

A Tool to Validate GLM Data

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We are developing a tool to perform validation studies on the new Geostationary Lightning Mapper (GLM). This tool will ingest all available ground-, airborne-, and satellite-based lightning data, and display them in a static map or an animation. The val tool's primary function is to compute a "data-match" product, showing possible areas of concern for GLM. For example, if GLM is not reporting lightning data where others are, or if GLM is reporting data in a location and others are not, this tool will alert the user to potential problems. It also performs both shallow-dive and deep-dive functions. The data-match product is the shallow view — it shows gross comparison among data sources. The user can then "dive in" on a potential problem area and invoke the deep-dive tool. This tool shows statistics, histograms, and time series of the data sources and their comparisons to help diagnose problems. Currently, the val tool is used to test proxy data; after GLM is in orbit it will help us to validate the GLM data.