Contact Us

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Cover panel photos: (top) ***Appalachian mixed hardwoods in Great Smoky Mountains National Park****, photo by Chris Evans, River to River CWMA, Bugwood.org; (bottom)* ***Hurricane damage****, photo by Robert L. Anderson, U.S. Forest Service, Bugwood.org;* ***rear cover panel photo:*** *(bottom)* ***Southern pine beetle galleries****, photo by Ronald F. Billings, Texas Forest Service, Bugwood.org.*

Native orchid*, photo by Emrys Treasure, U.S. Forest Service;* ***Sirex woodwasp****, photo by David R. Lance, USDA APHIS PPQ, Bugwood.org;* ***Pine Flatwoods****, photo by Bill Lea, U.S. Forest Service (retired);* ***Emerald ash borer****, photo by David Cappaert, Michigan State University, Bugwood.org;* ***Garlic mustard****, photo by Chris Evans, River to River CWMA, Bugwood.org;* ***Gypsy moths****, photo by John H. Ghent, U.S. Forest Service, Bugwood.org;* ***Beech bark disease cankers****, photo by Linda Haugen, U.S. Forest Service, Bugwood.org;* ***MODIS*** *image by NASA Stennis Space Center;* ***Multiflora rose****, photo by James H. Miller, U.S. Forest Service, Bugwood.org;* ***Controlled burn****, U.S. Forest Service photo;* ***Cypress Swamp in South Carolina****, photo by Bill Lea, U.S. Forest Service (retired).*

Southern Research Station
200 W.T. Weaver Boulevard
Asheville, NC 28804 — October 2008

U.S. Department of Agriculture, Forest Service
Southern Research Station
Eastern Forest Environmental Threat Assessment Center

Eastern Forest Environmental Threat Assessment Center

The **Eastern Forest Environmental Threat Assessment Center** (EFETAC) provides the latest research and expertise concerning threats to healthy forests – such as insects and disease, wildland loss, invasive species, wildland fire, and climate change – to assist forest landowners, managers and scientists throughout the East. Established in 2005, EFETAC is a joint effort of the U.S. Forest Service's Research and Development, the National Forest System, and State and Private Forestry.

What We Do

EFETAC generates knowledge and tools needed to anticipate, evaluate, and respond to environmental threats, which often involve complex factors interacting at multiple scales. The Center strives to maintain a holistic and integrated research program to tackle these complex issues. Knowledge and tools are delivered to partners and stakeholders in a timely, useful, and user-friendly manner.

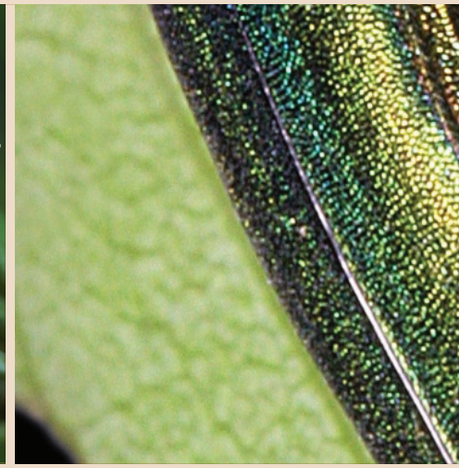
Who We Are

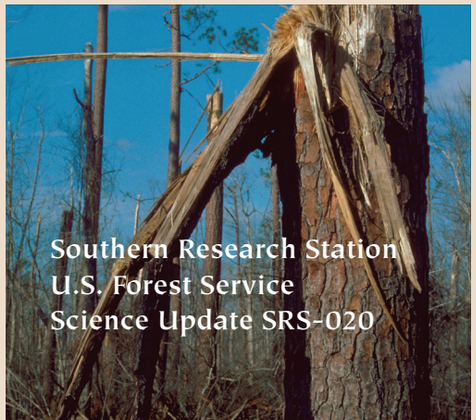
EFETAC, headquartered in Asheville, NC, is comprised of three teams, each with regional, national, and international responsibilities—**Threat Assessment**, **Southern Global Change Program**, and **Forest Health Monitoring**.

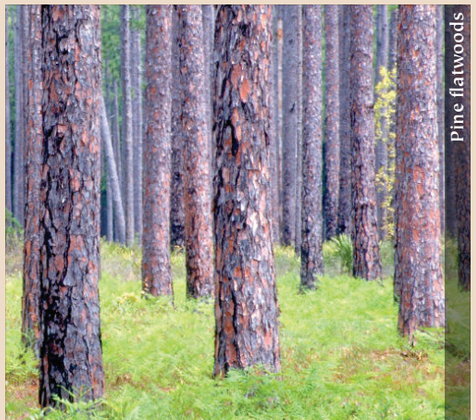

Emerald ash borer (*Agrilus planipennis*)


Native orchid (*Platanthera ciliaris*)


Sirex woodwasp (*Sirex noctilio*)




Southern Research Station
U.S. Forest Service
Science Update SRS-020


Pine flatwoods

Garlic mustard (*Alliaria petiolata*)

Threat Assessment

The **Threat Assessment** team, located in Asheville, emphasizes integrated approaches to detecting, predicting, and assessing threats to forest health. Projects include—

- Collaborating with NASA's Stennis Space Center to identify promising remote sensing and geospatial technologies for early detection of forest stress.
- Partnering with stakeholders to understand the consequences of urbanization, fragmentation, and parcellation of southern forests and to implement science-based land use planning.
- Working with the University of North Carolina Asheville's National Environmental Modeling and Analysis Center (NEMAC) to develop high speed access to models and databases useful in threat assessments.
- Developing a prototype Forest Incidence Recognition and State Tracking (FIRST), an automated system to process satellite imagery for detecting disturbances in forested areas.
- Providing land managers and policy makers with new tools and data for comparative risk assessments, allowing for strategic planning at the regional, national, and international levels.

Global Climate Change

The **Southern Global Change Program** team, located in Raleigh, NC, examines the ecological and hydrologic consequences of global change. Projects include—

- Collaborating with scientists nationwide to integrate hydrology, soil erosion, and climate and population change models to predict potential land management impacts on local and regional water quantity and quality.
- Evaluating landscape-scale carbon, energy, and water exchange dynamics in North Carolina coastal plain pine plantations.
- Estimating critical acid loads for forest soils across the coterminous United States.
- Collaborating with land managers to measure and monitor the impacts of climate change and forest management practices on plant communities and wildfire fuels.
- Understanding the effects of land use change on wildfire, predicting the long-term water availability issues associated with population growth in and around major urban areas across the South, and linking forest land cover and land use change.
- Investigating the impacts of air quality stressors on forest growth by using computer models to examine effects of climate change, increased atmospheric carbon dioxide, and rising ground level ozone levels on the growth and carbon sequestration rates of southeastern forests.

Forest Health Monitoring

The **Forest Health Monitoring** research team, located in Research Triangle Park, NC, develops monitoring protocols and analytical tools for tracking the health and sustainability of the Nation's forests. Projects include—

- Developing key elements needed to improve existing monitoring systems and develop new sampling and survey designs, measurement techniques, and estimation procedures.
- Developing protocols to integrate data, models, interpretation techniques, and analytical tools to assess forest health and conduct risk analyses at multiple scales.
- Improving, contributing to, and producing forest health and sustainability reports for national and international assessments.
- Creating methods to utilize data from the long-term comprehensive monitoring of key ecosystem processes and components in forest health assessments.
- Developing techniques to utilize spatial analyses and the principles of landscape ecology in forest health monitoring and assessment.

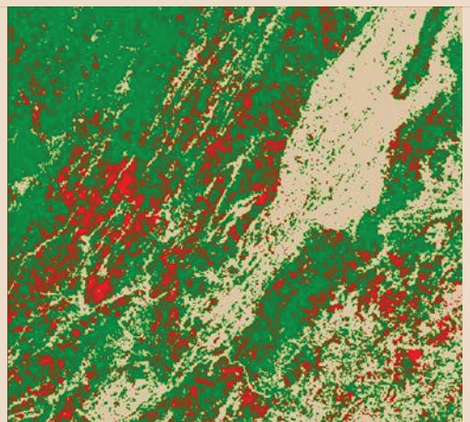
Gypsy moths (*Lymantria dispar*)

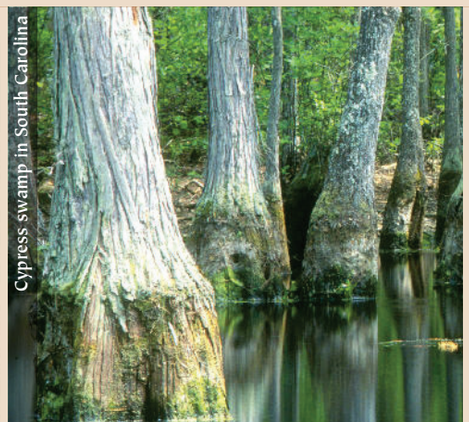
MODIS image showing areas of gypsy moth defoliation

Multiflora rose (*Rosa multiflora*)

Controlled burn

Beech bark disease cankers (*Nectria coccinea*)





Cypress swamp in South Carolina