

WEB-BASED TOOLS THAT FACILITATE EDUCATION AND TRAINING IN SATELLITE METEOROLOGY.

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Abstract

Satellite Meteorology provides scientists and educators with exciting tools for investigation, inquiry, analysis and stewardship. To this end, the Cooperative Institute for Meteorological Satellite Studies (CIMSS) has been developing cutting edge software for over two decades while networking with professional meteorologists, college students, K-16 educators and students to continually raise awareness and appreciation for satellite technology.

VISITVIEW

Major satellite advances create a compelling need for training. The VISIT (Virtual Institute for Satellite Integration Training) program performs pioneering research in the use of tools, data, and techniques for supporting distance learning activities in the atmospheric sciences. The United States National Weather Service (NWS), the World Meteorological Organization (WMO), EUMETSAT, and other organizations use VISITview software and VISIT lessons to support their needs for decentralizing training activities.

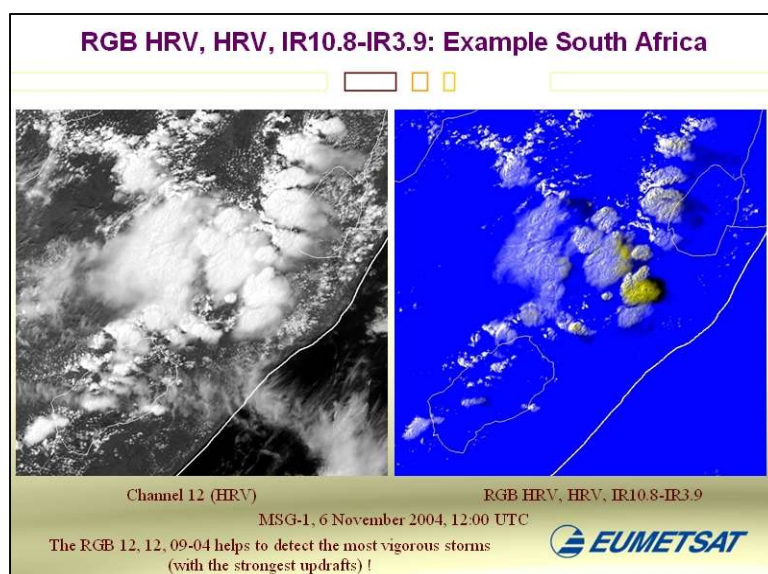


Figure 1: VISITview use in EUMETSAT severe convection training

SATELLITE OBSERVATIONS IN SCIENCE EDUCATION

This NASA funded project combines online learning activities with e-learning tools called Reusable Content Objects (RCOs) to assist educators teaching remote sensing and satellite technology.

The long-term goal of Satellite Observations in Science Education (SOSE) is to improve the teaching and learning of the Earth system through quality educational resources that make use of satellite observations. SOSE has made available a library of Reusable Content Objects (RCOs) - a toolkit easily adaptable to a wide variety of applications. Using this toolkit, an educator can quickly assemble highly interactive web-based activities. For details, see the project web site: www.ssec.wisc.edu/sose.



Figure 2: This tracking RCO allows distance or speed measurement over a series of images.

INTERACTIVE EDUCATIONAL APPLETS

CIMSS Educational Applets are highly interactive teaching and learning activities that allow users to explore physical processes such as hurricanes, rainbows, tornados, snowflake crystals, and more - all from any web browser.

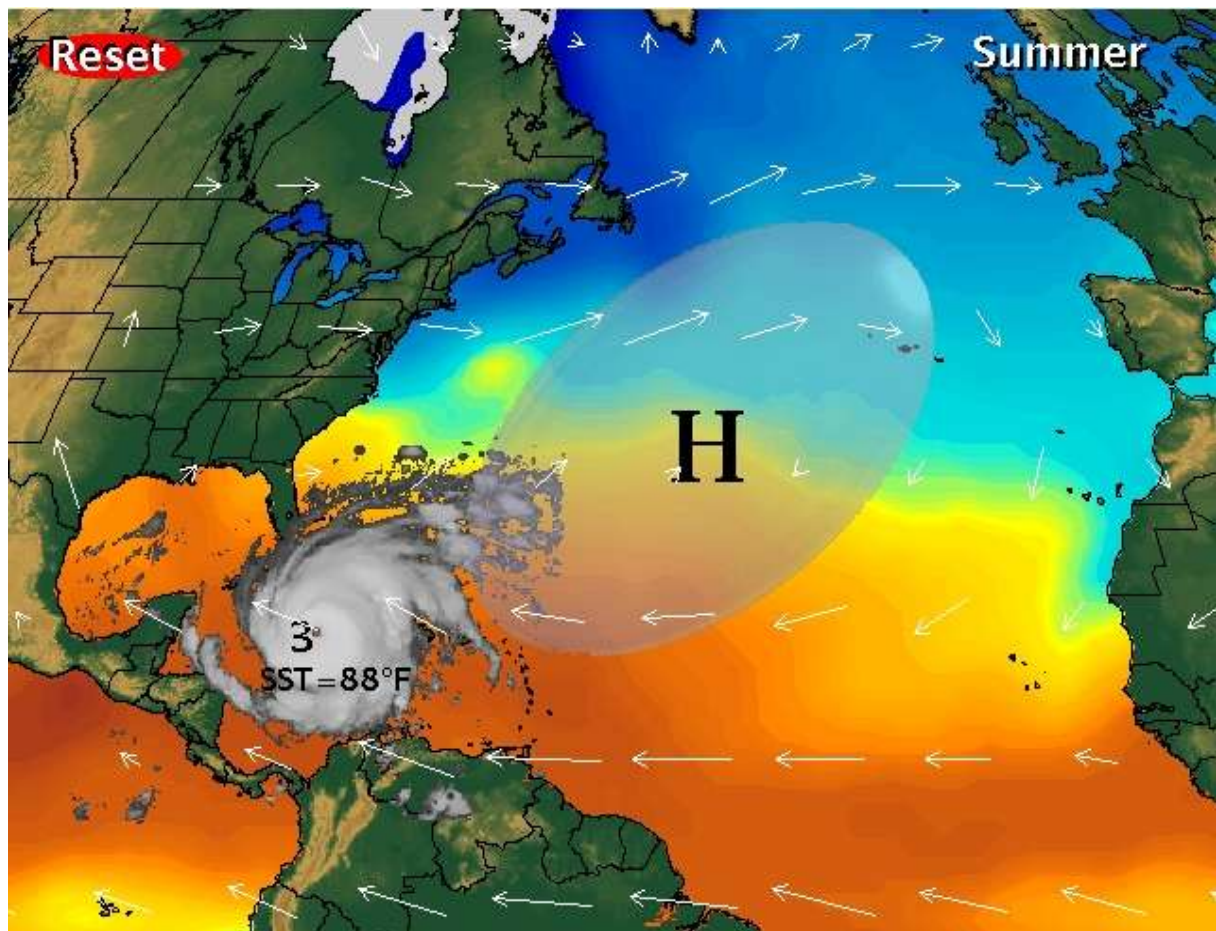


Figure 3: This applet lets the user explore how Sea Surface Temperature affects the intensity of hurricanes.

SUMMARY

CIMSS has been on the forefront of educational software design for over two decades, and continues to put great emphasis on outreach and education. This paper highlights just a small sampling of the educational software developed at CIMSS, which is used by professional meteorologists, teachers, students, and many others worldwide. To learn more about the freely available software discussed here, and much more, please visit <http://cimss.ssec.wisc.edu/education>.