

## Display and Visualization of Remote Sensing Data

The purpose of this article is to discuss the various visualization software packages available to display various types of satellite data. Because of the large number of software packages available, the list contained within this discussion is not considered exhaustive nor is it recommending one package over another. Depending on the sector of meteorology really dictates on what software package is used.

The National Weather Service uses the Advanced Weather Interactive Processing System (AWIPS) as their primary means for displaying weather data. Figure 1 shows an example of 250 meter visible image from MODIS over the Huntsville NWS County Warning Area along with surface data plotted. The advantage of AWIPS is to plot and display various types of meteorological data (including satellite).

For television meteorologists, several private weather vendors are normally used and the advantage to their systems is to present data, which is visually appealing. These systems also allow for 2 and 3 dimensional visualization of meteorological data. These systems are developed by Accuweather, Baron Services, Weather Central, and WSI.

The research community, several different software packages are used depending on the need of the scientist. One of the most widely used is McIDAS, which was developed by the University of Wisconsin-Madison. As we move into the hyperspectral world of satellite meteorology, McIDAS-V was developed using the framework of Integrated Data Viewer (IDV) developed by UNIDATA which is a java based visualization tool which allows for 2 and 3 dimensional visualization of meteorological data. In addition, Geographical Information Systems (GIS) are becoming a new tool available for satellite visualization as well.

Useful Links:

Accuweather: <http://www.accuweather.com>

Baron Services: <http://www.baronservices.com>

Weather Central: <http://www.wxc.com>

WSI: <http://www.wsi.com>

McIDAS: <http://www.ssec.wisc.edu/mcidas/>

IDV: <http://www.unidata.ucar.edu/software/idv/>

Lecia Geosystems (formerly ERDAS): <http://www.erdas.com/>

ENVI from ITT (formerly RSI): <http://www.ittvis.com/envi/index.asp>

ESRI GIS (ArcView Image Analysis):  
<http://www.esri.com/software/arcview/extensions/imageanalysis/>

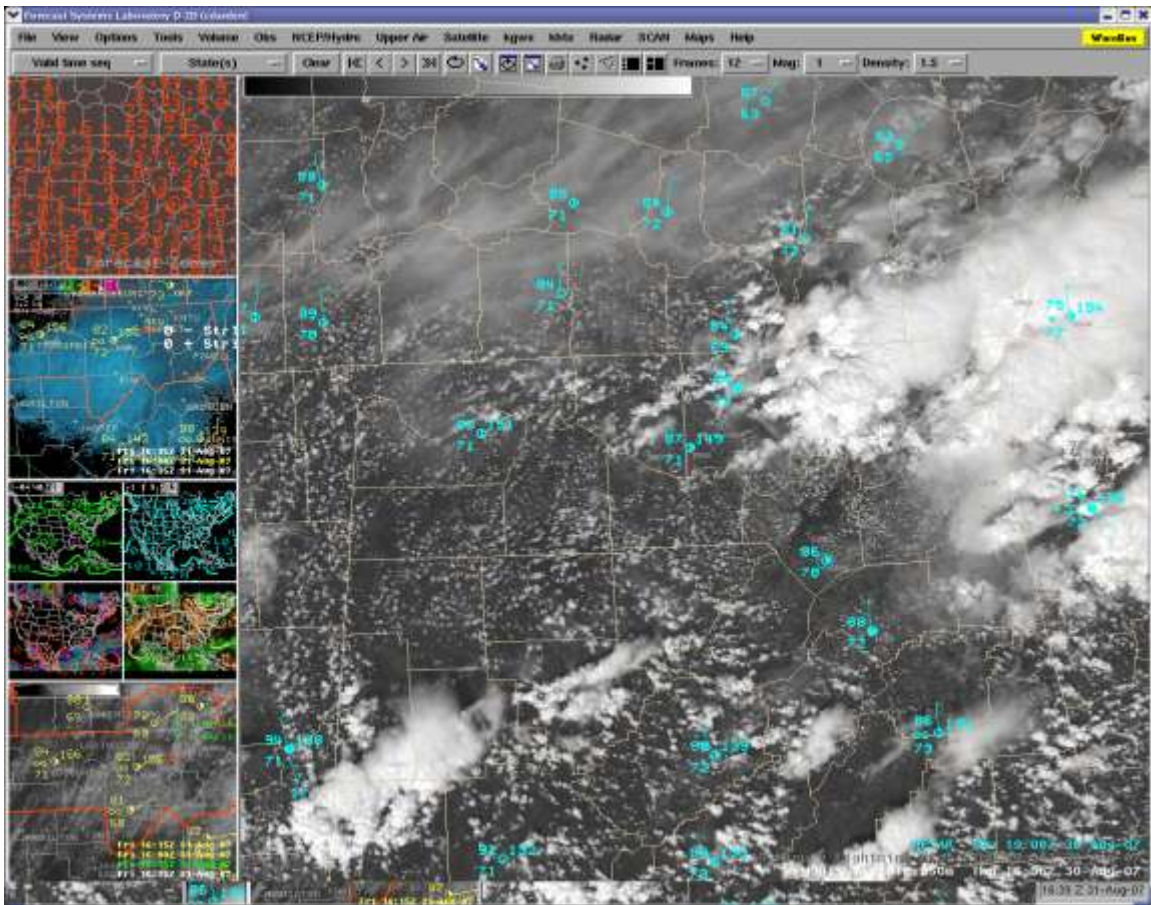


Figure 1. A 250 m visible satellite image from MODIS as displayed within an AWIPS terminal at the Huntsville National Weather Service with surface data plotted over the imagery.

*Wayne MacKenzie and Jeff Underwood*  
*Remote Sensing Committee*