The Tornado Outbreak of April, 2011 recorded by the USDA Forest Service's "Forest Change Assessment Viewer"

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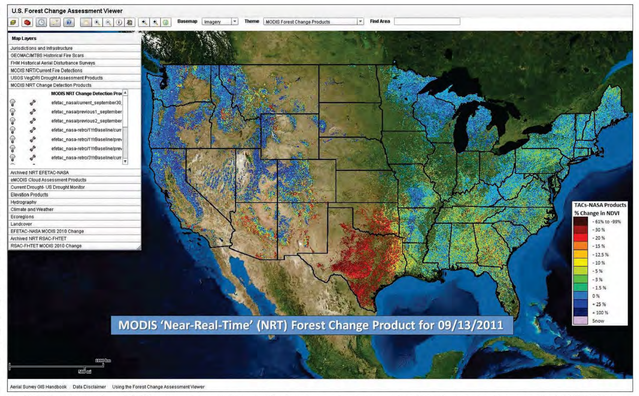
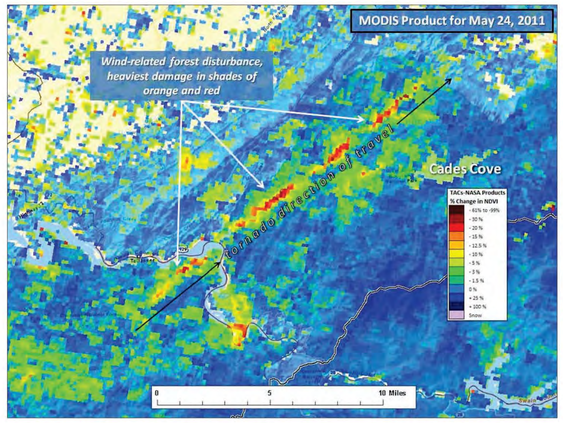
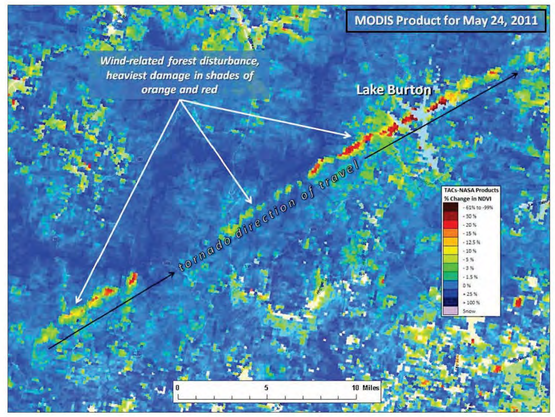
The U.S. Forest Change Assessment Viewer (FCAV) is a national early warning system for forest disturbances that provides continuously updated, near real-time forest disturbance products derived from the processing of MODIS satellite time series data. The FCAV web mapping application is designed to facilitate collaboration by research scientists, forest health specialists, resource managers, decision makers and the public to use phenology data to detect and assess unexpected forest change and threats within our nation's forests. The colors of such products depict changes in forest canopy greenness for a current 24 day period versus that for the previous 1, 3, or 8 years (baselines). Shades of blue-green to dark blue depict healthy forest with similar greenness to the historical baseline. Yellow to red tones denote forests that have moderate to high reductions in canopy greenness versus the historical baseline. Specifically, the colors denote the percent change in NDVI (Normalized Difference Vegetation Index) value when compared to the same time periods NDVI image from one of the baselines. NDVI values are calculated via a normalized band ratio of red to infrared spectral channels from the MODIS satellite sensor. Forest change products are updated on the FCAV every 8-days nationwide. Visit *http://ews.forestthreats.org* or contact Bill Hargrove at *hnw@geobabble.org*.

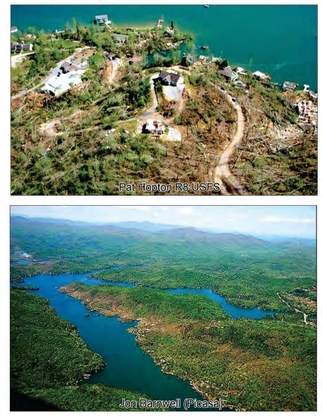


A Great Smoky Mountains National Park, TN (EF4)

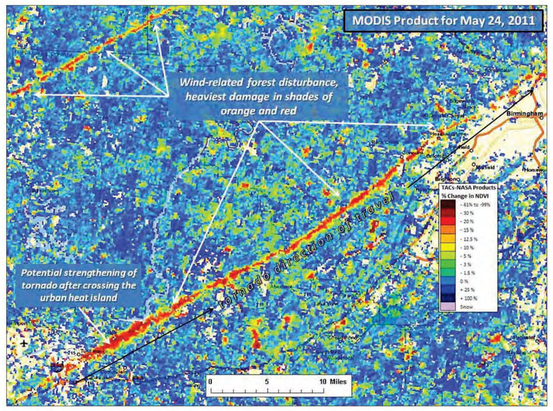


B Chattahoochee National Forest, GA (EF4)

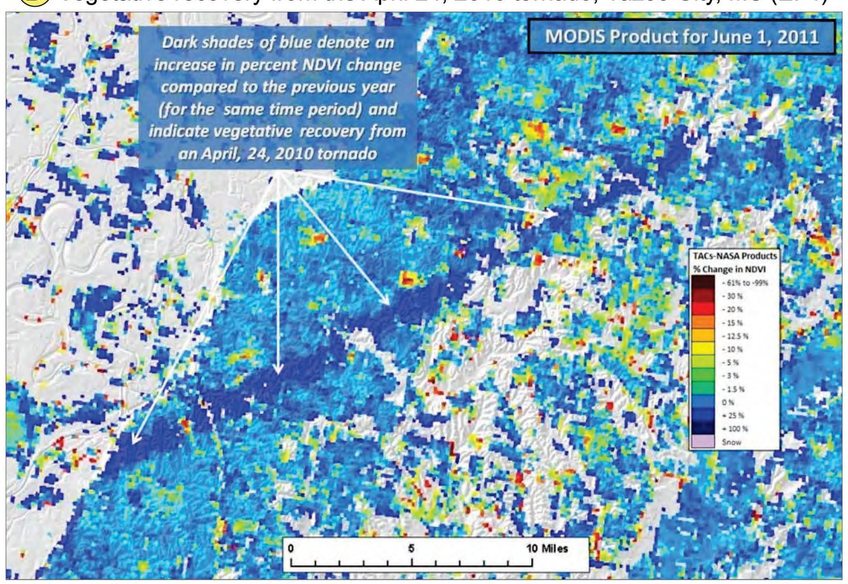




C The Tuscaloosa / Birmingham, AL Tornado (EF4)



D Vegetative recovery from the April 24, 2010 tornado, Yazoo City, MS (EF4)

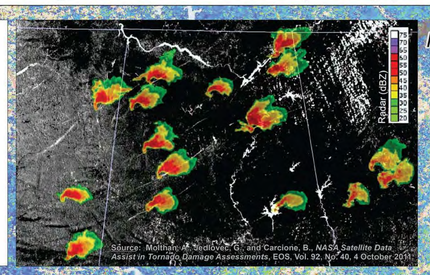


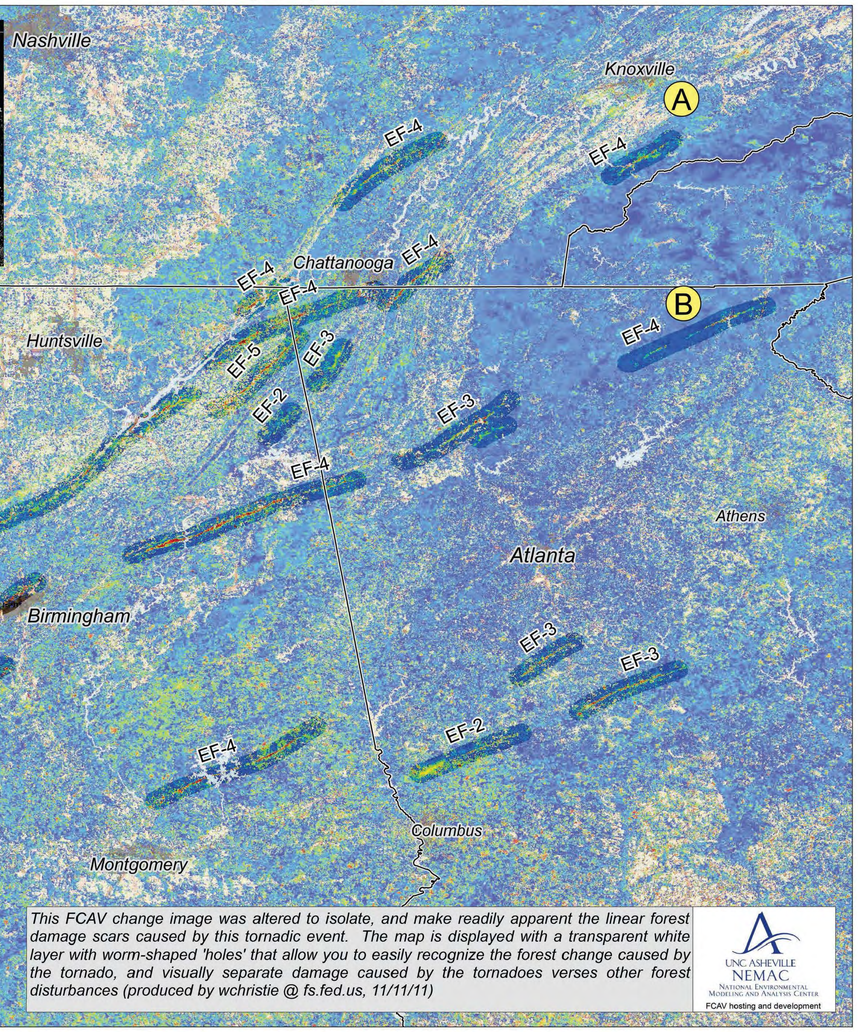
Forest Change Assessment Viewer (FCAV), percent NDVI change image, 1-year baseline, 06/01/2011

F-Scale Converted to EF-Scale

F Scale	Wind Speed	EF-Scale	Wind Speed
F0	45-78	EF0	65-85
F1	79-117	EF1	86-109
F2	118-161	EF2	110-137
F3	162-209	EF3	138-167
F4	210-261	EF4	168-199
F5	262-317	EF5	200-234

Wind speeds in mph, 3-second gust





This FCAV change image was altered to isolate, and make readily apparent the linear forest damage scars caused by this tornadic event. The map is displayed with a transparent white layer with worm-shaped 'holes' that allow you to easily recognize the forest change caused by the tornado, and visually separate damage caused by the tornadoes verses other forest disturbances (produced by wchristie @ fs.fed.us, 11/11/11)

UNC ASHEVILLE NEMAC National Environmental Modeling and Analysis Center
FCAV hosting and development