



nickb@ssec.wisc.edu

CSPP Geo Gridded GLM

Nick Bearson, David Hoese, Graeme Martin

Cooperative Institute for Meteorological Satellite Studies,
Space Science and Engineering Center,
University of Wisconsin-Madison



What is CSPP Geo Gridded GLM?

The CSPP Geo Gridded GLM software processes GOES-16 and GOES-17 Geostationary Lightning Mapper (GLM) Level 2+ LCFA products in mission standard format, generating a new set of products which have been gridded to the Advanced Baseline Imager (ABI) 2-km resolution, and are aggregated at one-minute intervals. These gridded products are particularly useful for creating imagery from GLM data.

The new gridded products are:

- Minimum Flash Area
- Flash Extent Density
- Total Optical Energy

The main processing script creates one minute grids from GLM L2+ LCFA input files, which can be obtained from the CSPP Geo GRB software or from NOAA CLASS.

A set of tiles can optionally be created for each Gridded GLM file. The tiles are compatible with AWIPS.

Download the software or learn more at our website:
<http://cimss.ssec.wisc.edu/csppgeo/>

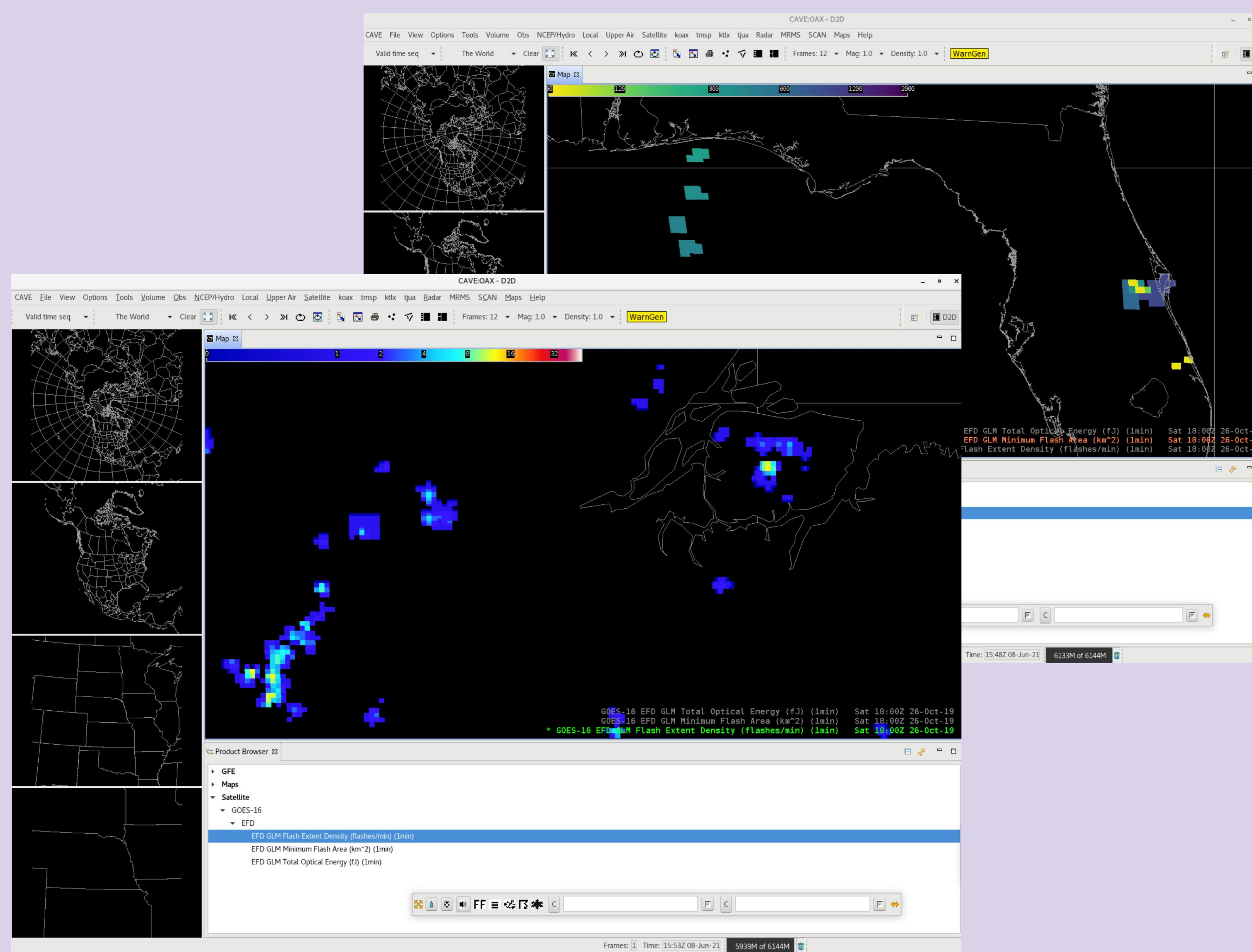
Contact the team at csppgeo.issues@ssec.wisc.edu.

What is GLM?

The Geostationary Lightning Mapper (GLM) is a single-channel, near-infrared optical transient detector that can detect the momentary changes in an optical scene, indicating the presence of lightning. GLM measures total lightning (in-cloud, cloud-to-cloud and cloud-to-ground) activity continuously over the Americas and adjacent ocean regions with near-uniform spatial resolution of approximately 10 km.

It complements the planned MTG-I Lightning Imager and FY-4 Lightning Mapper.

Gridded GLM in AWIPS



Acknowledgements

CSPP Geo Gridded GLM is built on the open source glmttools software developed by **Dr. Eric Bruning** (Texas Tech University). Ongoing development of operational Gridded GLM products and related research is led by **Dr. Scott Rudlosky** (NOAA/NESDIS/STAR).

This release builds on two years of effort to refine the glmttools package in pre-operational demonstrations, and many of the contributors to that effort are coauthors on the paper that describes the GLM imagery creation approach in detail.

Bruning, E. C., Tillier, C. E., Edgington, S. F., Rudlosky, S. D., Zajic, J. K., Gravelle, C. M., Foster, M., Calhoun, K. M., Campbell, P. A., Stano, G. T., Schultz, C. J., and Meyer, T. C. (2019). Meteorological imagery for the Geostationary Lightning Mapper. 2019: Meteorological imagery for the Geostationary Lightning Mapper. *J. Geophys. Res.*, 124 (24), 14 285–14 309, <https://doi.org/10.1029/2019JD030874>

The developers also wish to thank **Lee Byerle** and **Joe Zajic**, NWS TOWR-S team, for their assistance with tile development and AWIPS compatibility.

What is CSPP Geo?

CSPP Geo is the Community Satellite Processing Package for Geostationary Data. We create and distribute software allowing direct broadcast users to create products from geostationary satellite data, drawing on many years of experience creating software that allows direct broadcast users to process data from polar orbiters through CSPP and IMAPP.

All CSPP Geo software is:

- Publicly available and free of charge.
- Distributed as binary packages for 64-bit CentOS 6.
- Distributed with all required 3rd party software.
- Released with test data and self-test scripts.
- Easy to install and run.

Roadmap

v1.0 Beta1
Available now!

v1.0
Late summer 2021

v2.0
Early 2022

Our development is user-driven.

What would you like to see in future versions?