigns

Exercising the capabilities of the worldwide network

- From Sept. – Oct. 2025, IAWN conducted an observing campaign of asteroid 2025 FA22
 - IAWN treated 2025 FA22 as a hypothetical virtual impactor to exercise the group's capability to collect position and physical characterization data for hazard assessment (2025 FA22 poses no threat to Earth)
- IAWN is also wrapping up a comet astrometry campaign that utilized 3I/ATLAS
 - IAWN had been planning to do a comet campaign since 2024 to exercise and hone capabilities for measuring comet positions, which pose additional astrometric challenges as fuzzy extended objects compared to point-like asteroids
 - The completion of the 3I/ATLAS campaign marks the 8th IAWN observing campaign since 2017
- IAWN will coordinate Earth-based telescopic observing campaigns of Apophis before and around the time of the asteroid's close approach with our planet in 2029
- More information: <https://iawn.net/>

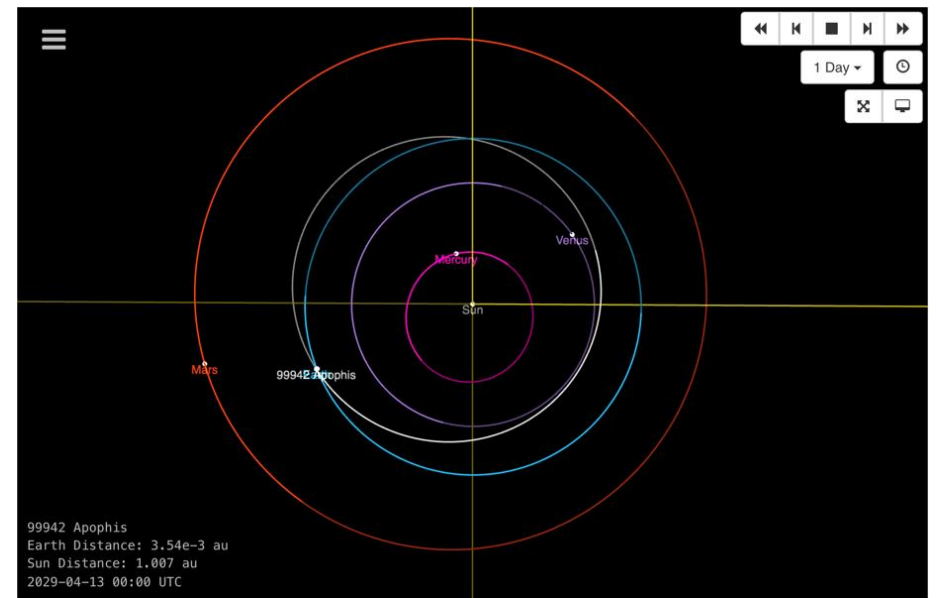
Future Plans: IAWN Apophis Campaign

- Three opportunities to observe Apophis
 - 2027 Apparition: 2027 February to April
 - 2028 Apparition: 2027 December to 2028 June
 - 2029 Apparition: 2029 January to April (Close Approach).
- The organizational structure for these efforts
 - NASA HQ POC: Dr. Kelly Fast
 - IAWN Campaign Coordinator: Dr. Vishnu Reddy
 - Observations Working Group Lead: Dr. Cristina Thomas
 - Coordination with the International Year of Planetary Defense, and the CA event activities around April 13, 2029.

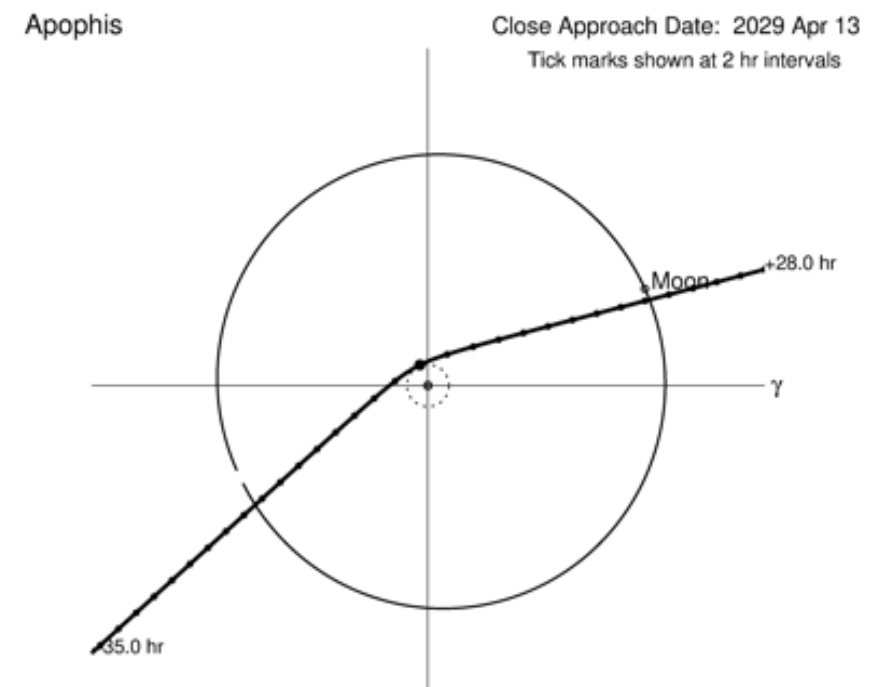
IAWN is also providing information as part of its ex-officio participation in the SMPAG AFMWG.

More Information on all IAWN Campaigns:

<https://iawn.net/campaigns.shtml>



*Orbit shown is pre-encounter



The logo features a stylized Earth on the left, with a red line representing an asteroid's trajectory passing through it. To the right of the Earth is a grey, cratered asteroid. The text 'International Asteroid Warning Network' is positioned to the right of the graphic.

International
Asteroid
Warning
Network

End

IAWN Background

IAWN is a worldwide collaboration of asteroid observers and modelers that was recommended by the United Nations

From the IAWN Statement of Intent:

“The intent of the International Asteroid Warning Network (IAWN) is to establish a worldwide effort to detect, track, and physically characterize near-Earth objects (NEOs) to determine those that are potential impact threats to Earth. This network is comprised of a partnership of scientific institutions, observatories, and other interested parties performing observations, orbit computation, modeling, and other scientific research related to the impact potential and effects of asteroids.”

Peer-Reviewed Publications

2023 DZ2 Planetary Defense Campaign

Vishnu Reddy et al 2024 Planet. Sci. J. 5 142 <https://doi.org/10.3847/PSJ/ad4a6d>

The Second International Asteroid Warning Network Timing Campaign: 2005 LW3

Davide Farnocchia et al 2023 Planet. Sci. J. 4 203 <https://doi.org/10.3847/PSJ/acfd22>

International Asteroid Warning Network Timing Campaign: 2019 XS

Davide Farnocchia et al 2022 Planet. Sci. J. 3 156 <https://doi.org/10.3847/PSJ/ac7224>

Apothis Planetary Defense Campaign

Vishnu Reddy et al 2022 Planet. Sci. J. 3 123 <https://doi.org/10.3847/PSJ/ac66eb>

Near-earth asteroid (66391) Moshup (1999 KW4) observing campaign: Results from a global planetary defense characterization exercise

Vishnu Reddy et al 2022 Icarus 374 114790 <https://doi.org/10.1016/j.icarus.2021.114790>

Near-Earth asteroid 2012 TC4 observing campaign: Results from a global planetary defense exercise

Vishnu Reddy et al 2019 Icarus 326 133 <https://doi.org/10.1016/j.icarus.2019.02.018>

Notification by IAWN - Threshold

IAWN shall warn of predicted impacts exceeding a probability of **1%** for all objects characterized to be greater than **10 meters** in size*

**Roughly equivalent to absolute magnitude of 28 if only brightness data can be collected.*

Reference: Report [SMPAG-RP-003](#) on Recommended Criteria & Thresholds for Action for Potential NEO Impact Threat (led by IAWN) at [smpag.net](#)
UNCOPUOS conference room paper [A/AC.105/C.1/2017/CRP.25](#)

Notification by IAWN – Who?

The IAWN Coordinating Officer or a member of the IAWN Steering Committee will notify:

- Chair, Space Mission Planning Advisory Group (SMPAG)
- United Nations Office of Outer Space Affairs (UNOOSA)
 - UNOOSA will notify UN Member States

IAWN signatories will also notify and work with their own governments according to their own national policies, as applicable.