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Global Lightning Climatology from TRMM LIS and OTD

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2015 AMS Conference on Meteorological Applications of Lightning Data

The Tropical Rainfall Measuring Mission (TRMM) Lightning Imaging Sensor (LIS) has been collecting observations of total lightning in the global tropics and subtropics (roughly 38° S – 38° N) since December 1997. A similar instrument, the Optical Transient Detector, operated from 1995-2000 on

another low earth orbit satellite that also saw high latitudes. Lightning data from these instruments have been used to create gridded climatologies and time series of lightning flash rate. These include a 0.5° resolution global annual climatology, and lower resolution products describing the annual cycle and the diurnal cycle. These products are updated annually. Results from the update through 2013 will be shown at the conference. The gridded products are publicly available for download. Descriptions of how each product can be used will be discussed, including strengths, weaknesses, and caveats about the smoothing and sampling used in various products.