

The two .csv files enclosed provide lookups to the fuel loadings associated with each MODIS-enhanced FCCS fuelbed in the CONUS map. MODIS-VCF-1K.zip contains

“MODIS-VCF-woody.asc”, gridascii output of the percentage of woody vegetation cover, in bins of 5 (i.e., 5, 15, 25,... 95) from a 1-km raster layer. “MODIS-VCF-woody.prj” has the projection information. This GIS layer “fits over” (overlays) the CONUS 1-km FCCS fuelbed map. The latter can be downloaded separately at

<http://www.fs.fed.us/pnw/fera/fccs/maps/conus/FCCS-ConterminuousUS-1km.zip>.

To extract the fuel loadings from a specific location, take the values from the VCF and FCCS layers and locate the row in “MODISEnhanced-FCCS-mapping.csv” that has both those values, in columns “ModisCanopyCover” and “fccsID”, respectively. Use either “fuelbed_number” or “filename” as a crosswalk to “MODISEnhanced-FCCS-loadings-LUT.csv” to obtain the loadings.

Limitations: Notice that only the tree-canopy and shrub layers are different for MODIS-enhanced loadings. As with earlier versions of the 1-km fuels map, there is no accounting for variability within cells, either in fuel type (fccsID) or cover (ModisCanopyCover). In reality the MODIS VCF values for woody vegetation cover often reflect a mix of woody vegetation types (shrubs and trees) within a cell. All the woody fuel “seen” by the satellite sensor is given to the dominant layer in the associated FCCS fuelbed, which may produce an upward bias in tree + shrub fuels in fuelbeds dominated by trees, because some shrub fuels may be counted twice (once under the tree canopy and again when alongside it but not made invisible by it). At this point (September 2013) we have no global resolution for this limitation, but users who are focused on a fairly small region may want to use the 30-m FCCS layer, found at

<http://www.fs.fed.us/pnw/fera/fccs/maps/FCCS-LANDFIRE-CONUS-30m.zip>

to resolve the dominant vegetation types within a 1-km cell.

Users may notice quickly that merging the two .csv files into one table with all the variables would save a step in identifying fuel loadings. We keep the tables separate because the loadings file is the exact input format for the Consume model, which is used widely to calculate consumption and emissions. If you are not using Consume, merging the tables would be efficient.

Table 1. Meaning of columns in the files “MODISEnhanced-FCCS-loadings-LUT.csv” and “MODISEnhanced-FCCS-mapping.csv”. Loadings are in tons/acre. Depths are in inches.

filename	xml fuelbed file for a specific MODIS canopy cover
fuelbed_number	unique identifier needed by Consume
Lifeform	Fuel layer associated with MODIS cover
ModisCanopyCover	one of 10 values for percentage cover (-999 is old FCCS)
fccsID	basic FCCS fuelbed from which enhanced fuelbed was created
cover_type	SAF or SRM cover type assumed (not mapped)

ecoregion	Bailey's ecoregion -- division level
overstory_loading	fuel loading in overstory trees
midstory_loading	fuel loading in midstory trees
understory_loading	fuel loading in understory trees
snags_c1_foliage_loading	fuel loading of class 1 snags with foliage
snags_c1wo_foliage_loading	fuel loading of class 1 snags without foliage
snags_c1_wood_loading	class 1 snags woody fuel loading
snags_c2_loading	class 2 snags (woody) loading
snags_c3_loading	class 3 snags (woody) loading
shrubs_primary_loading	shrub primary layer loading
shrubs_secondary_loading	shrub secondary layer loading
shrubs_primary_perc_live	shrub primary layer percentage fuels live
shrubs_secondary_perc_live	shrub secondary layer percentage fuels live
nw_primary_loading	nonwoody primary layer loading
nw_secondary_loading	nonwoody secondary layer loading
nw_primary_perc_live	nonwoody primary layer percentage fuels live
nw_secondary_perc_live	nonwoody secondary layer percentage fuels live
w_sound_0_quarter_loading	1-hr fuel loading (sound)
w_sound_quarter_1_loading	10-hr fuel loading (sound)
w_sound_1_3_loading	100-hr fuel loading (sound)
w_sound_3_9_loading	1000-hr fuel loading (sound)
w_sound_9_20_loading	10K-hr fuel loading (sound)
w_sound_gt20_loading	greater than 10K-hr fuel loading (sound)
w_rotten_3_9_loading	1000-hr fuel loading (rotten)
w_rotten_9_20_loading	10K-hr fuel loading (rotten)
w_rotten_gt20_loading	greater than 10K-hr fuel loading (sound)
w_stump_sound_loading	woody stumps sound
w_stump_rotten_loading	woody stumps rotten
w_stump_lightered_loading	woody stumps lightered
litter_depth	litter depth
litter_loading	litter loading
lichen_depth	lichen depth
lichen_loading	lichen loading
moss_depth	moss depth
moss_loading	moss loading
basal_accum_loading	basal accumulation loading
squirrel_midden_loading	squirrel-midden loading
ladderfuels_loading	ladder-fuels loading
duff_lower_depth	depth of lower duff
duff_lower_loading	loading of lower duff
duff_upper_depth	upper depth of duff
duff_upper_loading	loading of upper duff
Total_aboveground_fuel_loading	total aboveground loading
efg_natural	emission factor group for natural fuels
efg_activity	emission factor group for activity fuels