

LANDFIRE Fuel Loading Models Data Dictionary

Attribute	Description	Enumerated Value	Enumerated Value Description
Value	The LANDFIRE fuel loading model (FLM) classification system is based on unique sets of fuel characteristics that simplify the input of fuel loadings into fire effects models. A fuelbed is defined as all combustible material below two meters (six feet) and above mineral soil. These fuels are commonly referred to as surface fuels and include live and dead herbaceous and shrub material, down woody material, duff, and litter. The FLMs were designed to uniquely identify significant differences in two fire effects: maximum surface soil heating and total PM2.5 emissions. FLMs incorporate the inherent variability of fuel loading across and within fuel components and the resolution of a fire effects prediction model at the plot scale.	11	Light FWD, light to no duff
		12	Moderate FWD, light litter
		13	Moderate FWD, light to moderate litter, light duff
		14	Shrub_Sagebrush with low total load
		15	Shrub_Non-sagebrush with low total load
		21	Light logs, light duff
		31	Moderate litter, light duff, light logs
		41	Moderate FWD, light to moderate litter
		51	Moderate duff, light logs
		53	Shrub_Sagebrush with medium total load
		54	Shrub_Non-sagebrush with medium total load
		61	Moderate to very heavy logs, light duff
		62	Moderate duff, light logs, light litter
		63	Moderate duff, light to heavy logs, light litter
		64	Moderate to heavy duff, light to heavy logs
		65	Shrub_Sagebrush with high total load
		66	Shrub_Non-sagebrush with high total load
		71	Moderate to heavy logs, light duff
		72	Moderate duff, light to moderate logs, moderate litter
		81	Very heavy logs, light duff
		82	Moderate duff, light to heavy logs, moderate litter
		83	Heavy to very heavy logs, moderate duff
		91	Heavy duff ,light to heavy logs
		92	Very heavy logs
		93	Heavy duff, heavy to very heavy logs
		101	Very heavy duff
		102	Heavy litter, light duff, light logs
		511	Herb - Grassland high total load
		521	Herb - Grassland low total load
		523	Herb - Grassland low total load, reduced
		701	High Duff and Litter, High Fine Wood, High Log, Low Herb, High Shrub Loading
		702	High Duff and Litter, High Fine Wood, Mod to High Log, Low Herb, Low - High Shrub Loading
		703	High Duff and Litter, Mod Fine Wood, Low Log, Low Herb , Mod Shrub Loading
		704	High Duff and Litter, No Fine wood, No Log, High Herb, No Shrub Loading
		705	High Duff and Litter, Mod Fine Wood, Low Log, Low Herb, High Shrub Loading
		706	High Duff and Litter, Low Fine Wood, High Log, Low Herb, High Shrub Loading
		707	Mod Duff and Litter, No Fine Wood, No Log, Low Herb, High Shrub Loading
		709	High Duff and Litter, Mod Fine Wood, Low Log, No Herb, Mod Shrub Loading
		710	High Duff and Litter, Mod Fine Wood, Low Log, High Herb, Mod Shrub Loading
		712	Low Duff and Litter, Mod-High Fine Wood, Mod Logs, Mod Herb, High Shrub Loading
		713	High Duff and Litter, Mod-High Fine Wood, Mod-High Logs, Low-Mod Herb, High Shrub Loading
		714	Low Duff and Litter, No Fine Wood, No Logs, Low Herb, High Shrub Loading
		715	Low Duff and Litter, Low Fine Wood, Low Logs, Mod Herb, High Shrub Loading
716	Low Duff and Litter, High Fine Wood, Low Logs, Low Herb, High Shrub Loading		
717	Low Duff and Litter, High Fine Wood, None-Low Logs, Low Herb, High Shrub Loading		
718	No Duff and Litter, High Fine Wood, No Logs, Mod Herb, High Shrub Loading		

719	Low Duff and Litter, Low Fine Wood, Low Logs, Low Herb, High Shrub Loading
720	No Duff and Litter, Low-Mod Fine Wood, Low Logs, Mod-High Herb, High Shrub Loading
722	No Duff and Litter, None-Low Fine Wood, No Logs, Mod-High Herb, No Shrub Loading
726	None-Low Duff and Litter, Low-Mod Fine Wood, No Logs, Low-Mod Herb, None-Low Shrub Loading
731	Mod Duff and Litter, Mod Fine Wood, Mod Log, Low Herb, Mod Shrub Loading
732	Mod Duff and Litter, No Fine wood, No Log, Mod Herb, No Shrub Loading
733	Mod Duff and Litter, Low Fine Wood, Low Log, No Herb, Low Shrub
734	Mod Duff and Litter, Low Fine Wood, Low Log, Mod Herb, Low Shrub
741	Low Duff and Litter, Low Fine Wood, Low Log, Low Herb, Low Shrub Loading
742	Low Duff and Litter, No Fine Wood, No Log, Low Herb, No Shrub Loading
743	Low Duff and Litter, No Fine Wood, No Log, Low Herb, Low Shrub Loading
744	Low Duff and Litter, Mod Fine Wood, Low Log, Low Herb, Mod Shrub Loading
751	No Duff and Litter, Mod Fine Wood, No Logs, Low Herb, Mod Shrub Loading
752	No Duff and Litter, Low Fine Wood, Low Logs, Low Herb, Mod Shrub Loading
753	No Duff and Litter, Low Fine Wood, No Logs, Low Herb, No Shrub Loading
900	Unclassified Sparsely Vegetated Systems
901	Unclassified Forest and Woodland
902	Unclassified Shrubland
903	Unclassified Upland Herbaceous
904	Unclassified Savanna
905	Unclassified Shrub-Steppe
906	Unclassified Grassland
907	Unclassified Wetland-Riparian Herbaceous
911	Open Water
912	Snow/Ice
913	Developed-Upland Deciduous Forest
914	Developed-Upland Evergreen Forest
915	Developed-Upland Mixed Forest
916	Developed-Upland Herbaceous
917	Developed-Upland Shrubland
918	Developed-Herbaceous Wetland Vegetation
919	Developed-Woody Wetland Vegetation
920	Developed-General
921	Developed-Open Space
922	Developed-Low Intensity
923	Developed-Medium Intensity
924	Developed-High Intensity
925	Developed-Roads
931	Barren
932	Quarries-Strip Mines-Gravel Pits
933	Sparsely Vegetated
952	Introduced Upland Vegetation-Shrub
954	Introduced Upland Vegetation-Annual and Perennial Grassland and Forbland
958	Introduced Riparian Vegetation
960	NASS-Orchard
961	NASS-Vineyard
962	NASS-Bush fruit and berries
963	NASS-Row Crop-Close Grown Crop
964	NASS-Row Crop

965	NASS-Close Grown Crop
966	NASS-Fallow/Idle Cropland
967	NASS-Pasture and Hayland
975	Herbaceous Semi-dry
976	Herbaceous Semi-wet
978	Recently Disturbed Forest
980	Agriculture-General
981	Agriculture-Pasture and Hay
982	Agriculture-Cultivated Crops and Irrigated Agriculture
983	Agriculture-Small Grains
984	Agriculture-Fallow
985	Agriculture-Urban and Recreational Grasses
995	Herbaceous Wetlands

Count number of pixels for the corresponding value

Grp	FLM classes that produce similar ranges of particulate emissions and soil heating	Effects Group 1	Wispy_Cool_Sparse
		Effects Group 2	Wispy_Warm_Light
		Effects Group 3	Wispy_Hot_Moderate
		Effects Group 4	Wispy_Very Hot_Light
		Effects Group 5	Wispy_Cool_Moderate
		Effects Group 6	Hazy_Warm_Moderate to Heavy
		Effects Group 7	Wispy to Hazy_Hot_Moderate
		Effects Group 8	Hazy_Warm to Hot_Heavy
		Effects Group 9	Smokey_Cool to Hot_Very Heavy
		Effects Group 10	Smokey_Cool_Very Heavy
		Effects Group 500	Wispy_Cool_Sparse

GrpDesc	Group description		
		Wispy_Cool_Sparse	Low PM2.5 particulate emissions (<0.22 T acre ⁻¹) <212 °F surface soil temperature
		Wispy_Warm_Light	Low PM2.5 particulate emissions (<0.33 T acre ⁻¹) 212 to 392 °F surface soil temperature
		Wispy_Hot_Moderate	Low PM2.5 particulate emissions (<0.33 T acre ⁻¹) 392 to 662 °F surface soil temperature
		Wispy_Very Hot_Light	Low PM2.5 particulate emissions (<0.33 T acre ⁻¹) 752 to 1112 °F surface soil temperature
		Wispy_Cool_Moderate	Low PM2.5 particulate emissions (0.22 to 0.45 T acre ⁻¹) <302 °F surface soil temperature
		Hazy_Warm_Moderate to Heavy	PM2.5 particulate emissions 0.45 to 0.81 T acre ⁻¹ <392 °F surface soil temperature

Wispy to Hazy_Hot_Moderate	Low PM2.5 particulate emissions (0.22 to 0.56 T acre ⁻¹) 347 to 572 °F surface soil temperature
Hazy_Warm to Hot_Heavy	PM2.5 particulate emissions 0.56 to 0.89 T acre ⁻¹ 212 to 752 °F surface soil temperature
Smokey_Cool to Hot_Very Heavy	PM2.5 particulate emissions 0.89 to 2.23 T acre ⁻¹ <572 °F surface soil temperature
Smokey_Cool_Very Heavy	PM2.5 particulate emissions >2.23 T acre ⁻¹ Most < 212 °F soil temp

Code	Fuel loading model code	
	FLM011	Light FWD, light to no duff
	FLM012	Moderate FWD, light litter
	FLM013	Moderate FWD, light to moderate litter, light duff
	FLM014	Shrub_Sagebrush with low total load
	FLM015	Shrub_Non-sagebrush with low total load
	FLM021	Light logs, light duff
	FLM031	Moderate litter, light duff, light logs
	FLM041	Moderate FWD, light to moderate litter
	FLM051	Moderate duff, light logs
	FLM053	Shrub_Sagebrush with medium total load
	FLM054	Shrub_Non-sagebrush with medium total load
	FLM061	Moderate to very heavy logs, light duff
	FLM062	Moderate duff, light logs, light litter
	FLM063	Moderate duff, light to heavy logs, light litter
	FLM064	Moderate to heavy duff, light to heavy logs
	FLM065	Shrub_Sagebrush with high total load
	FLM066	Shrub_Non-sagebrush with high total load
	FLM071	Moderate to heavy logs, light duff
	FLM072	Moderate duff, light to moderate logs, moderate litter
	FLM081	Very heavy logs, light duff
	FLM082	Moderate duff, light to heavy logs, moderate litter
	FLM083	Heavy to very heavy logs, moderate duff
	FLM091	Heavy duff, light to heavy logs
	FLM092	Very heavy logs
	FLM093	Heavy duff, heavy to very heavy logs
	FLM101	Very heavy duff
	FLM102	Heavy litter, light duff, light logs
	FLM511	Herb - Grassland high total load
	FLM521	Herb - Grassland low total load
	FLM523	Herb - Grassland low total load, reduced
	FLM701	High Duff and Litter, High Fine Wood, High Log, Low Herb, High Shrub Loading
	FLM702	High Duff and Litter, High Fine Wood, Mod to High Log, Low Herb, Low - High Shrub Loading
	FLM703	High Duff and Litter, Mod Fine Wood, Low Log, Low Herb, Mod Shrub Loading
	FLM704	High Duff and Litter, No Fine wood, No Log, High Herb, No Shrub Loading
	FLM705	High Duff and Litter, Mod Fine Wood, Low Log, Low Herb, High Shrub Loading

FLM706	High Duff and Litter, Low Fine Wood, High Log, Low Herb, High Shrub Loading
FLM707	Mod Duff and Litter, No Fine Wood, No Log, Low Herb, High Shrub Loading
FLM709	High Duff and Litter, Mod Fine Wood, Low Log, No Herb, Mod Shrub Loading
FLM710	High Duff and Litter, Mod Fine Wood, Low Log, High Herb, Mod Shrub Loading
FLM712	Low Duff and Litter, Mod-High Fine Wood, Mod Logs, Mod Herb, High Shrub Loading
FLM713	High Duff and Litter, Mod-High Fine Wood, Mod-High Logs, Low-Mod Herb, High Shrub Loading
FLM714	Low Duff and Litter, No Fine Wood, No Logs, Low Herb, High Shrub Loading
FLM715	Low Duff and Litter, Low Fine Wood, Low Logs, Mod Herb, High Shrub Loading
FLM716	Low Duff and Litter, High Fine Wood, Low Logs, Low Herb, High Shrub Loading
FLM717	Low Duff and Litter, High Fine Wood, None-Low Logs, Low Herb, High Shrub Loading
FLM718	No Duff and Litter, High Fine Wood, No Logs, Mod Herb, High Shrub Loading
FLM719	Low Duff and Litter, Low Fine Wood, Low Logs, Low Herb, High Shrub Loading
FLM720	No Duff and Litter, Low-Mod Fine Wood, Low Logs, Mod-High Herb, High Shrub Loading
FLM722	No Duff and Litter, None-Low Fine Wood, No Logs, Mod-High Herb, No Shrub Loading
FLM726	None-Low Duff and Litter, Low-Mod Fine Wood, No Logs, Low-Mod Herb, None-Low Shrub Loading
FLM731	Mod Duff and Litter, Mod Fine Wood, Mod Log, Low Herb, Mod Shrub Loading
FLM732	Mod Duff and Litter, No Fine wood, No Log, Mod Herb, No Shrub Loading
FLM733	Mod Duff and Litter, Low Fine Wood, Low Log, No Herb, Low Shrub
FLM734	Mod Duff and Litter, Low Fine Wood, Low Log, Mod Herb, Low Shrub
FLM741	Low Duff and Litter, Low Fine Wood, Low Log, Low Herb, Low Shrub Loading
FLM742	Low Duff and Litter, No Fine Wood, No Log, Low Herb, No Shrub Loading
FLM743	Low Duff and Litter, No Fine Wood, No Log, Low Herb, Low Shrub Loading
FLM744	Low Duff and Litter, Mod Fine Wood, Low Log, Low Herb, Mod Shrub Loading
FLM751	No Duff and Litter, Mod Fine Wood, No Logs, Low Herb, Mod Shrub Loading
FLM752	No Duff and Litter, Low Fine Wood, Low Logs, Low Herb, Mod Shrub Loading
FLM753	No Duff and Litter, Low Fine Wood, No Logs, Low Herb, No Shrub Loading

Litter	Fuel component litter measurement	numeric value	tons per acre
Duff	Fuel component duff measurement	numeric value	tons per acre
OneHr	Fuel component 1 hour fuel measurement	numeric value	tons per acre
TenHr	Fuel component 10 hour fuel measurement	numeric value	tons per acre
HunHr	Fuel component 100 hour fuel measurement	numeric value	tons per acre
ThouHr	Fuel component 1000 hour fuel measurement	numeric value	tons per acre
Herb	Fuel component herbaceous fuel measurement	numeric value	tons per acre
Shrub	Fuel component shrub fuel measurement	numeric value	tons per acre
Red	Red color value/255	0 -1	
Green	Green color value/255	0-1	
Blue	Blue color value/255	0-1	

For more information, refer to: http://www.fs.fed.us/rm/pubs/rmrs_gtr225.pdf