

Appendix

MODIS LCT mapping and fuel loadings

MODIS Class Descriptions	MODIS Code	FINN Code*	Tree Loadings	Herb Loadings
Water	0	No Emission**		
Evergreen Needleleaf Forest	1	6,6,5	28.93	0.43
Evergreen Broadleaf Forest	2	6,6,5	19.92	0.63
Deciduous Needleleaf Forest	3	4,4,5	15.65	0.53
Deciduous Broadleaf Forest	4	4	19.98	0.94
Mixed Forests	5	3,4,5	20.34	0.75
Closed Shrublands	6	2	5.14	0.22
Open Shrublands	7	2	2.89	0.16
Woody Savannas	8	2	12.91	0.63
Savannas	9	1	10.91	0.69
Grasslands	10	1	2.82	0.37
Permanent Wetlands	11	1	8.51	0.70
Croplands	12	9	0.00	0.66
Urban and Built-Up	13	VCF Dependent***		
Cropland/Natural Vegetation	14	9	9.08	0.72
Snow and Ice	15	No Emission**		
Barren or Sparsely Vegetated	16	1	1.35	0.09

* Three FINN codes appearing together represent the FINN code by latitude: <23.5N, 23.5N-50N and >50N, respectively.

** Assumes no emissions for water, snow and ice

*** Urban and built-up categories were reclassified based on the VCF product: grassland (code 10 for tree cover < 40%), woody savanna (code 8 for 40% ≤ tree cover < 60%) or mixed forest (code 5 for tree cover ≥ 60%)

GLC mapping and fuel loadings

GLC Class Descriptions	GLC Code	FINN Code*	Tree Loadings	Herb Loadings
Artificial Surfaces	1	VCF Dependent**		
Cropland	2	9	0.00	0.66
Grassland	3	1	1.66	0.48
Tree covered areas	4	3,4,5	21.95	0.75
Shrub covered areas	5	2	4.36	0.15
Herbaceous vegetation, aquatic or regularly flooded	6	1	15.85	0.70
Mangroves	7	3	16.02	0.43
Sparse vegetation	8	1	13.19	0.31
Bare soil	9	1	0.82	0.04
Snow and glaciers	10	VCF Dependent**		
Waterbodies	11	VCF Dependent**		

* Three FINN codes appearing together represent the FINN code by latitude: <23.5N, 23.5N-50N and >50N, respectively.

** Artificial surfaces, snow and water were reclassified as other categories based on the VCF product: grassland (code 3 for tree cover < 40%), shrubs (code 5 for $40\% \leq$ tree cover < 60%) or tree (code 4, for tree cover \geq 60%)

ESA mapping and fuel loadings

ESA Class Descriptions	ESA Code	FINN Code*	Tree Loadings	Herb Loadings
Cropland, rainfed	10	9	0.00	0.66
Cropland, rainfed, Herbaceous cover	11	9	0.00	0.66
Cropland, irrigated or post-flooding	20	9	0.00	0.66
Mosaic cropland (>50%) / natural vegetation (tree, shrub, herbaceous cover) (<50%)	30	9	0.00	0.66
Mosaic natural vegetation (tree, shrub, herbaceous cover) (>50%) / cropland (<50%)	40	2	6.40	0.75
Tree cover, broadleaved, evergreen, closed to open (>15%)	50	3	25.40	0.70
Tree cover, broadleaved, deciduous, closed to open (>15%)	60	3,4,5	21.78	0.92
Tree cover, broadleaved, deciduous, closed (>40%)	61	3,4,5	23.81	0.98
Tree cover, broadleaved, deciduous, open (15-40%)	62	3,4,5	16.07	0.78
Tree cover, needleleaved, evergreen, closed to open (>15%)	70	6,6,5	22.59	0.52
Tree cover, needleleaved, evergreen, closed (>40%)	71	6,6,5	26.27	0.67
Tree cover, needleleaved, evergreen, open (15-40%)	72	6,6,5	16.26	0.33
Tree cover, needleleaved, deciduous, closed to open (>15%)	80	6,6,5	21.95	0.88
Tree cover, needleleaved, deciduous, closed (>40%)	81	6,6,5	22.91	0.74
Tree cover, needleleaved, deciduous, open (15-40%)	82	6,6,5	17.15	1.27
Tree cover, mixed leaf type (broadleaved and needleleaved)	90	3,4,5	23.28	0.75
Mosaic tree and shrub (>50%) / herbaceous cover (<50%)	100	3,4,5	19.61	0.86
Mosaic herbaceous cover (>50%) / tree and shrub (<50%)	110	1	16.52	0.89
Shrubland	120	2	1.82	0.10
Deciduous shrubland	122	2	26.87	0.82
Grassland	130	1	4.63	0.58
Lichens and mosses	140	1	23.09	0.28
Sparse vegetation (tree, shrub, herbaceous cover) (<15%)	150	1	14.46	0.32
Sparse shrub (<15%)	152	2	4.27	0.30
Sparse herbaceous cover (<15%)	153	1	4.08	0.18
Tree cover, flooded, fresh or brakish water	160	3,4,5	19.34	0.59
Tree cover, flooded, saline water	170	3,4,5	15.91	0.43
Shrub or herbaceous cover, flooded, fresh/saline/brakish water	180	2	8.07	0.98
Urban areas	190	VCF Dependent**		
Bare areas	200	VCF Dependent**		
Water bodies	210	VCF Dependent**		
Permanent snow and ice	220	VCF Dependent**		

* Urban, bare, water and snow were reclassified based on the VCF product: grassland (code 130 for tree cover < 40%), mosaic herbaceous tree (code 110 for $40\% \leq$ tree cover < 60%) or mixed tree (code 90 for tree cover \geq 60%)

FCCS mapping and fuel loadings

FCCS Class Descriptions	FCCS Code	FINN Code	Tree Loadings	Herb Loadings
No Natural Vegetation	0	Falls back to MODIS-LCT*		
Black cottonwood-Douglas-fir-quaking aspen forest	1	4	27.65	0.41
Western hemlock-western redcedar-Douglas-fir forest	2	6	141.24	0.39
Douglas-fir forest	3	6	17.42	0.55
Douglas-fir/ceanothus forest	4	6	11.80	0.64
Douglas-fir-white fir forest	5	6	58.27	1.16
Oregon white oak-Douglas-fir forest	6	4	42.75	0.44
Douglas-fir-sugar pine-tanoak forest	7	4	49.92	0.29
Western hemlock-Douglas-fir-western redcedar/vine maple forest	8	4	125.18	0.70
Douglas-fir-western hemlock-western redcedar/vine maple forest	9	4	21.06	0.40
Western hemlock-Douglas-fir-Sitka spruce forest	10	6	151.81	0.77
Douglas-fir/western hemlock-Sitka spruce forest	11	6	40.51	0.64
Red fir-mountain hemlock-lodgepole pine-western white pine forest	12	6	61.84	0.75
Mountain hemlock-Pacific silver fir forest	13	6	15.80	0.15
California black oak woodland	14	4	29.86	0.44
Jeffrey pine-red fir-white fir/greenleaf-snowbrush forest	15	6	34.80	0.57
Jeffrey pine-ponderosa pine-Douglas-fir-California black oak forest	16	4	53.94	0.64
Red fir forest	17	6	44.40	0.95
Douglas-fir/oceanspray forest	18	4	24.90	0.20
White fir-giant sequoia-sugar pine forest	19	6	101.76	0.69
Western juniper/curl-leaf mountain mahogany woodland	20	4	8.52	0.18
Lodgepole pine forest	21	6	5.54	0.17
Lodgepole pine forest	22	6	6.96	0.21
Lodgepole pine forest	23	6	28.96	0.21
Pacific ponderosa pine-Douglas-fir forest	24	6	29.85	0.51
Pinyon-Utah juniper forest	25	6	13.56	0.12
Interior ponderosa pine-limber pine forest	26	6	16.42	0.42
Ponderosa pine-two needle pinyon-Utah juniper forest	27	6	15.74	0.24
Ponderosa pine savanna	28	2	8.92	0.45
Interior ponderosa pine-Engelmann spruce-Douglas-fir forest	29	6	10.31	0.14
Turbinella oak-alderleaf mountain mahogany shrubland	30	2	1.06	0.19
Ponderosa pine/pinyon pine-Utah juniper forest	32	6	15.08	0.22
Gambel oak/big sagebrush shrubland	33	2	1.17	0.49
Interior Douglas-fir-interior ponderosa pine/gambel	34	4	29.02	0.34

oak forest				
California live oak-blue oak woodland	36	2	9.68	0.21
Ponderosa pine-Jeffrey pine forest	37	6	39.69	0.24
Douglas-fir-madrone-tanoak forest	38	4	43.39	0.72
Sugar pine-Douglas-fir-oak forest	39	4	83.84	0.45
Tobosa-grama grassland	40	1	0.24	0.02
Idaho fescue-bluebunch wheatgrass grassland	41	1	0.00	0.18
Quaking aspen/Engelmann spruce forest	42	4	20.57	0.25
Arizona white-gray-Emory oak woodland	43	2	12.42	0.20
Scrub oak chaparral shrubland	44	2	2.43	1.04
Madrean pine-oak forest	45	4	9.52	0.52
Chamise chaparral shrubland	46	2	3.26	0.07
Redwood-tanoak forest	47	4	113.97	0.66
Douglas-fir-tanoak-madrone-bay forest	48	4	47.54	0.75
Creosote bush shrubland	49	2	0.31	0.03
Coastal sage shrubland	51	2	0.72	1.88
Douglas-fir-Pacific ponderosa pine/oceanspray forest	52	4	14.56	0.48
Pacific ponderosa pine forest	53	6	19.02	0.38
Douglas-fir-white fir-ponderosa pine forest	54	6	22.01	0.54
Western juniper/sagebrush savanna	55	2	1.20	0.15
Sagebrush shrubland	56	2	1.01	0.17
Wheatgrass-cheatgrass grassland	57	1	0.00	0.03
Western juniper/sagebrush savanna	58	2	0.67	0.04
Subalpine fir-Engelmann spruce-Douglas-fir-lodgepole pine forest	59	6	48.29	0.27
Sagebrush shrubland	60	2	0.22	0.07
Whitebark pine/subalpine fir forest	61	6	44.07	0.36
Huckleberry-heather shrublands	62	2	0.35	0.06
Showy sedge-alpine black sedge grassland	63	1	0.00	0.33
Tussock grass-oatgrass grassland	65	1	0.00	0.64
Bluebunch wheatgrass-bluegrass grassland	66	1	0.02	0.29
Interior ponderosa pine-Douglas-fir forest	67	6	34.20	0.58
Western juniper/sagebrush-bitterbrush shrubland	69	2	1.16	0.06
Subalpine fir-lodgepole pine-whitebark pine-Engelmann spruce forest	70	6	30.94	0.37
Ohia/Florida hopbush-kupaoa forest	71	4	9.53	0.41
Ohia/uluhe forest	72	4	18.23	2.60
Koa/pukiawe forest	73	4	18.60	1.77
Mamani-naio savanna	74	1	12.74	0.65
Slash pine/New Caledonia pine forest	75	6	20.07	1.65
Slash pine/molasses grass forest	76	6	13.46	1.98
Eucalyptus plantation forest	77	4	44.16	1.24
Florida hopbush-Mauna Loa beggarticks shrubland	78	2	2.37	0.56
Pili grass-broomsedge bluestem grassland	79	1	0.20	0.69
Fountain grass grassland	80	1	0.18	1.22
Pukiawe/Columbia bluestem grassland	81	1	0.16	1.19
White leadtree/Guinea grass shrubland	82	2	0.17	1.44
Molasses grass grassland	83	1	0.81	2.11

Ohia/Broomsedge bluestem savanna	84	1	1.56	1.47
Black spruce/lichen forest	85	6	2.64	0.40
Black spruce/feathermoss woodland	86	2	2.64	0.76
Black spruce/feathermoss forest	87	6	13.60	0.79
Black spruce/sphagnum moss forest	88	6	1.46	4.58
Black spruce/cottonsedge woodland	89	2	1.41	2.93
White oak-northern red oak forest	90	4	29.88	1.18
White spruce/prickly rose forest	91	6	8.64	0.80
Quaking aspen-paper birch-white spruce-black spruce forest	92	4	19.57	0.97
Paper birch-quaking aspen forest	93	4	20.83	1.26
Balsam poplar-quaking aspen forest	94	4	21.72	1.29
Willow-mountain alder shrubland	95	2	1.91	0.65
Cottongrass grassland	97	1	0.07	1.69
Marsh labrador tea-lingonberry tundra shrubland	98	2	0.70	0.52
Bluejoint reedgrass grassland	99	1	0.00	2.67
Altai fescue grassland	100	1	0.00	1.75
White spruce forest	101	6	16.19	0.74
White spruce forest	102	6	28.71	0.95
White spruce-paper birch forest	103	4	26.14	0.92
White spruce-paper birch forest	104	4	37.85	1.16
Paper birch-quaking aspen-white spruce forest	105	4	27.16	1.26
Red spruce-balsam fir forest	106	6	21.23	1.30
Pitch pine/scrub oak forest	107	4	37.84	0.58
Eastern white pine-northern red oak-red maple forest	109	4	18.44	1.04
American beech-yellow birch-sugar maple forest	110	4	31.60	0.72
Virginia pine-pitch pine-shortleaf pine forest	114	6	13.41	0.91
Rhododendron-blueberry-mountain laurel shrubland	115	2	4.07	1.31
Oak-pine/mountain laurel forest	120	4	28.13	1.19
Oak-pine/mountain laurel forest	121	4	30.45	1.78
White oak-northern red oak-black oak-hickory forest	123	4	37.02	1.54
Pitch pine-oak forest	124	4	6.81	0.90
Oak-hickory-pine-eastern hemlock forest	125	4	29.71	1.26
Green ash-American elm forest	129	4	23.16	0.23
Bluestem-Indian grass-switchgrass grassland	131	1	0.45	2.22
Tall fescue-foxtail-purple bluestem grassland	133	1	0.60	1.56
White oak-northern red oak-hickory forest	134	4	7.79	0.71
Eastern redcedar-oak/bluestem savanna	135	1	2.33	0.40
Red pine-eastern white pine forest	138	6	25.66	0.52
Jack pine/black spruce forest	140	6	7.20	0.69
Quaking aspen-paper birch forest	142	4	27.54	0.61
Quaking aspen-paper birch-white spruce-balsam fir forest	143	4	22.59	1.24
Jack pine forest	146	6	15.09	0.63
Jack pine savanna	147	2	2.80	0.31
Jack pine forest	148	6	14.95	0.72

Red pine-white pine forest	152	6	23.94	0.62
Bur oak savanna	154	2	13.37	0.97
Red spruce-balsam fir forest	155	6	21.07	0.70
Slash pine plantation forest	156	6	10.27	0.55
Loblolly-shortleaf pine-mixed hardwood forest	157	4	18.04	1.32
Loblolly-shortleaf pine-mixed hardwood forest	158	4	28.95	1.96
Loblolly-slash pine forest	161	6	14.71	0.66
Loblolly-slash pine forest	162	6	17.36	0.63
Sand pine forest	164	6	6.29	0.44
Longleaf pine/three-awned grass-pitcher plant savanna	165	2	2.06	0.31
Longleaf pine/three-awned grass-pitcher plant savanna	166	2	8.48	0.29
Gallberry-fetterbush shrubland	168	2	1.43	0.50
Pond pine/gallberry-fetterbush shrubland	170	2	2.17	0.74
Live oak/sea oats savanna	173	2	1.37	0.08
Live oak-sabal palm forest	174	4	34.24	1.20
Smooth cordgrass-black needlerush grassland	175	1	0.00	1.59
Smooth cordgrass-black needlerush grassland	176	1	0.00	2.29
Loblolly-shortleaf pine forest	178	6	12.69	1.04
Red maple-oak-hickory-sweetgum forest	180	4	26.88	1.45
Pond pine forest	181	6	16.28	0.69
Longleaf pine-slash pine/saw palmetto-gallberry forest	182	6	11.08	0.85
Loblolly-shortleaf pine forest	183	6	12.59	1.07
Longleaf pine/turkey oak forest	184	4	7.54	1.09
Longleaf pine/turkey oak forest	185	4	3.64	0.28
Turkey oak-bluejack oak forest	186	4	6.90	1.08
Longleaf pine/yaupon forest	187	6	7.56	0.79
Sand pine-oak forest	188	4	10.61	0.47
Sand pine-oak forest	189	4	12.51	0.46
Slash pine-longleaf pine/gallberry forest	190	6	12.70	0.30
Longleaf pine-slash pine/gallberry forest	191	6	10.04	0.61
Loblolly pine/bluestem forest	196	6	1.70	1.23
Sawgrass-Muhlenbergia grassland	203	1	0.00	1.70
Grand fir-Douglas-fir forest	208	6	66.14	0.26
Pinyon-Utah juniper woodland	210	2	10.00	0.12
Interior ponderosa pine forest	211	6	8.96	0.60
Pacific ponderosa pine forest	212	6	21.45	0.20
Wheatgrass-cheatgrass grassland	213	1	0.00	0.05
Giant sequoia-white fir-sugar pine forest	214	6	81.32	0.46
Douglas-fir-madrone/tanoak forest	215	4	42.82	0.06
Gambel oak-bigtooth maple forest	216	4	7.03	0.57
Gambel oak-bigtooth maple forest	217	4	5.62	0.68
Gambel oak/big sagebrush shrubland	218	2	1.24	0.23
Ponderosa pine-white fir/quaking aspen forest	219	4	25.47	0.61
Ponderosa pine-white fir/quaking aspen forest	220	4	34.83	0.28
Wheatgrass-ryegrass grassland	221	1	0.00	0.61
Interior ponderosa pine forest	222	6	8.96	0.31

Douglas-fir-white fir-interior ponderosa pine forest	223	6	34.25	0.20
Quaking aspen forest	224	4	15.32	0.42
Quaking aspen forest	225	4	12.94	0.30
White fir-gambel oak forest	226	4	20.61	0.29
White fir forest	227	6	19.53	0.28
Interior ponderosa pine-limber pine forest	228	6	9.87	0.25
Ponderosa pine/Utah juniper forest	229	6	14.65	0.25
Pinyon-Utah juniper forest	230	6	11.97	0.07
Gambel oak-Rocky Mountain juniper-ponderosa pine forest	231	4	12.09	0.23
Mesquite savanna	232	2	1.48	0.16
Sagebrush shrubland	233	2	0.80	0.01
Sagebrush shrubland	234	2	0.16	0.02
Idaho fescue-bluebunch wheatgrass grassland	235	1	0.00	0.47
Tobosa-grama grassland	236	1	0.03	0.01
Huckleberry-heather shrubland	237	2	1.29	0.05
Pacific silver fir-mountain hemlock forest	238	4	46.81	0.41
Douglas-fir-sugar pine-tanoak forest	239	4	67.75	0.06
Saw palmetto/three-awned grass shrubland	240	2	3.25	0.50
Longleaf-loblolly pine forest	241	6	22.14	0.63
Longleaf-loblolly pine forest	242	6	19.20	0.08
Pitch pine/scrub oak shrubland	243	2	9.83	0.47
Ohia/uluhe forest	260	4	2.80	2.53
Pili grass-broomsedge bluestem grassland	261	1	0.23	0.49
Molasses grass grassland	262	1	0.08	2.32
Ohia/broomsedge bluestem savanna	263	1	0.55	1.14
Post-blackjack oak forest	264	4	16.15	0.90
Balsam fir-white spruce-mixed hardwood forest	265	4	16.64	0.77
Sugar maple-basswood forest	266	4	27.40	0.70
American beech-yellow birch-sugar maple-red spruce forest	267	4	20.74	0.99
American beech-yellow birch-sugar maple-eastern hemlock forest	268	4	21.42	0.99
Sugar maple-yellow poplar-American beech-oak forest	269	4	16.78	1.36
Red spruce-Fraser fir/rhododendron forest	270	4	36.53	0.97
Mangrove forest	272	4	3.08	0.14
Engelmann spruce-Douglas-fir-white fir-ponderosa pine forest	273	6	46.61	0.35
American beech-sugar maple forest	274	4	28.58	0.79
Chestnut-white-northern red oak forest	275	4	26.97	1.15
Oak-pine-magnolia forest	276	4	38.10	1.34
Black spruce-northern white cedar-larch forest	279	6	15.23	2.13
Bluestem-Gulf cordgrass grassland	280	1	0.15	1.26
Shortleaf pine-post oak-black oak forest	281	4	11.26	1.10
Loblolly pine forest	282	6	21.89	1.29
Willow-laurel-water oak forest	283	4	19.70	0.07
Green ash-American elm-silver maple-cottonwood forest	284	4	39.53	0.23

Limber pine-ponderosa pine forest	286	6	24.37	0.49
Eastern white pine-eastern hemlock forest	287	6	20.07	0.63
Bald cypress-water tupelo forest	288	4	45.21	0.21
Pond cypress/Muhlenbergia-sawgrass savanna	289	1	0.37	1.67
Longleaf-slash pine/saw palmetto forest	291	6	10.66	0.85
Fremont cottonwood-California sycamore forest	301	4	10.20	0.31
Willow / sedge grassland	302	1	0.40	0.09
Cottonwood / willow savanna	303	2	9.17	0.35
Engelmann spruce-subalpine fir / horsetail forest	304	4	13.88	0.61
Red alder forest	305	4	8.22	0.38
Knobcone pine forest	306	6	28.67	0.49
Paloverde shrubland	307	2	0.12	0.04
Low sagebrush shrubland	308	2	0.82	0.01
Blackbrush shrubland	309	2	0.12	0.02
Greasewood shrubland	310	2	0.55	0.03
Saltbush shrubland	311	2	0.31	0.03
Gambel oak / sagebrush shrubland	312	2	5.38	0.23
Mountain mahogany shrubland	313	2	8.22	0.20
Limber pine-bristlecone pine forest	314	6	38.16	0.36
Showy sedge-Black alpine sedge grassland	315	1	0.00	0.33
Coyotebush-ceanothus shrubland	316	2	3.02	1.94
Bigtooth maple forest	317	4	3.46	0.38
Bluejoint reedgrass-water sedge grassland	318	1	0.00	0.37
Pacific silver fir-Sitka alder forest	319	4	3.56	0.25
Western larch forest	320	4	27.55	0.56
Western hemlock-Alaska cedar forest	321	6	23.20	0.39
Sitka spruce-western hemlock forest	322	6	43.12	0.73
Trembling aspen / sagebrush boreal woodland	323	2	1.13	0.06
White spruce woodland	324	2	6.80	0.73
White spruce-mountain hemlock forest	325	6	17.35	0.38
Willow- birch shrubland	326	2	0.81	0.74
Marsh Labrador tea / cottongrass grassland	327	1	0.09	1.46
Hemlock / sedge-cottongrass savanna	328	1	0.35	1.46
Mountain heath tundra shrubland	329	2	1.50	0.07
American dunegrass grassland	330	1	0.00	0.50
Sitka alder-salmonberry shrubland	331	2	1.95	0.65
Balsam poplar-paper birch forest	332	4	22.19	1.29
Dryas tundra shrubland	333	2	0.30	0.06
Mountain heather tundra shrubland	334	2	1.35	0.08
Sweetgale shrubland	335	2	0.50	1.24
Lyngbye's sedge-alkaligrass grassland	336	1	0.00	0.40
Softstem bulrush-needle spikerush grassland	337	1	0.00	0.44
Water sedge-tall cottongrass grassland	338	1	0.21	0.40
Nootka lupine-sedge grassland	339	1	0.00	0.38
Holly-privet shrubland	401	2	3.67	1.06
Pine / holly-privet forest	402	6	7.64	1.05
Post oak-blackjack oak-white oak forest	403	4	2.09	0.65
Yellow poplar-sugar maple-basswood forest	404	4	10.20	1.32
Northern red oak montane forest	405	4	2.87	0.65

American beech-southern magnolia-oak forest	406	4	29.85	1.34
Darlington oak forest	407	4	35.40	1.79
Quaking aspen-bur oak forest	408	4	6.10	0.17
Virginia pine-chestnut oak / little bluestem forest	409	4	0.51	0.17
Table Mountain pine-chestnut oak forest	410	4	4.28	0.59
Ashe juniper-oak savanna	411	2	2.42	0.10
Dwarf bilberry-bog blueberry shrubland	412	2	1.31	0.23
Pin oak / bluestem forest	413	4	4.51	0.66
Eastern redcedar / big bluestem savanna	414	2	2.13	0.20
Bluestem-forb grassland	415	1	0.04	0.42
Chinkapin oak-eastern redcedar / bluestem savanna	416	2	0.65	0.21
Little bluestem-blackseed speargrass grassland	417	1	0.04	0.26
White spruce / juniper / little bluestem savanna	418	2	0.36	0.34
Blackjack oak-post oak / bluestem savanna	419	2	2.94	0.11
Big bluestem-bluejoint grassland	420	1	0.13	1.17
Chinkapin oak-bur oak / giant cane forest	421	4	3.83	0.62
Post oak-shortleaf pine / bluestem-Indiangrass savanna	422	2	0.13	0.84
Oak / bluestem-Indiangrass savanna	423	2	0.24	0.83
Pondcypress / dahoon holly / sedge forest	424	4	28.11	0.22
Swamp tupelo-sweetbay magnolia forest	425	4	25.49	1.08
Sugarberry / acacia forest	426	4	3.36	0.12
Red spruce-northern white cedar-tamarack forest	427	4	13.19	0.53
Melaleuca forest	428	4	34.93	1.44
Black locust forest	429	4	11.64	1.07
White oak-southern red oak forest	430	4	33.47	1.20
Chinkapin oak-Shumard oak forest	431	4	3.75	1.32
Florida poisontree-West Indian mahogany forest	432	4	5.59	0.64
Pine-oak / American beachgrass savanna	433	2	1.08	0.19
Post oak-southern red oak / little bluestem-Indiangrass forest	434	4	4.39	0.47
Little bluestem-buffalograss grassland	435	1	0.03	0.41
Shore little bluestem-paspalum grassland	436	1	0.00	0.57
Saltmeadow cordgrass-switchgrass grassland	437	1	0.00	0.56
Pondcypress / pond apple forest	438	4	25.72	0.20
Pondcypress / swamp titi / maidencane savanna	439	2	1.57	0.47
Pondcypress-cabbage palm-strangler fig forest	440	4	68.18	0.11
Red maple-black ash / common winterberry forest	441	4	18.03	0.77
Bulrush grassland	442	1	0.00	0.88
Prairie cordgrass-bluejoint grassland	443	1	0.00	0.88
Woollyfruit sedge-yellow sedge grassland	445	1	0.27	0.77
Bald cypress-tupelo / swamp titi forest	448	4	49.47	0.25
Pin oak-white oak / buttonbush forest	449	4	32.35	0.61
Oak-Ashe juniper forest	450	4	2.74	0.21
Texas live oak / roughleaf dogwood forest	451	4	3.04	0.21
Bluestem-tall fescue-switchgrass grassland	453	1	0.69	0.88
American beech-maple / American red raspberry forest	454	4	18.98	0.68
Red pine forest	455	6	23.48	0.52

Chinese tallow tree forest	456	4	74.33	0.78
Florida strangler fig-gumbo limbo-cabbage palm forest	457	4	29.78	0.79
Berlandier's fiddlewood-Texas ebony shrubland	458	2	2.54	0.05
Inland and coastal water	900	Falls back to MODIS-LCT*		

* Records with FCCS Code 0 (any non-natural vegetation surface) and 900 (water) use MODIS-LCT land cover for emissions estimates

FCCS_CD L mappings and fuel loadings

FCCS_CD L Class Description	FCCS_CD L Class	FINN Class	Tree Loadings	Herb Loadings
	0-458, 900	Common with FCCS*		
Corn	1201	13	0.00	1.62
Cotton	1202	11	0.00	0.38
Rice	1203	8	0.00	0.67
Soybeans	1205	12	0.00	0.56
Wheat	1223	10	0.00	0.66
Other Small Grains	1225	9	0.00	0.66
Sugarbeets	1241	9	0.00	0.66
Beans	1242	9	0.00	0.66
Potatoes	1243	9	0.00	0.66
Other Crops	1244	9	0.00	0.66
Sugarcane	1245	15	0.00	1.50
Misc. Veggies. & Fruits	1247	9	0.00	0.66
Lentils	1252	9	0.00	0.66
Biofuels	1260	1	0.00	0.66
Fallow	1261	1	0.00	0.69
Pasture/Grass	1262	1	0.00	0.69
Other Tree Nuts	1271	4	0.00	0.69
Other Tree Fruits	1273	4	0.00	0.69
Bluegrass/Grass Seed	1280	1	0.00	0.69
Pasture/Hay/Alfalfa	1281	1	0.00	0.69
Dbl. Crop Win Wht/Corn	1290	10	0.00	1.62
Dbl. Crop Wheat/Soy	1291	10	0.00	0.66
Dbl. Crop Other Grain/Corn	1292	9	0.00	0.66
Dbl. Crop Lettuce/Durum Wheat	1293	9	0.00	0.66
Dbl. Crop Wht/Sorghum	1295	10	0.00	0.66
Dbl. Crop Wheat/Cotton	1296	10	0.00	0.66
Dbl. Crop Corn/Soybeans	1299	13	0.00	0.66
Dbl. Crop Barley/Soybeans	1300	0	0.00	0.00

* Code <= 900 are identical to the FCCS scenario. Note also the special treatment of codes 0 and 900 by for the FCCS scenario.

TCEQ mapping and loadings

TCEQ Class Descriptions	TCEQ Code	FINN Code	Tree Loadings	Herb Loadings
Open Water	1	VCF Dependent*		
Developed Open Space	2	VCF Dependent*		
Developed Low Intensity	3	VCF Dependent *		
Developed Medium Intensity	4	VCF Dependent *		
Developed High Intensity	5	VCF Dependent *		
Barren Land (Rock/Sand/Clay/Unconsolidated Shore)	6	VCF Dependent *		
Herbaceous Natural	7	1	3.22	0.73
Herbaceous Cultivated	8	9	2.37	0.69
Riparian Forested Wetland	9	4	14.66	0.38
Swamp Forested Wetland	10	4	26.44	0.43
Shrub Wetland	11	2	0.27	0.81
Herbaceous Emergent Wetland	12	1	1.61	1.10
Cold-Deciduous Forest	13	4	16.11	0.93
Broad-Leafed Evergreen Forest	14	4	10.24	0.49
Needle-Leafed Evergreen Forest	15	6	14.98	0.77
Mixed Forest	16	4	12.75	0.78
Cultivated Woody Vegetation	17	4	1.48	0.16
Cold-Deciduous Woodland	18	4	9.06	0.72
Broad-Leafed Evergreen Woodland	19	4	2.59	0.18
Needle-Leafed Evergreen Woodland	20	6	13.39	0.73
Mixed Woodland	21	4	7.51	0.51
Cold-Deciduous Shrub	22	2	1.99	0.28
Broad-Leafed Evergreen Shrub	23	2	1.31	0.05
Needle-Leafed Evergreen Shrub	24	2	3.00	0.14
Mixed Shrub	25	2	1.72	0.21
Desert Shrub	26	2	0.86	0.07
Western Shrub Wetland	28	2	4.80	0.14
Western Cold-Deciduous Forest	29	4	22.47	0.32
Western Broad-Leafed Evergreen Forest	30	4	1.45	0.15
Western Needle-Leafed Evergreen Forest	31	6	13.97	0.26
Western Mixed Forest	32	4	17.65	0.27
Western Cold-Deciduous Woodland	33	4	11.69	0.28
Western Broad-Leafed Evergreen Woodland	34	4	1.67	0.15
Western Needle-Leafed Evergreen Woodland	35	6	9.39	0.18
Western Mixed Woodland	36	4	9.90	0.19

* Water, developed and barren categories were reclassified based on the VCF product: herbaceous natural (code 7 if tree cover < 40%), mixed shrub (code 25 for 40% ≤ tree cover < 60%) or mixed forest (code 16 for tree cover ≥ 60%)

TCEQ_CDL mappings and fuel loadings

TCEQ_CDL Class Descriptions	TCEQ_CDL Code	FINN Code	Tree Loadings	Herb Loadings
Corn	1	13	0.00	1.62
Cotton	2	11	0.00	0.38
Rice	3	8	0.00	0.67
Sorghum	4	14	0.00	0.66
Soybeans	5	12	0.00	0.56
Sunflower	6	9	0.00	0.66
Peanuts	10	9	0.00	0.66
Tobacco	11	9	0.00	0.66
Sweet Corn	12	13	0.00	1.62
Pop or Orn Corn	13	13	0.00	1.62
Barley	21	9	0.00	0.66
Durum Wheat	22	10	0.00	0.66
Spring Wheat	23	10	0.00	0.66
Winter Wheat	24	10	0.00	0.66
Dbl Crop WinWht/Soybeans	26	10	0.00	0.66
Rye	27	9	0.00	0.66
Oats	28	9	0.00	0.66
Millet	29	9	0.00	0.66
Canola	31	9	0.00	0.66
Safflower	33	9	0.00	0.66
Alfalfa	36	1	0.00	0.66
Other Hay/Non Alfalfa	37	1	0.00	0.66
Dry Beans	42	9	0.00	0.66
Potatoes	43	9	0.00	0.66
Other Crops	44	9	0.00	0.66
Sugarcane	45	15	0.00	1.50
Sweet Potatoes	46	9	0.00	0.66
Watermelons	48	9	0.00	0.66
Onions	49	9	0.00	0.66
Cucumbers	50	9	0.00	0.66
Peas	53	9	0.00	0.66
Tomatoes	54	9	0.00	0.66
Herbs	57	9	0.00	0.66
Clover/Wildflowers	58	1	0.00	0.66
Sod/Grass Seed	59	1	0.00	0.66
Switchgrass	60	1	0.00	0.66
Fallow/Idle Cropland	61	1	0.00	0.66
Cherries	66	9	0.00	0.66
Peaches	67	9	0.00	0.66
Apples	68	9	0.00	0.66
Grapes	69	9	0.00	0.66
Christmas Trees	70	6	0.00	0.66
Citrus	72	4	0.00	0.66
Pecans	74	4	0.00	0.66
Walnuts	76	4	0.00	0.66

Aquaculture	92	VCF Depended*		
Open Water	101	VCF Depended*		
Developed Open Space	102	VCF Depended*		
Developed Low Intensity	103	VCF Depended*		
Developed Medium Intensity	104	VCF Depended*		
Developed High Intensity	105	VCF Depended*		
Barren Land (Rock/Sand/Clay/Unconsolidated Shore)	106	VCF Depended*		
Herbaceous Natural	107	1	3.33	0.72
Herbaceous Cultivated	108	9	1.09	0.27
Riparian Forested Wetland	109	4	14.62	0.38
Swamp Forested Wetland	110	4	26.37	0.44
Shrub Wetland	111	2	0.27	0.81
Herbaceous Emergent Wetland	112	1	1.61	1.11
Cold-Deciduous Forest	113	4	16.07	0.93
Broad-Leafed Evergreen Forest	114	4	10.28	0.50
Needle-Leafed Evergreen Forest	115	6	14.95	0.77
Mixed Forest	116	4	12.80	0.78
Cultivated Woody Vegetation	117	4	1.48	0.16
Cold-Deciduous Woodland	118	4	9.13	0.73
Broad-Leafed Evergreen Woodland	119	4	2.60	0.18
Needle-Leafed Evergreen Woodland	120	6	13.29	0.73
Mixed Woodland	121	4	7.63	0.52
Cold-Deciduous Shrub	122	2	2.02	0.27
Broad-Leafed Evergreen Shrub	123	2	1.31	0.05
Needle-Leafed Evergreen Shrub	124	2	3.00	0.14
Mixed Shrub	125	2	1.72	0.20
Desert Shrub	126	2	0.86	0.07
Western Shrub Wetland	128	2	4.84	0.13
Western Cold-Deciduous Forest	129	4	22.56	0.32
Western Broad-Leafed Evergreen Forest	130	4	1.45	0.15
Western Needle-Leafed Evergreen Forest	131	6	13.97	0.26
Western Mixed Forest	132	4	17.65	0.27
Western Cold-Deciduous Woodland	133	4	11.73	0.28
Western Broad-Leafed Evergreen Woodland	134	4	1.67	0.15
Western Needle-Leafed Evergreen Woodland	135	6	9.39	0.18
Western Mixed Woodland	136	4	9.90	0.19
Open Water	156	VCF Depended*		
Developed/Open Space	161	VCF Depended*		
Developed/Low Intensity	162	VCF Depended*		
Developed/Med Intensity	163	VCF Depended*		
Developed/High Intensity	164	VCF Depended*		
Barren	166	VCF Depended*		
Deciduous Forest	171	4	12.32	0.88
Evergreen Forest	172	6	10.85	0.71
Mixed Forest	173	4	10.83	0.73
Shrubland	177	2	3.36	0.60
Grassland/Pasture	186	1	4.37	0.76
Woody Wetlands	196	4	5.64	0.51

Herbaceous Wetlands	197	1	3.39	0.67
Pistachios	204	4	0.00	0.66
Triticale	205	9	0.00	0.66
Carrots	206	9	0.00	0.66
Cantaloupes	209	9	0.00	0.66
Olives	211	4	0.00	0.66
Oranges	212	4	0.00	0.66
Peppers	216	9	0.00	0.66
Greens	219	9	0.00	0.66
Squash	222	9	0.00	0.66
Vetch	224	9	0.00	0.66
Dbl Crop WinWht/Corn	225	10	0.00	1.62
Dbl Crop Oats/Corn	226	9	0.00	1.62
Lettuce	227	9	0.00	0.66
Pumpkins	229	9	0.00	0.66
Dbl Crop Lettuce/Cotton	232	9	0.00	0.66
Dbl Crop Barley/Sorghum	235	9	0.00	0.66
Dbl Crop WinWht/Sorghum	236	10	0.00	0.66
Dbl Crop Barley/Corn	237	9	0.00	0.66
Dbl Crop WinWht/Cotton	238	10	0.00	0.66
Dbl Crop Soybeans/Cotton	239	12	0.00	0.66
Dbl Crop Soybeans/Oats	240	12	0.00	0.66
Dbl Crop Corn/Soybeans	241	13	0.00	0.66
Blueberries	242	9	0.00	0.66
Cabbage	243	9	0.00	0.66
Turnips	247	9	0.00	0.66
Dbl Crop Barley/Soybeans	254	9	0.00	0.66

* Water, developed and barren categories were reclassified based on the VCF product: herbaceous natural (code 107 for tree cover < 40%), mixed shrub (code 125 for 40% \leq tree cover < 60%) or mixed forest (code 116 for tree cover \geq 60%)