

National Interagency Coordination Center

Wildland Fire Summary and Statistics Annual Report 2020



Cameron Peak Fire, Colorado



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Identifier Legend

Interagency Coordination Centers

NICC – National Interagency Coordination Center

NIFC – National Interagency Fire Center

AK - Alaska

EA - Eastern Area

GB - Great Basin

NO - Northern California

NR - Northern Rockies

NW - Northwest

RM - Rocky Mountain

SA - Southern Area

SO - Southern California

SW - Southwest

CIFFC - Canadian Interagency Forest
Fire Centre

Government Agencies

Department of the Interior:

BIA - Bureau of Indian Affairs

BLM - Bureau of Land Management

FWS - Fish & Wildlife Service

NPS - National Park Service

Department of Agriculture:

FS – USDA Forest Service

Department of Defense: DOD

Department of Homeland Security:

FEMA - Federal Emergency
Management Agency

ESF #4 – Emergency Support Function
4, Firefighting

Department of Commerce:

NWS - National Weather Service

Department of Energy: DOE

ST – State

ST/OT – State and Other combined

OT – Other

PRI – Private

CNTY – County

CN – Canada

AU – Australia

NZ – New Zealand

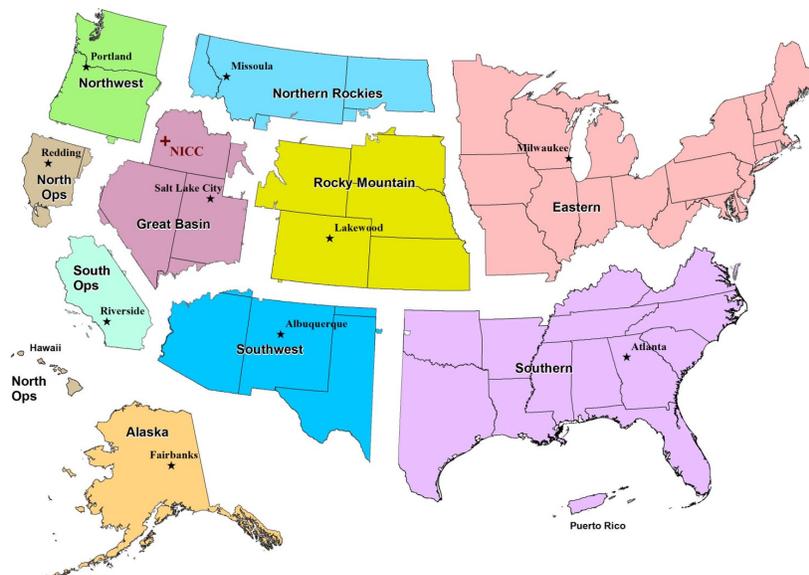
Preface

Statistics used in this report were gathered from the interagency Fire and Aviation Management Web Applications (FAMWEB) system, which includes the Situation Report and Incident Status Summary (ICS-209) programs¹. Previous National Interagency Coordination Center (NICC) annual reports and other sources were also used in this document. The statistics presented here are intended to provide a national perspective of annual fire activity, but they may not reflect official figures for a specific agency. The statistics are delineated by agency and Geographic Area. This document and prior year annual reports are available electronically on the NICC's Intelligence web page:

<https://www.predictiveservices.nifc.gov/intelligence/intelligence.htm>.

Resource mobilization statistics used in this report were gathered from the Interagency Resource Ordering Capability system (IROC)², which tracks tactical, logistical, service, and support resources mobilized by the national incident dispatch coordination system. Statistics presented in this report are resources requested by any of the ten Geographic Area Coordination Centers (GACCs) and processed through the NICC, apart from incident management teams³. Requests by FEMA are placed to the NICC through Emergency Support Function (ESF) #4 (Firefighting). The resource ordering process and procedures may be found in the National Mobilization Guide. The National Mobilization Guide can be found on the NICC web site (<https://www.nifc.gov/nicc/>) under reference materials.

Geographic Area Coordination Centers



¹ Situation Report and ICS-209 data are considered situational and provisional, as they are reported while wildfire activity and incidents are occurring, plus they do not account for all wildland fires and their final outcomes. Some wildfires, including many that are suppressed solely by private citizens or local fire departments (not by wildland fire management agencies), are never reported to any Dispatch Center that submits Situation Report data. Additionally, ICS-209 reports are not required for the small, short duration wildfires that comprise the vast majority of overall fire occurrence annually. For official data and summary statistics, one must contact each of the individual agencies affected and refer to their final fire reports and other authoritative sources of agency-specific information.

² In 2020, IROC replaced the Resource Ordering Status System (ROSS) as the system of record for interagency resource requests and mobilizations managed within wildland fire's national coordination system. ROSS previously served in that capacity from 2002 until March 2020, when IROC was deployed.

³ Because this report only tallies resource requests processed through the NICC, it excludes the substantial number of IROC orders that were placed and filled within the same GACC. It also excludes any resource usage not tracked in IROC, such as local dispatch of initial attack resources.

National Interagency Coordination Center

2020 Fire Environment Summary

January – March

The northwestern portion of the US saw significant improvement in snowpack accrual as basin snowpack averages went from 35% to nearly 100% of average in January. The Midwest and the eastern states generally received average to above average precipitation. Temperatures across the West were generally average to below average for the first three weeks of January, but well above average temperatures developed the last week of January as an upper-level ridge resided over the California coast. In the East, temperatures were generally 4°F to 10°F above average for the month.

After progressive weather patterns in January, most locations along the West Coast became increasingly impacted by persistent upper-level ridges that promoted very dry conditions across California, northern Arizona, and the western Great Basin in February. Many locations across these areas received less than 25% of average precipitation for the month. In the East, the presence of persistent troughs over the Great Plains promoted a warm and very moist southwesterly flow pattern. Despite persistent high pressure along the West Coast, temperatures generally remained near normal across the West in February with below normal temperatures in Alaska. In the East, temperatures were 2°F to 9°F above average.

An upper-level ridge along the West Coast weakened and reformed over the central Pacific Ocean in mid-March. A series of weather systems moved southeast from the Gulf of Alaska into the contiguous US with storms tracking south along the coast, onshore into California, and across the Southwest. Central portions of the Great Basin and the northwest portion of the Northern Rockies experienced drier than average conditions with generally less than 25% of average precipitation falling. In the East, conditions were generally wet except across Florida, which was much drier than average. Across the Great Plains, below average precipitation was received except across Oklahoma and central through North Texas. Temperatures across the country were generally 2°F to 6°F above average except along the West Coast, Montana, Wyoming, and northern Idaho where they were generally below average.

Drought expanded and intensified in South Texas, along the Gulf Coast, and on the Florida Peninsula from the end of December to the end of March. Drought also developed in California, Nevada, and Oregon. Drought remained over the Four Corners region and intensified in parts of the Pacific Northwest. By the end of March, mountain snowpack remained near to above average on the Continental Divide, along the Canadian Border, and across the Alaskan Interior. Snowpack was below average to well below average across the High Sierra, southern Cascades, Great Basin, Sawtooth Mountains, Kenai Peninsula, and the Chugach Mountains.

April – June

Drought continued to intensify and expand across much of the Northwest in April and May. Across the Four Corner states, Great Basin, and west Texas, the drought began to expand and intensify with moderate to severe drought in the Four Corners region and southeast Colorado. Florida experienced some drought intensification in early spring but was followed by

improvement by late May. Mountain snowpack melting accelerated in late April and continued through May with most basins without snowpack by the end of May.

National fire activity remained light in April and May with the Southern Area recording the most activity. This included several large fires in Florida, with most of the activity in the Florida Panhandle. The western Great Lakes and portions of the Mid-Atlantic and Northeast experienced increased fire activity during late spring due to very dry fuels and multiple dry cold frontal passages. On May 30, a significant severe weather event occurred in the Pacific Northwest and into portions of Utah and Idaho with abundant lightning in northern California, the Pacific Northwest, and portions of the Intermountain West. A derecho, a long-lived, widespread windstorm associated with thunderstorms, occurred on June 6. It started in Utah and spread northeast across Colorado and Wyoming into western Nebraska and South Dakota.

The western fire season began in earnest during June with a notable increase of fire activity as fine fuels became critically dry across the southern half of the West. Overall, drought continued and intensified in many areas of the West during June with an early loss of snowpack across much of the West, especially in the High Sierra and southern Cascades, leading to the larger and high-elevation fuels becoming mostly receptive by the end of June. Persistent hot and dry conditions along with periodic wind events allowed for the development of large fires across the Southwest, Colorado, and southern California. Drier thunderstorms followed by multiple periods of dry and windy conditions in the Southwest and southern High Plains resulted in multiple new large fires in early and mid-June. A three-day lightning event led to an increase in fire activity during third week of June across the Great Basin and California.

July – September

The North American Monsoon onset was delayed across the Southwest and more focused on eastern Arizona and much of New Mexico. Due to the late onset and lack of robust moisture surges into most of Arizona, much of the state remained at below normal precipitation with above normal temperatures, including some locations recording some of their lowest rainfall totals during a monsoon season.

A significant increase of fire activity was observed in July as fuels continued to cure across the West and lightning spread farther north and west into the Great Basin, northern California, Pacific Northwest, and Northern Rockies. While the Rocky Mountain Area, Southwest, and southern Great Basin saw an increase in fire activity into mid-July, Alaska, the Eastern Area, and most of the Southern Area all experienced downward trends in fire activity. However, portions of central, west, and southwest Texas remained dry through July with continued initial attack and large fire activity.

A dramatic increase in fire activity was observed across the West in August as several multi-day heat wave and lightning events primed and ignited fuels that had become critically dry and, in some areas, historically dry. Wind events, while not frequent, were impactful. Among the hardest hit states was California where several hundred wildfires were ignited by a multi-day lightning event in mid-August, which was preceded and followed by record setting heat waves, including 130°F in Death Valley on August 16.

Other states greatly impacted by the increase in activity were Oregon, Colorado, and Arizona—which experienced an untimely pause in the monsoon. The resulting hot, dry, and unstable conditions led to multiple fires producing pyrocumulonimbus clouds, including

pyrotornadoes on the Loyalton Fire in northeast California near the Nevada border. This prompted the first ever Tornado Warning to be issued by the National Weather Service for a wildfire. The Great Basin remained active, as did west Texas, with increased initial attack and large fire activity by mid-August in the Northern Rockies. A heat wave developed on the West Coast during the first week of September that resulted in hot, dry, and unstable conditions with explosive large fire growth across much of the West. The Creek Fire in southern California produced multiple pyrocumulonimbus clouds including lightning and multiple pyrotornadoes on September 5.

Multiple wind events resulted in significant large fire activity, including a historic offshore wind event that began Labor Day and continued during the following few days. Rapid fire spread and extreme fire behavior developed on numerous new and existing large fires in Washington, Oregon, and California leading to hundreds of thousands of acres being burned in a matter of days. Other notable wind events led to significant increases of fire activity in Montana on September 2 and California in late September.

A series of upper-level troughs produced wetting rain across portions of the Pacific Northwest and Northern Rockies later in September, which helped reduce fire activity and significant fire potential across these regions. A pause in fire activity was observed in the Rocky Mountain Area due to cold, wet conditions during the week of Labor Day, but rebounded later in the month. Additionally, tropical storm activity and generally above normal precipitation improved drought conditions across portions of the Plains and eastern US.

While lightning was relatively infrequent during September, widely scattered dry thunderstorms resulted in an increase of initial attack and new large fires for portions of the Southwest, Great Basin, Rocky Mountain, and Northern Rockies areas on September 21-24. As a cold front pushed south through the West during the last weekend of September, producing another round of strong offshore winds that resulted in extreme behavior and rapid fire spread in northern California.

October – December

During October, much of the large fire activity occurred in California and Colorado, although new large fires and growth on existing large fires continued in Arizona, New Mexico, and Utah. Multiple strong wind events led to rapid and record-setting fire growth on the Cameron Peak and East Troublesome Fires in Colorado, and a strong offshore wind event in California led to increased fire activity as well. Consistent cold frontal passages in the Northwest and Northern Rockies Geographic Areas ended fire season with landfalling tropical cyclones providing precipitation relief for portions of Southern Area.

Upper-level ridging over California and the Southwest led to well below normal precipitation and above normal temperatures across much of the West except for portions of the Pacific Northwest and Northern Rockies during October. Season ending precipitation finally came to the Northwest and Northern Rockies Geographic Areas by mid-month. Hurricane Delta made landfall in Louisiana on October 9, breaking the previous record of US landfalling tropical cyclones in a season of nine. Hurricanes Zeta and Eta made landfall on October 28 and November 7, respectively, setting a new record of twelve tropical cyclone landfalls in the US for a season. Hurricane Eta actually made landfall twice in Florida, once over the Florida Keys and again north of Tampa on November 10.

The Cameron Peak and East Troublesome Fires became the largest two fires in Colorado history, surpassing the Pine Gulch Fire, which set the record earlier in the year. Of note, the East Troublesome Fire made a 20-mile run and spotted over the Continental Divide during a 24-hour period on October 21-22. Record breaking snow and cold arrived on October 24-27 in the central and southern Rockies, which significantly reduced fire activity.

Large fire activity diminished over the West in November, continuing the trend from late October. Precipitation and colder temperatures spread farther south across the West, leading to increasing fuel moisture and greatly reduced large fire potential through mid-month. However, by the end of November, most of the US experienced below normal precipitation with average to above normal temperatures. Remnants of Hurricane Eta dropped significant rainfall in South Florida and into portions of the Carolinas and Mid-Atlantic. Heavy rain also fell late in the month across portions of the Gulf states.

Several significant wildfires occurred along the Sierra Front and across the Plains in mid-November. On November 17 during a downslope wind event, three rapidly spreading significant wildfires emerged along the Sierra Front, and a day later, several large wildfires ignited on the central and southern Plains. Multiple offshore wind events developed across California, with the strongest around Thanksgiving. While initial attack increased, no significant large fires were reported.

Large fires were largely absent from the West, but scattered fire activity continued in the Southern Area, during December. While multiple offshore wind events affected California during December, much needed precipitation arrived in northern California in mid and late December, with precipitation arriving in southern California the last week of December.

Much of the US experienced below normal precipitation and above normal temperatures, most prominently in the northern Plains, in December. However, much of the Mid-Atlantic and Northeast observed above normal precipitation, with near to below normal temperatures in the Southeast. Drought persisted across much of the West and Plains, with some intensification and expansion in portions of these regions. Large portions of the Southwest, Great Basin, Colorado Rockies, and southern High Plains remained in exceptional drought (i.e., the highest category) at the end of the year.

Snowfall and snowpack across the West remain mostly below normal, generally 50-75% of the 30-year median for snow water equivalent, according to Natural Resources Conservation Service (NRCS) data. Near to above normal snowfall is present across portions of Washington and the Northern Rockies due to the northerly storm track. The Southwest has remained dry with snow water equivalent mostly below 50% of median, including some basins reporting below 20%.

National Fire Activity Synopsis

From a national perspective, the 2020 fire season's wildfire statistics conformed to the recent general trends (5-year vs 10-year averages), where the average annual number of wildfires has been decreasing slightly, yet the average annual number of acres burned has been

increasing⁴. However, with over 10 million acres burned, the large fire activity in 2020 was well above average. Over the last half-century, the era for which reasonably reliable and comprehensive national wildfire statistics have been tallied, only two other years (2015, 2017) saw in excess of 10 million acres burned. In comparison to other years with significantly elevated acreage burned, 2020 was particularly notable because neither Alaska nor Southern Area contributed significantly to the total acreage burned⁵. Moreover, 2020 saw the first reported million acre wildfire incident (August Complex) in Northern California; numerous large fires resulting in fatalities and significant property losses in Oregon, Washington, California, and Colorado; the three largest wildfires (Cameron Peak, East Troublesome, Pine Gulch) in Colorado's history; and an unusually prolonged fire season in the Southwestern US.

Nationally, there were 58,950 wildfires reported in 2020, compared to 50,477 wildfires reported in 2019. The 2020 fire season was active considering the number of reported wildfires, over 90% of the 10-year annual average. Reported wildfires consumed 10,122,336 acres nationally, compared to 4,664,364 acres 2019. The number of acres burned was well above average in 2020. A large proportion of the burned acreage occurred in California, accounting for 38% of the nation's total burned acres.

In 2020, the reported number of wildfires was well above 10-year averages in all Geographic Areas, except in Alaska (65%), Southern Area (60%), and Rocky Mountain Area (95%). The remaining Geographic Areas were well above average: Eastern Area (138%), Great Basin (117%), Northern California (122%), Northern Rockies (121%), Northwest (115%), Southern California (123%), and Southwest (121%).

When comparing burned acreage versus the 10-year average, several Geographic Areas saw above average statistics. Northern California (611%) and Southern California (446%) shattered previous 10-year averages by far. The Northwest (223%), Rocky Mountain (217%), and the Southwest (172%) were also well above average. The remaining Geographic Areas were below average: Alaska (15%), Eastern Area (67%), Great Basin (85%), Northern Rockies (84%), and Southern Area (45%).

A total of 17,904 structures were reported destroyed by wildfires in 2020, including 9,630 residences, 7,255 minor structures, and 1,119 commercial/mixed residential structures. This is well above the annual average of 2,913 residences, 1,857 minor structures, and 141 commercial/mixed residential structures destroyed by wildfire. California accounted for the highest number of structures lost in one state in 2020: 6,198 residences, 741 commercial/mixed residential structures and 4,534 minor structures. Oregon was second with 2,274 residences, 205 commercial/mixed residential structures and 1,352 minor structures.

Requests for firefighting resources placed to the NICC during the 2020 fire season were near or above the 10-year average in all categories. Filled requests for crews, engines, and overhead were well above their respective 10-year averages. Requests processed through the NICC for helicopters and heavy airtankers were at or below their respective 10-year averages due in part to the greater availability of "surge" aircraft used in 2020.

⁴ Multiple factors have contributed to larger fire size outcomes in 2020 and other recent years, with both positive and negative connotations, depending on circumstances that are unique to the location and timing of each fire. Acreage increases may in part be due to climate, fuels build ups, better and safer management strategies, and/or resource limitations.

⁵ In other years when an unusually high number of acres burned in the US, the Alaska or Southern Geographic Areas have often contributed significantly to that national total, the former due to very large wildfires that burned in remote areas, and the latter due to widespread wildfire outbreaks resulting in numerous and frequent large fires occurring in multiple states.

National Type 1 Incident Management Teams (IMTs) were mobilized 53 times (up from 14 in 2019) and spent a total of 861 days on assignments (up from 183 days in 2019). Type 2 IMTs were mobilized 107 times (up from 44 in 2019), for a total of 1,491 days assigned to incidents (up from 480 days in 2019). Area Command teams were mobilized eight times in 2020 (up from zero assignments in 2019), for a total of 268 days. National Incident Management Organizations (NIMO) mobilized 6 times in 2020 (same as 2019), for a total of 208 days (up from 75 days in 2019).

Significant Wildfires

Fires Over 40,000 Acres in 2020

Of the 50 largest fires in 2020, 44% (22 fires) occurred in California.

Name	GACC	State	Start Date	Contain or Last Report Date	Size (acres)	Cause*	Estimated Cost
August Complex	NO	CA	8/17	11/11	1,032,648	U	\$115,511,218
SCU Lightning Complex	NO	CA	8/16	9/14	396,624	U	\$69,412,351
SHF Elkhorn Creek	NO	CA	8/29	9/9	391,493	L	NR
	SO	CA	9/4	12/17	379,895	U	\$193,000,000
LNU Lightning Complex	NO	CA	8/17	10/1	363,220	U	\$94,646,381
North Complex	NO	CA	8/17	12/2	318,935	U	\$112,711,950
Pearl Hill	NW	WA	9/7	9/15	223,730	U	\$4,241,353
Cameron Peak	RM	CO	8/13	12/4	208,913	U	\$133,300,000
Lionshead	NW	OR	8/16	11/12	204,469	L	\$65,440,000
East Troublesome	RM	WY	10/14	11/25	193,812	U	\$15,682,681
Beachie Creek	NW	OR	8/16	10/28	193,573	U	\$29,838,526
Bush	SW	AZ	6/13	7/3	193,455	H	\$11,642,634
Cold Springs	NW	WA	9/6	9/19	189,923	U	\$3,917,998
Mullen	RM	WY	9/17	12/10	176,878	U	\$42,400,000
Castle	SO	CA	8/19	8/24	174,178	L	NR
SQF Complex	SO	CA	8/24	12/17	174,178		NR
Holiday Farm	NW	OR	9/7	10/27	173,393	U	\$29,100,932
Slater	NO	CA	9/8	11/15	157,270	U	\$55,043,900
Red Salmon Complex	NO	CA	7/28	11/16	144,698	L	NR
August Complex West Zone	NO	CA	9/10	10/14	140,944	L	\$115,300,000
Pine Gulch	RM	CO	7/31	9/22	139,007	U	\$35,000,000
Riverside	NW	OR	9/8	11/26	138,054	H	\$20,482,000
Archie Creek	NW	OR	9/8	11/26	131,542	U	\$40,000,000
Whitney	NW	WA	9/7	9/15	127,430	U	\$3,300,000
Dolan	SO	CA	8/18	12/24	124,924	U	\$74,000,000
Bighorn	SW	AZ	6/5	7/22	119,978	L	\$44,463,612
Bobcat	SO	CA	9/6	11/27	115,997	U	\$100,000,000
Woodhead	GB	ID	9/7	10/22	96,614	H	\$11,230,000
Badger	GB	ID	9/12	10/10	90,143	U	\$15,800,000
East Fork	GB	UT	8/21	11/19	90,000	L	\$23,523,403
CZU August Lightning	NO	CA	8/16	9/21	86,509	U	\$55,900,466

W-5 Cold Springs	NO	CA	8/18	9/13	84,817	U	\$10,300,000
July Complex	NO	CA	7/22	8/18	83,261	U	\$35,000,000
Caldwall	NO	CA	7/22	7/24	80,859	U	\$34,500,000
Canal	GB	UT	6/26	7/13	78,065	L	\$7,105,375
Evans Canyon	NW	WA	8/31	9/25	75,817	U	\$1,120,000
Magnum	SW	AZ	6/8	7/22	71,450	U	\$25,000,000
Glass	NO	CA	9/27	10/13	67,484	U	\$59,887,000
Griffin	SW	AZ	8/17	9/5	61,821	L	\$5,750,000
Meadow Valley	GB	NV	7/7	7/14	59,265	H	\$2,800,000
Zogg	NO	CA	9/27	10/12	56,338	U	\$31,004,496
Ingakslugwat Hills	AK	AK	5/30	6/25	53,515	L	\$43,590
Sarpy	NR	MT	9/2	9/10	52,010	U	\$950,000
Brattain	NW	OR	9/7	10/5	50,951	H	\$9,900,000
Indian Creek	NW	OR	8/16	9/16	48,128	U	\$7,000,000
River	SO	CA	8/16	9/4	48,088	U	\$24,493,709
Star Mountain Ln.	NW	OR	9/8	9/11	48,000	U	\$6,000,000
Loyalton	NO	CA	8/14	9/4	47,029	U	\$50,000
Huff	NR	MT	9/2	9/5	46,892	H	\$50,000
Dome	SO	CA	8/15	8/23	43,273	L	\$2,200,000

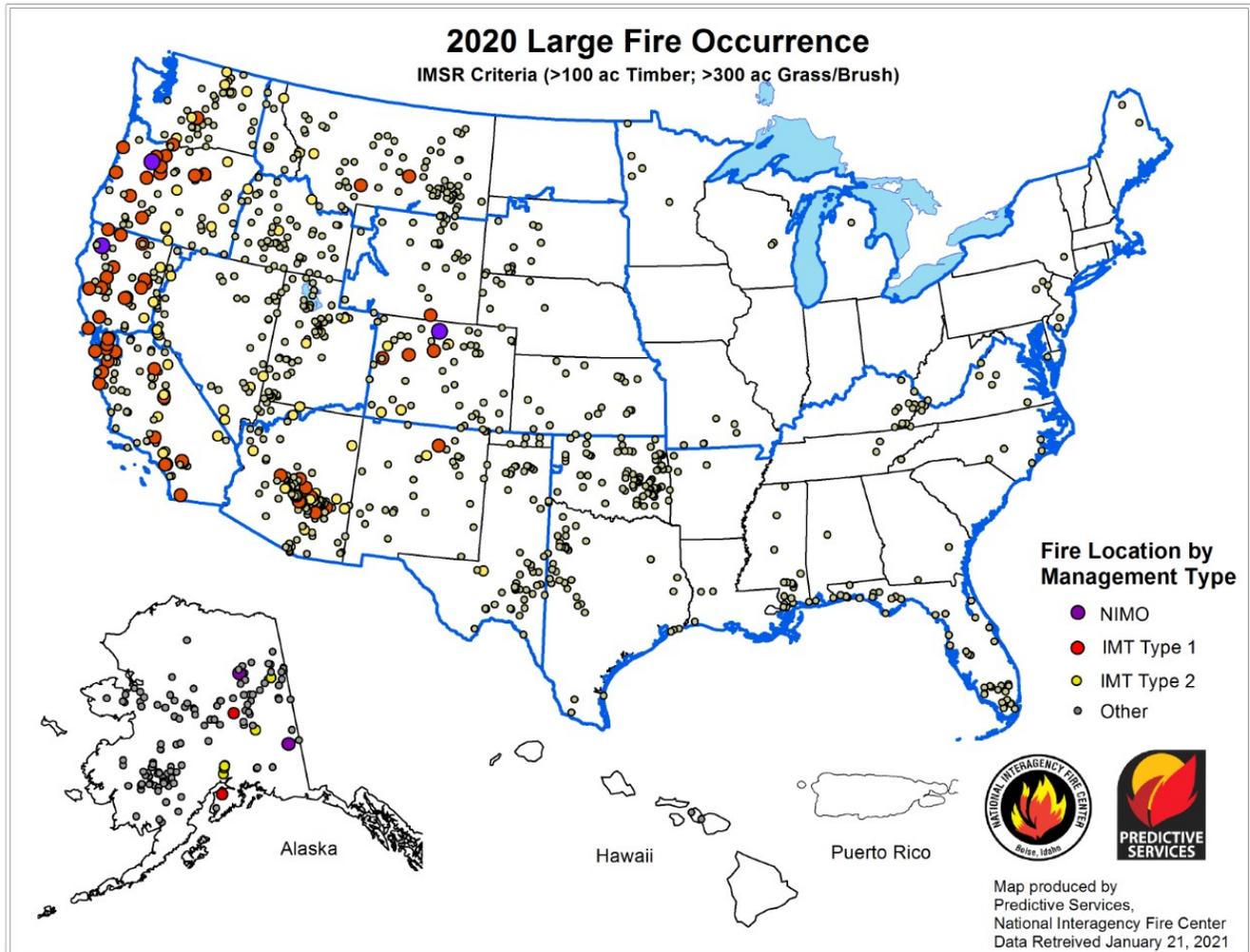
* L – Lightning H – Human U – Unknown/Under Investigation OT - Other NR – Not Reported

Information in the above table was derived from ICS-209 reports submitted via FAMWEB. This information may not reflect final official figures.

Wildfires and Acres

Large fires are defined in the National Mobilization Guide as fires that burn a minimum of 100 acres in timber fuel types, 300 acres in grass and brush fuel types, or are otherwise managed by a Type 1 or 2 Incident Management Team or NIMO.

There were 999 large wildfires and complexes reported in 2020 (derived from ICS-209 reports submitted through FAMWEB). These large wildfires represented less than 2% of total wildfires reported nationally in 2020. The map below depicts the locations of these fires.



Large Wildfires by Geographic Area and Agency

As is typical in most years, the greatest number of large fires occurred in Southern Area and on lands protected by a state-level or other non-federal fire management organization. As noted under “Significant Wildfires” above, the largest fires in 2020 occurred in the West.

