

STATE OF FLORIDA FUELS CLASSIFICATION

I. Non-Flammable Areas

A. Water

Fuel Model 0

B. Rock

Fuel Model 99

C. Urban, Non-Wildland

This includes all areas classified as urban.

Fuel Model 98

II. Transitional Vegetation

Areas where vegetation cover is less than 25% and is presumed to be dynamically changing from one land cover type to another, often because of land use activities. Examples include transition phase between forest and agricultural land, and temporary clearing of woody or herbaceous vegetation. Includes areas changed due to natural causes (e.g. fire, flood, etc.)

A. Fresh Slash is present (0-3 years or so) with no live fuel present

SLASH FUEL MODELS

B. Dead/down material is present and aged and overgrown with live fuel.

1. Slash is from trees. Leaves have fallen and cured. Considerable vegetation (tall weeds) has grown in amid the slash and has cured or dried out (Canopy closure has little or no effect on the rate of spread, but may require sustained moderate winds to support the rate of spread; under certain conditions juvenile stands of Chinese tallow may also fit in this fuel model)

Fuel Model 6

2. Slash is from trees. Needles and leaves have fallen and considerable vegetation (tall weeds and some shrubs) has overgrown the slash. Fire spreads in surface fuels consisting of litter and/or dead and down stemwood occasionally produced by weather (tornado or hurricane) or other biological impacts such as insect defoliation and mortality. Dry ladder fuels resulting from herbicide application to vine laden treed communities and light slash associated with incompletely harvested timber operations may also contribute to this fuel type.

Fuel Model 10

III. Planted/Cultivated Vegetation

Areas dominated by typical green vegetation with cover ranging from 25-100% at peak times of growing season. Vegetation has been planted in its current location, and/or is treated with annual tillage, a modified conservation tillage, or other intensive management or manipulation.

A. Planted/Cultivated Woody - Vegetation Occupies Greater than 25% Cover of Area

Of vegetation present, 25-100% of the cover is woody; includes orchards, vineyards, and tree plantations planted for the production of fruit, nuts, fiber (wood), or ornamental:

1. If orchard.....**Fuel Model 97**
2. If > 60% of surface cover is grass **Natural/Semi-natural Grassland**
3. If > 60% of surface cover is shrub**Natural/Semi-natural Shrubland**
4. If > 60% of surface cover is trees **Natural/Semi-natural Forest**
5. If > 60% of surface cover is dead/down material.....**Transitional**

B. Pasture/Hay

Of vegetation present, 75-100% of the cover is herbaceous. The majority of the vegetation in these areas is planted and/or maintained for the production of food, feed, fiber, or seed. The areas of herbaceous vegetation planted by humans in developed settings or for livestock grazing or the production of seed or hay crops or planted for wildlife use and areas of grasses, legumes, or grass-legume mixtures planted or intensely managed for livestock grazing or the production of seed or hay crops.

GRASS FUEL MODELS

C. Cropland

Areas of herbaceous vegetation planted characterized by regular (e.g. annual, semi-annual, biennial) tillage.

Fuel Model 97

IV. Native/Natural and Exotic Vegetation

Areas dominated by typical green vegetation with cover ranging from 25-100% at peak times of growing season. Vegetation is native or naturalized that has not been cultivated or treated with any annual management regime.

A. Wetlands

Areas dominated by natural vegetation in which the soil or substrate is periodically saturated with or covered with water.

1. Non-woody Wetlands

Of the vegetation present, 75-100% of the vegetated surface cover is herbaceous. Examples include freshwater marshes and wet prairies. Disturbed sites may include torpedo grass, Japanese climbing fern, and sesbania.

GRASS FUEL MODELS

2. Woody Wetlands

Of the vegetation present, woody vegetation (either tree or shrub species) makes up 25-100% surface cover. Examples include Ti-ti stands, mangrove swamp, hpericum marshes, cypress swamp, bay swamp, gum swamp, pond pine forest. Disturbed sites may include Brazilian pepper stands, primrose willow stands, Japanese ligustrum stands.

a. Ti-ti stands/thickets > 70 % of cover

1. Greater than or equal to 3 inch DBH

Fuel Model 8

2. Less than 3 inch DBH

Fuel Model 5

b. Canopy 25 to 60%

1. Greater than 60% of surface cover Herbaceous

GRASS FUEL MODELS

2. Greater Than 60% of surface cover Shrubs

SHRUB FUEL MODELS

c. Canopy > 60%

1. Melaleuca

Fuel Model 4

2. Not Melaleuca

Timber Litter Fuel Models

B. Uplands – Flatwoods and Sandhills

Areas dominated by vegetation in which the soil or substrate is not periodically saturated with or covered with water.

1. Natural/Semi-Natural Grasslands

Of the vegetation present, natural upland herbaceous vegetative cover ranges from 75-100%. Most of these areas are dominated by graminoids, and are extensively utilized by grazing animals. Examples include areas dominated by wiregrass and broomsedge. Disturbed sites may be dominated by cogongrass, air-potato, kudzu and castorbean.

GRASS FUEL MODELS

2. Natural/Semi-Natural Forest – Plantation – Shrubland – Young Forest

A.) Primary carrier of fire is dead/down material resulting from management or a significant natural event.

- 1) No live fuel present

SLASH FUEL MODELS

- 2) Live fuel is present

Fuel Model 10

B.) Shrub cover $\geq 60\%$

- 1) Hardwood Canopy (Trees and Shrubs) $\geq 75\%$

TIMBER LITTER MODELS

- 2) Hardwood Canopy (Tree and Shrubs) $< 75\%$, Pine overstory or no overstory

SHRUB FUEL MODELS

C.) Shrub cover $< 60\%$

- 1.) Surface cover is $\geq 60\%$ timber litter

TIMBER LITTER FUEL MODELS

- 2.) Surface cover is $\geq 60\%$ grass

GRASS FUEL MODELS

GRASS FUEL MODELS

PRIMARY CARRIER OF THE FIRE IS GRASS

- A. Fire spreads in perennial grassy fuels (**1 foot or less**) where live fuel is a part of the system. The density of the overstory or canopy may contribute to a reduced rate of spread and reduce the intensity.

Fuel Model 2



Central Florida



Central Florida



South Florida Cypress Flats



South Florida Flatwoods

- B. Fire spreads in grassy fuels without canopy or where a limited canopy has little effect on the rate of spread. Fire spreads in annual grasses or periphyton moss (south Florida only) and the fuel bed is **< or = 1 foot tall**.

Fuel Model 1



South Florida Miami Rockland Prairie

- C. Fire spreads in grassy fuels without canopy or where a limited canopy has little effect on the rate or intensity, the fuel bed is **> 1 foot tall** or is cogongrass

Fuel Model 3



Central Florida Marsh



Central Florida Cogon Grass



South Florida Cattail Marsh



South Florida Sawgrass Marsh in Everglades

SHRUB FUEL MODELS

PRIMARY CARRIER OF THE FIRE IS BRUSH OR LITTER BENEATH BRUSH.

A. Live fuels are not present

1. Fire spreads through patchy shrubs (***3-6 feet in height***) with little or no logging slash and where canopy closure has little or no effect on the rate of spread, but may require sustained moderate winds to support the rate of spread; an example would be areas dominated by Rosemary Scrub.

Fuel Model 6

B. Live fuels present

1. Fires spreads in ***shrubs < or = 4 feet in height***. Palmetto/gallberry association with pine canopy. Managed pine flatwoods may be represented.

Fuel Model 7



Central Florida Flatwoods



Central Florida Flatwoods



South Florida Flatwoods



North Florida Flatwoods

2. Fire spreads in *shrubs* > **4 feet in height** and/or melaleuca or cogongrass is present and are likely to contribute to the overall intensity of the shrub ignition, which may and often does lead to canopy involvement. (Scrubby flatwoods, Pine Flatwoods, coastal palmetto, and tall palmetto, Ti Ti, Pine Plantations and Oak scrub.

Fuel Model 4



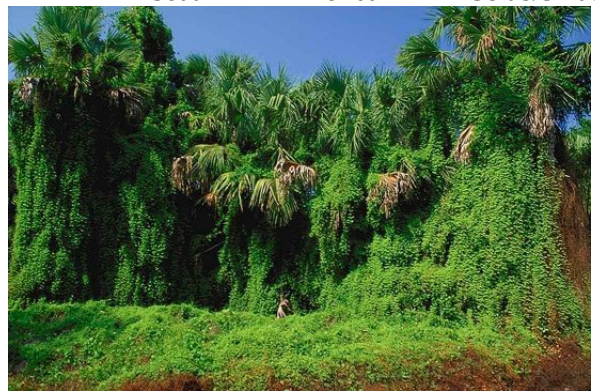
Central Florida Scrub/Shrub



South Florida Scrub/Shrub



South Florida Melaleuca Stand



South Florida Japanese Climbing Fern/Flatwoods

3. Fire spreads in light, green shrubby herbaceous vegetation often with substantial overstory. However, shrubby flamelength rarely lead to or contribute to the ignition of the overstory; wild grape, kudzu, or other vines may be present, but do not provide sufficient age and biomass to contribute as ladder fuels which would lead to canopy involvement. (young scrub, 1-2 year old plantations, scrubby flatwoods)

Fuel Model 5



Central Florida – Gallberry



Central Florida

TIMBER LITTER FUEL MODELS

PRIMARY CARRIER OF THE FIRE IS LITTER BENEATH A TIMBER STAND

- A. Dead foliage is tightly compacted, short needle (2 inches or less) conifer litter or hardwood litter. (Include aged stands of Brazilian Pepper and Australian pine).

Fuel Model 8



- B. Fire spreads in the surface litter of leafy or fine, blowy fuels. A canopy of long needle pine or deciduous hardwoods contribute to the seasonal accumulation of litter without logging slash. Some closed canopy pine plantations and Turkey Oak fit in this class.

Fuel Model 9



C. Fire spreads in surface fuels consisting of litter and/or dead and down stemwood occasionally produced by weather (tornado or hurricane) or other biological impacts such as insect defoliation and mortality. Dry ladder fuels resulting from herbicide application to vine laden treed communities and light slash associated with incompletely harvested timber operations may also contribute to this fuel type.

Fuel Model 10



SLASH FUEL MODELS

PRIMARY CARRIER OF THE FIRE IS LOGGING SLASH

- A. Slash is not continuous. Needle litter or small amounts of grass or shrubs must be present to help carry the fire, but primary carrier is still slash. Live fuels are absent or do not play a significant role in fire behavior. The slash depth is about 1 foot.

Fuel Model 11



South Florida Slash

- B. Slash generally covers the ground (heavier loadings than Model 11), though there may be some bare spots or areas of light coverage. Average slash depth is about 2 ft. Slash is not excessively compacted. Approximately one-half of the needles may still be on the branches but are not red. Live fuels are absent or are not expected to affect fire behavior.

Fuel Model 12

- C. Slash is continuous or nearly so (heavier loadings than Model 12). Slash is not excessively compacted and has an average depth of 3 ft. Approximately one-half of the needles are still on the branches and are red. OR all the needles are on the branches but they are green. Live fuels are not expected to influence fire behavior.

Fuel Model 13

- D. Same as 3, EXCEPT all the needles are attached and are red.

Fuel Model 4