

Satellite visualization tool for high-res observation accessible from anywhere with internet access

January 29 2013

A paper published in the February issue of *Computers & Geosciences*, describes a case study in which an earth-observing satellite tool, the Tool for High-Resolution Observation Review (THOR), using minimal coding effort, is converted into a practical web-based application, THOR-Online. In addition, a 3D visualization technique is also described in this paper.

Initially only operable from a desktop computer, with the approach outlined in the study, THOR is now accessible online from NASA's Precipitation Processing System website. This allows researchers to remotely examine the 15-year archive of Tropical Rainfall Measuring Mission (TRMM) satellite data. Efforts to improve THOR have been ongoing since the 1997 launch of Tropical Rainfall Measuring Mission (TRMM) satellite, which carries first space-borne radar capable of observing detailed three-dimensional structure of regions of precipitation inside of storm clouds.

"The 3D display technique can be used to make features of, for example, a hurricane, visually accessible even to those without technical training in meteorology," explained Owen Kelley, author of the study. "The TRMM [satellite](#) observed Hurricane Sandy a day before its U.S. landfall affecting New Jersey and New York, among other states. Using this technique, TRMM 3D images of the storm's overflight and other tropical cyclones during the final months of 2012 could be made available

through NASA Hurricane Resource Page (www.nasa.gov/hurricanes)."

"Addressing an important problem at intersection of the geosciences (remote sensing, hydrology, meteorology) and computer sciences, this article is a poster child example of what we aim to publish in *Computers & Geosciences*," explains Jef Caers Co-Editor-in-Chief of *Computers & Geosciences*. "It uses modern computer science paradigms such as the World Wide Web, code re-use and practical graphical user interfaces to address an important geoscience problem."

The approach outlined in the paper may be of interest to other organizations responsible for earth-observing satellites that have custom desktop visualization tools which may need to be converted to online applications for broader usage, or that have 3D datasets that require the development of an interactive visualization tool.

More information: The paper "Adapting an existing visualization application for browser-based deployment: A case study from the Tropical Rainfall Measuring Mission" can be found at:

www.sciencedirect.com/science/.../ii/S0098300412003433

The THOR-Online application described in the study can be found at:

pps.gsfc.nasa.gov/thor/

Provided by Elsevier

Citation: Satellite visualization tool for high-res observation accessible from anywhere with internet access (2013, January 29) retrieved 3 September 2024 from

<https://phys.org/news/2013-01-satellite-visualization-tool-high-res-accessible.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private

study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.