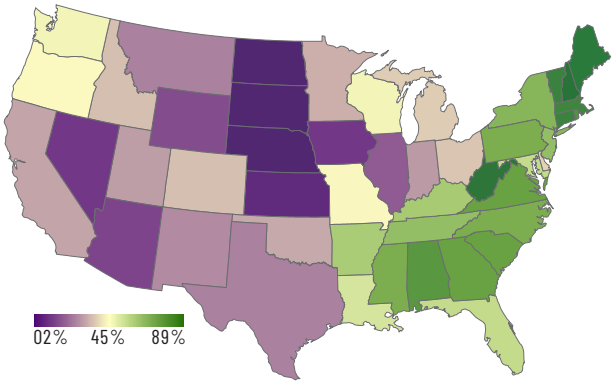
2016 PERCENT TCC BY STATE



STATES WITH THE MOST TCC

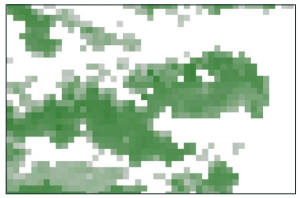
1. New Hampshire
2. West Virginia
3. Maine
4. Connecticut
5. Vermont

STATES WITH THE LEAST TCC

48. North Dakota
47. Nebraska
46. South Dakota
45. Kansas
44. Nevada

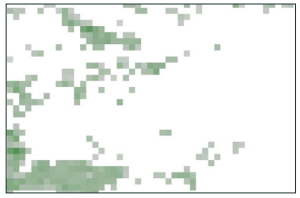
A Central Idaho Wildfire Shows Significant Changes in TCC

2009 NAIP Imagery



2011 NLCD TCC Map

2017 NAIP Imagery



2016 NLCD TCC Map

About the USDA-FS TCC Project

The United States Forest Service (USFS) Geospatial Technology and Applications Center (GTAC) builds and maintains tree canopy cover (TCC) datasets and products. These datasets are Landsat-based and available at 30-m resolution for the conterminous United States, coastal Alaska in the southern portion of the state, Hawaii, Puerto Rico, and the U.S. Virgin Islands. Updated every five years, the products are available for all lands, including not just National Forests and Grasslands but also state and privately-owned lands. The USFS GTAC considers the needs of multiple user communities when building TCC products. The USFS also contributes percent tree canopy cover data to the National land Cover Database (NLCD).

Geospatial Technology and Applications Center | GTAC

GTAC is a detached unit of the Washington Office, centrally located in Salt Lake City, Utah. Organizationally, GTAC is aligned under the National Forest System's Engineering, Technology and Geospatial Services staff area and is a component of the Geospatial Management Office (GMO).

Kevin A. Megown, RMIM Program Manager
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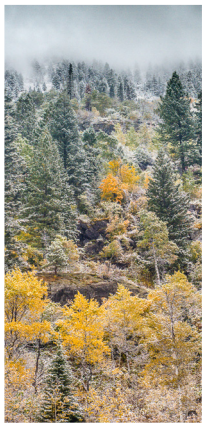
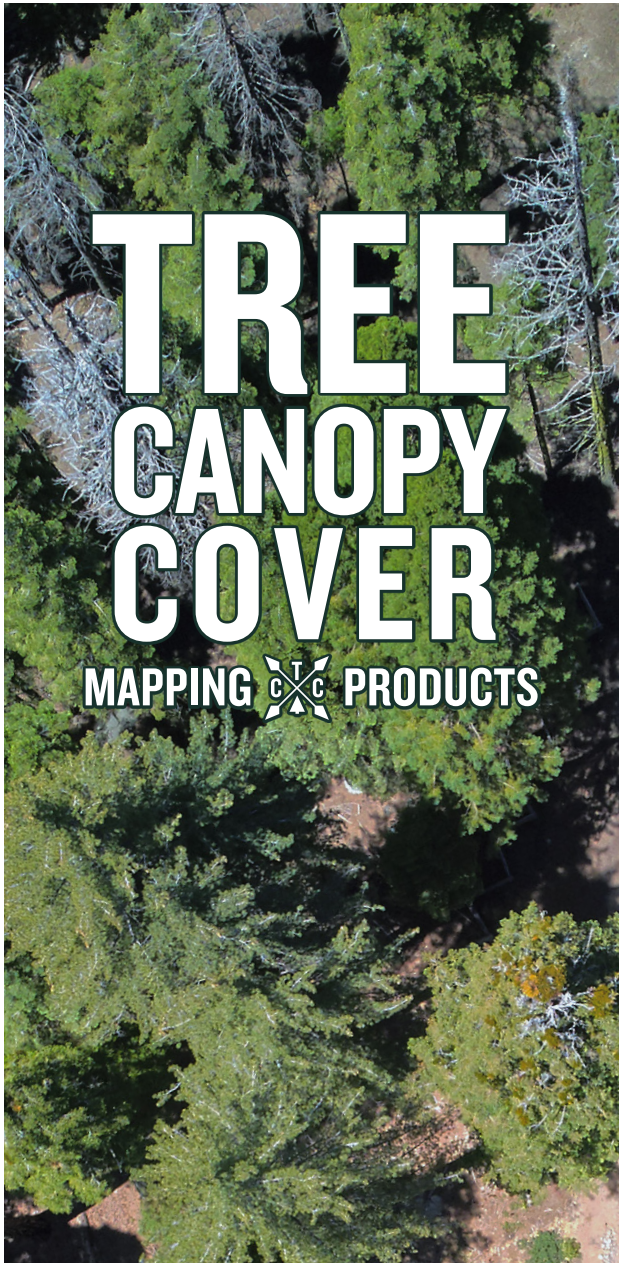
USDA Forest Service
Geospatial Technology and Applications Center
125 South State Street, Suite 7105, Salt Lake City, Utah 84138



USDA United States Department of Agriculture
Forest Service



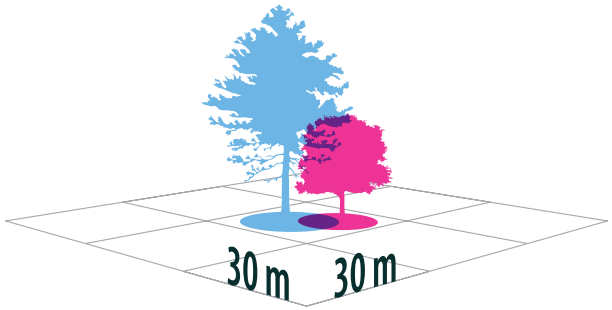
Geospatial Technology and Applications Center | GTAC
Mapping Our Future Together

What is Percent Tree Canopy Cover?

Tree canopy cover (TCC) is the layer of tree leaves, needles, branches, and stems that provide tree coverage of the ground, viewed from an aerial perspective. The TCC maps represent canopy cover values, ranging from 0 to 100, for a 30 meter cell.

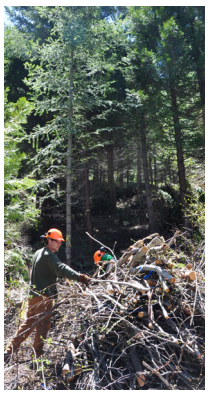
EXAMPLE

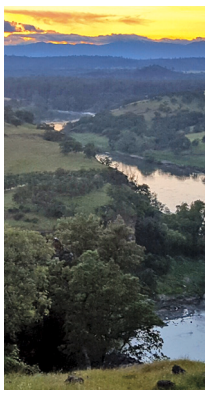
TCC Value = 65% of 30 meter pixel or cell



Why is this important?

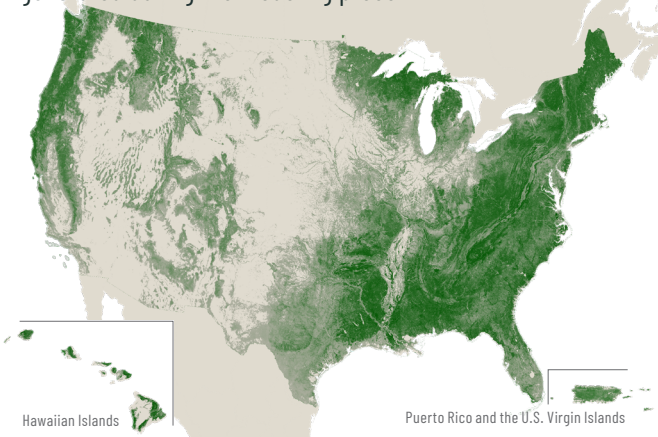
Vegetation management, including utilization, conservation, restoration, and protection, demands up-to-date information about the current conditions and community distribution. Specifically, tree canopy cover maps provide data for analysis of wildlife habitat, carbon accounting, and fuel loads.



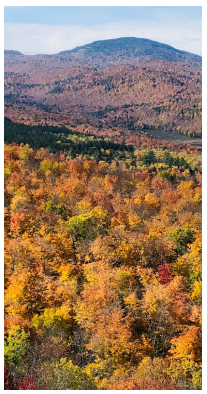


How was Tree Canopy Cover Mapped?

Automated classification techniques were used to produce tree canopy cover estimates on 30-meter cells for the continental United States, coastal Alaska, Hawaiian Islands, Puerto Rico, and the U.S. Virgin Islands for the years 2011 and 2016. A change layer, representing tree canopy cover loss and gain between the years 2011 and 2016, was also produced using the standard error estimates generated during the modeling process.



Forest Inventory and Analysis (FIA) plots were photo-interpreted for tree canopy cover using high resolution imagery and used to generate over 65,000 reference sites. Approximately 9,000 individual Landsat scenes, their spectral derivatives, harmonic regression coefficients, topographic data, and the reference sites were used as input data in the modeling procedure.



What Data Are Available?

The 2016 product suite was released in 2019 and includes data for the years 2011 and 2016. TCC data are available in three forms which reflect a progression of data refinements.

FS "Analytical" TCC

The raw tree canopy cover predictions and associated standard error values from the model.

FS "Cartographic" TCC

The tree canopy cover values from the analytical versions in which water bodies, non-tree croplands, and pixels with a high standard error are masked as 0% canopy cover.

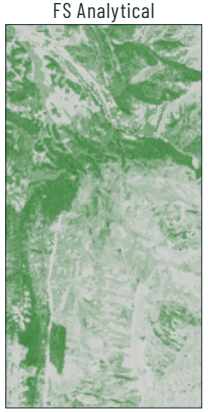
NLCD TCC

A three-component data stack that includes a change layer and TCC values for each of the nominal years of 2011 and 2016. To build the NLCD version, TCC "cartographic" values were adjusted, based on whether they were identified as changed or not with reasonable confidence. This allows for a cohesive data set where the canopy cover values line up (i.e. 2011 TCC + Change = 2016 TCC).

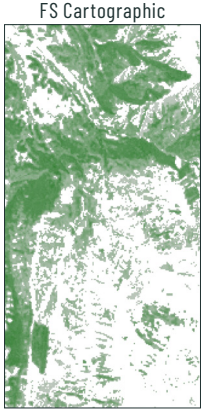
TCC products and more detailed documentation can be found at https://data.fs.usda.gov/geodata/rastergateway/treecanopycover and www.mrlc.gov.

2016 map product examples:

FS Analytical



FS Cartographic



NLCD TCC