# Lightning Detection Systems

## NLDN – National Lightning Detection Network

Type: High Frequency, Ground Sensors

Detection: positive and negative polarity Cloud to Ground (CG)

*Coverage*: CONUS and OCONUS sites for the global Vaisala network

## AWIPS Products:

- 1 min, 5 min, 15 min, and 60 min positive/negative CG polarity and cloud flashes plots
- 1 min Lightning Sequence Plot
- 1 km, 3 km, 5 km, 8 km, 20 km, 40 km gridded density

## ENI – Earth Networks, Inc.

Type: Wide Frequency, Ground Sensors

Detection: Intra-cloud (IC), positive and negative polarity Cloud to Ground (CG), Total Lightning

Coverage: CONUS and OCONUS (Outside CONUS) sites for the global ENI network

#### AWIPS Products:

- 1 min, 5 min, 15 min, and 60 min positive/negative CG polarity and cloud flashes plots
- 1 min Lightning Sequence Plot
- 1 min Cloud Flash Sequence Plot
- 1 min Pulse Sequence Plot
- 1 km, 3 km, 5 km, 8 km, 20 km, 40 km gridded density

#### Remarks:

- Displayed as ENLTN in product legend
- Total lightning detection efficiency varies regionally

# **GLD – Global Lightning Dataset**

*Type*: Low Frequency, Ground Sensors

Detections: positive and negative polarity Cloud to Ground (CG)

*Coverage*: only OCONUS sites for the global Vaisala network

AWIPS Products:

- 5 min, 15 min, and 60 min plot
- 15 min Positive/Negative polarity plot
- 1 min Lightning Sequence Plot
- 1 km, 3 km, 5 km, 8 km, 20 km, 40 km gridded density

# LMA – Lightning Mapping Array

*Type*: Very High Frequency, Ground Sensors

Detection: Total Lightning, better at Intra-cloud (IC) than Cloud-to-ground (CG)

*Coverage*: Groups of detection networks over the CONUS (Continental US) sites, including: Washington DC, North Alabama, Kennedy Space Center, Central Florida, Oklahoma, Colorado, Houston, West Texas, and Langmuir Laboratory

AWIPS Products (2 km and 8 km spatial resolution, 2 min temporal resolution except 30 min Sum):

- Source Density
- Flash Extent Density
- Flash Initiation Density
- Maximum Flash Density
- 30 minute Sum

# Remarks:

- Only available to offices that have access to data through LDAD. Best at detection efficiency when in the center of the network but performance degrades quickly with range from the network center
- Provides extremely accurate height information close to the center of the network. However, these products are only available through the Product Browser