

**Table S1.** Vegetation categories aggregated from LANDIFRE Existing Vegetation Type categories[26]. The correspondence between analyzed categories and LANDFIRE Society of American Foresters or Society for Range Management (SAF / SRM) categories and the LANDFIRE ecological systems fuel classification are below.

Category	SAF / SRM Category				Fuel Classification
Agriculture	LF 80: Agriculture				Da Close Grown Crop
					Da Row Crop
					Da Row Crop - Close Grown Crop
					Da Wheat
					Dab Bush Fruit and Berries
					Dab Fallow/Idle Cropland
					Dab Orchard
					Dab Pasture and Hayland
Alpine	SRM 410: Alpine Rangeland				He Rocky Mountain Alpine Fell-Field
					He Rocky Mountain Alpine Turf
					He Southern Rocky Mountain Montane-Subalpine Grassland
					Sh Rocky Mountain Alpine Dwarf-Shrubland
Annual grassland	LF 54: Introduced Vegetation - Herbaceous	Upland			He Great Basin & Intermountain Introduced Annual and Biennial Forbland
Aspen	SAF 217: Aspen				He Great Basin & Intermountain Introduced Annual Grassland
					Tr Inter-Mountain Basins Aspen-Mixed Conifer Forest and Woodland
Chaparral	SRM 503: Arizona Chaparral				Tr Rocky Mountain Aspen Forest and Woodland
					Sh Great Basin Semi-Desert Chaparral
					Sh Mogollon Chaparral
Developed	LF 20: Developed				Sh Sonora-Mojave Semi-Desert Chaparral
					Bab Quarries-Strip Mines-Gravel Pits-Well and Wind Pads
					Bau Developed-High Intensity
					Bau Developed-Low Intensity
					Bau Developed-Medium Intensity
Douglas-fir	SAF 210: Interior Douglas-Fir SAF 211: White Fir				Bau Developed-Roads
					Tr Middle Rocky Mountain Montane Douglas-fir Forest and Woodland
					Tr Southern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest and Woodland
					Tr Southern Rocky Mountain Mesic Montane Mixed Conifer Forest and Woodland
Juniper	SRM 412: Juniper-Pinyon Woodland				Tr Great Basin Pinyon-Juniper Woodland
					Tr Inter-Mountain Basins Juniper Savanna
	SRM 504: Juniper-Pinyon Pine Woodland				Sh Colorado Plateau Pinyon-Juniper Shrubland
Five-needle pine	SAF 209: Bristlecone Pine SAF 219: Limber Pine				Tr Colorado Plateau Pinyon-Juniper Woodland
					Tr Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland
					Tr Rocky Mountain Subalpine-Montane Limber-Bristlecone Pine Woodland
					Tr Rocky Mountain Foothill Limber Pine-Juniper Woodland
Lodgepole	SAF 218: Lodgepole Pine				Tr Rocky Mountain Lodgepole Pine Forest
					Tr Rocky Mountain Poor-Site Lodgepole Pine Forest
Mountain Mahogany	SRM 415: Curlleaf Mountain-Mahogany				Tr Inter-Mountain Basins Curl-leaf Mountain Mahogany Woodland and Shrubland
Perennial grassland	LF 54: Introduced Vegetation – Herbaceous				Tr Southern Rocky Mountain Ponderosa Pine Savanna
					Tr Southern Rocky Mountain Ponderosa Pine Woodland
	LF 59: Introduced Herbaceous Wetland and Riparian Vegetation				Sps Inter-Mountain Basins Sparsely Vegetated Systems
					He Inter-Mountain Basins Alkaline Closed Depression
	SRM 106: Bluegrass Scabland				He North American Arid West Emergent Marsh
					Tr North American Warm Desert Riparian Systems
	SRM 311: Rough Fescue-Bluebunch Wheatgrass				He Rocky Mountain Alpine-Montane Wet Meadow
					Tr Inter-Mountain Basins Montane Riparian Systems
	SRM 312: Rough Fescue-Idaho Fescue				Tr Rocky Mountain Subalpine/Upper Montane Riparian Systems
					Sh Western North American Ruderal Wet Shrubland Meadow & Marsh
Ponderosa Pine	SRM 409: Tall Forb SRM 502: Grama-Galetta				Tr Interior West Ruderal Riparian Forest & Scrub
					Tr Inter-Mountain Basins Montane Riparian Systems
					Tr Rocky Mountain Montane Riparian Systems
					Tr North American Warm Desert Riparian Sys
Riparian	LF 33: Sparsely Vegetated LF 56: Western Herbaceous Wetland SRM 422: Riparian				
Riparian-hardwood	LF 58: Introduced Woody Wetlands and Riparian Vegetation SAF 235: Cottonwood-Willow SRM 203: Riparian Woodland				

Category	SAF / SRM Category	Fuel Classification
Sagebrush	SRM 314: Big Sagebrush-Bluebunch Wheatgrass	Sh Inter-Mountain Basins Big Sagebrush Steppe Sh Inter-Mountain Basins Montane Sagebrush Steppe
	SRM 402: Mountain Big Sagebrush	Sh Inter-Mountain Basins Big Sagebrush Shrubland
	SRM 403: Wyoming Big Sagebrush	Sh Inter-Mountain Basins Semi-Desert Shrub-Steppe Sh Colorado Plateau Mixed Low Sagebrush Shrubland
	SRM 405: Black Sagebrush	Sh Wyoming Basins Dwarf Sagebrush Shrubland and Steppe
	SRM 406: Low Sagebrush	Sh Columbia Plateau Low Sagebrush Steppe Sh Great Basin Xeric Mixed Sagebrush Shrubland
Shrubland	LF 41: Deciduous Shrubland	Sh Northern Rocky Mountain Subalpine Deciduous Shrubland
	LF 52: Introduced Upland Vegetation – Shrub	Sh Great Basin & Intermountain Ruderal Shrubland Sh Interior Western North American Temperate Ruderal Grassland & Shrubland
	SRM 212: Blackbush	Sh North American Warm Desert Ruderal & Planted Scrub & Grassland
	SRM 414: Salt Desert Shrub	Sh Colorado Plateau Blackbrush-Mormon-tea Shrubland
	SRM 501: Saltbush-Greasewood	Sh Mojave Mid-Elevation Mixed Desert Scrub
	SRM 506: Creosotebush-Bursage	Sh Inter-Mountain Basins Mixed Salt Desert Scrub
	SRM 605: Sandsage Prairie	Sh Sonora-Mojave Mixed Salt Desert Scrub Sh Inter-Mountain Basins Greasewood Flat Sh Inter-Mountain Basins Mat Saltbush Shrubland Sh Sonora-Mojave Creosotebush-White Bursage Desert Scrub Sh Southern Colorado Plateau Sand Shrubland
Snow	LF 12: Snow-Ice	Ba Snow-Ice
Sparse	LF 33: Sparsely Vegetated	Sps Inter-Mountain Basins Sparsely Vegetated Systems Sps North American Warm Desert Sparsely Vegetated Systems Sps Rocky Mountain Alpine/Montane Sparsely Vegetated Systems
Spruce-fir	SAF 206: Engelmann Spruce-Subalpine Fir	Tr Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland Tr Rocky Mountain Subalpine Mesic-Wet Spruce-Fir Forest and Woodland
Subalpine	SAF 208: Whitebark Pine	Tr Northern Rocky Mountain Subalpine Woodland and Parkland
Water	LF 11: Water	Ba Open Water
WUI Shrub	LF 20: Developed	Dgr Developed Herbaceous
	SRM 421: Chokecherry-Serviceberry-Rose	Dgr Urban Herbaceous Dsh Developed Shrubland Dsh Urban Shrubland Sh Rocky Mountain Lower Montane-Foothill Shrubland
WUI Woodland	LF 20: Developed	Dtc Developed Evergreen Forest
	SRM 413: Gambel oak	Dtc Urban Evergreen Forest
	SRM 418: Bigtooth Maple	Dtd Developed Deciduous Forest
	SRM 421: Chokecherry-Serviceberry-Rose	Dtd Urban Deciduous Forest Dtm Developed Mixed Deciduous-Evergreen Forest Dtm Urban Mixed Deciduous-Evergreen Forest Sh Rocky Mountain Gambel Oak-Mixed Montane Shrubland Tr Rocky Mountain Bigtooth Maple Ravine Woodland Sh Northern Rocky Mountain Montane-Foothill Deciduous Shrubland

**Table S2.** Kolmogorov-Smirnov tests on the distribution of burn severity between medium-sized (40 ha ≤ area <400 ha) and large (≥400 ha) wildfires in Utah, USA from 1984 to 2022.

Vegetation type	D-statistic	P-value
Alpine	0.211	<b>0.002</b>
Annual grassland	0.112	0.294
Aspen	0.198	<b>0.005</b>
Chaparral	0.145	0.081
Douglas-fir	0.158	<b>0.043</b>
Five-needle pine	0.165	<b>0.031</b>
Lodgepole	0.211	<b>0.002</b>
Mountain Mahogany	0.172	<b>0.022</b>
Pinon - Juniper	0.165	<b>0.031</b>
Perennial grassland	0.178	<b>0.015</b>
Ponderosa Pine	0.125	0.183
Riparian	0.185	<b>0.010</b>
Riparian-hardwood	0.152	0.059
Sagebrush	0.185	<b>0.010</b>
Shrubland	0.178	<b>0.015</b>
Sparse	0.125	0.183
Spruce-fir	0.185	<b>0.010</b>
WUI Shrub	0.125	0.183
WUI Woodland	0.185	<b>0.010</b>

**Table S3.** The number of medium-sized (40 ha ≤ area <400 ha) and large (≥400 ha) wildfires in predominantly non-forested vegetation types in Utah, USA from 1984 to 2022. Shaded cells denote the normal period from 1991 to 2020.

Year	Annual grassland		Perennial grassland		Sagebrush		Shrubland		Sparse		Chaparral		Riparian		Riparian-hardwood		WUI shrubland	
	Medium	Large	Medium	Large	Medium	Large	Medium	Large	Medium	Large	Medium	Large	Medium	Large	Medium	Large	Medium	Large
1984	2	1	3	1	3	1	0	0	0	0	0	1	0	0	1	0	1	1
1985	7	11	8	11	8	11	3	7	3	7	1	4	3	7	4	6	4	9
1986	9	19	8	19	10	21	2	10	2	10	1	8	2	10	5	12	6	20
1987	5	14	7	14	7	14	2	6	2	6	0	7	2	6	4	6	5	13
1988	3	13	8	14	7	14	0	8	0	8	1	4	0	8	1	10	8	11
1989	5	13	5	13	5	13	0	9	0	9	0	3	0	9	2	10	4	12
1990	4	6	4	6	7	6	0	4	0	4	1	4	0	4	0	5	4	6
1991	1	3	2	3	2	3	0	0	0	0	1	2	0	0	1	1	2	3
1992	9	8	7	8	10	8	2	4	2	4	6	6	2	4	1	4	7	8
1993	13	7	10	7	14	7	1	0	1	0	7	6	1	0	1	1	9	4
1994	19	33	20	34	23	34	4	21	4	21	3	23	4	21	8	21	16	30
1995	15	27	13	26	15	26	3	13	3	13	10	19	3	13	10	14	9	22
1996	20	38	19	37	24	38	4	18	4	18	5	30	4	18	7	22	11	36
1997	6	6	9	7	12	7	4	3	4	3	4	4	4	3	4	4	7	5
1998	6	16	5	17	7	17	1	7	1	7	2	12	1	7	1	8	4	10
1999	18	29	20	28	23	30	4	14	4	14	6	15	4	14	8	19	15	28
2000	19	31	23	32	26	32	2	15	2	15	10	21	2	15	12	22	16	29
2001	20	22	22	22	23	23	3	12	3	12	7	12	3	12	9	14	15	18
2002	12	24	17	25	18	26	5	18	5	18	5	5	5	18	5	21	9	23
2003	17	14	21	14	22	14	7	8	7	8	3	7	7	8	9	11	17	13
2004	15	12	12	14	18	14	3	6	3	6	10	6	3	6	6	11	11	11
2005	31	31	34	29	34	30	2	11	2	11	10	23	2	11	5	15	23	27
2006	56	47	54	46	58	47	9	19	9	19	13	28	9	19	17	26	34	42
2007	24	34	30	34	36	35	6	24	6	24	7	18	6	24	7	23	23	31
2008	23	6	26	7	31	7	7	6	7	6	8	0	7	6	15	7	18	6
2009	14	15	17	16	17	16	3	9	3	9	2	6	3	9	7	12	13	16
2010	9	6	11	6	11	6	2	2	2	2	3	2	2	2	2	5	5	6
2011	20	11	20	11	23	10	1	3	1	3	9	8	1	3	5	3	12	9
2012	7	36	9	37	10	37	2	22	2	22	3	22	2	22	3	24	6	34
2013	13	11	15	11	16	11	3	7	3	7	1	8	3	7	5	7	11	11
2014	13	8	15	8	15	8	2	4	2	4	6	5	2	4	4	6	12	8
2015	11	1	15	2	15	2	1	1	1	1	3	0	1	1	4	1	8	2
2016	17	24	25	24	25	24	4	18	4	18	8	6	4	18	9	21	17	21
2017	37	23	34	24	43	24	7	17	7	17	8	8	7	17	13	18	27	14
2018	25	18	29	22	34	23	10	13	10	13	5	5	10	13	12	18	25	22
2019	16	21	17	23	17	23	3	14	3	14	6	9	3	14	5	17	12	20
2020	32	19	31	22	38	21	8	12	8	12	24	12	8	12	14	15	17	19
2021	10	7	11	8	19	7	4	6	4	6	10	2	4	6	6	6	11	8
2022	6	0	7	0	6	0	3	0	3	0	7	0	3	0	3	0	5	0
Normal	18	19	19	20	22	20	4	11	4	11	6	11	4	11	7	13	14	18
Total	589	665	643	682	732	690	127	371	127	371	216	361	127	371	235	446	249	608

**Table S4.** The number of medium-sized (40 ha ≤ area <400 ha) and large (≥400 ha) wildfires in predominantly forested vegetation types in Utah, USA from 1984 to 2022. Shaded cells denote the normal period from 1991 to 2020.

Year	WUI woodland		Pinon-juniper		Ponderosa		Douglas-fir		Aspen		Mtn. Mahogany		Lodgepole		Spruce-fir		Five-needle pine		Alpine	
	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e
1984	2	0	3	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
1985	4	2	8	6	1	0	2	2	2	1	2	3	0	0	1	1	2	1	3	3
1986	4	5	9	19	2	1	1	2	1	3	0	3	0	1	0	1	0	2	0	3
1987	7	7	7	10	3	0	5	3	3	3	3	3	0	0	2	2	4	3	6	5
1988	7	9	8	13	3	5	7	8	5	8	6	6	3	2	5	5	6	7	5	7
1989	4	10	4	12	1	8	3	10	4	10	3	8	1	1	4	8	4	8	3	10
1990	4	6	7	6	5	2	4	5	3	5	3	5	0	0	2	3	2	3	2	6
1991	2	1	2	3	1	0	2	1	1	1	1	1	0	0	0	0	1	0	1	1
1992	3	7	7	8	4	0	3	5	2	4	4	6	0	0	0	4	3	3	5	5
1993	6	5	13	6	3	1	4	1	4	1	2	1	1	0	2	1	3	1	5	3
1994	13	25	16	32	4	4	11	12	10	12	10	13	2	2	4	9	8	8	11	13
1995	11	19	14	20	0	2	0	5	0	7	0	8	0	0	0	2	0	2	1	9
1996	20	27	25	35	4	5	12	13	10	14	11	15	0	0	2	5	6	4	9	22
1997	7	4	13	7	4	3	6	3	5	2	3	2	0	0	1	2	2	2	3	3
1998	3	7	7	15	0	1	0	2	0	1	0	2	0	0	3	3	0	0	1	4
1999	11	19	18	24	2	6	7	9	6	11	5	12	1	1	7	8	4	3	6	11
2000	18	21	24	28	3	6	14	14	12	14	14	18	3	1	2	3	11	9	11	19
2001	12	12	21	17	5	5	8	8	4	8	5	8	0	1	6	11	3	4	7	9
2002	13	25	16	26	3	18	8	23	7	23	3	16	2	1	7	5	7	13	9	24
2003	18	11	20	12	6	6	16	7	11	7	12	5	1	0	2	5	11	5	11	7
2004	13	11	18	12	3	5	4	8	2	7	4	7	0	0	5	2	1	4	5	7
2005	21	18	35	27	6	5	8	6	6	4	7	6	0	1	4	6	8	2	9	7
2006	28	33	41	45	6	13	13	19	8	13	11	14	2	0	0	10	9	5	11	17
2007	16	22	30	31	6	12	8	21	2	19	5	20	0	1	11	3	8	9	7	20
2008	22	5	28	6	10	5	17	5	14	4	16	3	0	0	3	8	14	3	15	5
2009	11	15	15	16	6	11	8	12	8	11	6	8	0	0	3	2	4	8	5	13
2010	6	5	11	6	4	4	4	4	5	2	3	4	0	0	0	4	3	2	4	6
2011	14	6	21	10	2	0	2	1	2	16	1	2	0	0	0	0	0	0	2	4
2012	6	29	8	35	2	11	4	14	4	5	3	19	0	1	3	11	2	11	5	20
2013	9	11	16	11	5	0	7	6	4	2	5	8	1	0	2	3	3	3	9	10
2014	13	7	15	8	1	1	2	3	6	1	3	3	0	0	1	2	1	2	9	3
2015	11	2	12	2	3	2	8	2	9	18	6	1	0	0	4	1	5	0	10	1
2016	17	18	16	20	3	9	11	18	6	5	4	16	3	2	5	15	9	12	16	19
2017	21	9	30	16	2	3	12	4	17	15	13	7	1	0	2	3	8	3	5	6
2018	16	18	27	22	6	14	19	17	4	12	13	18	2	3	10	12	11	12	16	17
2019	11	19	15	20	3	10	8	11	4	5	6	11	0	1	2	9	8	8	2	15
2020	13	14	22	17	3	4	6	7	5	3	4	6	0	2	4	4	5	6	8	9
2021	9	6	16	7	3	4	7	4	1	0	8	2	0	0	4	3	5	3	4	4
2022	4	0	6	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0
Normal	13	14	18	18	4	5	8	9	6	8	6	9	1	1	3	5	5	5	7	10
Total	430	470	624	610	129	186	261	295	198	277	208	290	23	21	113	176	182	171	248	357

**Table S5.** The area burned in medium-sized (40 ha ≤ area <400 ha) and large (≥400 ha) wildfires in predominantly non-forested vegetation types in Utah, USA from 1984 to 2022. Shaded cells denote the normal period from 1991 to 2020.

Year	Annual grassland		Perennial grassland		Sagebrush		Shrubland		Sparse		Chaparral		Riparian		Riparian-hardwood		WUI shrubland	
	Mediu m	Large	Mediu m	Large	Mediu m	Large	Mediu m	Large	Mediu m	Large	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Large
1984	6	1,377	2	382	45	1,064	466	1,127	3	3	0	1	0	0	1	0	1	3
1985	19	3,337	19	627	231	3,143	632	4,511	14	14	1	24	3	22	34	14	12	26
1986	111	10,301	52	2,174	232	16,768	621	12,642	10	816	5	20	7	37	13	54	11	161
1987	3	7,815	52	1,811	125	5,813	20	6,334	2	65	0	13	0	4	2	8	4	57
1988	5	3,211	93	1,216	421	10,337	5	2,628	5	100	0	5	0	35	1	301	27	502
1989	12	686	30	561	148	3,913	8	691	7	1,547	0	26	0	33	0	44	10	496
1990	3	116	37	191	169	3,162	3	123	37	352	3	11	0	3	0	40	8	158
1991	31	23	47	138	10	1,450	3	348	4	5	1	11	0	0	0	0	1	97
1992	34	404	65	664	510	4,487	182	1249	24	23	57	64	0	5	0	25	12	97
1993	88	324	27	215	440	3,276	400	2,067	16	70	16	113	0	0	0	0	8	13
1994	107	15,036	202	7,107	1,113	35,247	551	14,986	17	458	26	156	23	93	25	131	67	1,512
1995	216	9,330	42	5,798	1,152	29,472	905	20,654	22	418	76	634	1	12	4	58	49	213
1996	125	16,312	198	12,432	1,370	10,2856	299	20,910	49	1,123	24	661	2	113	7	245	28	1,532
1997	144	159	77	133	615	1,831	72	1,102	13	107	18	94	1	9	3	263	25	37
1998	84	14,895	23	853	544	10,216	140	13,957	6	134	45	596	0	49	0	72	4	108
1999	249	3,289	109	2,484	1,267	30,364	727	6,174	19	150	57	248	1	34	3	175	43	359
2000	216	8,698	269	6,307	1,418	52,145	413	12,588	45	942	14	437	2	47	6	171	44	750
2001	724	4,232	265	5,702	708	15,849	453	6,312	69	300	16	103	3	52	15	151	47	393
2002	145	1,431	98	3,163	1,008	25,820	596	2,382	83	3,431	2	106	37	348	65	727	63	2,692
2003	64	953	133	1,535	834	8,666	50	9,897	69	631	2	1,745	5	331	9	125	46	470
2004	112	1,106	51	645	996	4,888	548	3,334	20	126	139	1,650	1	427	3	423	36	274
2005	623	10,121	195	2,494	1,201	23,527	1,986	45,623	42	314	45	3,000	0	133	4	120	120	275
2006	699	8,909	404	3,296	3,231	37,362	1,885	37,809	52	1,800	10	3,739	6	108	28	259	112	1,273
2007	160	28,783	222	10,889	1,977	97,951	722	53,933	25	2,917	6	452	3	165	27	668	68	2,318
2008	118	49	187	168	1,821	978	411	430	24	125	26	0	75	2	109	20	64	174
2009	81	1,632	68	1,810	494	16,277	182	4,609	48	151	1	149	1	20	4	86	46	462
2010	50	205	100	853	505	4,329	119	303	28	187	1	22	6	2	4	31	10	229
2011	256	2,860	90	1,501	1,190	9,072	726	3,754	11	68	8	72	0	3	2	15	20	96
2012	27	9,619	61	10,613	787	74,309	81	20,524	20	1,515	2	1,651	2	93	11	259	23	2,974
2013	35	1,295	184	3,480	1,039	19,228	106	1,488	7	161	3	225	3	32	4	50	33	859
2014	146	832	140	737	1,124	3,516	195	1,274	4	57	43	8	67	9	16	15	21	47
2015	111	4	670	96	374	163	25	13	25	14	1	0	1	0	4	1	12	49
2016	229	5,229	756	14,838	1,243	5,402	245	1,770	49	251	16	54	5	100	6	48	50	267
2017	679	12,057	271	4,401	2,642	24,372	1,360	14,600	48	456	7	135	7	674	34	530	61	316
2018	329	1,713	186	5,640	1,583	17,201	404	2,777	58	2,082	3	402	46	125	87	550	84	1,186
2019	149	2,420	104	1,409	633	15,808	221	3,680	47	259	14	170	12	460	6	246	20	237
2020	682	8,452	195	2,747	1,584	15,168	1,443	15,934	86	5,137	196	319	154	421	135	347	48	273
2021	28	1,022	95	519	513	5,554	110	1,579	40	499	55	3	5	446	51	98	21	512
2022	30	0	16	0	229	0	127	0	39	0	21	0	14	0	8	0	7	0
Normal	224	5,679	181	3,738	1,114	23,041	515	10,816	34	780	29	567	15	129	21	194	0	653
Total	6,930	198,237	5,835	11,9629	35,526	740,984	17,442	34,116	1187	26,808	960	17119	493	4,447	731	6,370	1,366	21,497

**Table S6.** The area burned in medium-sized (40 ha ≤ area <400 ha) and large (≥400 ha) wildfires in predominantly forested vegetation types in Utah, USA from 1984 to 2022. Shaded cells denote the normal period from 1991 to 2020.

	WUI woodland		Pinon-juniper		Ponderosa		Douglas-fir		Aspen		Mtn. Mahogany		Lodgepole		Spruce-fir		Five-needle pine		Alpine	
Year	Mediu m	Large	Mediu m	Large	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e
1984	5	0	67	94	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	50	24	290	359	11	0	22	18	10	0	18	22	0	0	1	0	4	0	0	30
1986	91	842	153	504	76	25	4	36	0	8	0	175	0	1	2	0	0	38	0	39
1987	316	1,260	504	2,879	20	0	23	6	34	19	11	13	0	0	0	1	13	13	5	19
1988	252	2,869	375	3,265	3	193	54	208	150	306	7	106	18	2	67	31	26	148	2	97
1989	212	1,638	898	21,241	13	721	156	1295	145	657	17	109	1	224	860	37	29	275	10	170
1990	83	2,243	628	1,259	7	10	35	590	53	135	17	46	0	0	10	13	13	25	0	89
1991	114	2	111	1,162	20	0	5	0	1	0	3	0	0	0	0	0	5	0	0	0
1992	196	1,183	196	4,776	1	0	20	47	3	244	54	105	0	0	8	0	17	278	20	208
1993	37	17	527	8,438	73	0	101	39	23	201	15	0	0	0	125	1	11	25	7	17
1994	413	3,215	604	5,898	10	918	127	585	137	954	23	714	30	39	59	49	68	438	11	406
1995	52	1,820	346	27,664	0	13	0	15	0	45	0	26	0	0	7	0	0	61	1	20
1996	827	11,650	519	5,674	21	684	22	902	149	1119	25	1033	0	0	183	99	74	285	5	331
1997	190	872	782	9,571	139	205	8	156	2	22	28	52	1	0	2	0	17	1	2	19
1998	6	74	929	10,717	0	1	0	0	0	0	0	7	0	0	0	0	0	0	0	76
1999	171	2,557	1,304	23,380	83	375	12	213	20	211	6	68	1	41	14	3	45	144	3	123
2000	829	5,306	519	14,546	13	26	146	713	155	420	72	872	17	3	35	35	92	88	23	379
2001	607	4,609	688	1,304	68	515	70	1014	13	932	27	374	0	28	102	1	14	290	4	100
2002	47	12,415	787	6,524	1	2,608	122	8909	123	5709	2	1100	4	692	3248	130	93	4530	17	2072
2003	824	7,605	189	3,391	13	621	108	813	197	546	27	92	70	0	108	105	61	414	14	185
2004	106	9,317	223	643	48	212	67	664	7	605	2	117	0	0	77	0	0	53	3	164
2005	149	1,095	214	12,886	255	61	113	186	139	463	27	104	0	626	73	228	71	182	11	61
2006	698	5,309	406	2,376	15	550	141	515	151	103	27	350	12	0	32	47	67	84	18	163
2007	373	12,139	171	586	311	1,163	74	1258	3	2480	2	1026	0	750	1031	0	31	590	3	1150
2008	412	867	139	265	251	1,417	514	870	277	128	89	4	0	0	26	45	126	10	39	51
2009	321	4,026	150	1,900	243	1,761	149	1618	206	668	2	582	0	0	173	44	20	297	7	339
2010	196	2,125	856	4,670	196	451	108	3789	40	1496	6	944	0	0	849	2	17	1695	5	362
2011	84	24	660	27,902	44	0	5	0	0	0	1	61	0	0	0	0	0	0	1	10
2012	70	12,815	296	3,350	0	802	34	3965	15	5137	27	1776	0	13	1187	23	9	1335	7	1614
2013	63	1,153	487	7,566	258	0	82	502	38	170	2	474	5	0	39	13	8	439	125	1627
2014	316	707	67	94	1	2	7	35	32	7	2	9	0	0	2	10	2	28	38	150
2015	290	177	290	359	29	724	22	118	51	7	9	43	0	0	4	4	16	0	84	3
2016	60	1,433	153	504	41	128	37	892	180	1818	16	156	31	211	1338	43	12	372	265	1244
2017	431	882	504	2,879	106	2,128	59	7538	15	10196	31	767	1	0	4280	2	56	1717	12	228
2018	423	21,437	375	3,265	84	1,556	230	17368	295	17962	28	2026	16	862	8080	341	105	2960	23	740
2019	663	1,275	898	21,241	87	1,692	140	2266	12	2069	10	195	0	96	1605	1	38	505	3	69
2020	489	2,078	628	1,259	26	416	16	2443	66	4235	8	209	0	5998	19834	54	67	2188	41	560
2021	437	1,074	111	1,162	186	437	179	1431	73	2017	108	40	0	0	1216	15	64	57	4	50
2022	43	0	196	4,776	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0
Normal	315	4,273	467	7,160	81	634	85	1914	78	1931	19	443	6	312	1417	43	38	634	26	416
Total	10,946	138,134	17,240	250,329	2783	20,415	3012	61,017	2,815	61,089	750	13,797	207	9,586	44,677	1,377	1,296	19,565	813	12,965

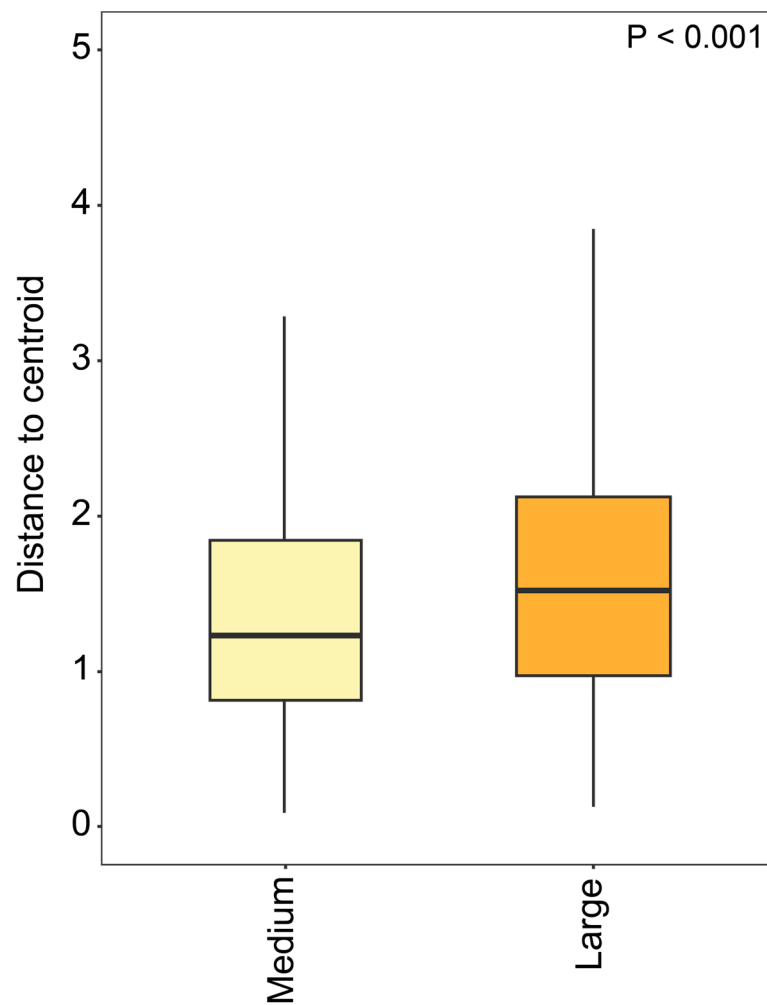
**Table S7.** The median differenced Normalized Burn Ratio (dNBR) in medium-sized (40 ha ≤ area <400 ha) and large (≥400 ha) wildfires in predominantly non-forested vegetation types in Utah, USA from 1984 to 2022. Shaded cells denote the normal period from 1991 to 2020.

		Annual grassland		Perennial grassland		Sagebrush		Shrubland		Sparse		Chaparral		Riparian		Riparian- hardwood		WUI shrubland	
Year		Medium	Large	Medium	Large	Medium	Large	Medium	Large	Medium	Large	Medium	Large	Medium	Large	Medium	Large	Medium	Large
1984		161	232	157	207	105	182	141	182	15	-2	-	137	-	-	16	-	85	230
1985		162	136	153	139	195	118	114	131	199	42	265	69	285	82	245	79	178	128
1986		72	122	468	154	57	130	54	88	49	95	347	57	352	213	265	265	61	93
1987		284	202	394	174	274	148	191	185	44	194	-	82	71	244	260	191	191	95
1988		310	157	236	197	174	158	9	156	145	108	44	-7	-	161	7	165	126	134
1989		216	130	386	319	190	214	144	114	221	132	-	47	-	31	293	294	219	236
1990		144	54	164	144	212	85	59	72	10	113	400	58	-	108	-	156	40	51
1991		171	47	163	64	18	45	19	42	69	6	-28	-62	-	-	33	-10	88	59
1992		153	56	129	152	165	81	128	85	104	-11	193	288	86	58	46	97	74	18
1993		138	138	173	115	154	284	107	141	101	138	131	178	311	-	349	16	131	404
1994		124	158	259	204	207	159	128	143	353	158	154	133	209	165	376	188	215	258
1995		167	201	231	214	209	148	161	152	47	44	267	117	135	87	153	76	159	143
1996		222	218	198	193	150	180	120	163	138	108	229	183	-6	241	166	236	185	173
1997		132	115	109	205	127	153	120	146	121	187	117	124	265	259	164	249	103	133
1998		67	88	112	133	151	117	159	85	130	44	346	90	-100	74	20	75	128	40
1999		129	149	131	193	132	205	141	145	71	87	148	150	503	222	266	188	43	176
2000		135	108	161	132	215	155	142	114	105	66	219	164	84	89	143	114	221	137
2001		181	204	192	237	165	185	181	135	112	81	230	104	158	188	326	181	194	127
2002		164	251	281	295	230	292	168	169	45	138	209	97	402	-21	468	179	169	228
2003		279	174	330	226	316	229	147	227	128	93	78	276	-13	453	245	129	272	306
2004		189	108	153	94	207	118	199	66	94	43	273	120	220	353	145	145	240	155
2005		204	68	193	111	181	91	115	139	68	46	143	173	189	70	388	111	134	54
2006		160	194	208	197	170	147	95	81	53	88	180	140	116	189	180	109	159	186
2007		189	121	200	143	172	158	125	90	96	56	124	188	235	106	195	103	137	159
2008		192	153	189	217	204	225	177	128	192	35	265	-	235	217	215	220	178	227
2009		264	172	240	197	212	253	159	156	55	83	183	224	89	211	101	325	241	225
2010		75	241	82	342	194	376	112	208	79	-77	341	142	169	385	74	176	258	349
2011		143	165	136	152	155	140	93	134	91	28	90	99	90	109	199	60	142	110
2012		210	75	267	142	191	94	189	70	11	30	290	85	235	216	244	184	211	159
2013		236	128	247	246	142	169	161	132	131	37	167	28	292	372	271	60	284	192
2014		225	235	221	435	171	186	157	154	33	74	146	180	257	715	225	237	175	139
2015		265	619	384	617	129	14	124	-6	213	-40	65	-	85	487	90	257	81	16
2016		170	195	318	306	142	89	120	96	23	83	145	77	398	350	33	133	115	63
2017		135	162	200	133	171	127	115	138	100	2	174	40	181	114	262	224	219	93
2018		169	156	173	189	176	131	139	93	80	22	96	199	362	152	121	160	203	80
2019		208	242	148	200	162	193	119	155	135	21	138	191	321	160	157	137	160	147
2020		138	152	150	130	150	129	141	149	81	12	194	252	70	-5	123	167	187	126
2021		56	94	102	91	60	43	43	70	45	18	51	41	61	341	44	61	9	55
2022		105	-	119	-	82	-	92	-	71	-	133	-	116	-	129	-	113	-
Normal		174	169	199	207	172	162	135	124	101	56	176	142	192	214	192	150	170	156

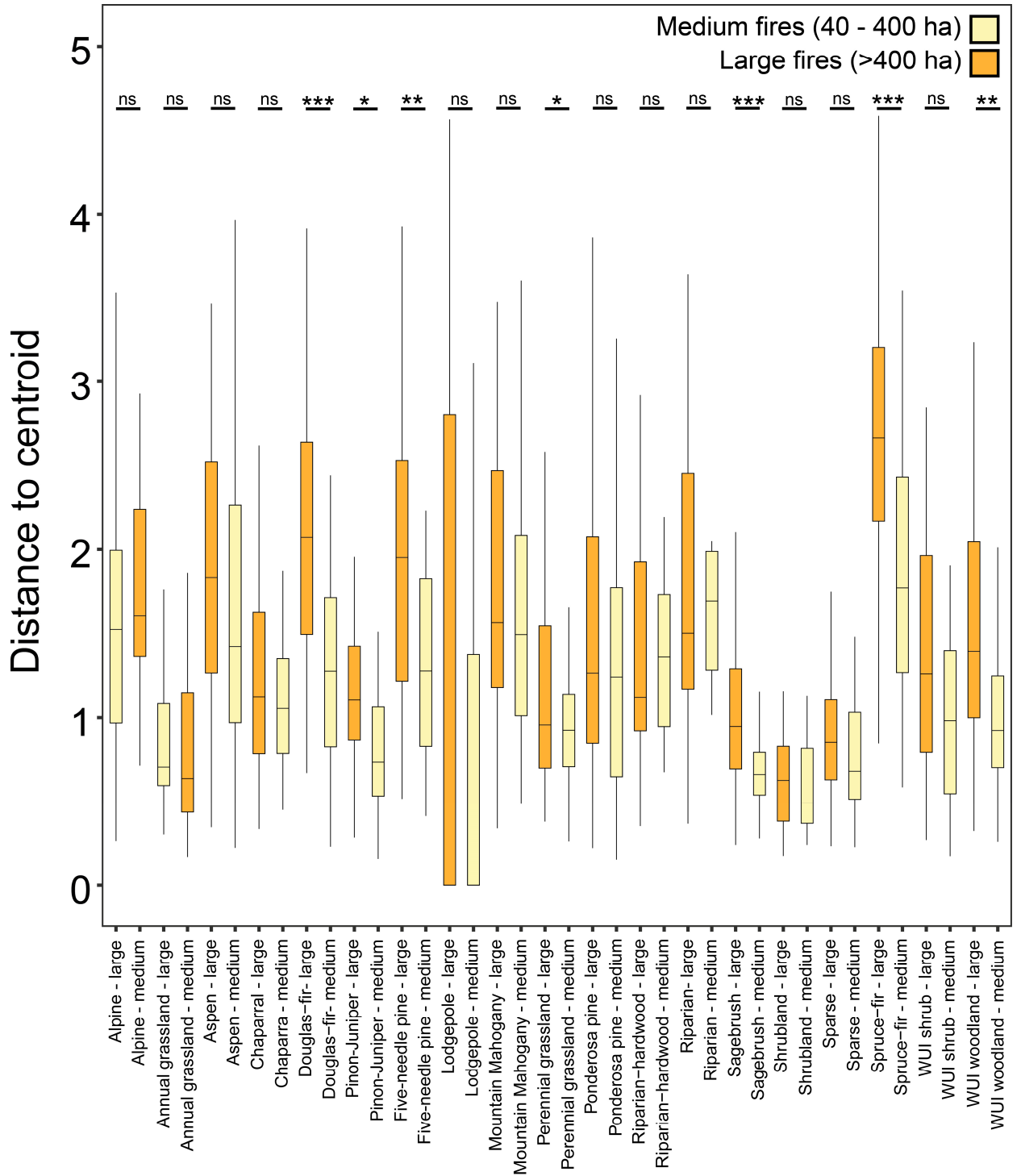


**Table S8.** The median differenced Normalized Burn Ratio (dNBR) in medium-sized (40 ha ≤ area <400 ha) and large (≥400 ha) wildfires in predominantly forested vegetation types in Utah, USA from 1984 to 2022. Shaded cells denote the normal period from 1991 to 2020.

Year	WUI woodland		Pinon-juniper		Ponderosa		Douglas-fir		Aspen		Mtn. Mahogany		Lodgepole		Spruce-fir		Five-needle pine		Alpine	
	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e	Mediu m	Larg e
1984	186	-	234	-	196	-	-	-	374	-	-	-	-	-	-	-	-	-	-	-
1985	49	416	45	103	11	-	14	109	18	644	5	159	-	-	15	109	19	59	252	171
1986	281	274	176	230	213	228	162	140	389	210	-	406	-	-138	-	25	-	-72	-	156
1987	217	233	133	44	61	-	27	78	185	87	184	244	-	-	153	61	207	203	363	218
1988	299	247	106	96	212	124	171	183	211	338	260	164	187	260	49	312	175	140	112	222
1989	352	406	197	251	352	248	444	336	379	342	287	263	-13	16	58	47	305	343	208	313
1990	115	174	104	155	19	211	60	381	210	341	595	159	-	-	266	373	334	61	452	61
1991	133	63	316	-64	458	-	151	-166	41	110	79	110	-	-	-	-	21	-	-6	-88
1992	295	126	129	65	65	-	206	65	311	300	217	149	-	-	-	372	177	9	167	294
1993	478	502	301	283	204	27	271	153	277	196	234	106	58	-	657	85	302	216	206	269
1994	208	223	177	53	392	110	274	349	307	281	128	287	413	199	578	415	222	109	295	282
1995	181	126	145	8	-	360	-	-37	-	14	-	-20	-	-	-	-58	-	-158	100	266
1996	200	235	160	78	269	280	157	218	184	277	161	336	-	-	184	162	224	235	179	256
1997	177	180	145	120	200	123	132	168	65	153	125	317	174	-	228	418	263	266	200	259
1998	304	264	313	19	-	-11	-	-41	-	278	-	113	-	-	-	-	-	-	356	142
1999	133	245	95	47	75	5	63	49	276	53	88	146	262	-2	136	-69	-2	312	244	203
2000	309	263	192	95	169	532	211	339	125	336	300	205	28	336	48	192	158	133	219	327
2001	369	290	235	118	276	157	228	158	97	194	168	275	-	349	93	343	206	310	202	272
2002	204	273	145	194	49	138	132	305	225	310	295	272	100	151	84	155	128	225	215	274
2003	305	229	222	214	148	151	173	235	252	330	225	340	107	-	197	207	141	229	342	338
2004	282	113	190	110	69	188	129	350	196	272	200	143	-	-	69	178	109	177	335	144
2005	220	211	112	99	111	459	213	280	229	287	266	347	-	81	167	161	363	373	302	131
2006	269	272	113	152	225	220	293	220	241	253	199	217	202	-	225	171	278	321	319	36
2007	195	307	129	87	166	171	92	212	52	168	197	307	-	163	-	146	99	144	116	240
2008	268	313	192	230	113	147	171	103	108	225	178	198	-	-	129	99	163	108	288	311
2009	379	378	226	251	128	165	284	242	213	298	253	340	-	-	335	423	532	257	252	344
2010	388	352	174	279	141	298	81	210	25	139	179	326	-	-	69	50	93	301	279	481
2011	200	39	141	-31	99	-	67	-112	-	-	2	-56	-	-	-	-	-	-	297	186
2012	400	236	83	78	31	152	170	430	103	238	227	139	-	195	351	492	276	274	243	285
2013	265	164	140	17	126	-	187	43	172	124	192	12	347	-	234	80	162	104	336	279
2014	148	581	38	34	129	144	13	237	115	338	77	172	-	-	95	185	220	256	369	351
2015	221	416	108	25	136	27	101	82	135	205	88	17	-	-	81	181	131	-	342	303
2016	154	120	66	45	102	65	65	54	83	-2	40	41	120	11	67	17	136	11	301	311
2017	319	224	244	60	201	199	389	401	427	380	344	164	481	-	500	477	175	133	345	89
2018	357	320	213	206	186	255	230	467	173	419	361	344	90	249	310	574	156	193	259	195
2019	196	264	134	170	275	107	197	257	213	246	301	163	-	68	119	450	106	178	-24	249
2020	225	311	169	190	202	313	152	385	120	330	257	218	-	265	199	254	158	146	228	38
2021	133	74	148	47	117	70	164	91	139	48	193	82	-	-	220	40	99	31	42	65
2022	159	-	103	-	-	-	-	-	-	-	98	-	-	-	-	-	184	-	-	-
Normal	259	254	168	107	169	183	172	188	176	232	192	190	198	172	214	228	185	187	243	235



**Figure S1.** Distance to centroid for dNBR quartile values for medium-sized and large fires from 1991 to 2020, Utah, USA.



**Figure S2.** Distance to centroid for dNBR quartile values for medium-sized and large fires, by vegetation type, from 1991 to 2020, Utah, USA. Significant differences between medium and large fires are denoted as: \* =  $P < 0.05$ , \*\* =  $P < 0.01$ , \*\*\* =  $P < 0.001$ , and 'ns' =  $P > 0.05$