

Why LANDFIRE Rebuilt the FCCS Crosswalk (and What It Means for Your Fire Models)

Sarah Harrison, LANDFIRE Fire and Fuels Spatial Analyst, Technical Support Services Contract (TSSC); Ryan McCliment, LANDFIRE Fire Behavior Specialist, Technical Support Services Contract (TSSC)

LANDFIRE's Fuel Characteristic Classification System (FCCS) data is produced bi-annually in conjunction with the [Fire and Environmental Research Applications \(FERA\) team of the U.S. Forest Service Pacific Northwest Research Station](#). It is based on a Forest Vegetation Type (FVT)-to-FCCS fuelbed crosswalk that determines the closest match between the FVT and one of the 460 reference fuelbeds in the FCCS library.

The fuelbeds were initially compiled from published literature, fuels photo series, other fuels data sets and expert opinion. To account for disturbance transitions across the landscape, additional fuelbeds were generated from the undisturbed reference fuelbeds to represent five major disturbances supported in LANDFIRE updates, excluding mastication and unknown mechanical.

FCCS Climatic Classification

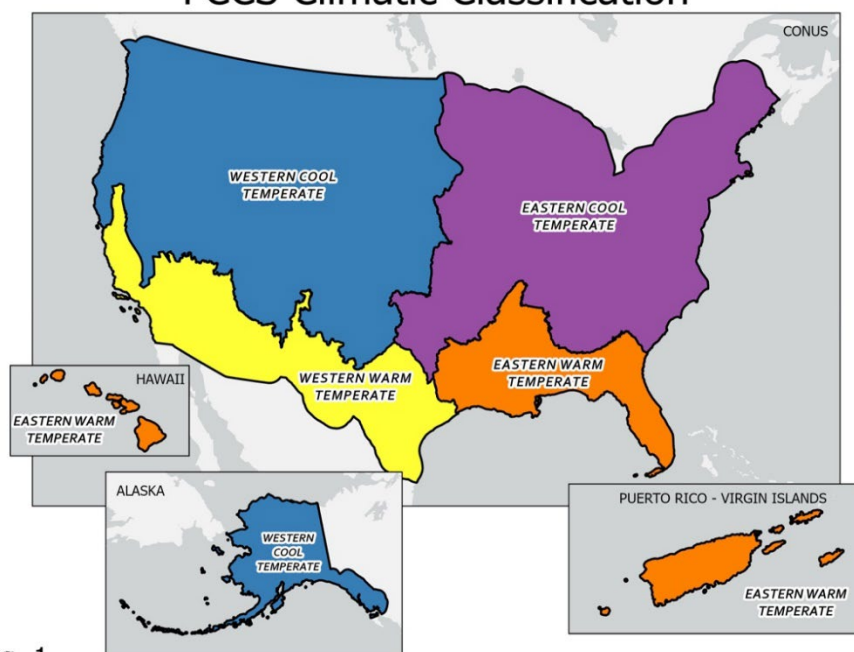
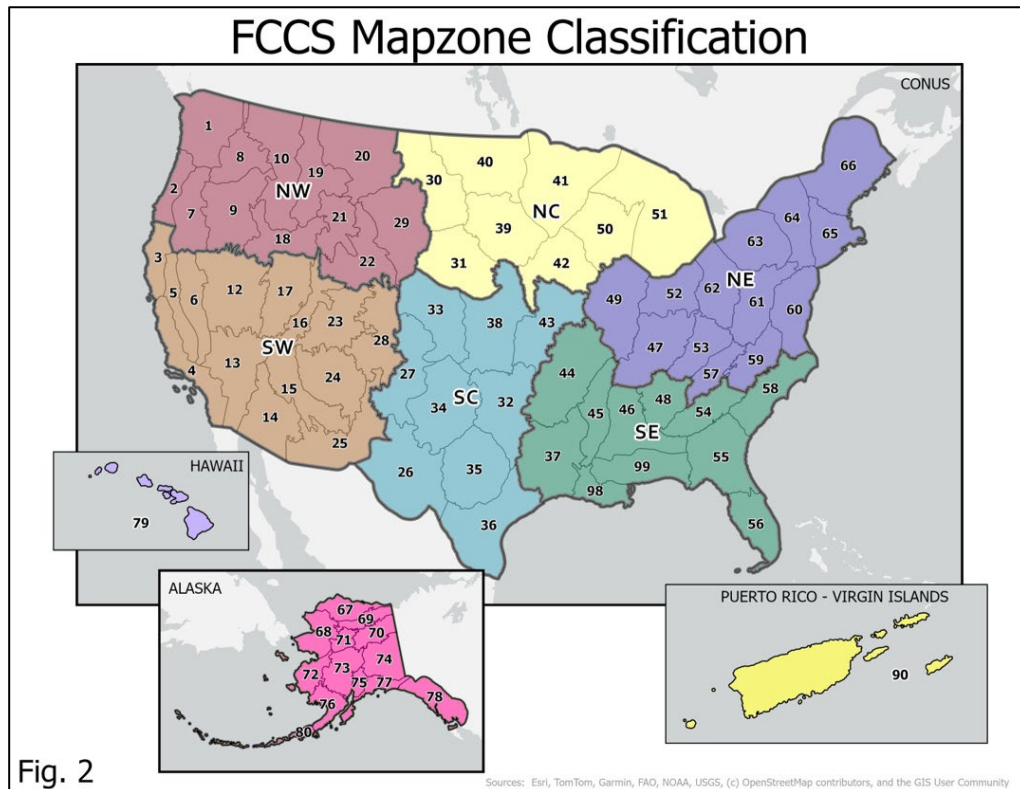


Fig. 1

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

As the utilization of FCCS has continued to increase for modeling fire behavior, effects and emissions, along with other applications, there has been an increase in feedback from users and collaborators. Based on this feedback, the LANDFIRE Fuels team and FERA worked together to update several facets of this year's FCCS product.

Historically, ruderal and developed FVT classifications were crosswalked to FCCS fuelbeds based on four regional climatic zones (Fig. 1). For the most recent update, it was determined that a more appropriate scale to classify these FVTs would be based on LANDFIRE mapzones (Fig. 2). In previous productions, the size of the regional climatic zones encompassed multiple ecoregions that spanned a variety of ecological variables. By switching to mapzone classification, FCCS resolution is increased nationally and correlates the FCCS fuelbeds to the climatology and forest types specifically represented within each mapzone. This finer scale allows for a greater diversity of fuelbeds across developed FVTs compared to previous productions. In addition to changes to the ruderal and developed classifications, existing crosswalks for each geoarea were reviewed and updated as needed.



As with all LANDFIRE products, FCCS is continuously updated as information becomes available. Moving forward, the LANDFIRE Fuels team, in conjunction with FERA, will continue reaching out to regional experts to review FCCS classifications as we transition from a regional climatic scale to a mapzone scale for this product.

Please note, LANDFIRE mapzones for the Pacific Insular Areas, including Guam and the Commonwealth of the Northern Mariana Islands, the Marshall Islands, Federal State of Micronesia and the American Samoa have not been updated during this production.