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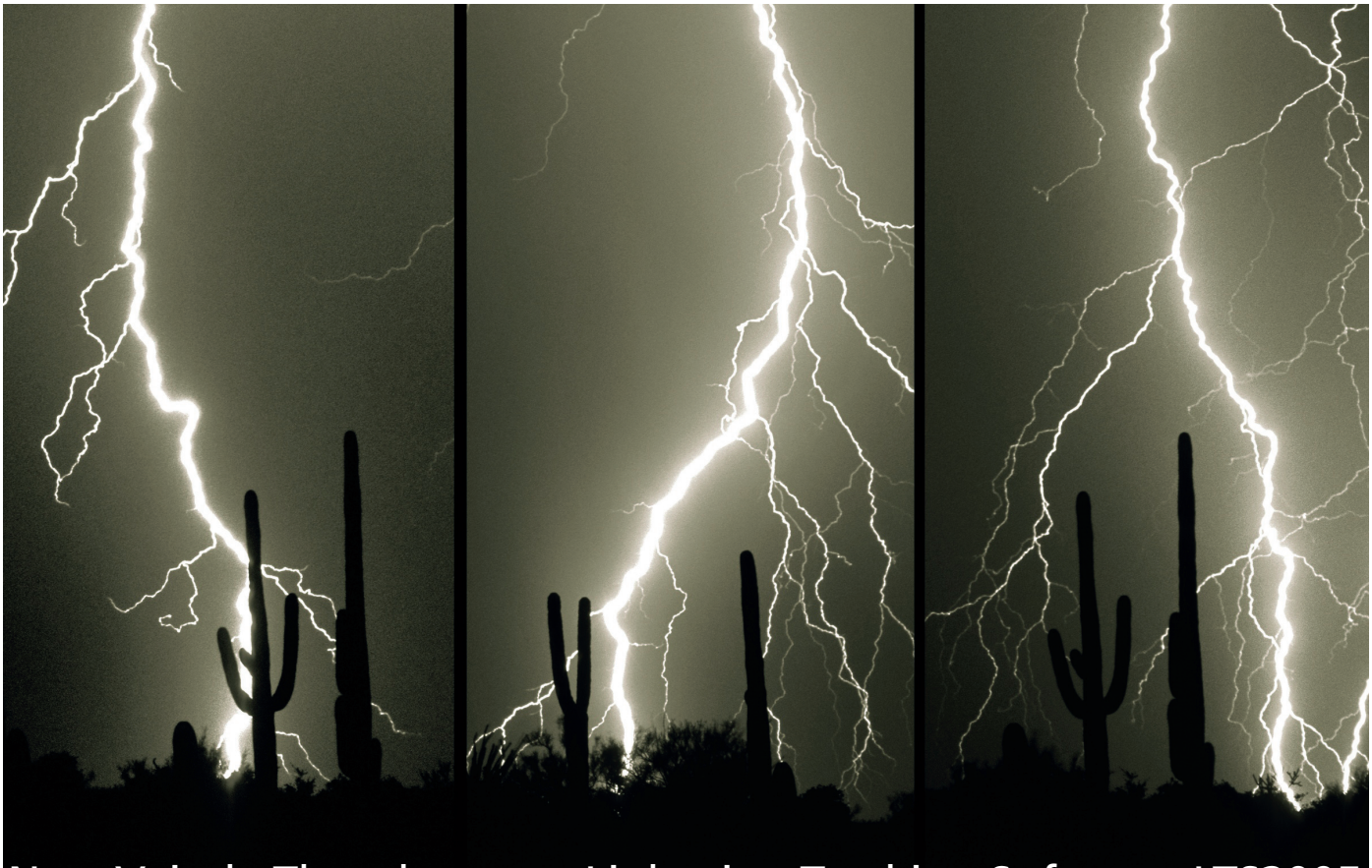


New Vaisala Thunderstorm Lightning Tracking Software LTS2005

The Latest and Best in Lightning Tracking Software for Forecasting and Warnings

This new standard for real-time lightning display software builds on the functionality of its predecessors, Vaisala Processing and Display Module PDM and Vaisala LTraX® Lightning Tracking Software, and adds improvements that make it easier for users to track lightning and assess storm intensity.

The new Vaisala Thunderstorm Lightning Tracking Software LTS2005 takes strengths from PDM software: user-friendly map functions, user-drawn warning areas, choice of three display modes (discharge, density, and cell), and forecasted cell locations. Complimentary strengths from LTRaX are included in the new software: more advanced query functions, audible alarms, and looping. New improvements specified by Vaisala customers have also been added, such as live replay including new lightning, e-mail capability, and more mapping functionality.

Live looping with new lightning locations

Live looping with new lightning allows users to visually assess storm evolution and intensity and new activity without having to manually stop and restart the loop.

Users have the option of live looping in all three display modes. When a live loop is started, the start and end times of the loop are automatically set to the same time span that is currently being displayed. As the loop plays, the start and end times are constantly updating. When the loop ends, the new start time is the current time.

With continuous time updating, new lightning events are added to the display as easy-to-see, flashing lightning icons. The locations of these new events are then plotted as the appropriate positive or negative polarity icon at the end of the loop. When the loop restarts, all new lightning from the previous loop is shown in its polarity, time color code, and location.

The replay speed, forward play, backward play, pause, resume and stop are all functions available by using the replay control buttons.

E-mail warnings and all clears

LTS2005 users can set up multi-

Nowcasting and Forecasting Applications

LTS2005 is designed for operations responsible for accurate forecasting and nowcasting over large areas ranging from several hundred to thousands of square kilometers:

- Meteorological and hydrometeorological agencies
- Air traffic management
- Electric power companies
- Forestry and land management agencies
- nternational airports
- Telecommunications networks
- Defense

LTS2005 is also appropriate for smaller operations focused on lighting risk management. Easy-to-interpret display modes, system settings, warning area definitions, and online help files can be handled by operators who are not trained as meteorologists.

LTS2005 Key Features for Forecasting, Nowcasting, and Warning:

- Displays cloud and cloud-to-ground lightning (flash or stroke) from Vaisala-based lightning detection networks
- Three display modes: discharge, density, or cell
- In cell display mode, forecasted cell locations can be shown
- Query individual lightning events
- Import map files compatible with MapInfo® for adding custom maps
- Create multiple warning areas of any size or shape
- Audible, visual, and e-mail warnings when alarm conditions are met
- When alarm conditions have expired, that area returns to normal state and all-clear-mail sent
- Easily define and modify areas

Key Features for Documenting and Security:

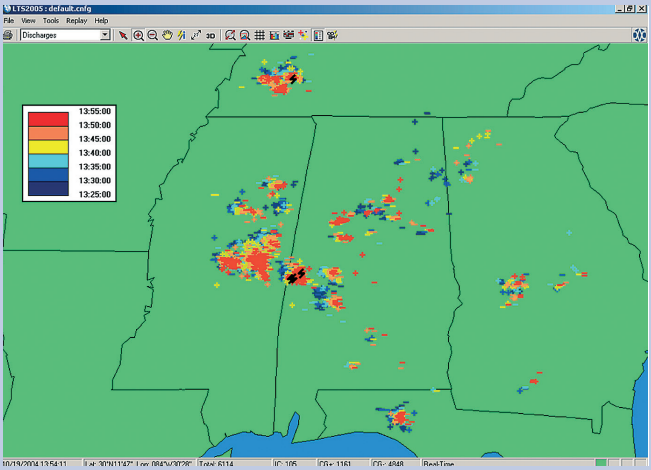
- Create .avi files for replaying historic displays
- Set for automatic image capture and save
- Password protected system settings for modification by authorized users only

ple, custom warning areas. The number of areas is flexible and can be any size or shape. Once created, the areas are easily modified by using one of the tools provided to move, stretch, add or delete nodes. When alarm conditions for an area are met, it is highlighted as defined by the user.

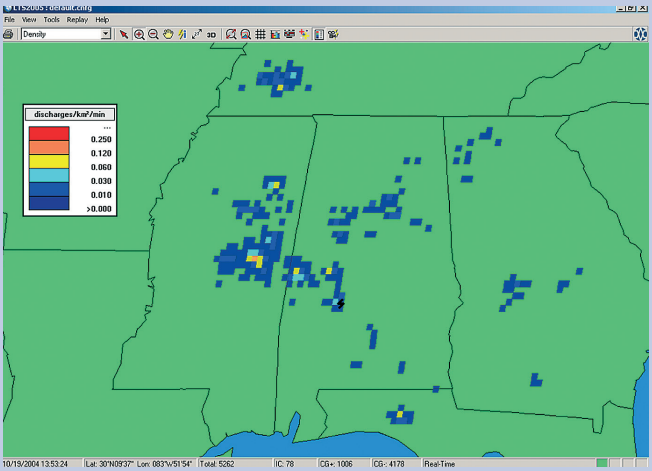
Each area can be set up with multiple e-mail addresses to receive warnings when the alarm threshold has been reached. An all-clear message is e-mailed when the area's alarm condition has expired.

Customized map layers

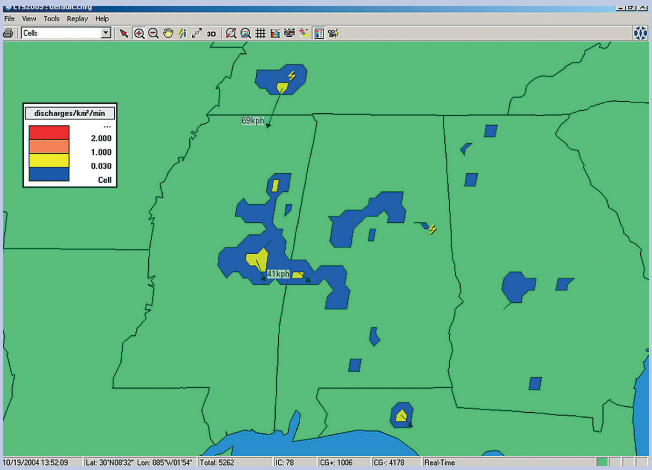
Map projection, map layer control, unlimited zooming, and custom maps are all improved in LTS2005. Map files compatible with MapInfo® can be easily imported to add custom map layers. ●



In the discharge display mode, the individual lightning locations are shown as + or – for identifying positive or negative polarity and are color coded in time intervals. The marker size can be adjusted to represent the event's amplitude in kiloamps (kA). Lightning type, cloud or cloud-to-ground, can be individually identified.



In density display mode, storm intensity can be assessed by mapping the lightning density per square kilometer and per minute. Cloud, cloud-to-ground, or total lightning can be selected for display. Total lightning mapping best identifies the most active and hazardous areas in the thunderstorm.



In cell display mode, LTS2005 automatically estimates the contours of cells based on lightning activity. It identifies and tracks the most hazardous areas and displays their severity in easy-to-see color codes. In this mode, the forecasted locations of the cells are displayed for continuous assessment.