

PLANETARY DEFENSE  
INTERAGENCY  
TABLETOP EXERCISE 4



# Asteroid Impact Risk: Module 3

6 days before impending impact over Forsyth county

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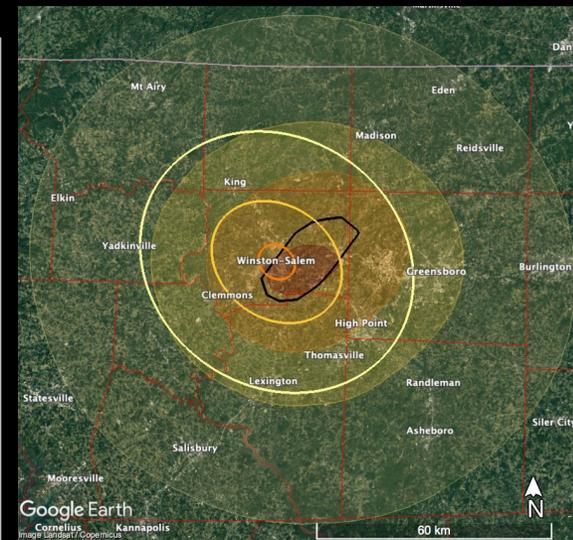
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APPLIED PHYSICS LABORATORY



# Impact Risk Summary: Module 3

## Asteroid Characterization Summary

- Assessment date: Aug. 10, 2022 (T-6 days)
- Impact date: Aug. 16, 2022, impact time ~14:02 EDT
- Refined asteroid size estimates from Goldstone Radar measurements. Other properties still unknown, leaving uncertainty in mass, energy, and entry/airburst factors.
- Diameter: 70 m (230 ft) radar size estimate, potentially 50–90 m (170–290 ft), most likely range 60–80 m (200–260 ft)
- Energy: 3–30 Mt (megatons), most likely range 6–14 Mt, median 11 Mt

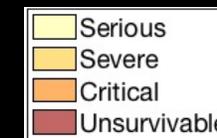


## Risk Region Swath

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

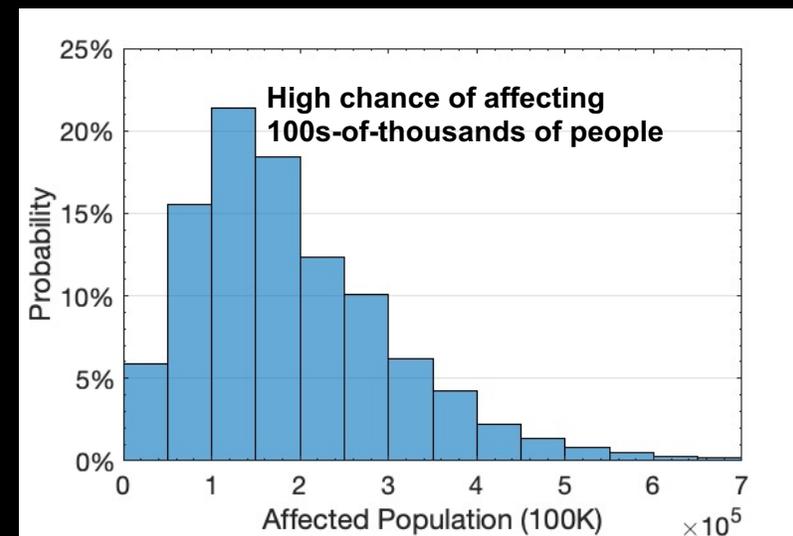
Rings show an average damage footprint size at a sample location

Black border shows range of potential airburst locations



## Impact Hazard Summary

- High chance of damage affecting hundreds-of-thousands of people in Forsyth and potentially surrounding NC counties
- Primary hazard: Airburst causing blast damage, ranging from shattered windows and structural damage to potentially unsurvivable levels
- Damage region radii: 10–40 mi, most likely range 15–25 mi, median size ~20 mi
- Affected Population: tens-to-hundreds of thousands, 190K avg risk, 80% chance of >100k people, 40% >200k, 15% >300k, 5% >400k



## Population Risk

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