

INTERNATIONAL ASTEROID WARNING NETWORK (IAWN)¹

FINAL NOTIFICATION: NO SIGNIFICANT POTENTIAL FOR FUTURE IMPACT WITH EARTH BY NEAR-EARTH ASTEROID 2024 YR4

Date: 24 February 2025

From: International Asteroid Warning Network (IAWN)
IAWN Coordinating Officer (NASA) for the IAWN Steering Committee

To: Chair (ESA), Space Mission Planning Advisory Group (SMPAG);
Planetary Defence Programme Officer, United Nations Office of Outer Space Affairs (UNOOSA)

Title: Final Notification: Probability of Impact of Near-Earth Asteroid 2024 YR4 on 22 December 2032
Drops to 0.004% - No Significant Potential for Future Impact with Earth

Impact Probability	0.004% on 22 December 2032 as calculated by NASA JPL Center for NEO Studies, ESA Near-Earth Objects Coordination Centre (NEOCC), and NEO Dynamic Site (NEODYs)
Date of Potential Impact	There is no significant potential for an impact with Earth for the next century

ADDITIONAL DETAILS:

- **Notification Threshold:** 1% is the notification threshold for IAWN²; reissuance of notification if impact probability drops below 1%.
- **Impact Probability:** Continued observations of 2024 YR4 during January and through 23 February 2025 have dropped the probability of Earth impact on 22 December 2032 to 0.004% (1 chance in 26,000) after the asteroid had reached a peak impact probability of 3.1%. There is now no significant potential for an impact with Earth for the next century.
- **Impact Probability Confirmation:** The impact probability was calculated by the NASA JPL Center for Near-Earth Object Studies (CNEOS), ESA Near-Earth Objects Coordination Centre (NEOCC), and NEO Dynamic Site (NEODYs), in coordination with the worldwide network of observatories in the International Asteroid Warning Network (IAWN) submitting observations to the Minor

¹ IAWN is a worldwide collaboration of asteroid observers and modelers that was recommended by the United Nations, pursuant to the General Assembly resolution [70/82 of 9 December 2015](#) notes with satisfaction the establishment and the work of the International Asteroid Warning Network (IAWN) and the Space Mission Planning Advisory Group (SMPAG) to implement recommendations for an international response to the near-Earth object impact that were endorsed by the Committee on the Peaceful Uses of Outer Space in 2013 ([A/68/20, para. 144](#)). See <https://iawn.net>.

² Agreed criteria and thresholds by the International Asteroid Warning Network (IAWN) and the Space Mission Planning Advisory Group (SMPAG), (see Status report by the IAWN and SMPAG to the 62nd session of the Scientific and Technical Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space, [A/AC.105/C.1/2025/CRP.6](#) The Committee in its annual reports ([A/79/20, para. 135](#)) notes that should a credible threat of impact be discovered by the IAWN, available information would be provided by IAWN and disseminated to all Member States through the Office for Outer Space Affairs. The threshold for issuing warnings of possible impact effects is a probability of impact greater than 1% and a rough size estimated to be greater than 10 meters (33 feet).

Planet Center (MPC). The impact probability with Earth dropped below 1% as of 21 February 2025 and IAWN continued to monitor the impact probability to confirm the drop below the notification threshold.

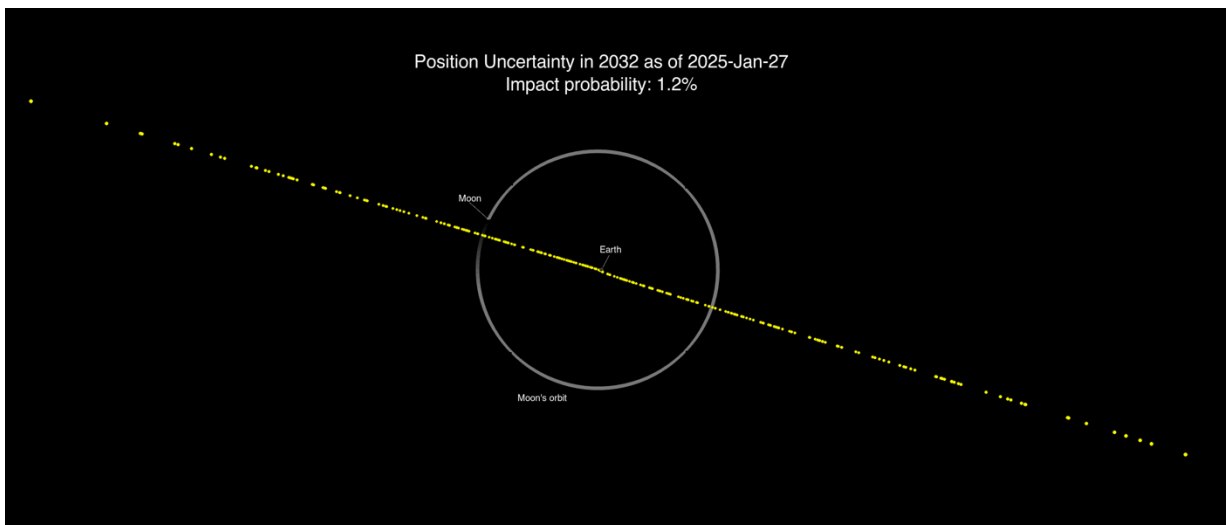
- **Close Approach to Earth on 22 December 2032:** The asteroid will pass at a distance beyond the geosynchronous satellites and possibly beyond the Moon. IAWN will continue to track 2024 YR4 to more precisely predict the distance.
- **Future Observability:** 2024 YR4 will be observable through early 2025 April, after which point it will become too faint to be observable from Earth until 2028.
- **Asteroid size:** 2024 YR4 is likely in the range 40–90 meters (130–300 feet). The James Webb Space Telescope is scheduled to observe the asteroid in March to better determine its size. The asteroid will not come within deep space radar range until 2032.
- **IAWN website:** <https://iawn.net>

Graphics

Monte Carlo modeling of 2024 YR4's swath of possible locations on 22 December 2032

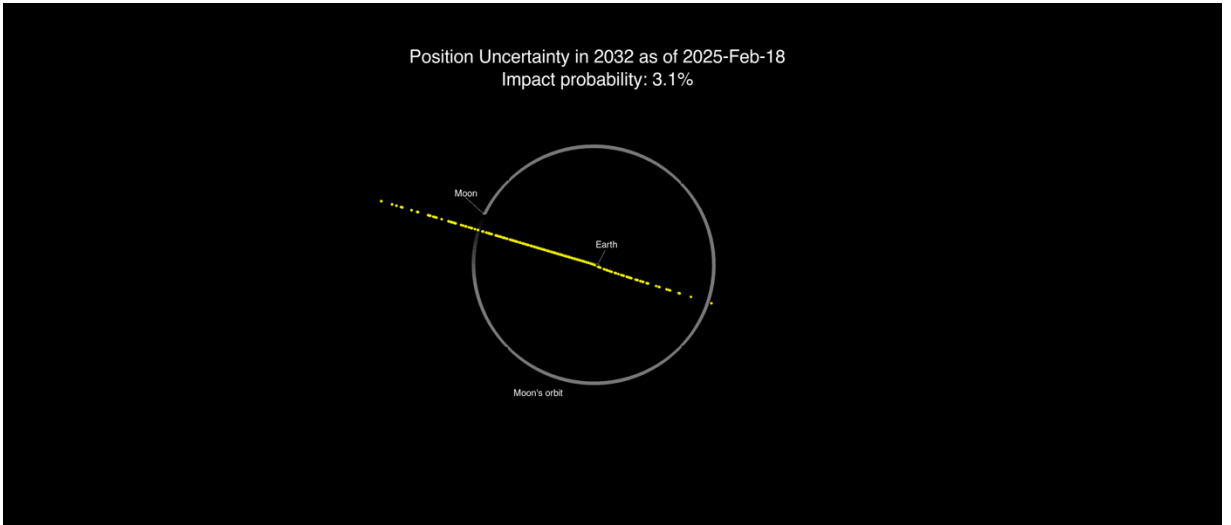
1. as of 27 January 2025 – 1.2% probability of impact
2. as of 18 February 2025 – 3.1% probability of impact (maximum impact probability)
3. as of 23 February 2025 – 0.004% probability of impact

1.



(see next page)

2.



3.

