The Scientific Visualization Studio (SVS) facilitates scientific inquiry and outreach within NASA programs through visualization. The SVS collaborates with scientists to create visualization products, systems, and processes to promote a greater understanding of Earth and Space Science research activities at Goddard Space Flight Center and within the NASA research community. All SVS visualizations (currently totalling over 2,700) are available through the internet (http://svs.gsfc.nasa.gov).

Space weather events which disturb the plasmapause (shown in green) can propagate down the Earth’s magnetic field lines (in gray) to the Earth’s ionosphere. The result can be enhanced electron content (shown in red and yellow) which may disrupt satellite radio signals. This ionospheric electron enhancement over North America was measured by ground-based sensors.

Hurricane Rita clouds and sea surface temperatures (SSTs) on September 23, 2005 at 13:45 GMT. The colors on the ocean represent the SSTs, and satellite images of the hurricane clouds are laid over the SSTs to clearly show the hurricane positions. Orange and red depict regions 28°C and higher, where the ocean is warm enough for hurricanes to form.

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The Education and Public Outreach (EPO) Group engages educators and the public in programs designed to improve their Earth science literacy, to raise their awareness and understanding of NASA’s Earth science missions, and to freely share our data and information in ways that benefit society. To achieve these goals, the EPO Group builds and sustains partnerships with a diverse range of formal and informal educational institutions and develops and publishes a variety of print and on-line publications.

NASA’s Earth Observatory (http://earthobservatory.gsfc.nasa.gov) is a Web-based magazine about NASA Earth science. Earth Observatory has received numerous awards, including one Webby and three People’s Voice Awards.

The Advanced Software Technology Group (ASTG) provides custom high-end computing support to NASA funded researchers. The ASTG team consists of experts from a variety of disciplines including meteorology, physics, mathematics and several areas of engineering. ASTG services include training, parallelization, algorithmic improvements, optimization, porting, and software design/implementation. ASTG clients include the Goddard Institute of Space Studies, the Global Modeling Initiative, and the Global Modeling and Assimilation Office.

The Modeling, Analysis, and Prediction (MAP) Integration Group provides guidance to the Earth Sciences Division and the MAP Program regarding technology trends that will benefit the development of end-to-end Earth System models. The MAP Group also provides line management for the Observing System Simulation Experiment (OSSE) software development group.