

EXERCISE EXERCISE EXERCISE

This is a simulated event.

August 10, 2022

From: NASA Planetary Defense Coordination Office

Title: Notification of Asteroid Impact – Update #3

Impact Probability: 100%

Impact Date: 16 August 2022, 18:02 UTC (14:02 EDT)

Impact Risk Corridor: Forsyth County, North Carolina

Approximate Size: 230 ft (70 m)

Expected Level of Damage if Impact Occurs: Local

Impact Prevention Feasible: No

- Planetary radar observations now confirm there is a 100% probability that asteroid 2022 TTX will impact Earth on 16 August 2022 at 18:02 UTC (14:02 EDT).
- The impact risk corridor, which is the region of Earth where it is possible that 2022 TTX will impact, is in Forsyth County, North Carolina, in the vicinity of Winston-Salem.
- The potential impact effects are highly dependent on the size of the asteroid. Based on current data, the asteroid is estimated to be 200-260 ft (60-80 m) in size. There is a high chance of damage affecting a population of 100,000+ in Forsyth County and potentially in surrounding North Carolina counties. The primary hazard is damage caused by air-blast, which could range from shattered windows and minor structural damage to potentially unsurvivable effects to individuals not in high-integrity structures.
- The asteroid 2022 TTX has been tracked since initial discovery on 11 February 2022 and came within range of planetary radar observations on 10 August. Observations will continue until impact, and further observations will reduce the uncertainty in the asteroid's impact location.
- Space missions to prevent the impact are not feasible. Deep space disruption (breaking the asteroid into small pieces) is not possible due to the limited time available to prepare and launch a disruption mission.

This notification is issued by the Planetary Defense Coordination Office (PDCO) in accordance with NASA Policy Directive 8740.1. NASA established the PDCO to manage its ongoing mission of planetary defense. The PDCO is responsible for detection, tracking, and characterization of potentially hazardous objects (PHO's) and for issuing warnings of possible impact effects when the probability of impact is greater than 1%.

Points of Contact:

For NASA - Lindley Johnson, NASA PDO, lindley.johnson@nasa.gov

For EOP – Matt Daniels, OSTP, Matthew.P.Daniels@ostp.eop.gov

EXERCISE EXERCISE EXERCISE

This is a simulated event.

EXERCISE EXERCISE EXERCISE
This is a simulated event.

For FEMA – Leviticus Lewis, FEMA, Leviticus.Lewis@fema.dhs.gov

Appendix: Illustrative graphics

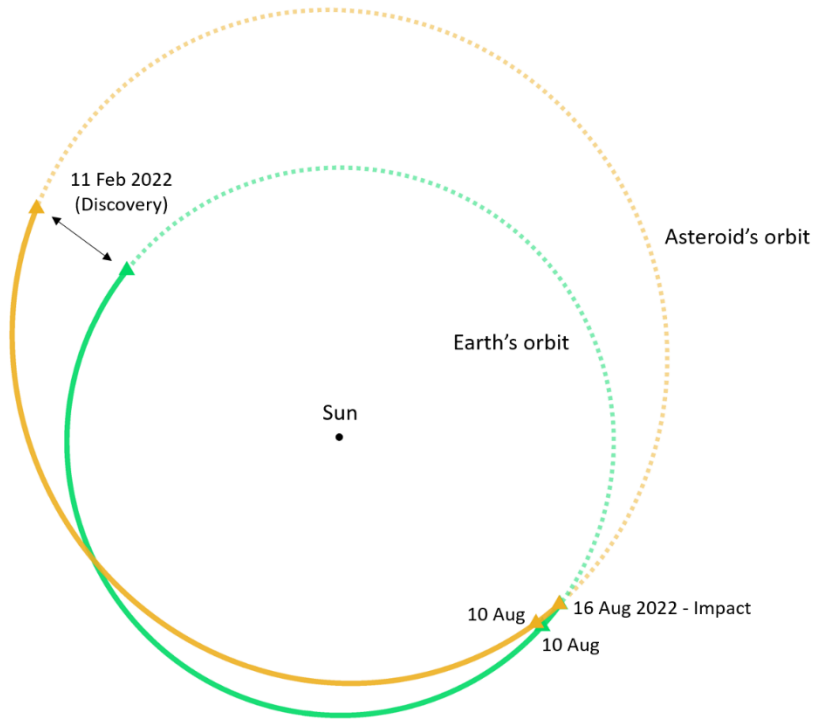


Figure 1. Heliocentric orbit diagram of asteroid TTX 2022 relative to Earth orbit

EXERCISE EXERCISE EXERCISE
This is a simulated event.

EXERCISE EXERCISE EXERCISE

This is a simulated event.



Figure 2. Impact risk corridor map

Diameter of Impacting Asteroid	Type of Event	Approximate Impact Energy (MT)	Average Time Between Impacts (Years)
5 m (16 ft)	Bolide	0.01	1
10 m (33 ft)	Superbolide	0.1	10
25 m (80 ft)	Major Airburst	1	100
50 m (160 ft)	Local Scale Devastation	10	1000
140 m (460 ft)	Regional Scale Devastation	300	20,000
300 m (1000 ft)	Continent Scale Devastation	2,000	70,000
600 m (2000 ft)	Below Global Catastrophe Threshold	20,000	200,000
1 km (3300 ft)	Possible Global Catastrophe	100,000	700,000
5 km (3 mi)	Above Global Catastrophe Threshold	10,000,000	30 million
10 km (6 mi)	Mass Extinction	100,000,000	100 million

Figure 3. Size/damage correlation

EXERCISE EXERCISE EXERCISE

This is a simulated event.