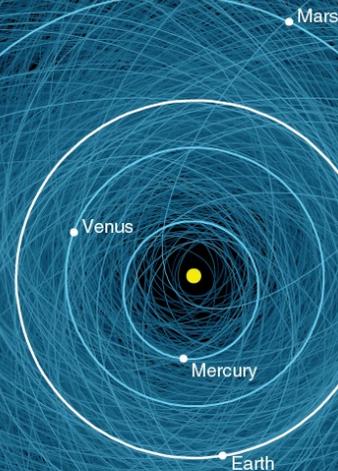




EXERCISE ONLY!!



2021 PDC Exercise Day 3: June 30, 2021 (<4 months to impact)
Space-Based Infra-Red Measurements Enable Improved Prediction of Asteroid's Potential Impact Effects

Paul Chodas, on Behalf of IAWN
(CNEOS/Jet Propulsion Laboratory/California Institute of Technology)

2021 Planetary Defense Conference, April 26-30, 2021

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EXERCISE ONLY!!



NEOWISE Provides an Important Upper Bound on the Size of 2021 PDC

EXERCISE

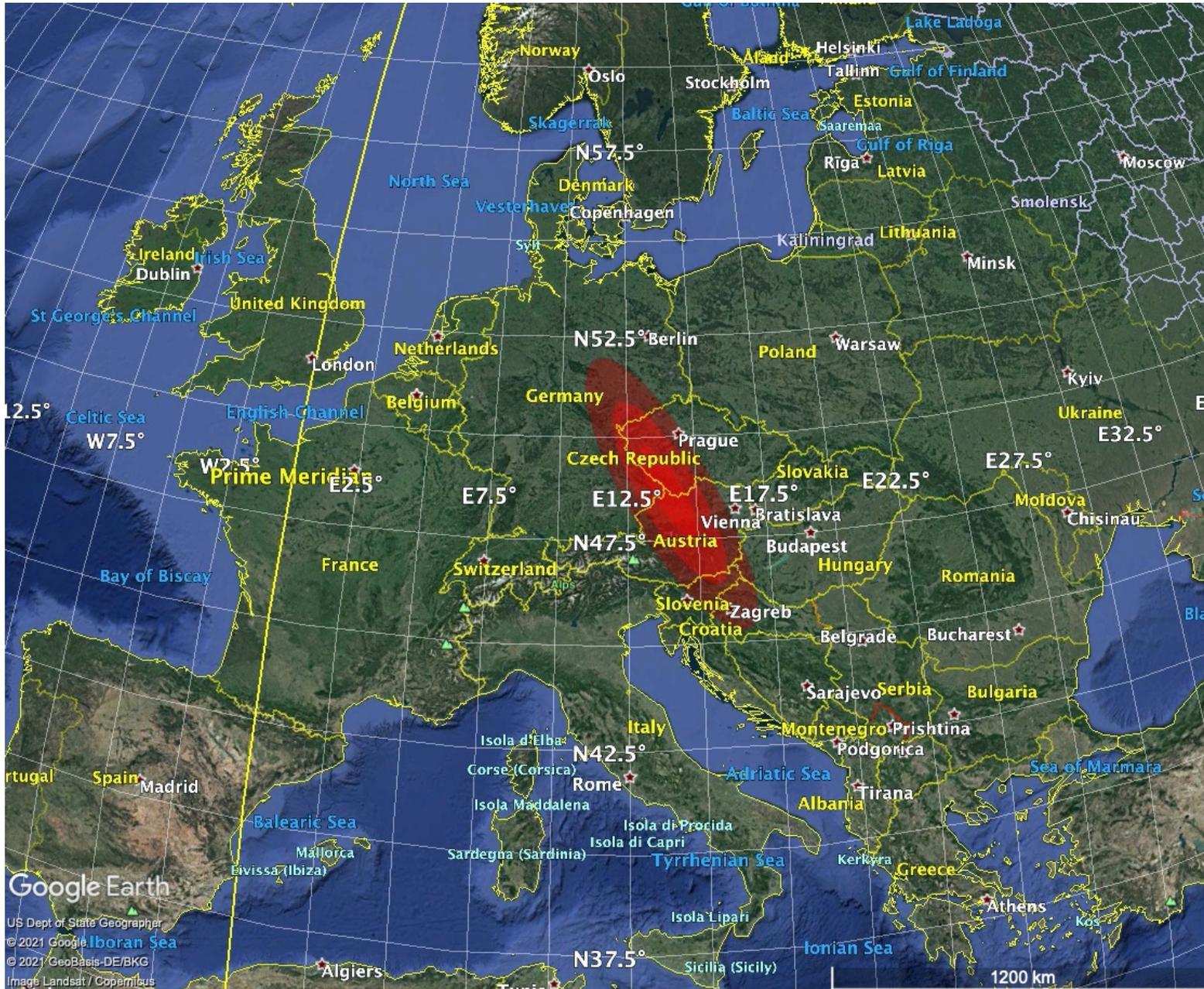
- Astronomers around the world have tracked 2021 PDC nearly every night for the past 2 months, using some of the world's largest telescopes. This has enabled a significantly more accurate estimation of its orbit
- The predicted impact zone has narrowed down considerably, to a region mostly within Germany, the Czech Republic and Austria (see next slide)
- 2021 PDC passed through NEOWISE's narrow field of regard in early June, but at a very large distance (60 million km). It was not detected
- However, the NEOWISE team changed their survey pattern to repeatedly scan the asteroid's predicted position for 3 weeks, and by combining the resulting hundreds of exposures, they achieved a marginal detection. They estimate the diameter of 2021 PDC to be **160 ± 80 m**
- This result provides an important upper bound on the size of 2021 PDC, which significantly reduces the worst-case size and corresponding worst-case impact energies
- For more info: <https://cneos.jpl.nasa.gov/pd/cs/pdc21/day3.html>

EXERCISE ONLY!!



2021 PDC: Predicted Impact Region, Day 3

EXERCISE



Impact date:
Oct. 20, 2021

Probabilities of
Impact inside
the shaded
regions:

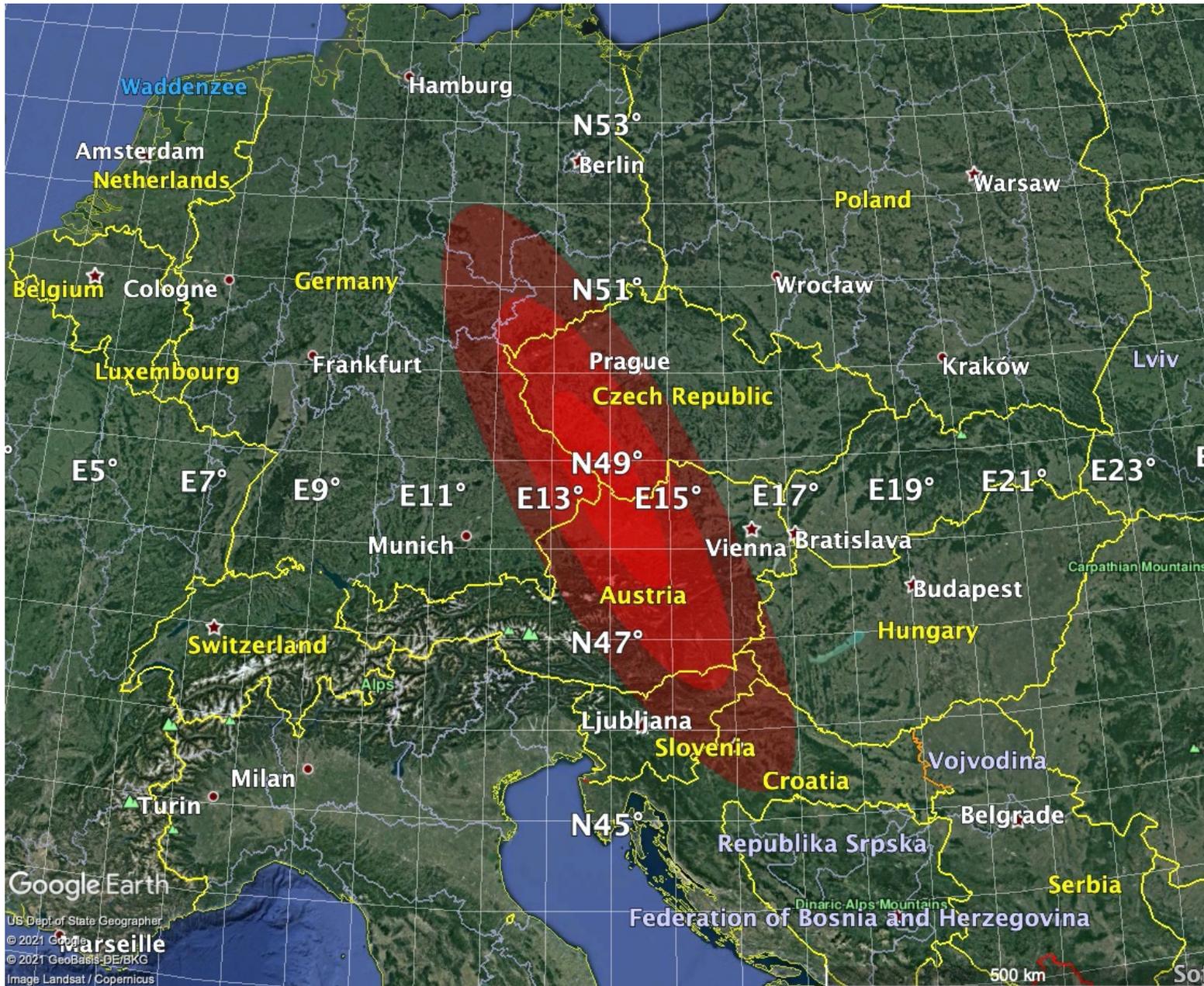
Light red: 99%
Mid red: 87%
Dark red: 40%

EXERCISE ONLY!!



2021 PDC: Predicted Impact Region, Day 3

EXERCISE



Impact date:
Oct. 20, 2021

Probabilities of
Impact inside
the shaded
regions:

Light red: 99%
Mid red: 87%
Dark red: 40%

EXERCISE ONLY!!