

Rapid Visualization Tool

Data Visualization Software

Automated Sciences LLC

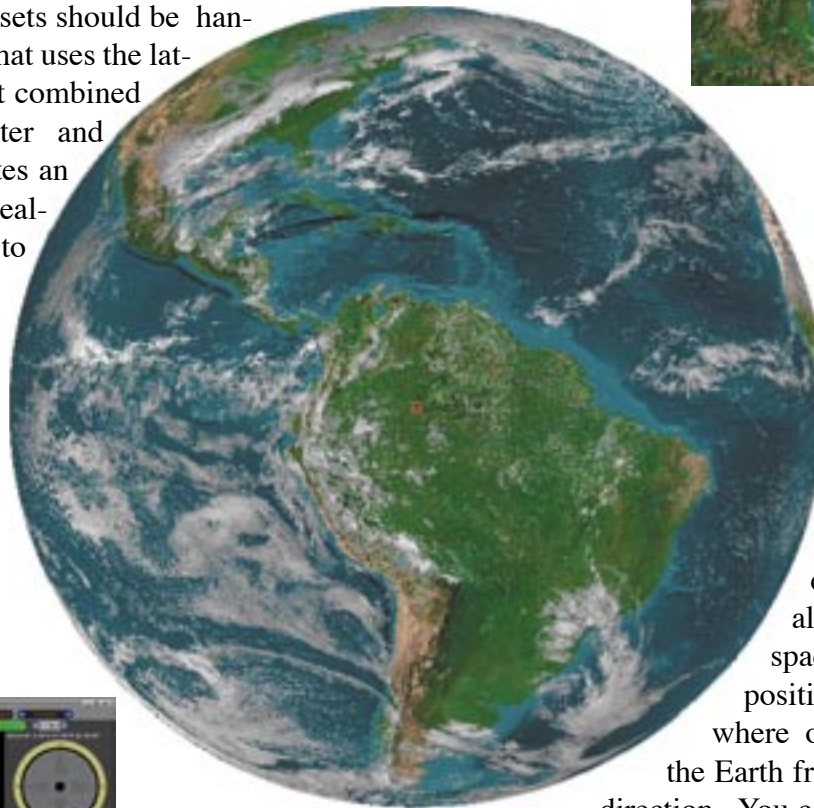
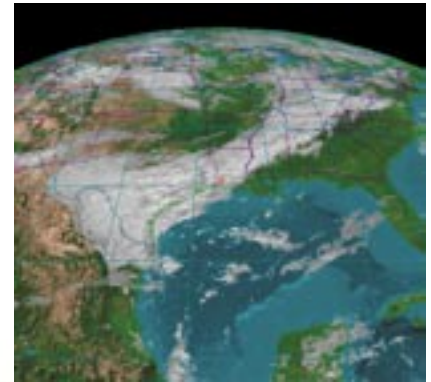
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The Automated Sciences Rapid Visualization Tool (RVT) is a dynamic 21st century way to visualize the data from GOES Satellites. The GOES satellites provide large amounts of data in a short time frame that usually require real-time analysis. Visualization is the key to proper and timely interpretation and understanding of the data.

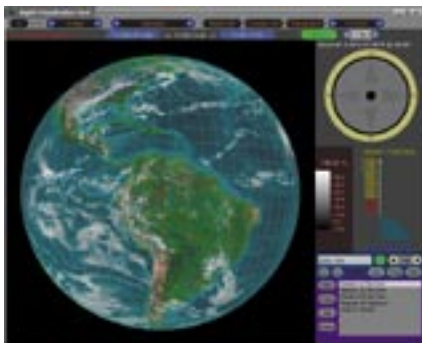
In creating the RVT we threw away traditional ideas of how large complex datasets should be handled and created a tool that uses the latest 3D technologies that combined with powerful computer and graphics hardware creates an innovative, powerful, realistic, flexible, and easy to use visualization tool.



RVT showing Hurricane Lili



The RVT is based on the concept of allowing the user to view the earth and the collected meteorological data surrounding it from almost any perspective in space. This means you can position your spaceship anywhere on the globe and view the Earth from almost any angle or direction. You can rapidly move around and change viewing parameters and the scene will instantly update. This ability allows the scientist or meteorologist to more easily observe many types of events and provides a much greater opportunity to spot events that may otherwise be missed.



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The Rapid Visualization Tool is now a 64 bit application that fully exploits the faster processing and virtually limitless address space that a 64 bit environment offers. The move to a 64 bit environment has allowed us to add many new features and greatly relax the limitations that a 32 bit environment imposes.

Rapid Visualization Tool Features	
Ability to view the data from any perspective	You can place yourself (the observer) anywhere in space surrounding the Earth to view the data. You can be at any elevation above 50km and look at the scene from almost any angle.
Intuitive on-screen Navigation	A range of unique and powerful navigation controls allow the user to easily and quickly navigate around.
Simplified visualization selection	Allows the user to quickly choose the desired spectral channel, choose a suitable enhancement, and activate various options.
Automatic Loading and Animation	The RVT will always load the most recent data and you can easily animate the past several hours of data beneath your observation location.
Solar Zenith Angle Correction	Ordinarily visible channel data is only usable for part of the day and is inconsistent in brightness and contrast. By normalizing the data based on the sun angle the visible channel data is usable and consistent for most of the day.
Cloud Height Relief	The RVT uses cloud height information that can be derived from infrared channel data to map and display the cloud height relief in the visible channel.
Fly Through Mode	Allows you to plot a path over the Earth and fly that path over a real-time dataset! You can even change you altitude and look in different directions. The paths you create are stored so they can be invoked at any time.
Product Generation Facility	Allows you to automatically generate up to a hundred exported WYSIWYG products in real-time from each new dataset.
Automatic Analysis	It will analyze the data to detect fog and fires and evaluate cloud motion vectors in the infrared and water vapor data, convective system rainfall, and sea surface temperatures and informatively display this data.

Technology

The Rapid Visualization Tool takes advantage of the latest processor and 3D graphics accelerator technologies to provide a highly interactive and realistic experience. It uses the same technologies that drive the latest video games and are used to create special effects for feature films. As these technologies continue to evolve, driven by the demands of these other industries, we will take advantage of the improvements.

Availability

The version of the Rapid Visualization Tool described here will be released 2Q04. It will be included with the RVT WorkStation which is equipped with the hardware needed to run this.

Rapid Visualization Tool Workstation

The Rapid Visualization Tool Workstation (RVT Workstation) includes the RVT Software described here and is designed to be connected via a local area network connection to either the GOES Box or POES Box to retrieve real-time satellite data. Multiple RVT Workstation's can be used providing simultaneous real-time visualization capability to multiple users. Contact us for pricing and availability.



The RVT with a color enhanced infrared image