Disaster Response Intelligent System (DRIS)

Jackson State University
Center for Defense Integrated Data (CDID)

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DRIS Background

- **Funded by**
  - DHS Southeast Region Research Initiative (SERRI); Managed by Oak Ridge National Lab (ORNL)

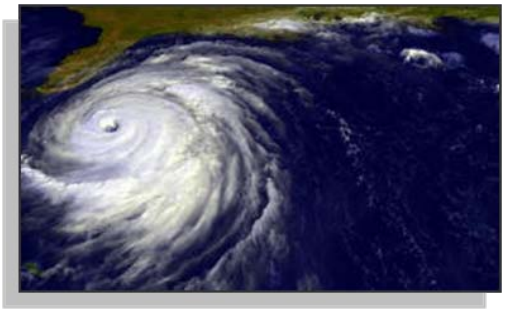
- **Objective**
  - Provide automated decision support tools to assist first responders with commanding complex incidents
  - Focuses on providing accurate datasets and integrating reliable models
  - Mission focus: Planning, Response and Recovery

What is DRIS?

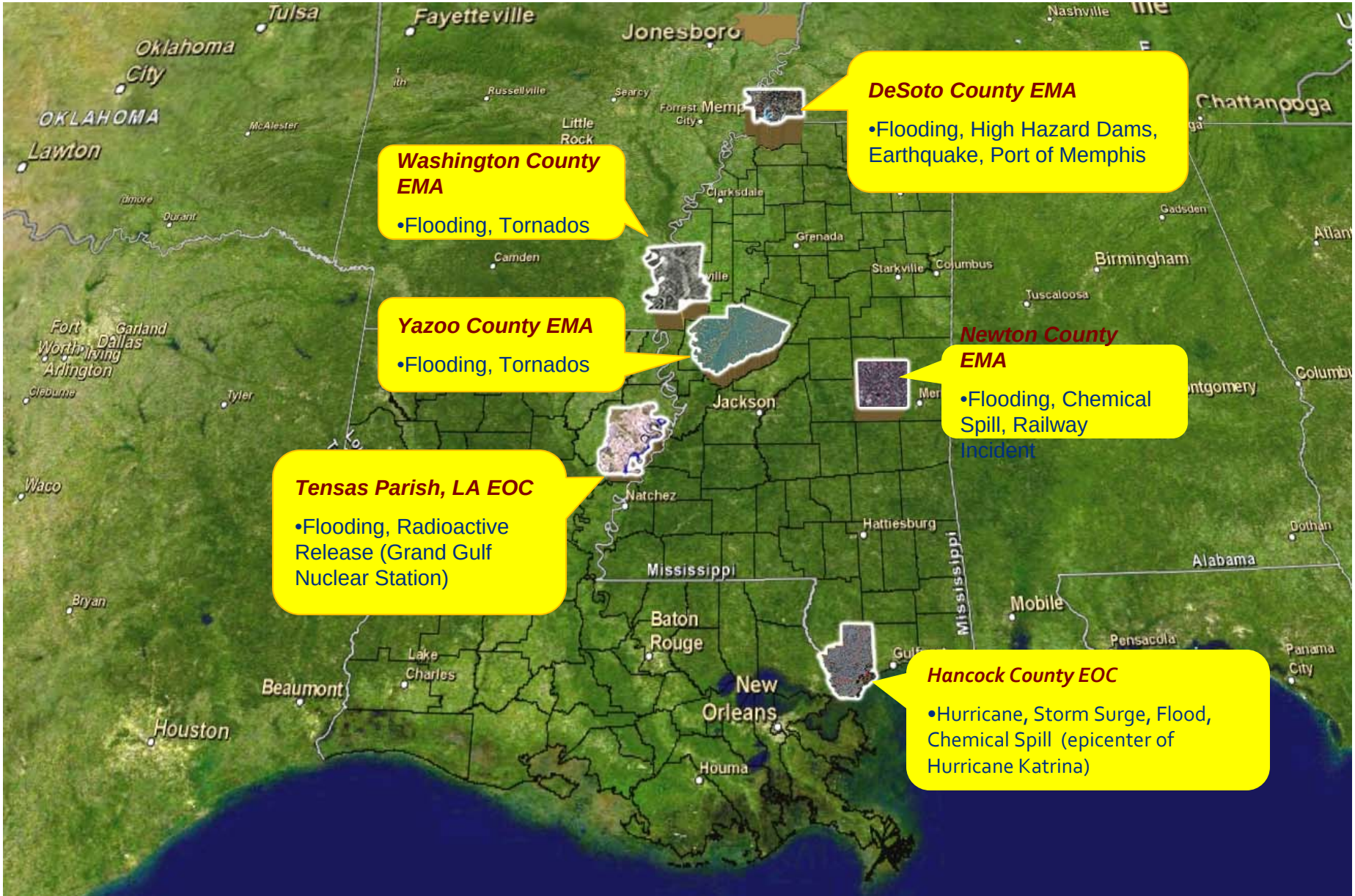
- Software Framework that integrates existing models for managing, analyzing & reporting critical incidents

- Model Integration Currently Includes:
  - SLOSH Storm Surge Model
  - ALOHA Chemical Plume Model
  - At-Risk Population Tool

- In Progress
  - River Flood Forecasting Hydraulic Model
  - RASCAL Radiological Release Model

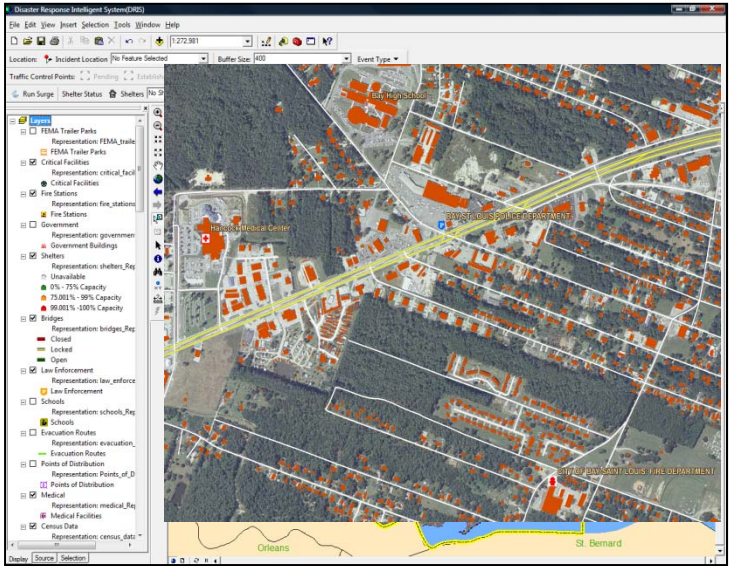


Who Uses DRIS?

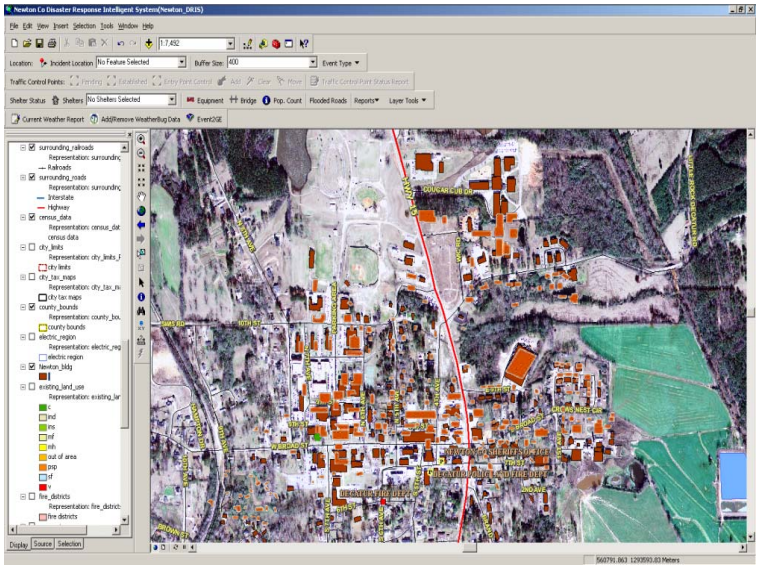


Essential Datasets: Critical Infrastructure

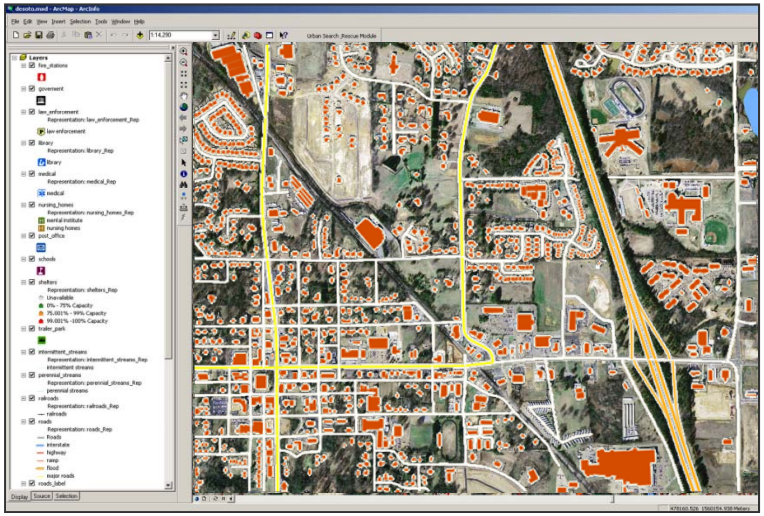
Hancock County, MS



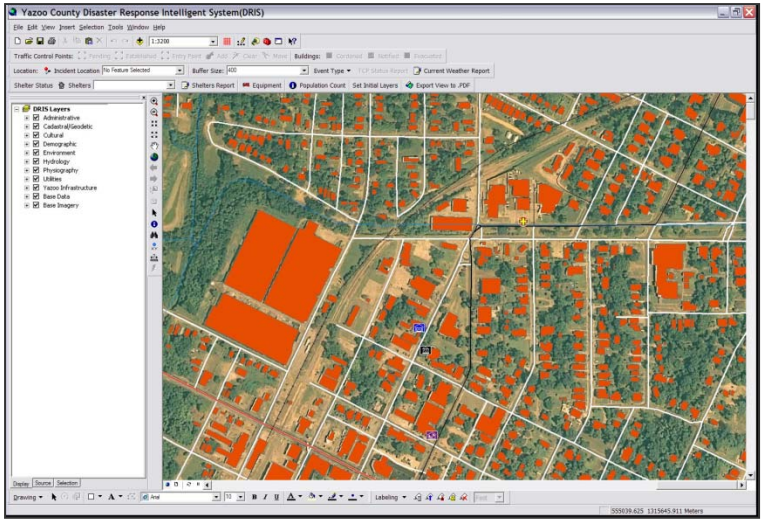
Newton County, MS



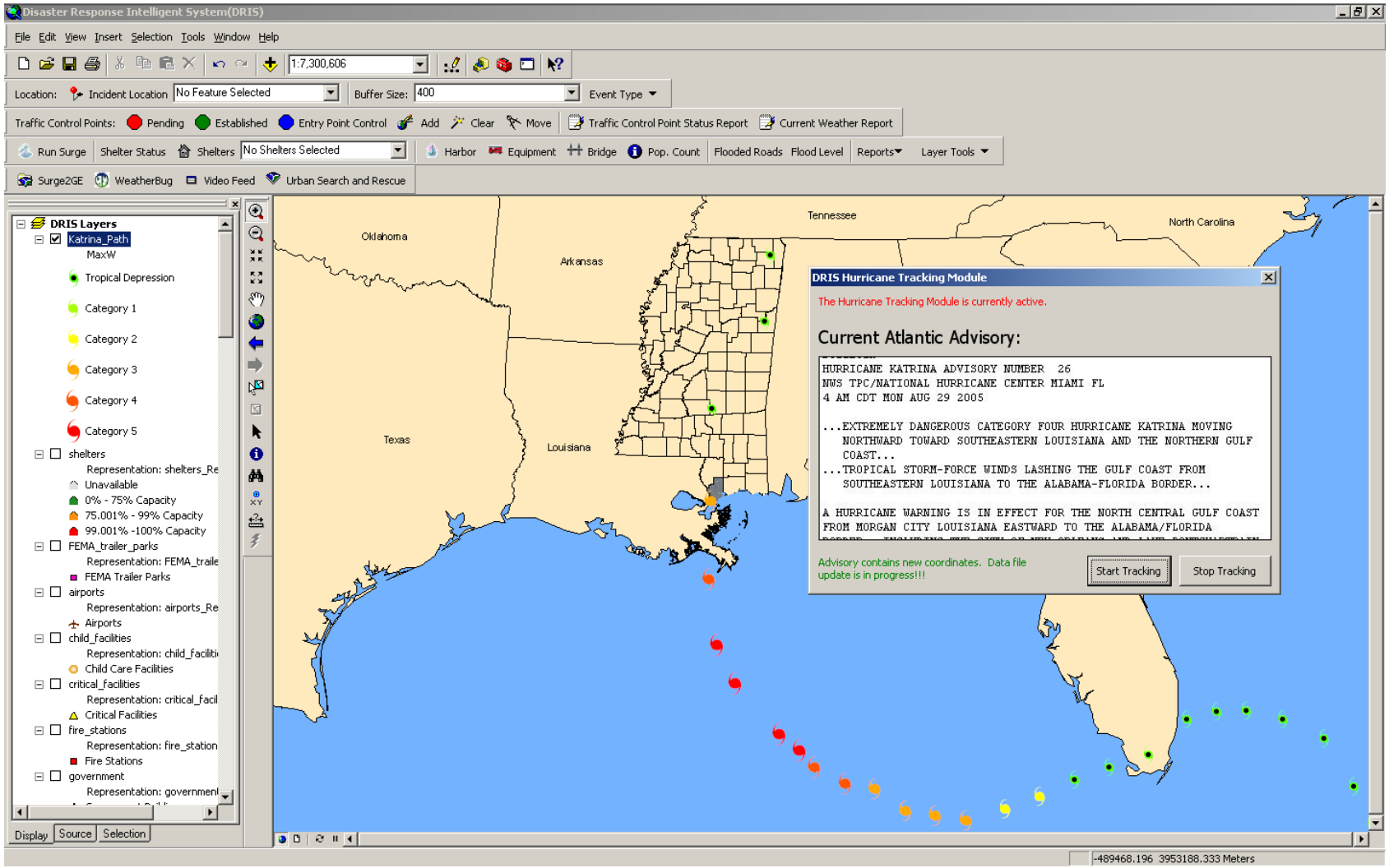
Desoto County, MS



Yazoo County, MS

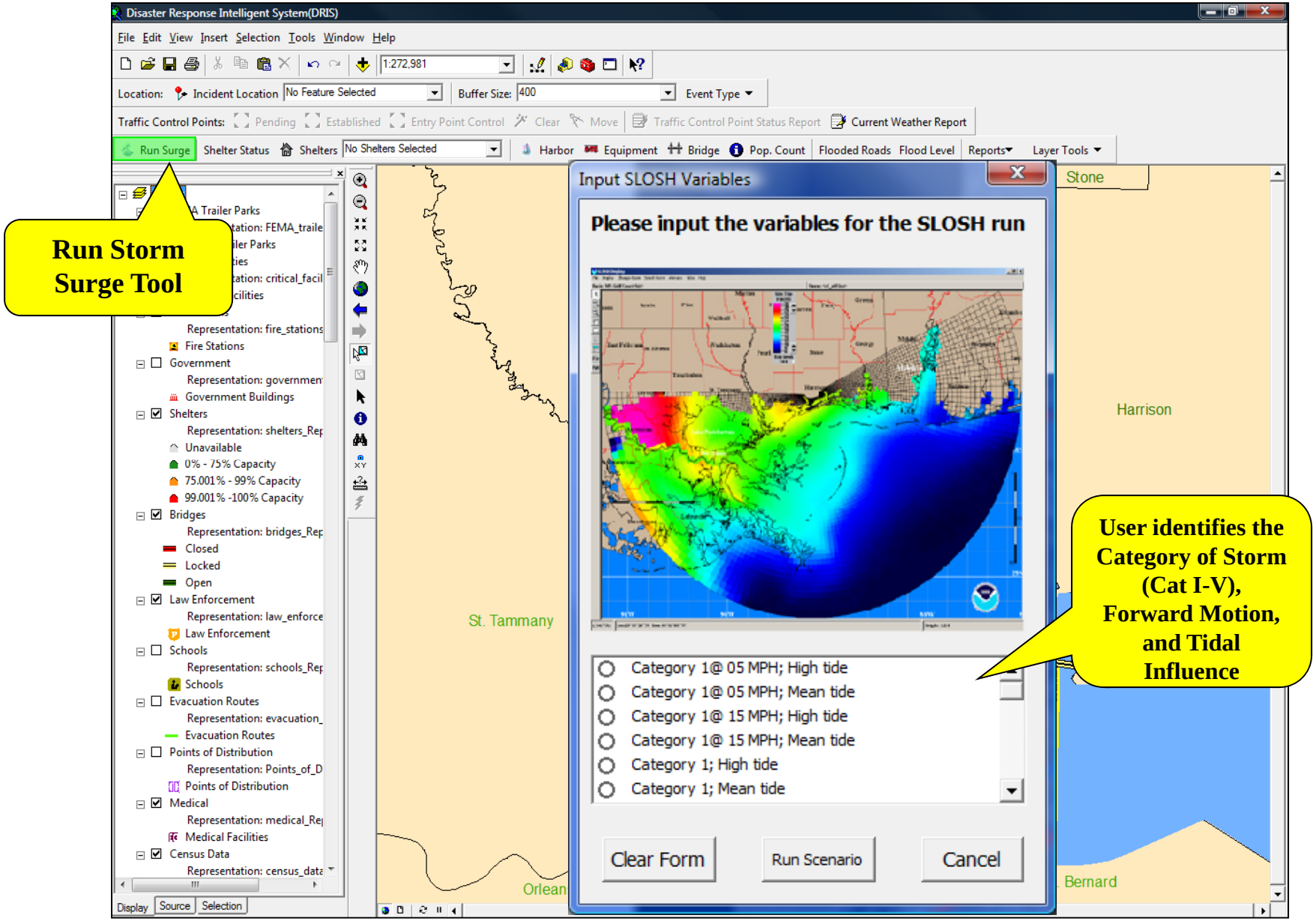


Hurricane Tracking Tool

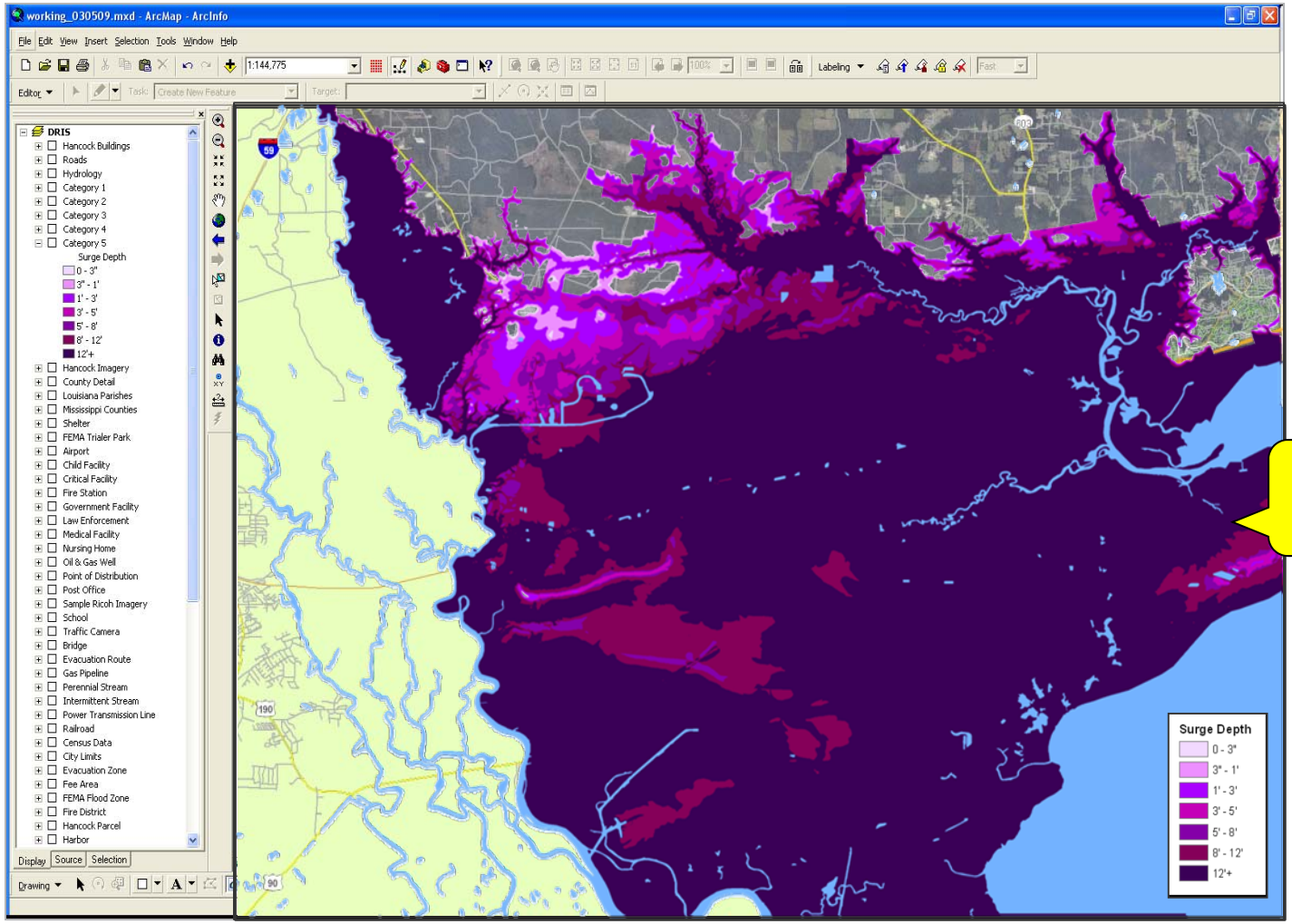


RSS Feeds and Advisories from National Hurricane Center

SLOSH Storm Surge Model

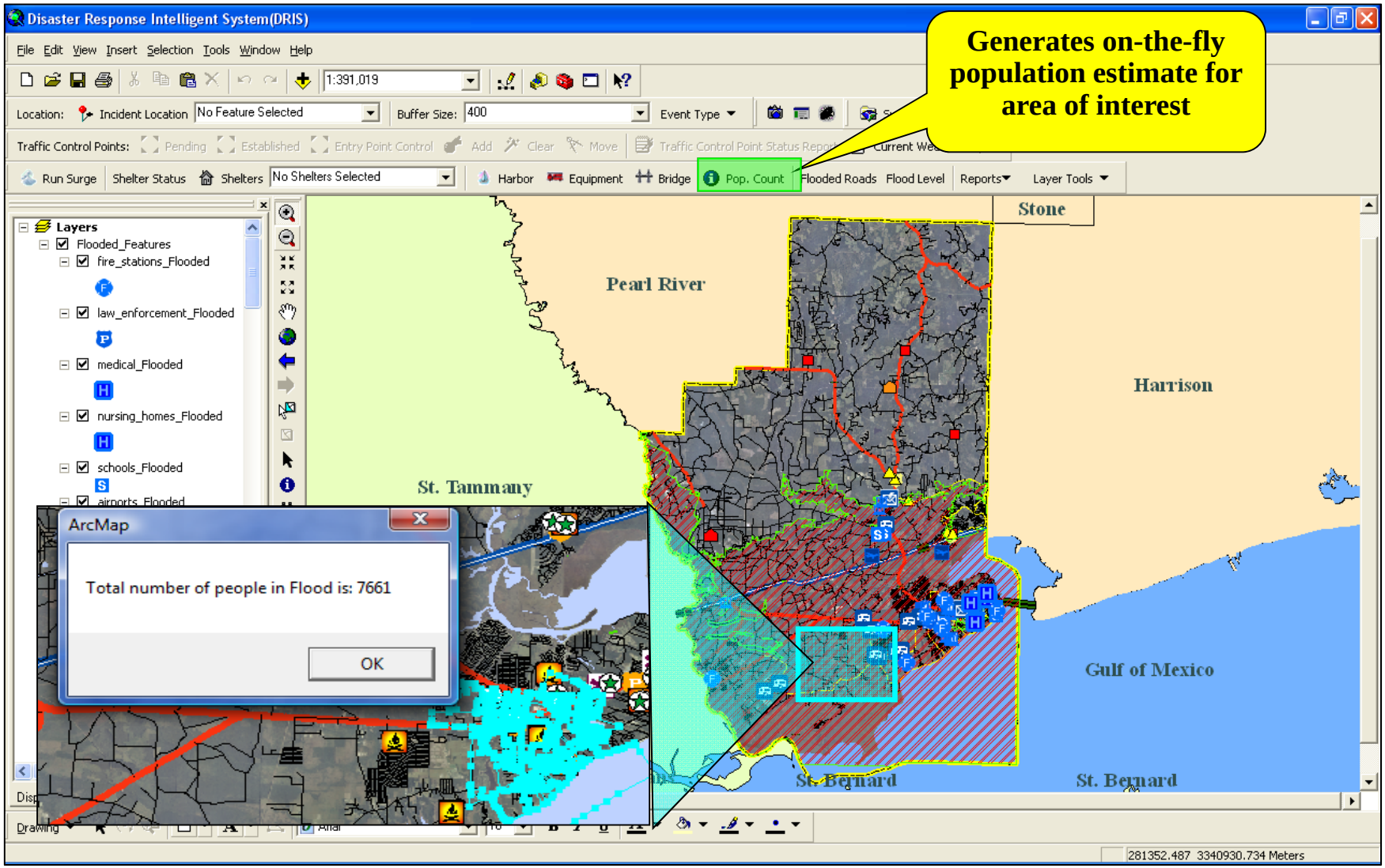


SLOSH Storm Surge Results



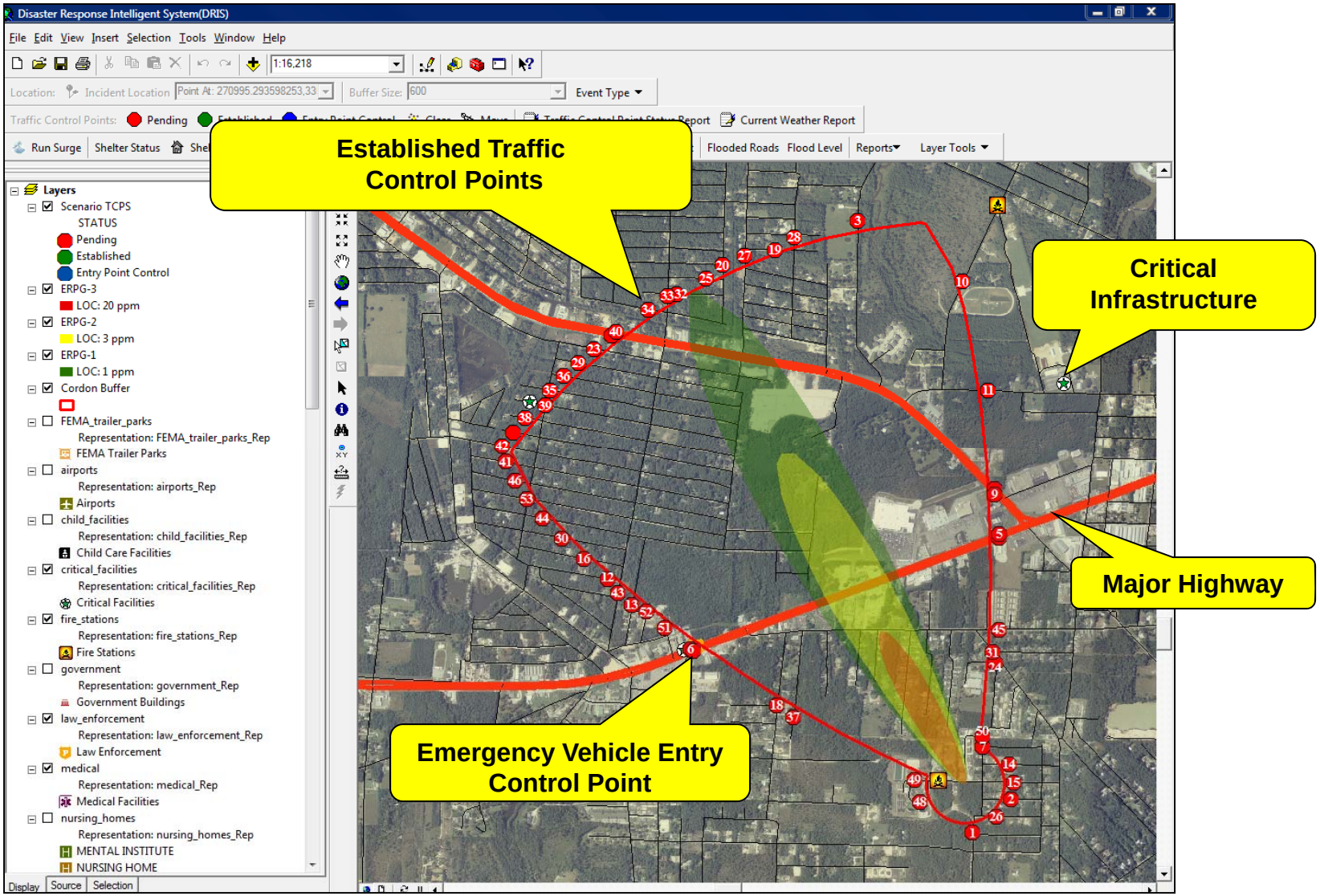
Predicted flood areas

Population Count Tool

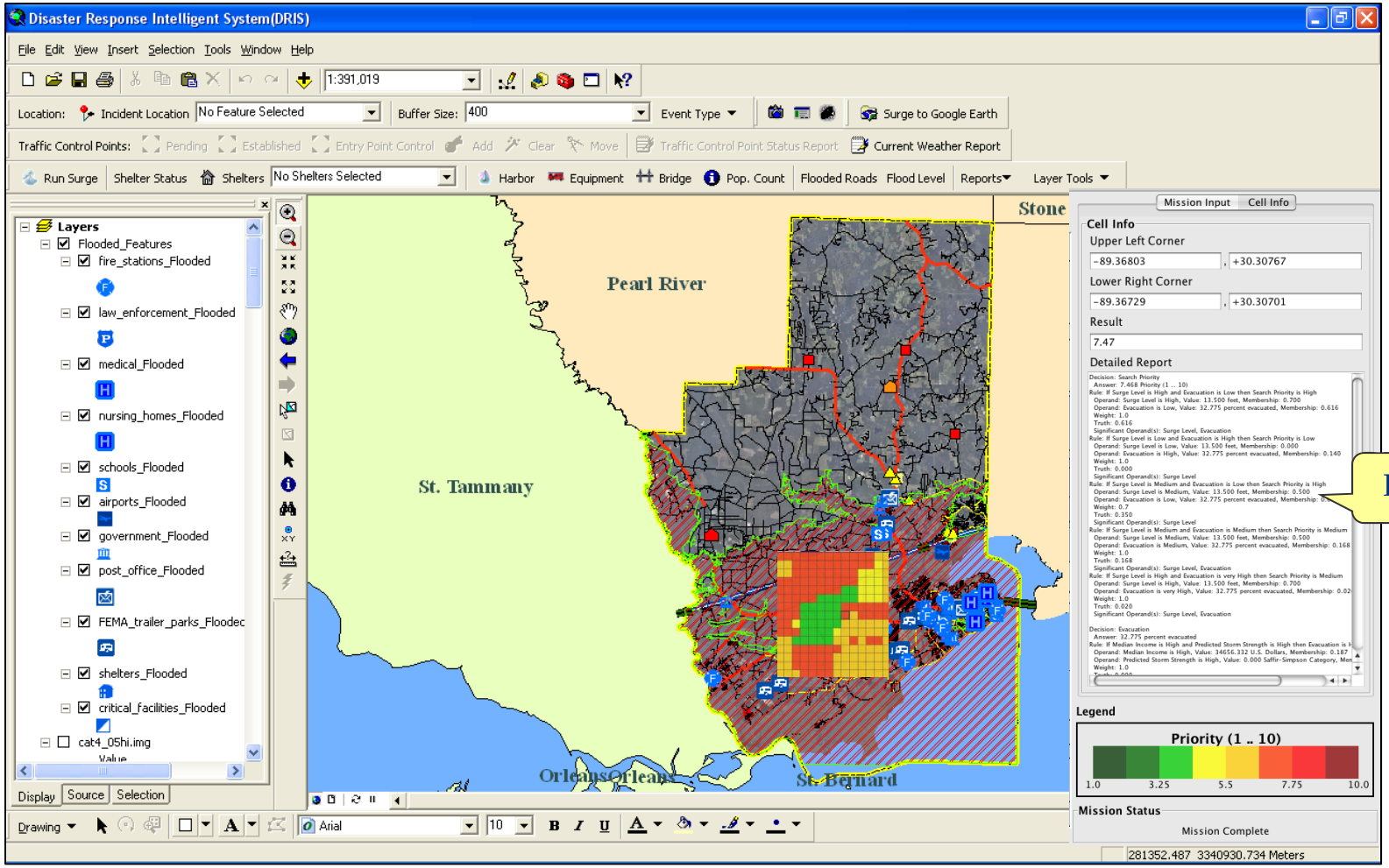


Google Earth Visualization

ALOHA Chemical Plume Model Integration & Traffic Control

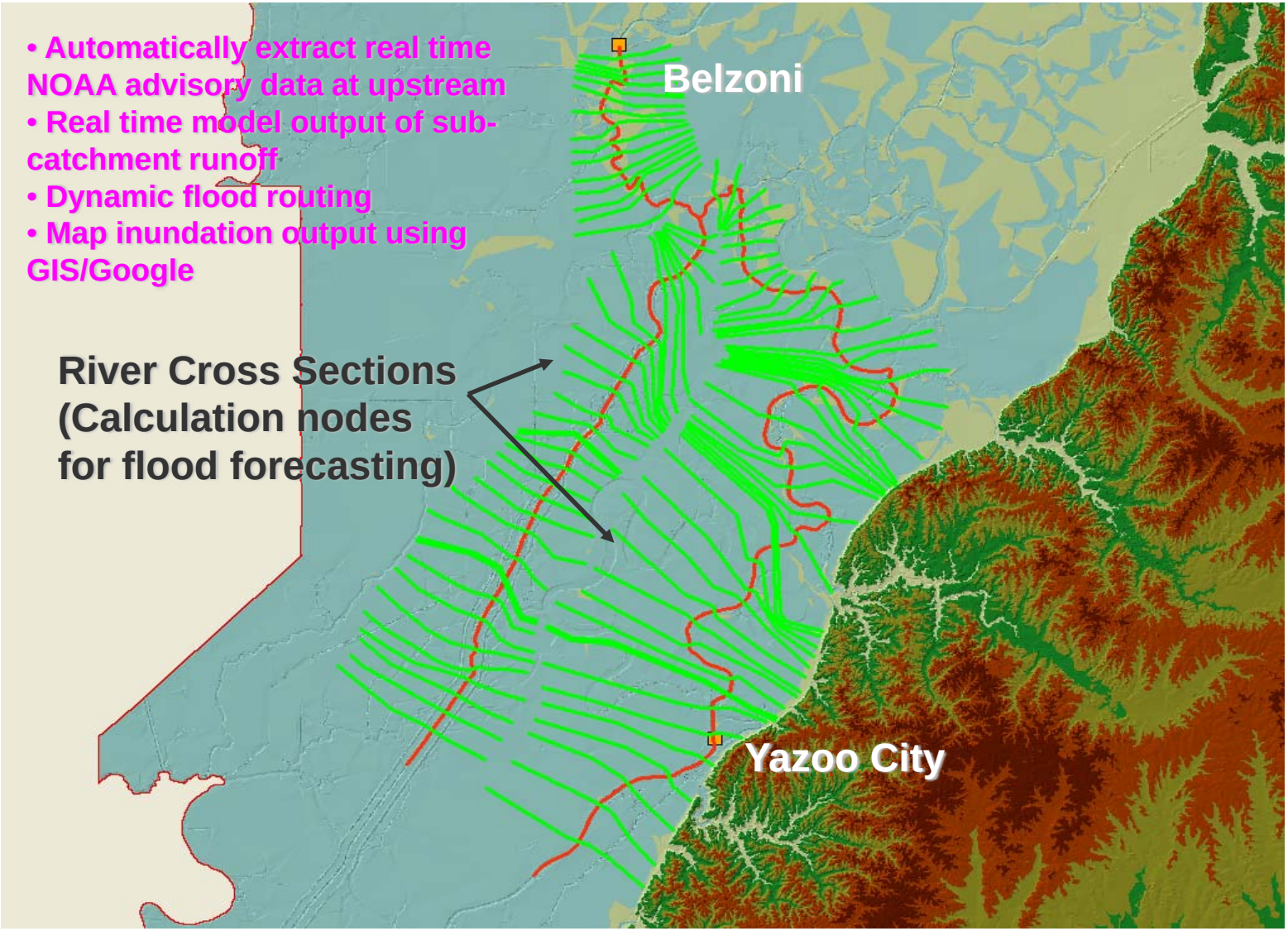


Identifying At-Risk Populations

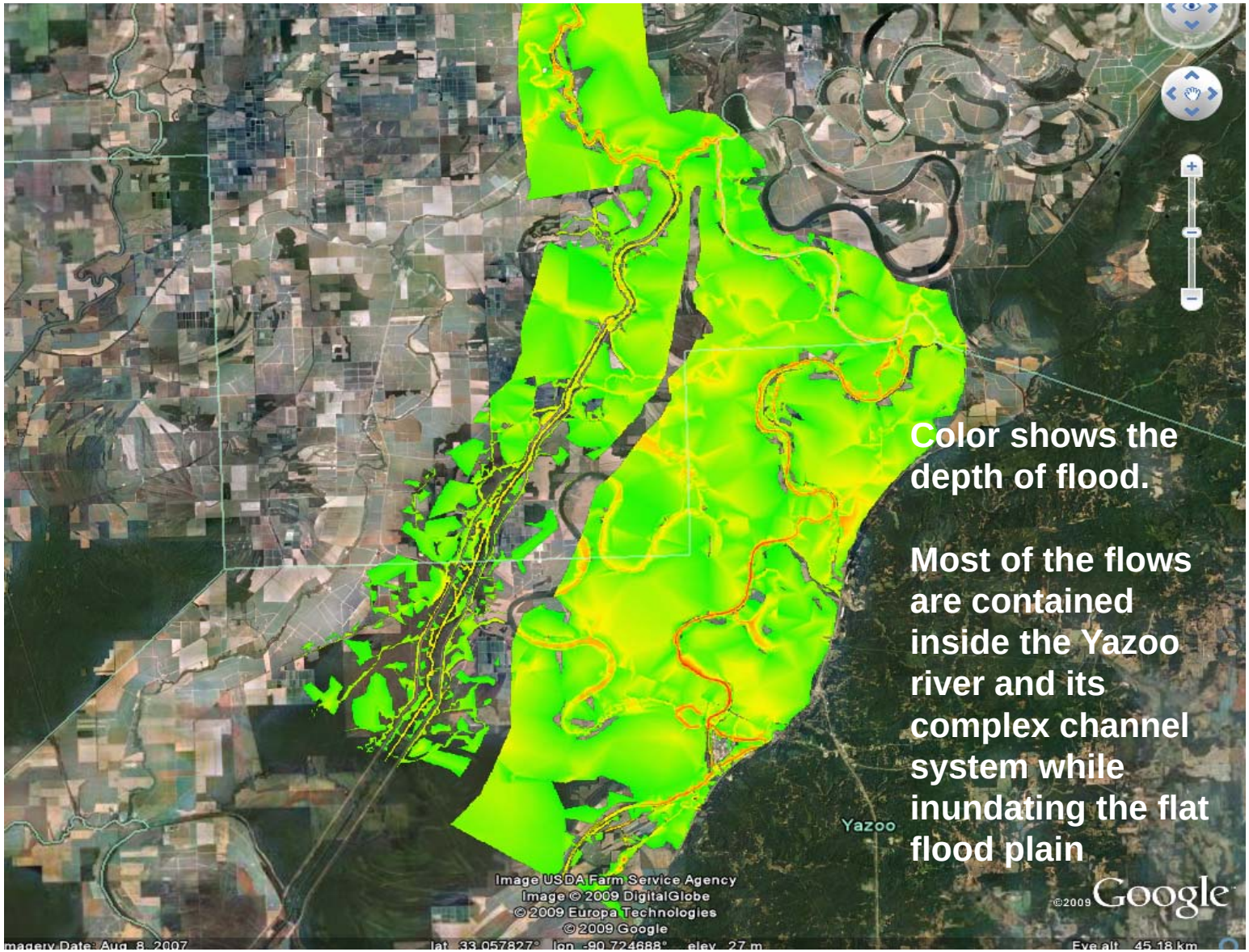


Drilldown

2D Hydrologic Model for River Flood Forecasting



Preliminary (Not Calibrated) Model Output



DRIS in the Field

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Breaking News: Newton Junction target for early morning robbery January 02, 2009 02:05 pm

Published: October 00, 2000 01:51 pm

Supervisors hear disaster plan from ISU

Cheryl Owens/News Editor
The Newton Record

NEWTON — A presentation was presented by Jackson State University's Center for Integrated Data to the Newton County Board of Supervisors at Monday's meeting on the importance of being prepared in case of an emergency in Newton County and how the system works.

Newton Emergency Management Coordinator Gary Galloway working along with Darius Mott, Joy Parikh from Radiance Technologies and Dr. Gordon Skelton from Jackson State University showed the board slides that mapped out different areas of town and routes to take and what areas might be affected in case of an emergency.

"We have been working with three counties in Mississippi; Newton, Hancock and DeSoto about issues relating to natural disasters," Skelton said. "We have also done some surge work on the Gulf Coast and issues related to flooding, tornadoes and other types of man made or other natural disasters."

According to Mott examples could be given on county data of where all man-hole covers, water mains, water tanks and water wells are.

"Say for example you had a chemical truck that overturned a certain area could be mapped out to show where all the traffic control points are," Mott said. "You will immediately know where to send emergency personnel to block that area. We also can use students from East Central Community College to help by getting mile markers and as much information as

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Breaking News: Newton Junction target for early morning robbery January 02, 2009 02:05 pm

Newton County Board of Supervisors listen to Jackson State University's Center for Integrated Data on the importance of being prepared in case of an emergency and how their software will help.
Cheryl Owens / The Newton Record

http://www.thenewtonrecord.com/local/local_story_282145344.html

Outreach to Additional States (LA, TN, AL)

Summary

- DRIS integrates a variety of data and analysis tools that have practical applications for first responders

- SERRI program combines technology and university research to develop validated approaches for homeland security initiatives

- DRIS addresses local emergency response issues - integrated product with usability across the region

Contact Information

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