USDA Forest Service and NASA release Web-based forest disturbance monitoring tool

March 21 2012

The USDA Forest Service's Eastern Forest and Western Wildland Environmental Threat Assessment Centers recently unveiled a product that helps natural resource managers rapidly detect, identify, and respond to unexpected changes in the nation's forests by using web-based tools. ForWarn, a satellite-based monitoring and assessment tool, recognizes and tracks potential forest disturbances caused by insects, diseases, wildfires, extreme weather, or other natural or human-caused events. The tool, available at http://www.forwarn.forestthreats.org, complements and focuses efforts of existing forest monitoring programs and potentially results in time and cost savings.

The prototype version of ForWarn has successfully operated since January 2010 and uses NASA MODIS (Moderate Resolution Imaging Spectroradiometer) satellite imagery to recognize and track changes in vegetation across the nation, providing a near-real-time view of potential forest disturbance and recovery. ForWarn uses a web-based map tool, the Forest Change Assessment Viewer, to provide an 8-day coast-to-coast snapshot of the US landscape, interpret images, and create geographically relevant maps. The viewer allows users to explore and share recent and archived forest disturbance maps.

"ForWarn epitomizes the type of product envisioned when the Threat Assessment Centers were created," says Danny C. Lee, Director of the Eastern Threat Center. "This tool literally puts space-age technology into the hands of forest resource professionals. It's a remarkable collaborative achievement." The Eastern and Western Threat Centers are jointly

supported by the Forest Service's National Forest System, State and Private Forestry, and Research and Development.

The Eastern and Western Threat Centers, NASA Stennis Space Center's Applied Science & Technology Project Office, and other federal and university partners developed ForWarn in response to the Healthy Forests Restoration Act of 2003. The Act specifies development of a comprehensive National Early Warning System to detect potential catastrophic environmental threats to forests. ForWarn is a strategic research component of the National Early Warning System and is currently being tested by federal and state forest and natural resource managers throughout the country.

"We are excited to unveil ForWarn and the Forest Change Assessment Viewer, intuitive products that use advanced technology to provide a current look at forest changes and help focus on-the-ground response efforts," says William Hargrove, Eastern Threat Center lead ForWarn researcher. "Our goal is to help natural resource managers, scientists, and other decision makers better identify, understand, and react to environmental disturbances. We will continue to refine and update these tools that will help guide activities and resources in impacted areas."

Joe Spruce, lead scientist on this project at NASA Stennis, says that ForWarn provides "the USDA Forest Service and its partners with vital broad-scale information on the location and extent of regionally evident forest disturbances, helping resource managers conduct more detailed aerial and field surveys." He continues, "This effort is precisely the Applied Sciences Program's mission – to move NASA science to operational users for real socioeconomic benefit."

The Eastern and Western Threat Centers are currently offering webinars on ForWarn and additional decision support tools. Sessions provide a ForWarn overview, highlight a variety of forest disturbances detected

during the 2010 and 2011 growing seasons, and feature Eastern and Western Threat Center scientists demonstrating the tool's ability to retrospectively examine forest disturbances detected during the prior two years. Contact Bill Christie, Eastern Threat Center GIS specialist, (828) 257-4370 or by email at wchristie@fs.fed.us for webinar and online tutorial information.

ForWarn is the result of ongoing cooperation among federal and university partners. In addition to the Forest Service and NASA, the partnership includes the US Geological Survey; the Department of Energy's Oak Ridge National Laboratory; and the University of North Carolina Asheville's National Environmental Modeling and Analysis Center.

Provided by USDA Forest Service - Southern Research Station

Citation: USDA Forest Service and NASA release Web-based forest disturbance monitoring tool (2012, March 21) retrieved 24 April 2024 from https://phys.org/news/2012-03-usda-forest-nasa-web-based-disturbance.html