A FIRST LOOK AT THE NEW GENERATION OF LIGHTNING MAPPING WITH GOES-16

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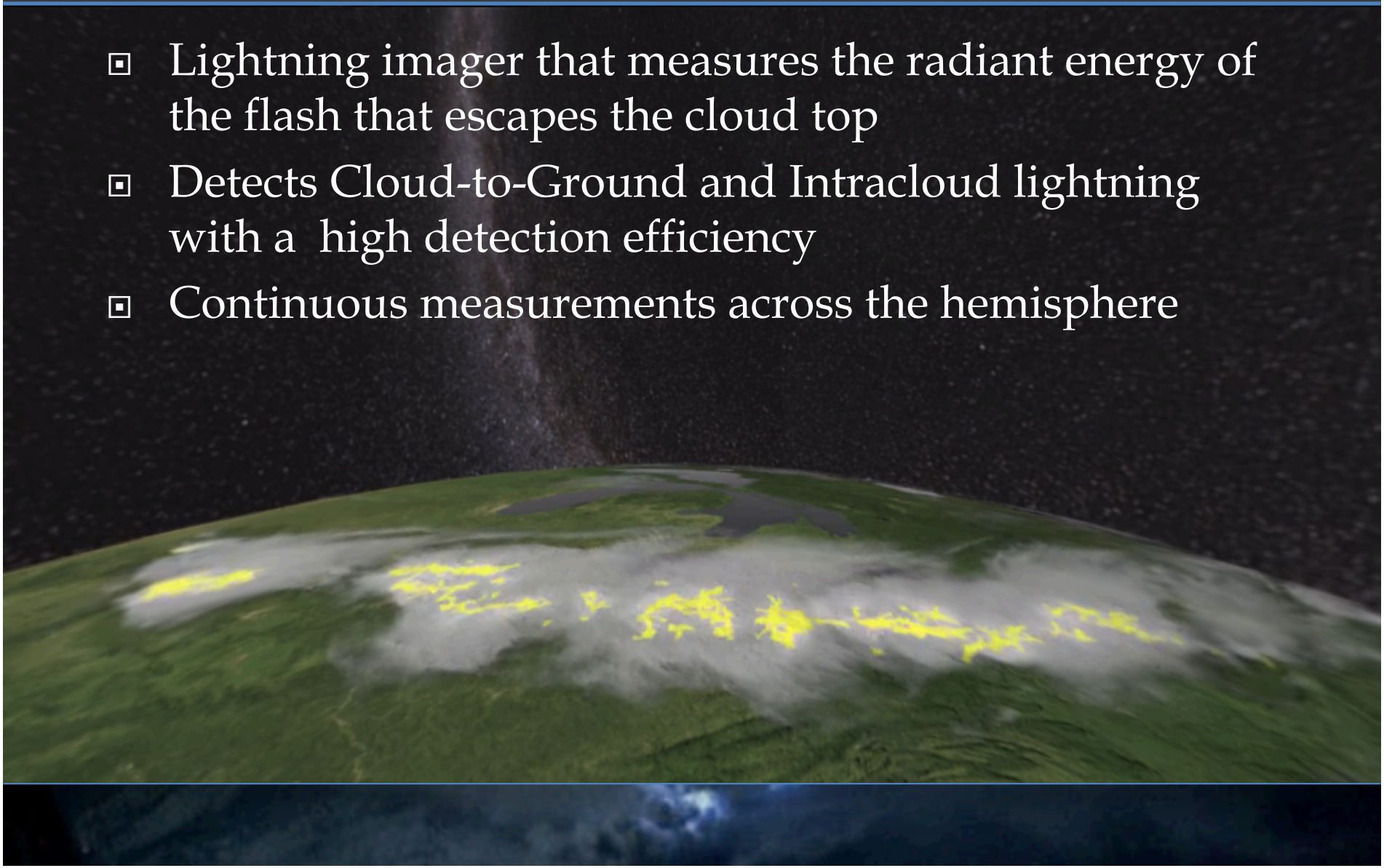
The GOES-16 Satellite

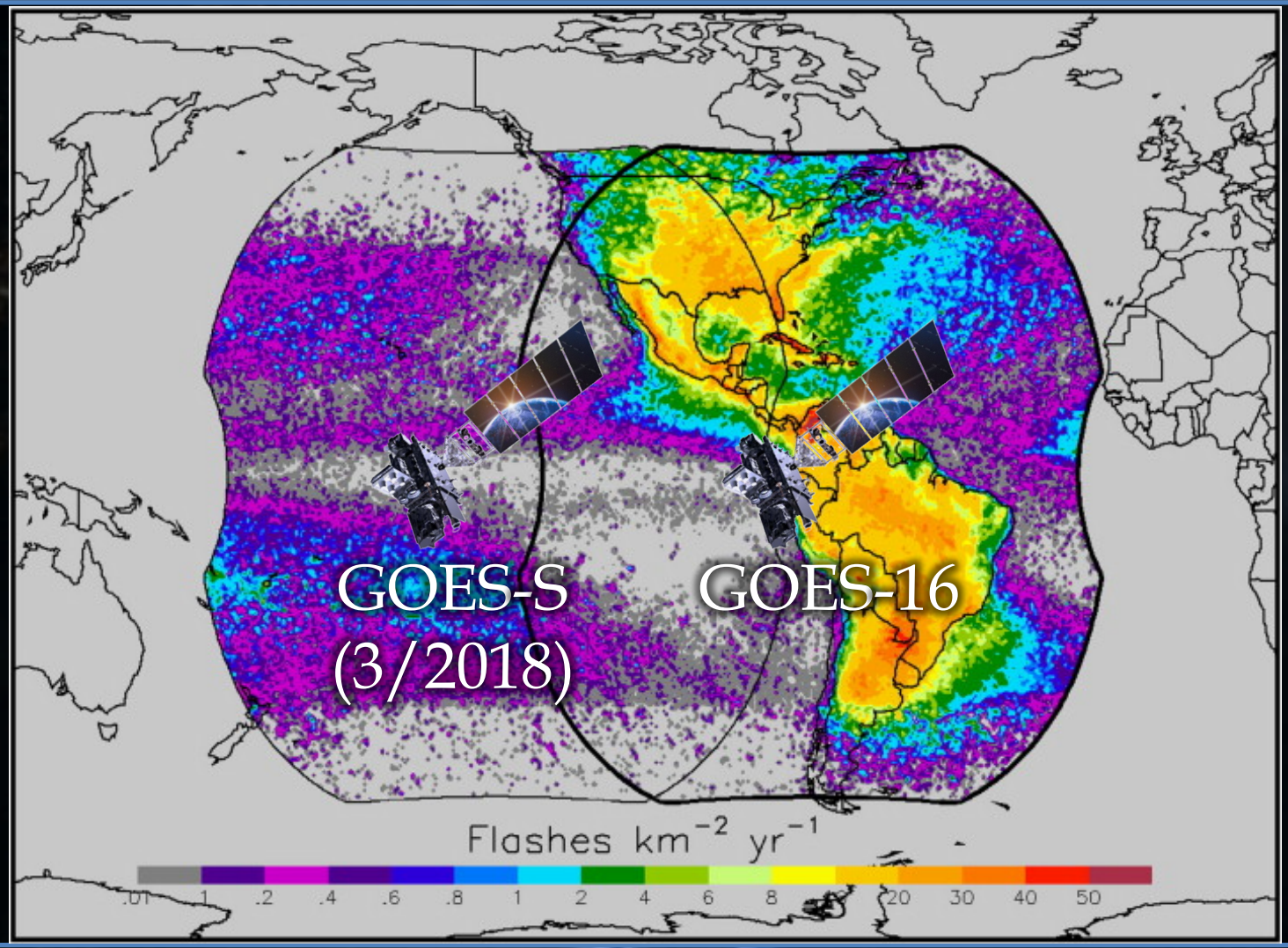
- First of 4-satellite block (R, S, T, U) operational through 2036
- First geostationary satellite with a lightning sensor
- Enhanced visible/infrared, space weather monitoring, solar imaging

The Geostationary Lightning Mapper

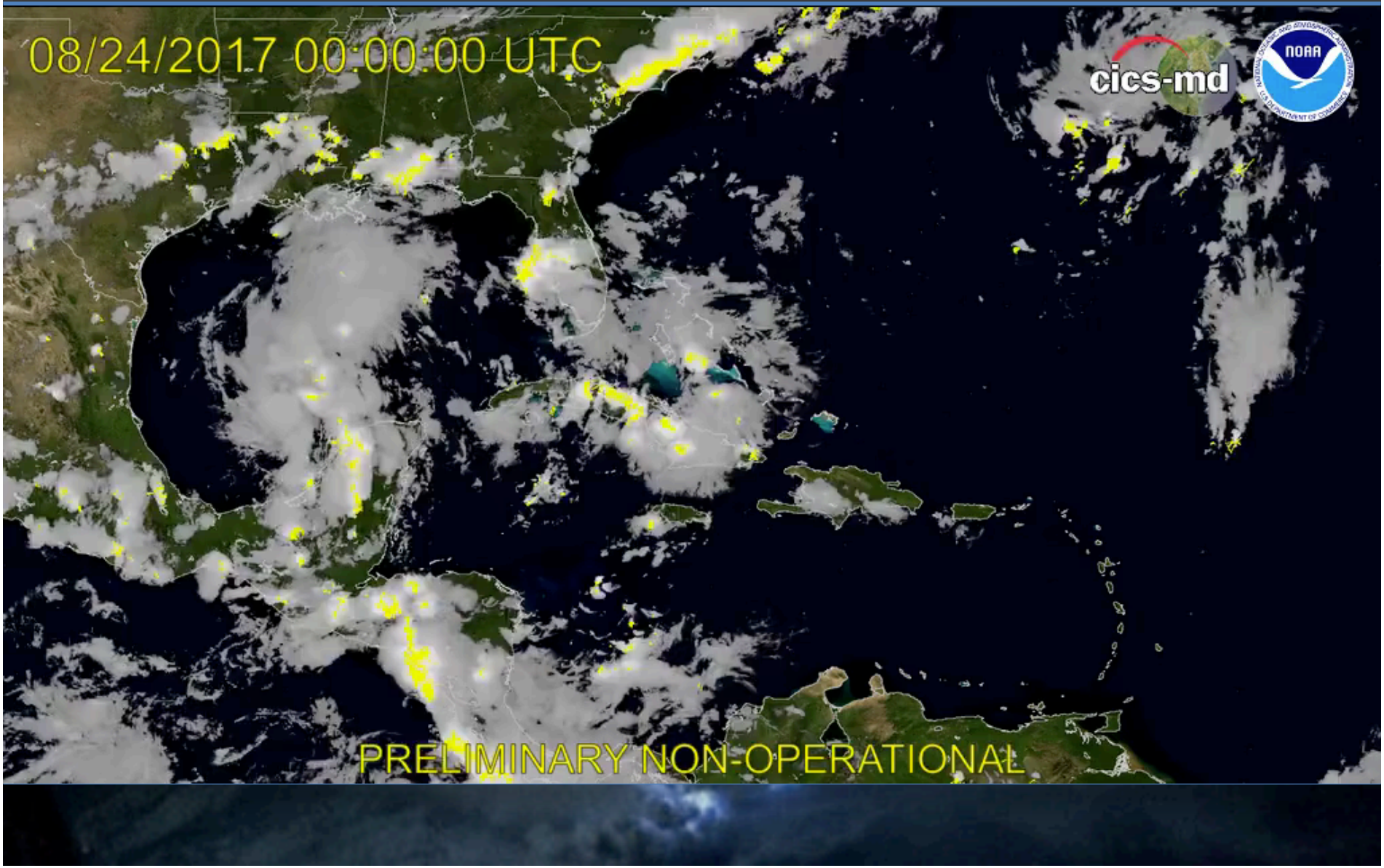
- Lightning imager that measures the radiant energy of the flash that escapes the cloud top
- Detects Cloud-to-Ground and Intracloud lightning with a high detection efficiency
- Continuous measurements across the hemisphere



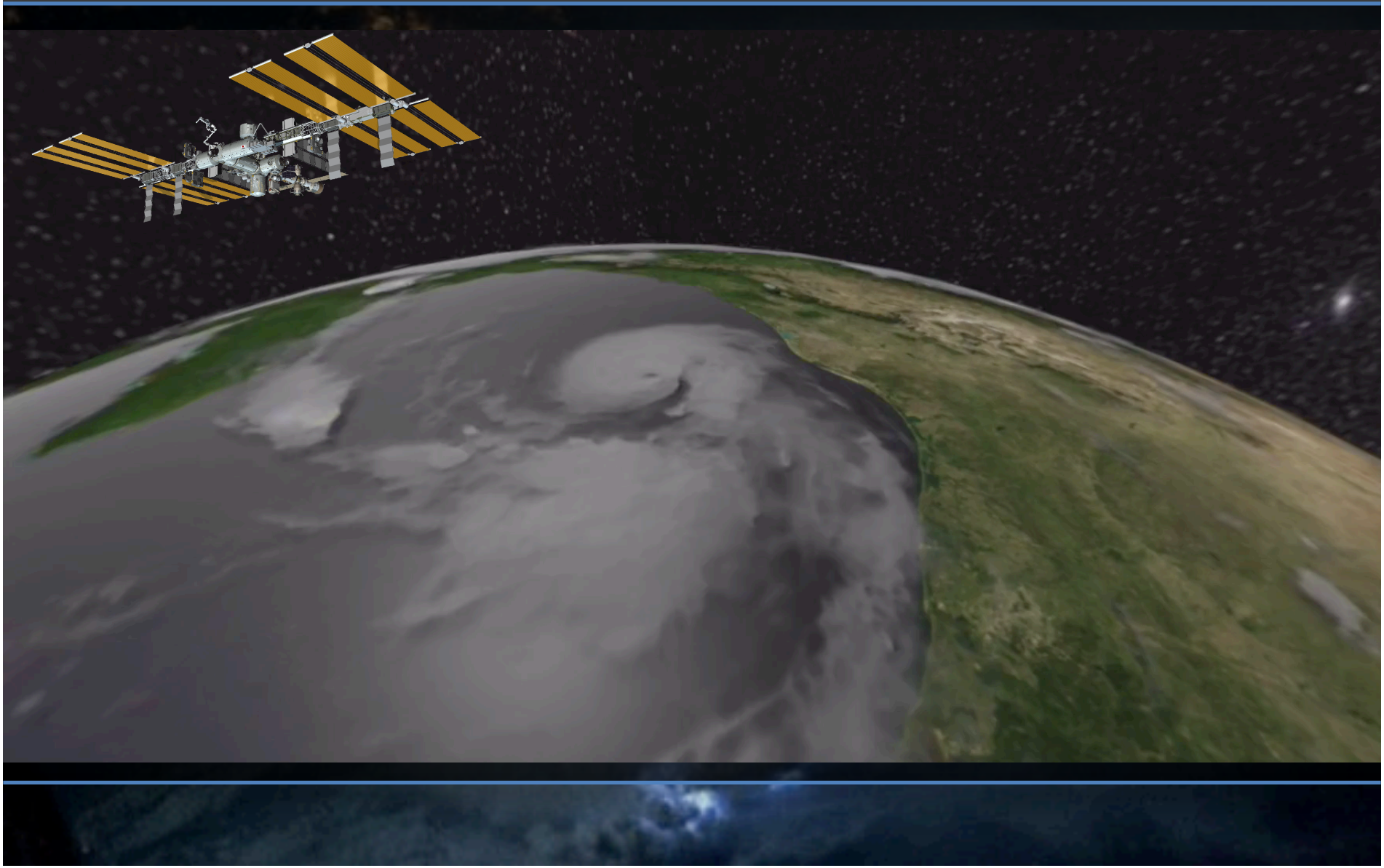
Americas Lightning Hotspots



Storm Tracking with GLM

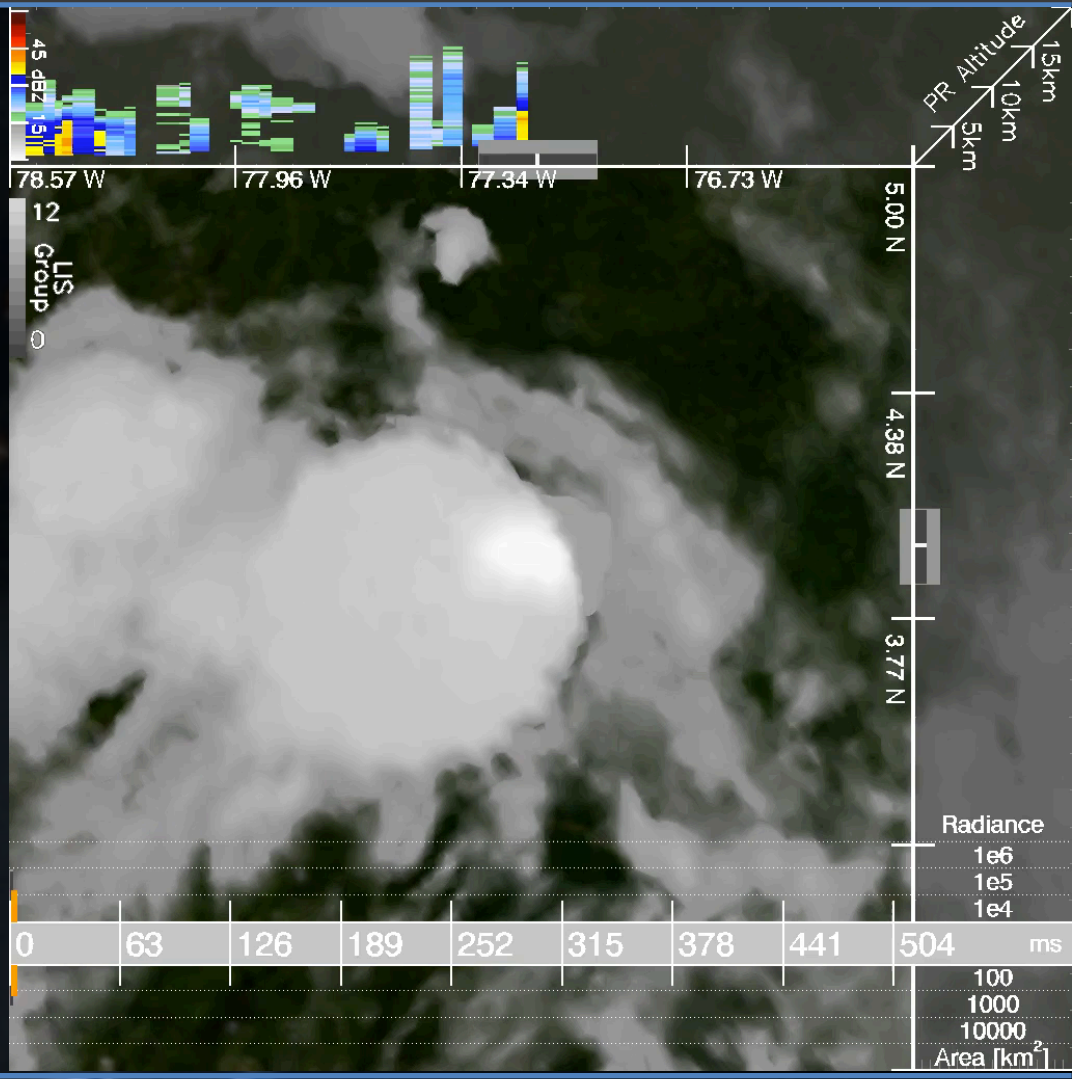


New Applications of Lightning Data



Mapping GLM Flashes

- GLM records videos of individual flashes at 500 frames/second
- Lightning videos reveal the evolution of the flash
- GLM can identify spider lightning, superbolts, etc.



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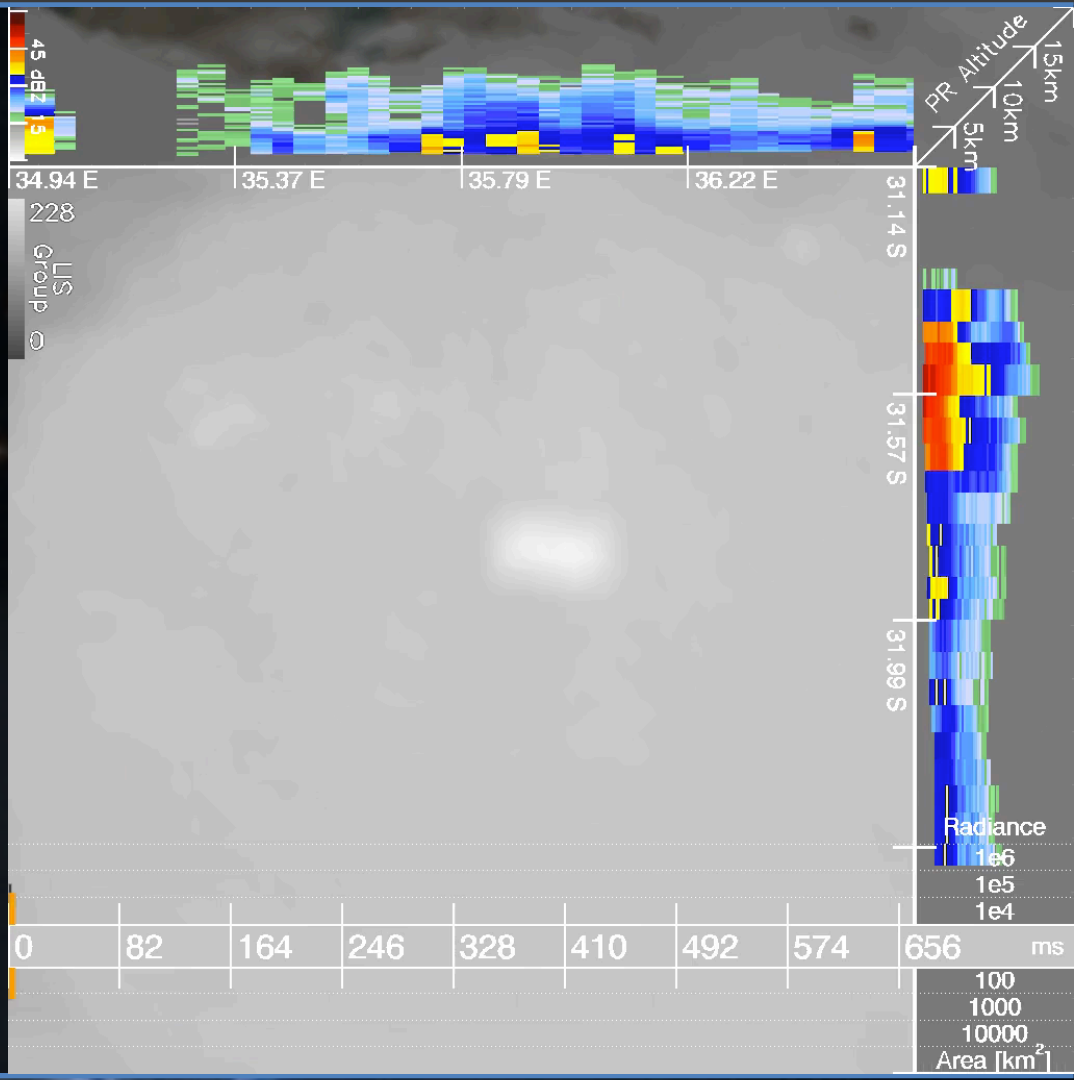

Summary

- GLM is the first lightning sensor in geostationary orbit
  - Observations until 2036 with GOES-R,S,T,U
- Measurements are being used to develop applications that add context to meteorological measurements:
  - Identifying hazardous weather
  - Storm tracking and trending
  - Characterizing flashes to identify storm type and document lightning physics
- GLM products will aid forecasters issuing guidance for severe weather
  - New information on developing weather
  - Hemispheric scope including data sparse regions


Questions?