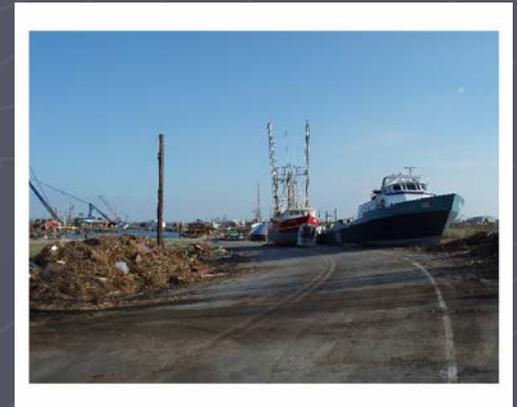


# Rapid Assessment of Natural Disasters

FHM Workgroup Ia  
Tuesday January 31, 2006  
3:30 – 5:00 pm



# Discussion Panel

- ▶ Frank Sapio – USDA Forest Service – FHTET
- ▶ Bill Burkman – USDA Forest Service – SRS-FIA
- ▶ Dave Struble – Maine Forest Service
- ▶ Dennis Jacobs – USDA Forest Service – SRS-FIA
- ▶ Jim Ellenwood – USDA Forest Service – FHTET

# Background Information

- ▶ Recent focus is on hurricanes but should include ice storms, wind events, and other natural disasters.
- ▶ Recent events have identified a lack of coordination and communication between various groups.
- ▶ Often multiple agencies cover the same area, duplicate efforts, and/or result in conflicting information.
- ▶ Many evaluation procedures have been developed but have not been organized for land managers.
- ▶ The consideration of *The Forest Emergency Recovery and Research Act (FERRA)* has focused renewed attention on this situation.

# *The Forest Emergency Recovery and Research Act (FERRA)*



# Examples of Damage Assessment Tools

## Storms Over The Urban Forest

Second Edition 1994

Lisa L. Burban and John W. Andresen

Planning, Responding, and Regreening--  
A community Guide to Natural Disaster Relief

USDA FOREST SERVICE

Morgantown Field Office - Ice Storm Website

Ice Storm Website

- On-Line Information
  - Contacts
  - New Releases
  - Photo Gallery
  - Maps
- On-Line Information:
- General
  - Tax Information
  - Landowner Assistance
  - Insects/Disease
  - Evaluate Crown Damage
  - Urban/Hazard Trees
- Other Links

USDA Forest Service  
180 Canfield Street  
Morgantown, WV  
26505  
(304) 285-1542

USDA

TO RICHMOND FORESTRY SOUTH EXPO

RESOURCES CONTACTS EVENTS RESEARCH FUNDING CONTACT US

HOME » RESOURCES » COLLECTIONS » TREES AND STORMS: RESOURCES

TREES AND STORMS: RESOURCES

A list of collected resources, tools and links related to pre-disaster planning, disaster management, tree removals, maintenance (pruning), and tree planting which can be used during pre- and post-storm activities (i.e. recovery, clean-up, restoration).

Although each collection listed covers a specific topic, some resources will appear in multiple collections.

SUB-COLLECTIONS

- i-Tree: Integrated Software  
A collection of reference material that describes the i-Tree integrated application that includes: STRATUM, MCTL, STEMS and UFORE. Includes background material related to all three components and the inventory of reference files.
- Right Tree, Right Place, Right Now!  
A collection of resources that will help property owners in the evaluation of planting sites, selection of appropriate species, and the selection of quality trees at the nursery. Three steps necessary for successful UBCF tree planting.
- The Basics of Ecological Restoration and Regeneration  
Collection of resources addressing the basics of large scale ecological restoration and

CBS News Disaster Links

CBS NEWS DISASTER LINKS contains updated websites for quick reference. Please [email Dan Dubno at CBS News Special Events](mailto:email Dan Dubno at CBS News Special Events) if there is an important link omitted or if a link is broken.

DISASTERS  
CBS News Int  
US Governme  
Office of Hom  
DHS Disaster  
Emergency Pl  
Emergency Re

NORTHEAST CENTER FOR URBAN & COMMUNITY FORESTRY  
USDA Forest Service

News and Calendar Municipal Forest Mgt. NCUF Projects Related Links Contact Information

SPACE WEATHER  
NOAA Space Weather Now  
NOAA Today's Space Weather  
Lund Space Weather Center  
National Academy of Sciences:  
Space Weather Links  
NASA SpaceScience.com  
NASA Spacelink Hot Topics  
Univ of Arizona Spacewatch

### Storm Damage Assessment in Urban Areas



Large-scale storm events that cause excessive tree damage can rapidly compromise public safety. Communities manage such catastrophes with varying

## Trees: Damage

NC STATE UNIVERSITY

- [Construction Damage](#) | [Storm Damage](#) | [Lightning Damage](#) | [Snow/Ice Damage](#)
- [Hollow Trees](#) | [Water Stress](#) | [Damage to Tree Trunks](#)

Many people purchase a house with large, existing shade trees expecting them to live forever. Other prospective home owners purchase a wooded lot with plans to build a new home among the trees. During the home construction process, however, many trees are destroyed or injured.

The damage that occurs during construction may not at first be obvious unless the tree's trunk was damaged. In most cases the tree appears healthy but produces little new growth. Stress symptoms caused by tree root damage may take 5 to 10 years to fully develop. The tree initially lives off of its stored reserves --- after the reserves are depleted and the tree is exposed to hot, dry weather the tree declines or dies rapidly. Often insects and disease will invade the weakened tree and lead to a gradual deterioration. During periods of stress (high temperatures and drought) the trees may go through a rapid decline and die.

# Hurricane Andrew, LA 1992

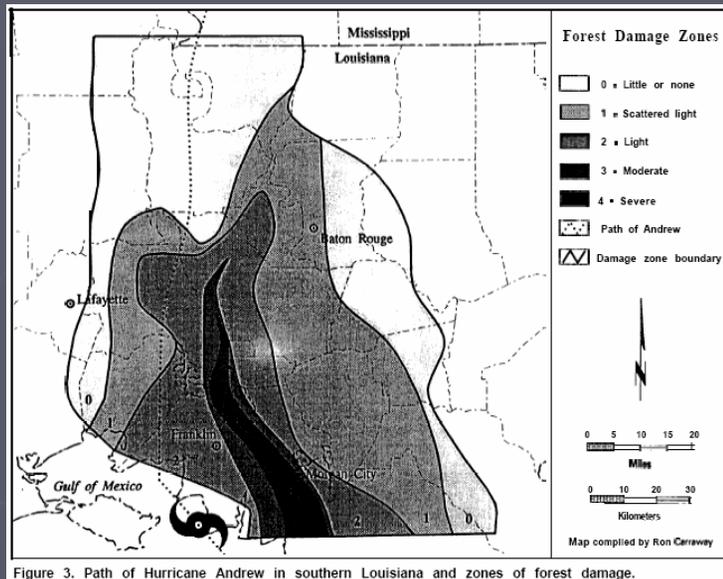


Figure 3. Path of Hurricane Andrew in southern Louisiana and zones of forest damage.

# Southern Ice Storm, MS 1994

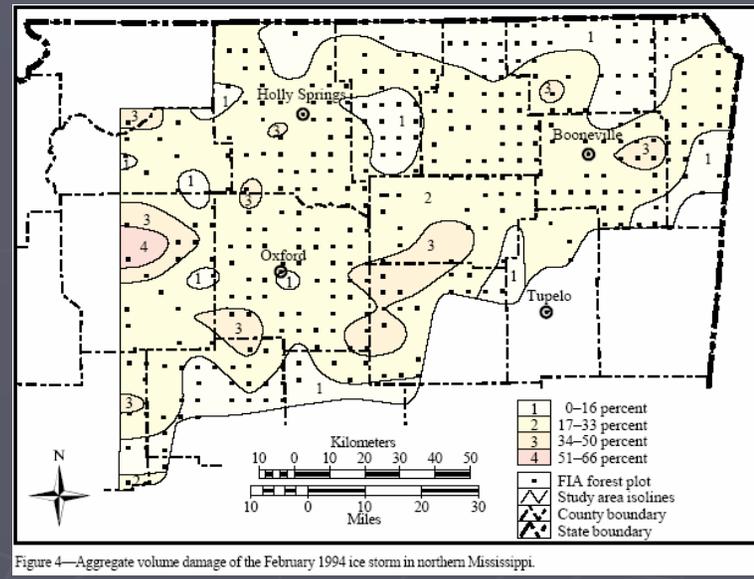
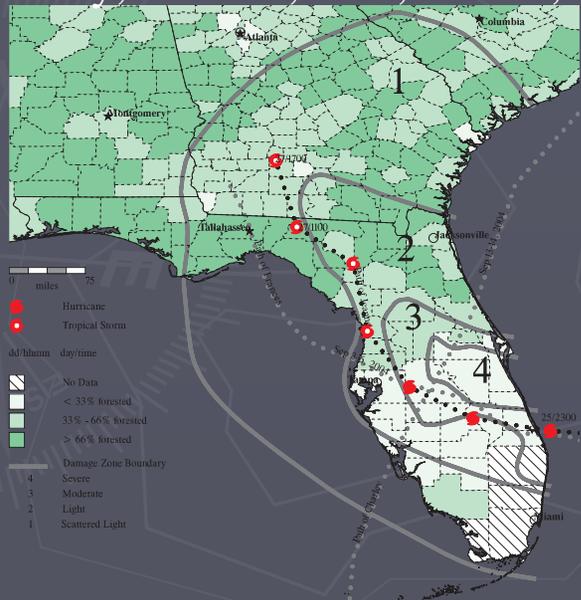
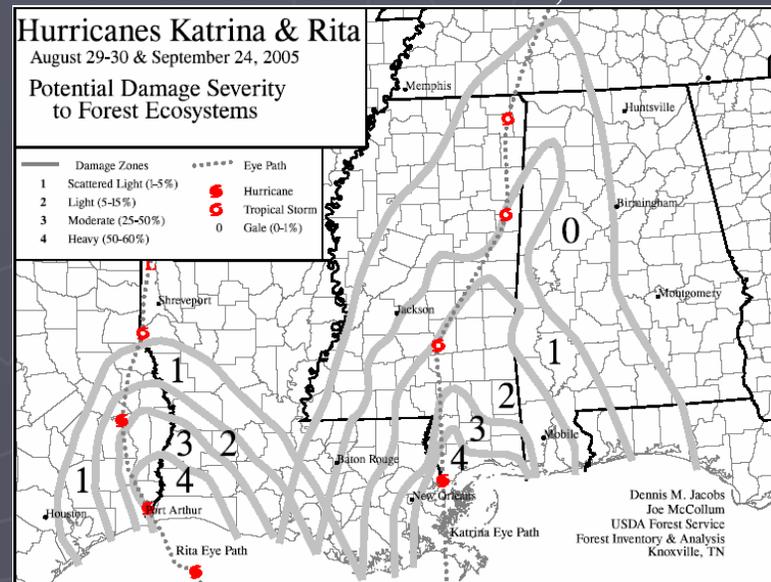


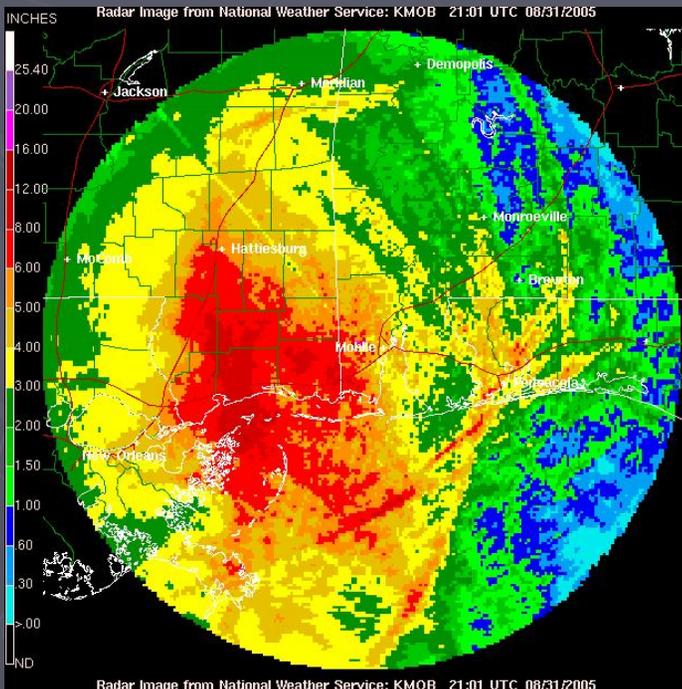
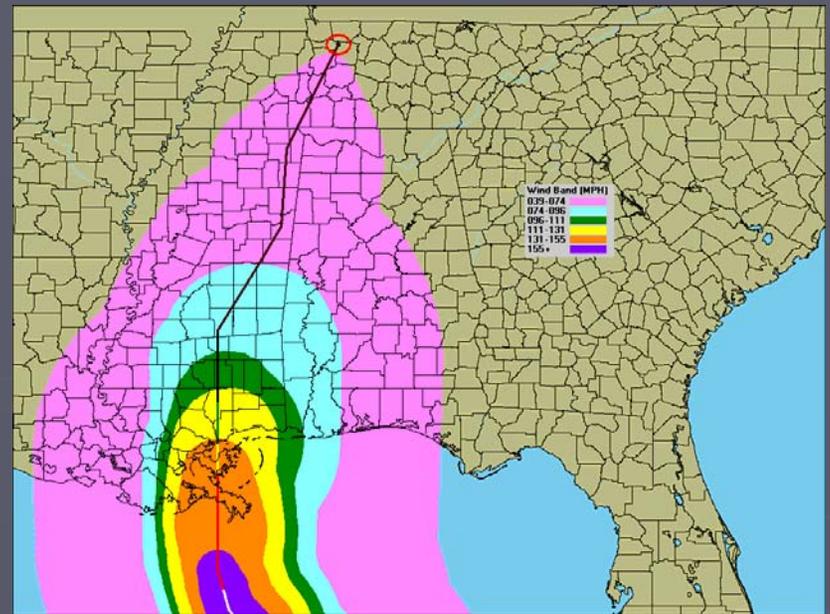
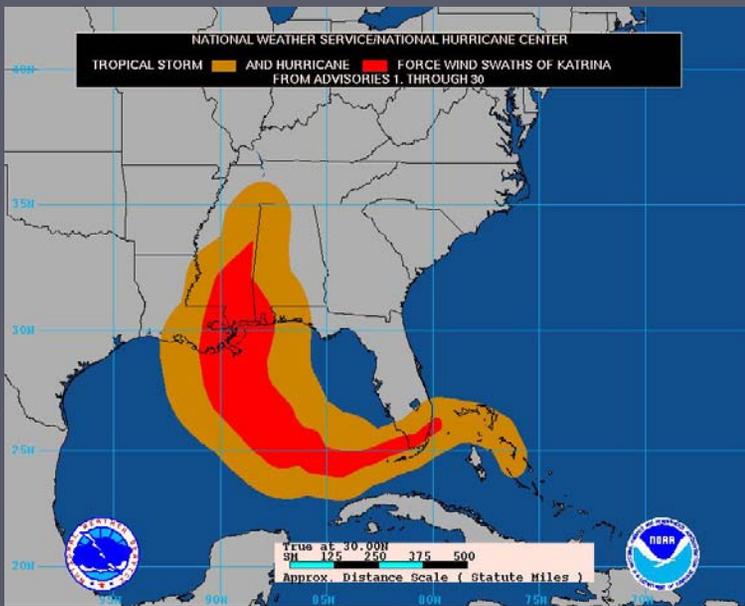
Figure 4—Aggregate volume damage of the February 1994 ice storm in northern Mississippi.

# Charley, Frances, Ivan, Jeanne, 2004

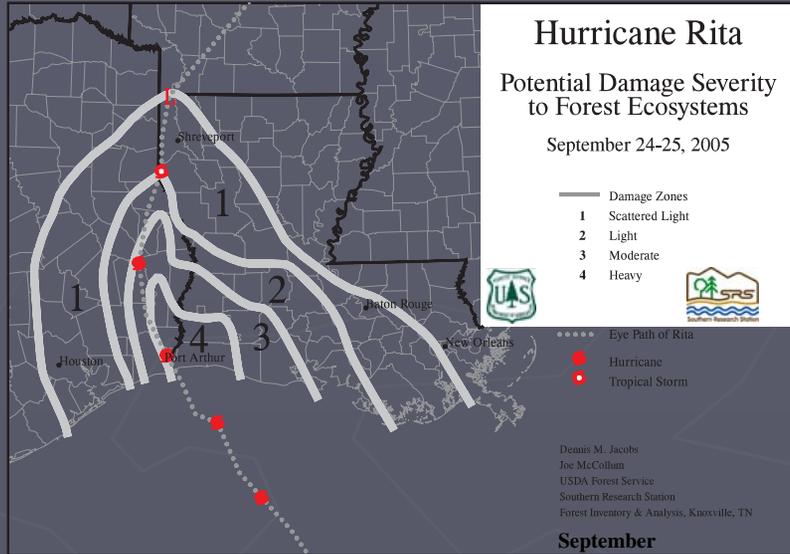


# Hurricanes Katrina & Rita, 2005

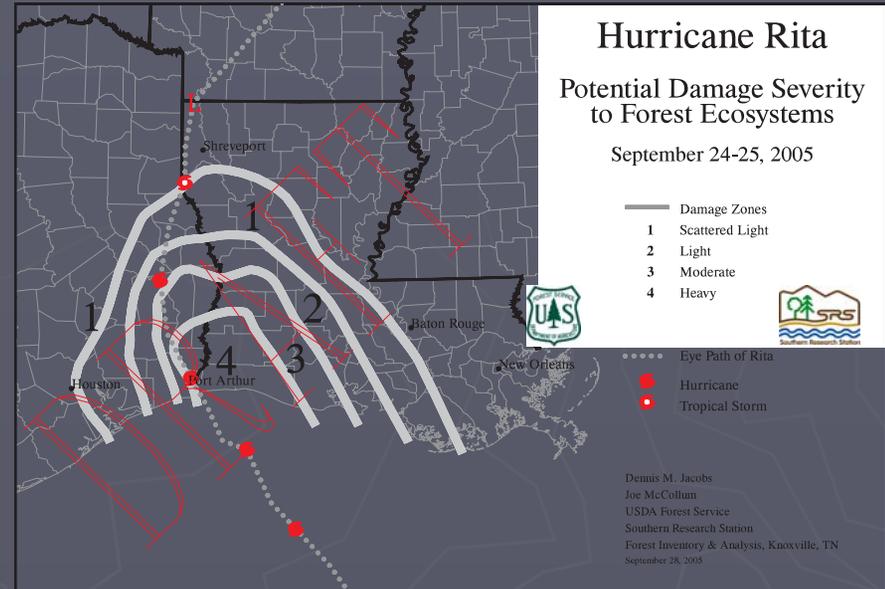




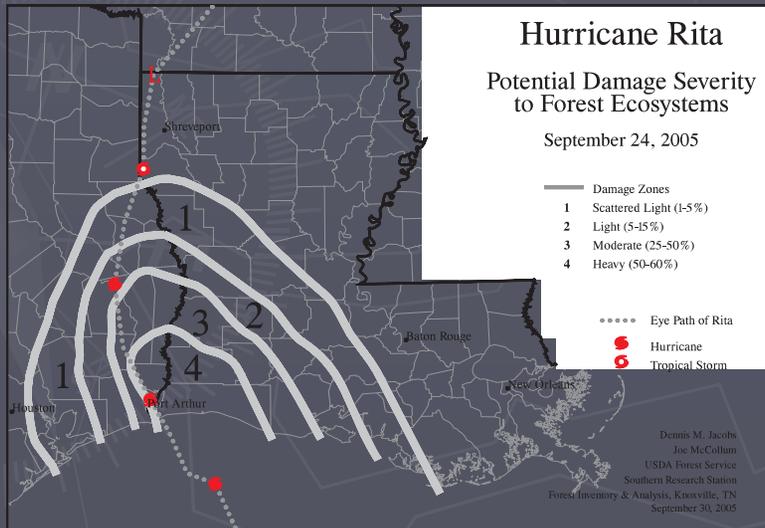
# First Draft – presented Sept. 25



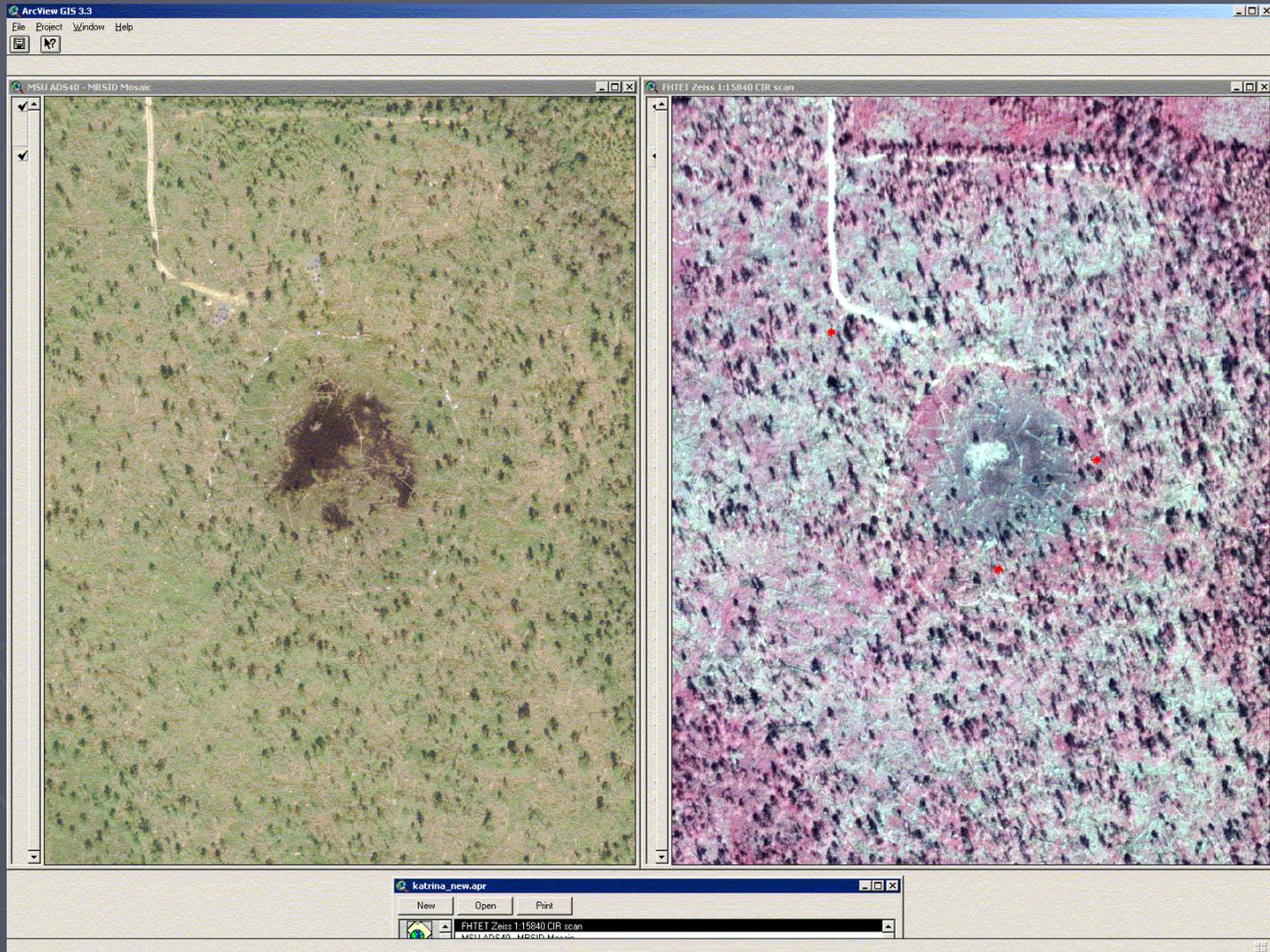
# Interim Draft – revised Sept. 28



# Final Draft – delivered September 30



# Natural color MSU digital image vs. scanned aerial photography w/FHP storm damage assessment plot superimposed (DeSoto NF - heavy damage)



# Scanned aerial photo CIR 1:15840 - heavy storm damaged area on the DeSoto NF



# Issues to Consider

- ▶ Need to develop an Incident Command System to coordinate:
  - Evaluation and monitoring of impacts – including which tools to use,
  - Deployment of resources,
  - Communication and reporting structures, and
  - Development of a response plan.

# Issues to Consider (cont.)

- ▶ Need to organize the various evaluation and monitoring tools available into a *toolkit*.

This *toolkit* should:

- Scope/context of each tool,
- Time frame to develop estimates,
- Amount and type of resources needed, and
- Limitations of each tool.

# Issues to Consider (cont.)

- ▶ Need to develop a long-term evaluation of data collection efforts to refine and improve the utility and effectiveness of each tool.

# Resolution – Workgroup 1a

- ▶ Be it resolved that the FHM Program Manager appoint a working group of state, federal, and university partners to:

Develop a matrix of methodologies (toolkits) to respond to catastrophic events impacting forest resources within an appropriate timeframe and in a standardized manner to provide the suited audience with the necessary information.

Results to be presented at the 2007 FHM Working Group Meeting.