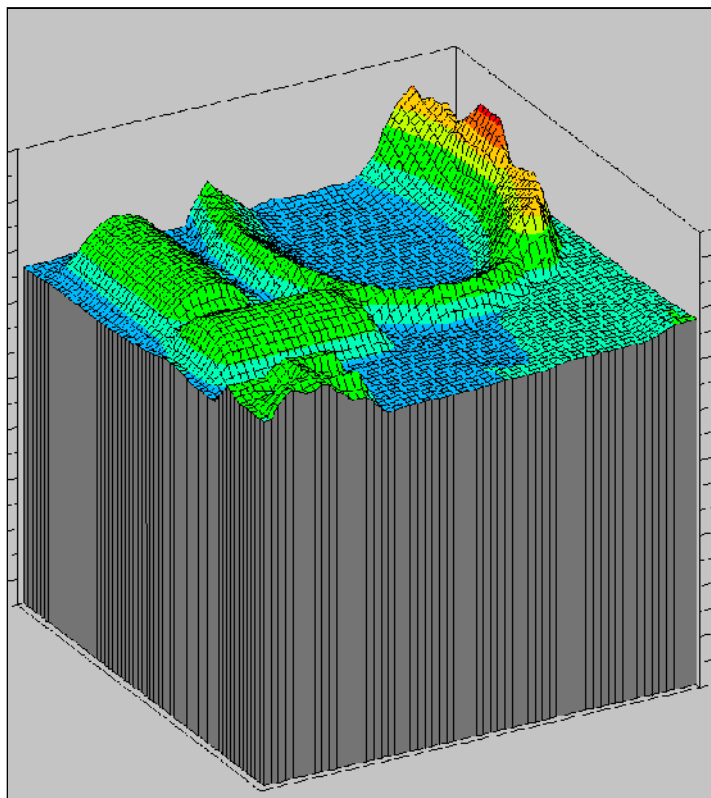


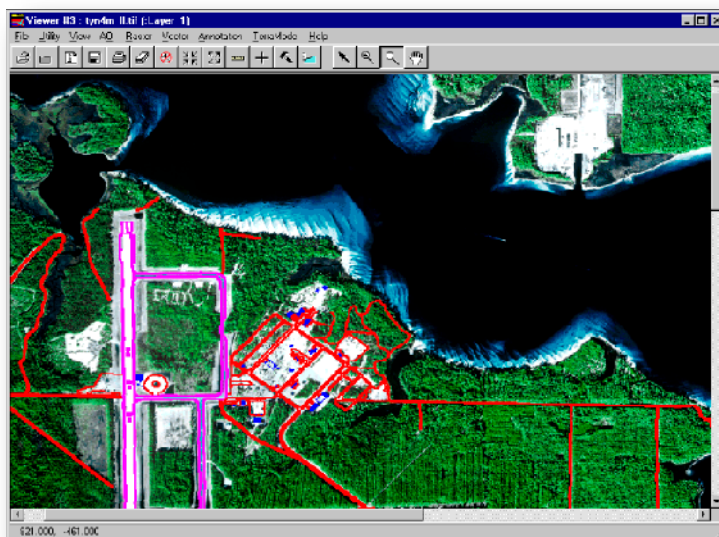
NASA Affiliated Research Center

The Environmental Remote Sensing Center at the University of Wisconsin-Madison has been a NASA Affiliated Research Center (ARC) since the program's inception in 1996. The initial focus of ARC was the commercial development of high resolution satellite and aerial imaging technologies through short-term university/corporate partnerships. Through 2001, ERSC worked with 15 commercial firms on demonstration projects that applied remote sensing and related geospatial technologies in the following ways:

- ❖ Gas-Line Route Selection
- ❖ Forest Density and Volume Measurement
- ❖ Airport Emergency Response System Navigation
- ❖ Facility Site Location
- ❖ Image Processing Technology Development
- ❖ Smart Growth Planning
- ❖ Cityscape Modeling for Emergency Response
- ❖ Agricultural Monitoring with Aerial Hyperspectral Data
- ❖ Urban Stormwater Modeling



This 5-meter resolution digital elevation model (DEM) represents part of the Camp Randall sports complex at the University of Wisconsin - Madison and was developed by ERSC and Risk Management Planning, LLC to test the effectiveness of emergency management rural toxic plume models in an urban setting.



ERSC worked with Orbital Technologies Corporation (ORBITEC) to develop a real-time navigation system for airport emergency response vehicles. Above is a 4-meter resolution satellite image of Tyndall Air Force Base, FL with runways and access roads in a GIS overlay.

ARC Next

In the year 2001, ERSC's ARC activity transitioned to focus on water resource management applications under NASA's new "ARC Next" guidelines. ARC Next offers opportunities for longer-term collaborations, research and demonstration activities. Working with public partners such as the Wisconsin DNR, the Green Bay Metropolitan Sewerage District, and the Fox-Wolf Watershed Alliance, ERSC is pursuing the following activities:

- ❖ Field Spectroradiometry in Support of Lake Water Quality Assessment via Remote Sensing
- ❖ Development of a Robust Image Processing Protocol for State and Regional Lake Transparency Monitoring
- ❖ Development of a Multi-scale, Multipurpose, Satellite-based Water Quality Monitoring System for the Fox-Wolf River Basin Including Lake Winnebago, and Green Bay



ERSC graduate student Mark Nordheim measures lake reflectance with a fiber optic probe as part of the field spectroradiometry activity.