

Description of USFS Threat Assessment Centers (TACs)-NASA “Forest Disturbance Detection Maps” available in ForWarn’s U.S. Forest Change Assessment Viewer (<http://forwarn.forestthreats.org/fcav>)

<u>Baseline</u>	<u>Description</u>	<u>Best Use</u>
NDVI Compositing Method	The temporal compositing method used to produce the current and historical MODIS NDVI products for CONUS and used to calculate percent NDVI change	Discriminatory advantage
<u>1yr</u> Maximum Value Compositing	Percent NDVI change comparing the current time period’s ‘maximum value compositing’ (MVC) NDVI to that from the previous year	Short-term, less than 1 year old forest change since the previous year; highlights relatively recent forest disturbances
<u>3yr</u> Maximum Value Compositing	Percent NDVI change comparing the time period’s NDVI with the same time period’s maximum NDVI compositing value over the previous 3-years	Mid-term, less than 3 year old forest change compared to the previous 3-years; used for intermediate-aged, persistent forest disturbances
<u>All-year</u> Maximum Value Compositing	Percent NDVI change comparing the time period’s NDVI with the same time period’s maximum compositing NDVI value over all of the previous years in MODIS record (2000-2012)	Forest change compared to all previous years; shows new and residual disturbance since the beginning of the MODIS era in 2000
<u>"Early Detect"</u> <u>Change from</u> <u>previous year (ALC)</u> Adaptive Length Compositing (ALC)	New Adaptive Length Compositing (ALC) algorithm preferentially uses the freshest, latest available "good looks" made when atmospheric conditions are favorable, maximizing the likelihood of including the newest forest disturbances in the current view; It typically responds earlier to new disturbances than the standard MVC NDVI change products and improves disturbance detection speed.	Early Detect maps show the earliest initial indications of new disturbances, and should show the first signs of new forest problems well-before the standard ForWarn products typically do. This increased sensitivity may make the Early Detect maps more noisy; users should switch to one of the first three ForWarn products 24 days after the disturbance has occurred.
<u>Seasonally-Adjusted</u> <u>Change from All-</u> <u>Year pheno-cluster</u> <u>max (MUC)</u> Maximum NDVI Value Under the Curve (MUC)	Compared to a very early spring (like in 2012!), even normal forest development can appear suspiciously slow. This "Seasonally-adjusted" baseline product "averages" through the inter-annual variability by establishing 5000 phenological ecoregions for each year over the 2000-2011 MODIS period, and then selecting the phenoregion having the greatest gross annual productivity (Maximum Area Under the Curve, MUC) for each location.	Improves the ability to detect potential forest disturbances in spite of normal year-to-year climatic variations. This method reduces forest change due to seasonal fluctuations in green-up and brown down. Resulting product is typically less noisy than standard MVC NDVI change products.
<u>Seasonally-Adjusted</u> <u>Change from All-</u> <u>Year mean of</u> <u>maximums (MMAX)</u> Mean of the Maximum NDVI Value (MMAX)	This "Seasonally-adjusted" baseline product "averages" through the Inter-annual variability by using the Mean of the Maximums (MMAX) seen in each year over the 2000-2011 MODIS period, tempering the raw maximum NDVI used in the first three standard products (1yr, 3yr and All-year baselines).	Improves the ability to detect potential forest disturbances in spite of normal year-to-year climatic variations. This method reduces forest change due to seasonal fluctuations in green-up and brown down.