

PLANETARY DEFENSE  
INTERAGENCY  
TABLETOP EXERCISE 4



# Asteroid Impact Risk: Module 2

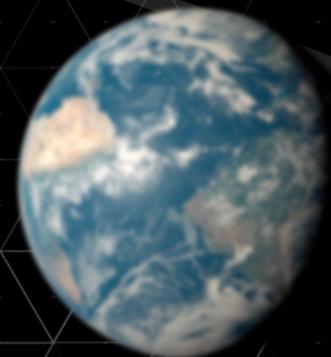
100% chance of Earth impact in 2 months

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FEMA



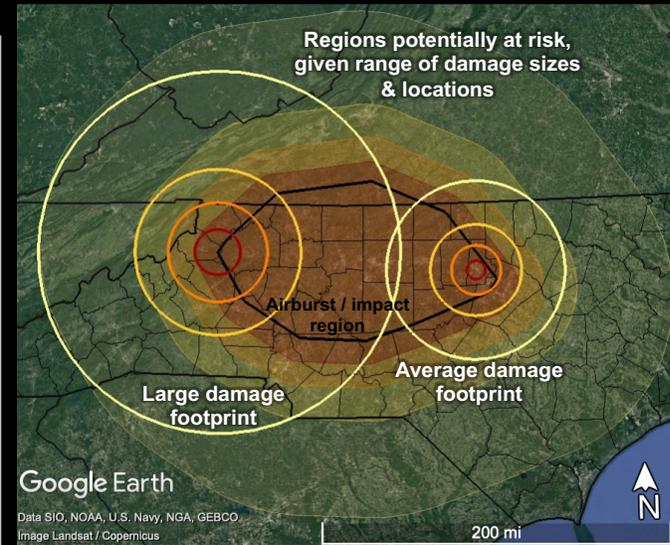
JOHNS HOPKINS  
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# Impact Risk Summary: Module 2

## Asteroid Characterization Summary

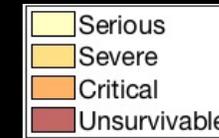
- Assessment date: June 15, 2022 (T-2 months)
- Impact date: Aug. 16, 2022, impact time ~14:02 EDT
- Earth impact probability: 100%
- Properties: Small reduction in upper size ranges from NEOWISE non-detection. Type and physical properties remain unknown.
- Diameter: 40–340 m (130–1100 ft), most likely range 55–150 m (180–500 ft), median size 110 m (360 ft)
- Energy: 1–1200 megatons (Mt), most likely range 2–96 Mt, median 42 Mt



## Risk Region Swath

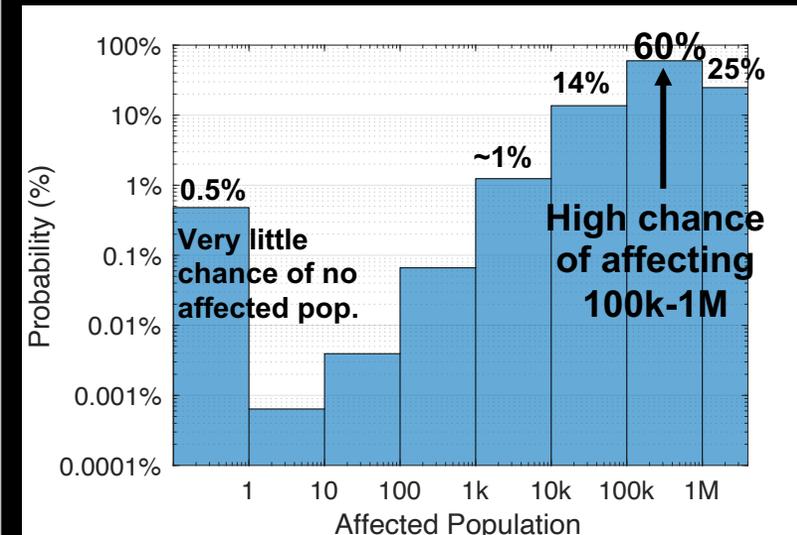
Range of regions potentially at risk to ground damage, given range of potential damage sizes and impact locations.

Rings show an average and large damage footprint size at sample locations



## Impact Hazard Summary

- Significant damage to populated areas around North Carolina is very likely
- Primary hazard: Airburst causing blast damage, ranging from shattered windows and structural damage to potentially unsurvivable levels
- Damage radii: 0–100 mi, most likely range 15–70 mi, average size ~50 mi
- Affected Population: thousands to millions, 650K average risk. 98% chance of affecting >10K, 85% >100K, 25% >1M, 1% >2M



## Population Risk

Probabilities of how many people could be affected by the potential damage