

SuperLooper

Image Processing and Animation Tool

Automated Sciences LLC

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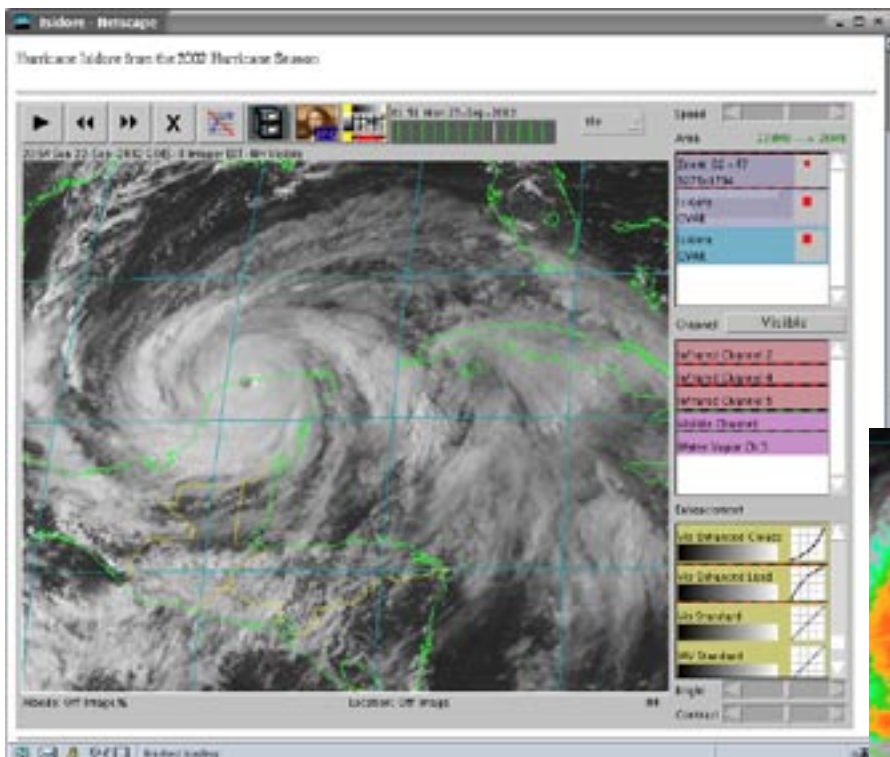


SuperLooper IR data with rendered underlay

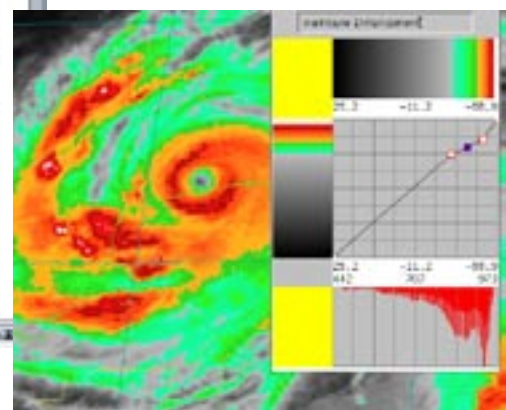
The Automated Sciences SuperLooper is a powerful image processing and animation tool designed from the ground up to work with data from geostationary environmental satellites. A powerful tool can be of little value in a hectic operational or educational environment if it is difficult to use and requires many steps to achieve the desired results. This is why we have focused on ease of use, quick single step operation, and providing as much automatic functionality as possible in the SuperLooper. The combination of power, flexibility, and ease of use makes the SuperLooper the ultimate tool for operational or educational processing of real time satellite data.

The SuperLooper is built around the concept of allowing you to easily zoom in on desired data spectrally, spatially, and temporally using graphical methods. This intuitive approach allows the user to quickly and easily select the desired data. Once the data has been loaded, the user is given a wide range of enhancement and annotation possibilities. The images on this page all show data from the same storm, Hurricane Isidore, and illustrate the enhancement flexibility that is available.

The SuperLooper is a network centric tool. It runs as a JAVA applet within common web browsers and can be run on a wide variety of computers and operating systems. The SuperLooper makes requests for the data from the GOES Box which is its data server.



The SuperLooper showing hurricane Isidore, Visible Channel



IR Image and Enhancement Tool

Automated Sciences LLC
74 River Rd
Preston, CT 06365 USA

Web: www.automatedsciences.com
Email: info@automatedsciences.com
Phone: (860) 886-8368

The SuperLooper does not operate as a standalone application. It connects via a local area network or locally, if it is being used on the GOES Box, with our gridded data server. This server takes requests from a SuperLooper client, retrieves that data from the original satellite dataset and creates a new gridded data dataset that contains the area and channel(s) requested at the best possible resolution. This network centric approach allows multiple users to simultaneously access any desired data.

The SuperLooper has a feature set that is centered around what the operational meteorologist or meteorology/environmental sciences student most needs to work with data from a geostationary satellite that is providing data with a high temporal resolution.

Key SuperLooper Features	
Temporal Selection	Selection of the desired datasets by simply selecting a time span on the time bar. No need to pick files from a list, the traditional way to choose data. The time bar provides a much more efficient and concise method.
Spectral Selection	The user may choose any two spectral channels that are available from the list of all the channels available from the satellites imager. The ability to choose two channels allows quick comparisons of an event in two different spectral bands.
Spatial Selection	Spatial selection is done by choosing a predefined area or highlighting the desired area on the image. When a new spatial area is selected, the data is retrieved from the server at the highest possible resolution.
Animation/Looping	As its name implies the SuperLooper is the ultimate satellite data animation tool. All data that is loaded is automatically added to the loop and any operation that is performed is instantly and automatically applied to the entire loop of images. Loops can be up to a hundred images long. The looping rate can be controlled from a frame every few seconds up to ten frames per second. Maximum loop length and rate are subject to memory or processor limitations.
Archiving and Exporting	You can export what you looking at or the entire loop as a WYSIWYG image in JPEG format. You can also archive the data in the loop which will include the navigation and calibration information. This can later be loaded back into the SuperLooper.
Full Navigation	The data is fully navigated and navigational gridding is provided that shows Lat/Lon, coastline, river, lakes, and political boundaries. Using the cursor you can read the exact Lat/Lon at any point in the image.
Full Calibration	The infrared images are fully calibrated for radiance temperature or albedo. All scales in the enhancement tool show temperatures/albedos. The temperature/albedo of the pixel the cursor is over is also displayed. Temperatures can be in Celsius or Fahrenheit
Enhancement Options	You can choose between a number of predefined enhancement options or use these as a starting point to create the desired enhancement. The enhancement tool shows the current palette and image histogram and allows the user to select a temperature range to stretch across the palette. The user can also modify the enhancement curve to create a non-linear mapping between temperature/albedo and palette shades or colors. All these enhancements can easily be performed using the mouse and the results are instantly and automatically applied to all data in the current loop.
Annotation Features	You can add a number of unique annotations to the image that include an arrow label or a point label, the measurement of distance, and a unique tool called e-bouy that displays the temperature at the deployed location. These tools are shown in the image below.

Availability and Customizing

The SuperLooper is included with both the GOES Box and GOES Station. In both cases it can be used locally or may be used through a network that is within an organization's domain. A five workstation floating license is included with the GOES Box, ten with the GOES Station. Licensing to support additional workstations is available, contact us for pricing.

We do provide customizing services to add capabilities that a client may need that are not available in the standard offering. Contact us with your request and we will be happy to work with you.

