ABSTRACT
Hurricane damage to forests can be severe, causing millions of dollars of timber damage and loss. To help mitigate lost costs, damage assessment requires reliable and accurate detection of forest damage and recovery. Observations of vegetation disturbance are made by computing percent change between MODIS MOD13 16-day MODIS Normalized Difference Vegetation Index (NDVI) time-series products to determine percent NDVI change from pre-event to post-event conditions and/or historical baseline (Figure 2). Disturbance/damage products were also cross-referenced with MIFI (Resolution Imaging Services) forest stand maps and MIFI forest type products, providing a comprehensive picture of the disturbance/damage across all forest types and forest stands. The studies described herein were conducted within forests that sustained some level of hurricane damage.

BACKGROUND
Hurricane Katrina was one of the most powerful and deadly storm systems ever to make landfall in the United States. It was also one of the worst events in the history of the United States, causing extensive damage in excess of $100 billion. Hurricane Katrina was a Category 5 hurricane, the most powerful hurricane to hit the United States since Hurricane Andrew in 1992. The storm had a significant impact on the forested areas of the Southeast United States, particularly in Louisiana and Mississippi.

METHODLOGY
MODIS NDVI time series data products were used to determine percent NDVI change at the landscape scale. MODIS NDVI time series data products were used to determine percent NDVI change at the landscape scale. MODIS NDVI time series data products were used to determine percent NDVI change at the landscape scale. MODIS NDVI time series data products were used to determine percent NDVI change at the landscape scale. MODIS NDVI time series data products were used to determine percent NDVI change at the landscape scale.

RESULTS
The immediate post-storm change product shows evident regional impacts to forests (Figure 3) with the greatest negative NDVI change occurring in coastal and barrier forested habitats. Seventeen NDVI drops were noted in storm surge impacted forests. As expected, the areas closest to the coast tended to show more severe NDVI drops than areas further from the shoreline. NDVI drops occurred in inland forests when sustained winds were responsible for storm damage to the crowns of trees as well as blow down and dune damage; these effects are noticeable across the entire Southeast United States.

CONCLUSIONS
Validation efforts support the technique of using MODIS-based NDVI percent change products to quantify the effect of Hurricane Katrina on coastal forests. Furthermore, this technique is extendable to evaluations of other natural events to forested areas such as wildfires. The spatial resolution of MODIS data may be too coarse for some applications, the reported approach can be used to react more spatially directed timber inventories with ground sampling. Ground-based sampling timber inventory activities can be costly, this MODIS-based approach can create significant cost savings by reducing man power and labor.