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PNSWSH

Service Change Notice 22-112  
National Weather Service Headquarters Silver Spring MD  
530 PM EST Tue Nov 22 2022

To:           Subscribers:  
              -NOAA Weather Wire Service  
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              Other NWS Partners and NWS Employees

From:         Ajay Mehta  
              Director, NWS Office of Observations

Subject:      Activation of GOES-R Geostationary Lightning Mapper Gridded Data  
              Products on the Satellite Broadcast Network on or after March 6,  
              2023

On or after March 6, 2023, gridded data products from the GOES-East and  
GOES-West Geostationary Lightning Mapper (GLM) instruments will become  
available on the NWS Satellite Broadcast Network (SBN), channels GRE & GRW  
respectively (Ports 1209, 1210 / PIDs 107, 108).

For each 2x2km cell in the GOES-East or GOES-West fixed-grid coordinate  
system, these data products estimate the following three parameters every  
minute:

Field Name	Units / Semantics
Flash Extent Density (FED)	Flashes per minute
Minimum Flash Area (MFA)	Square kilometer (km <sup>2</sup> )
Total Optical Energy (TOE)	femtoJoules (fJ = 1e-15 Joules)

The gridded GLM products will be available for the GOES-East and GOES-West  
Full Disk areas -- tiled into rectangles numbered 000-061 and labeled PAA  
through PCJ, as depicted below:

000 001 002 003	PAA PAB PAC PAD
004 005 006 007 008 009	PAE PAF PAG PAH PAI PAJ
010 011 012 013 014 015	PAK PAL PAM PAN PAO PAP
016 017 018 019 020 021	PAQ PAR PAS PAT PAU PAV
022 023 024 025 026 027	PAW PAX PAY PAZ PBA PBB
028 029 030 031 032 033	PBC PBD PBE PBF PBG PBH
034 035 036 037 038 039	PBI PBJ PBK PBL PBM PBN
040 041 042 043 044 045	PBO PBP PBQ PBR PBS PBT
046 047 048 049 050 051	PBU PBV PBW PBX PBY PBZ
052 053 054 055 056 057	PCA PCB PCC PCD PCE PCF
058 059 060 061	PCG PCH PCI PCJ

These lightning products follow a "punctured" tiling scheme: in each  
minute, only tiles with at least one lightning flash detected (i.e. tiles

with content) are produced. Thus in each minute, many fewer than 62 tiles are produced.

Each tile's rows and columns are defined in geostationary sensor coordinates (i.e., view angles); each file includes the projection details needed to transform these sensor coordinates into longitude and latitude positions on the earth.

Further details on these gridded GLM products are available from the University of Maryland (<https://lightning.umd.edu/glm/>) and the NOAA Virtual Lab (<https://vlab.noaa.gov/web/towr-s/glm>).

The gridded GLM products will have the following WMO headers, SBN channels, cadence, daily file counts, and data volumes:

Satellite	WMO header	SBN Channel	Cadence	Files/day*	GB/day*
GOES-East	TIRS00 KNES	GRE	1 min.	24,200	1.99
GOES-West	TIRT00 KNES	GRW	1 min.	10,600	0.87

(\* These numbers are approximate and will vary with weather conditions, due to data compression and the "punctured" tiling scheme detailed above.)

To ingest and display the gridded GLM data products, SBN receiving sites will need to configure their systems for the gridded GLM NetCDF schema.

Some SBN receiving sites may also need to accept one or both of the new WMO headers above in their incoming SBN data feed.

(Most NWS AWIPS sites already accept the above headers via their LDM pqact.conf file.)

Critical weather or other factors may affect the timing of this change on the SBN.

For questions pertaining to these changes, please contact:

NOAA/NWS Office of Observations  
Silver Spring, MD  
Email: [NWS-OBS-Satellites@noaa.gov](mailto:NWS-OBS-Satellites@noaa.gov)

or

AWIPS Network Control Facility (NCF) Help Desk  
NOAA/NWS Office of Central Processing  
Silver Spring, MD  
Phone: 888-808-8624

For questions regarding the content or distribution of the products listed here please contact:

Stephen Superczynski  
GOES-R User Services Coordinator  
Greenbelt, Maryland  
Email: [stephen.superczynski@noaa.gov](mailto:stephen.superczynski@noaa.gov)

National Service Change Notices are online at:

<https://www.weather.gov/notification/>

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