

Title: A First Look at the New Generation of Lightning Mapping with GOES-16

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Abstract:

The Geostationary Operational Environmental Satellite (GOES)-16 is the first satellite in geostationary orbit to host a lightning imager. Previous lightning imagers were in low-Earth orbit and provided snapshot views of lightning and thunderstorms. The Geostationary Lightning Mapper (GLM) on GOES-16 is revolutionary because it continuously maps lightning activity in thunderstorms across the hemisphere as they progress through the convective life cycle. We present GLM measurements taken during a number of high-impact weather events in the summer of 2017 to demonstrate how lightning detection adds value to GOES observations and how sensors like GLM can be used to identify hazards posed by extreme lightning events.