

2020 Forest Fires in the United States

Burnt Wood is Not the Only Challenge



Forest in a Decade of Action
UNECE Committee on Forests and the Forest Industry

November 5, 2020

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Who is MB&G ?

MASON, BRUCE & GIRARD, INC.
Natural Resource Consultants Since 1921

Natural Resource Consulting Firm
with a team of 65 professionals

- Foresters
- Analysts
- Biologists/Scientists
- GIS Professionals

Where do we work?

- North America
- Central America
- South America



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- Focus on western United States
- Apologies for going fast, I have lots of information to share
- Fires in the western United States have been devastating events
- People have lost their homes, property, businesses, and lives
- My focus is on the forestry impacts, but I don't want to lose sight of the other impacts and damages



Photo credit: Salem Statesman Journal 10/3/2020

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1. Wildfires in
the United
States – 2020

2. Historical
Context

3. Fire Causes

4. Impacts to
Markets –
2020

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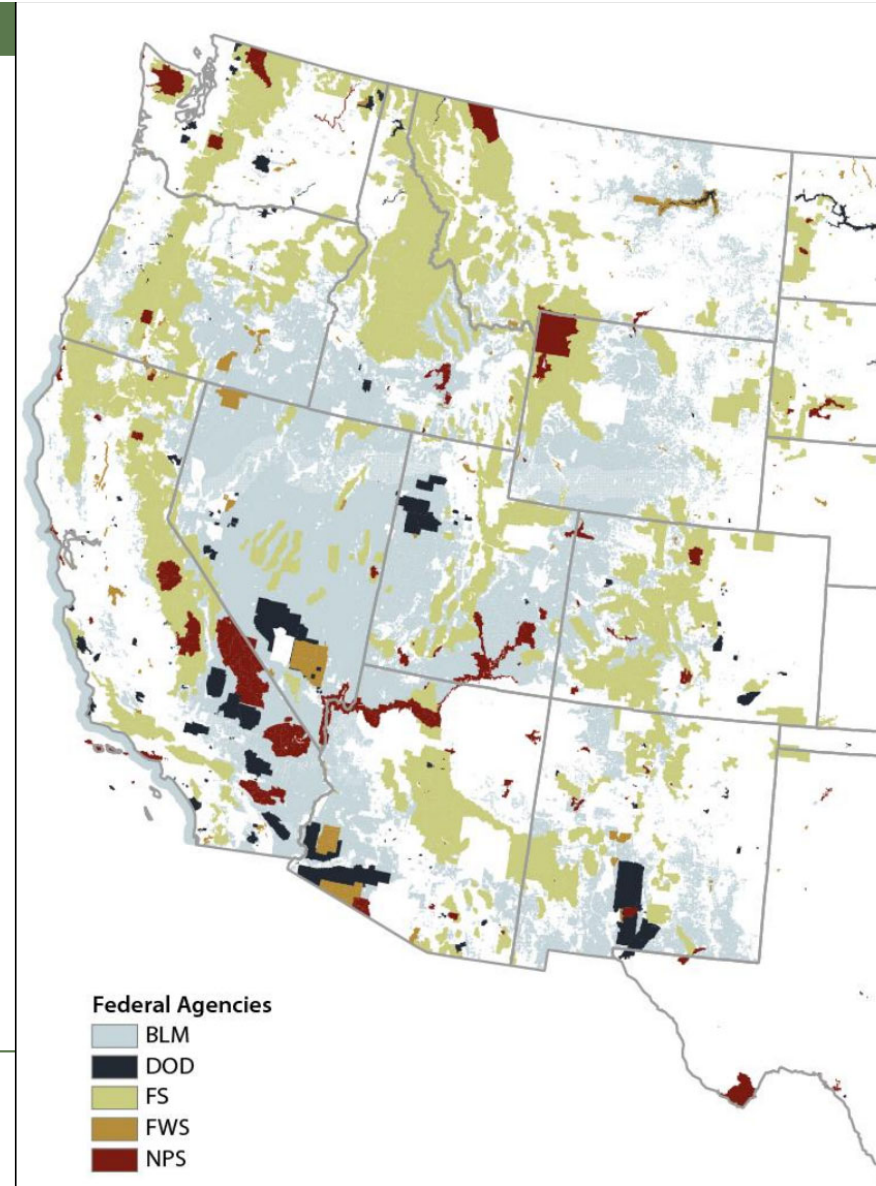
1. Wildfires in the United States – 2020

Extent of Federal land in western United States

State	Thousands of Hectares		
	Federal	Total State	% of Total
California	18,410	40,552	45%
Oregon	13,049	24,928	52%
Washington	4,934	17,278	29%
Colorado	9,753	26,906	36%
Arizona	11,363	29,416	39%
Utah	13,463	21,326	63%
Idaho	13,270	21,421	62%
Nevada	22,769	28,435	80%
Montana	10,960	37,745	29%
Wyoming	11,792	25,229	47%
New Mexico	9,982	31,471	32%
Total	139,744	304,707	46%

- Federal land \approx the size of France, Spain, and Germany combined

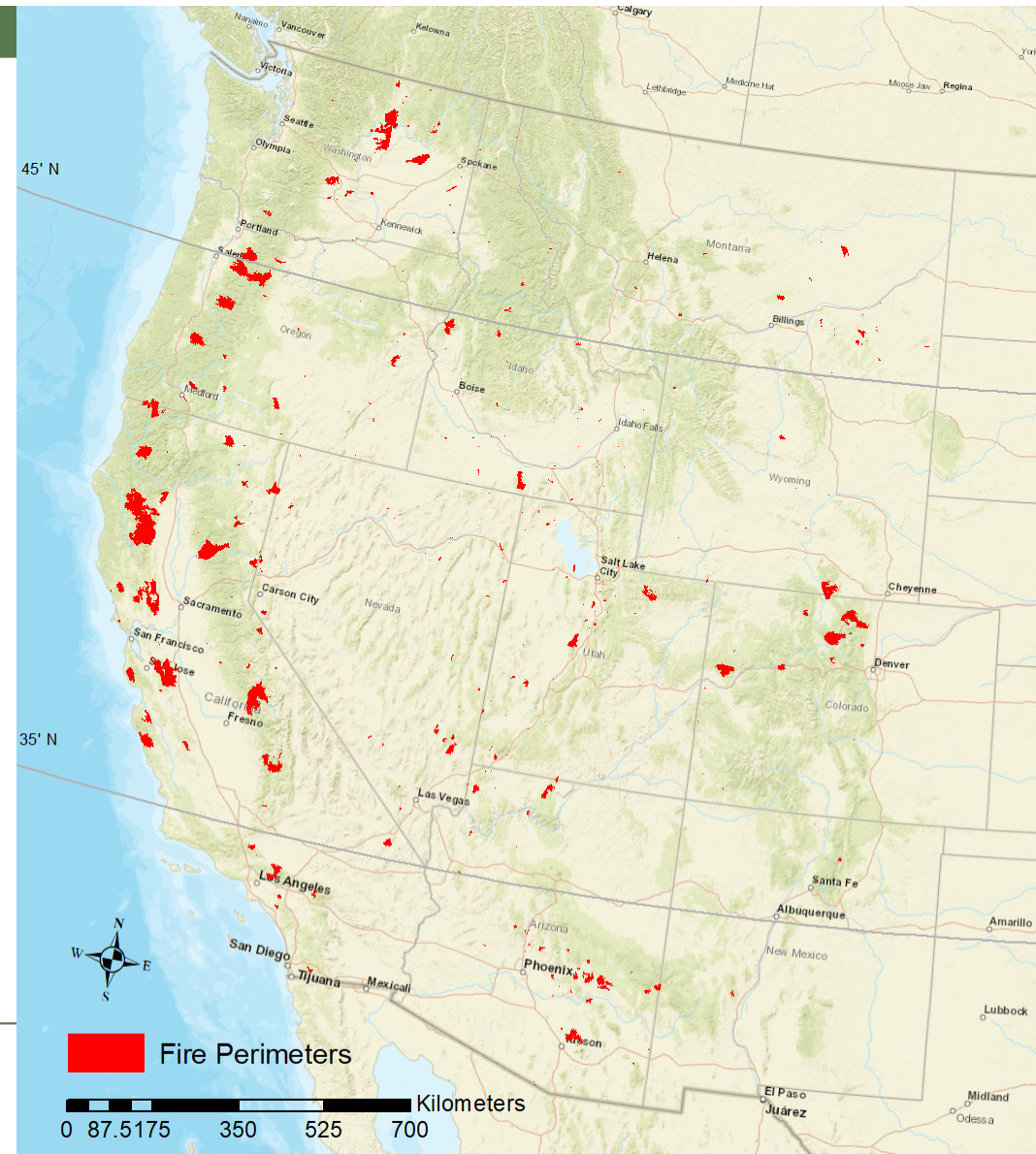
Source: Congressional Research Office – Federal Land Ownership 2/21/2020



Fire Perimeters in 2020

- Spread across 11 western states
- 3.38 million hectares (8.36 million acres)
 - A little larger than Belgium
- 47% of impacted hectares in the state of California

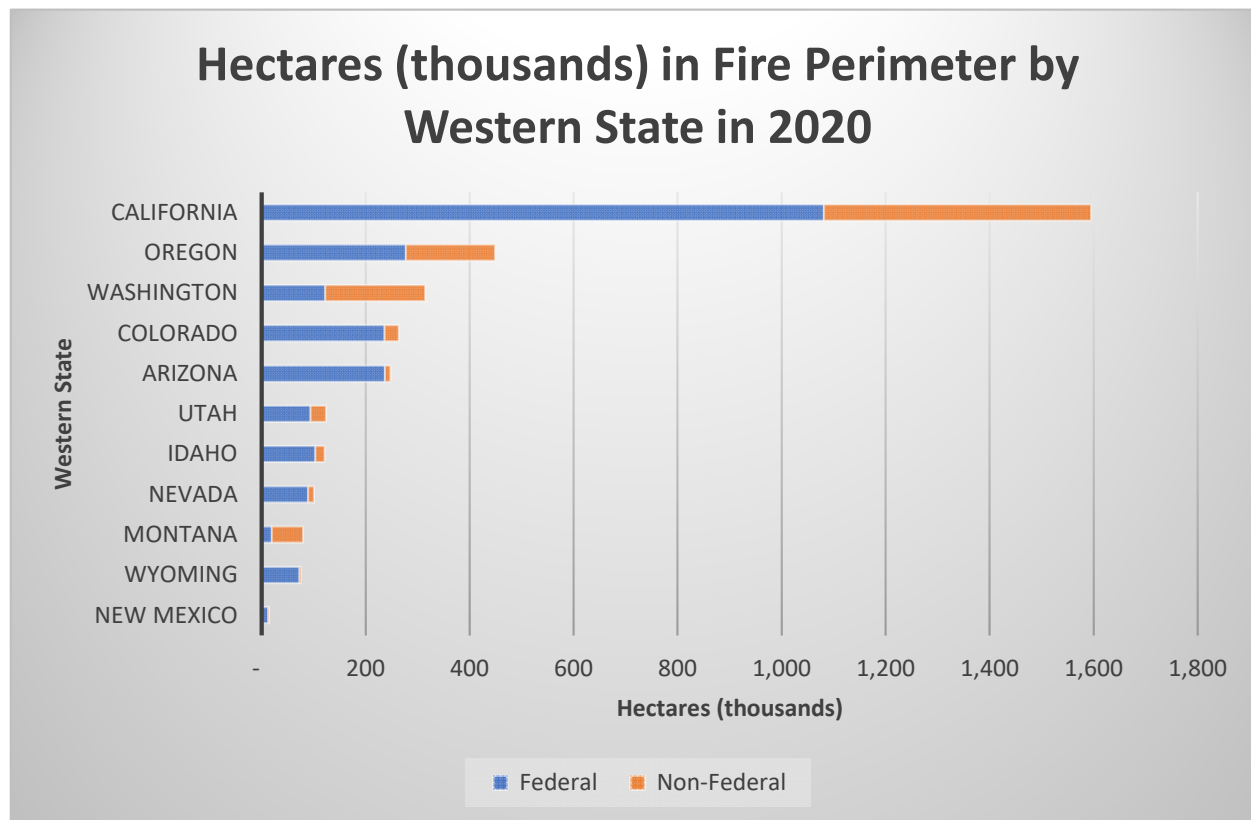
Source: National Interagency Fire Center 10/31/2020



Hectares in fire perimeter by western state in 2020

State	Thousands of Hectares		
	Federal	Non-Federal	Total
California	1,082	514	1,595
Oregon	277	171	449
Washington	123	192	314
Colorado	237	27	264
Arizona	237	10	247
Utah	94	29	123
Idaho	103	17	121
Nevada	90	11	100
Montana	19	60	80
Wyoming	73	3	76
New Mexico	13	1	14
Total	2,348	1,035	3,384
% of Total	69%	31%	100%

Source: National Interagency Fire Center 10/31/2020



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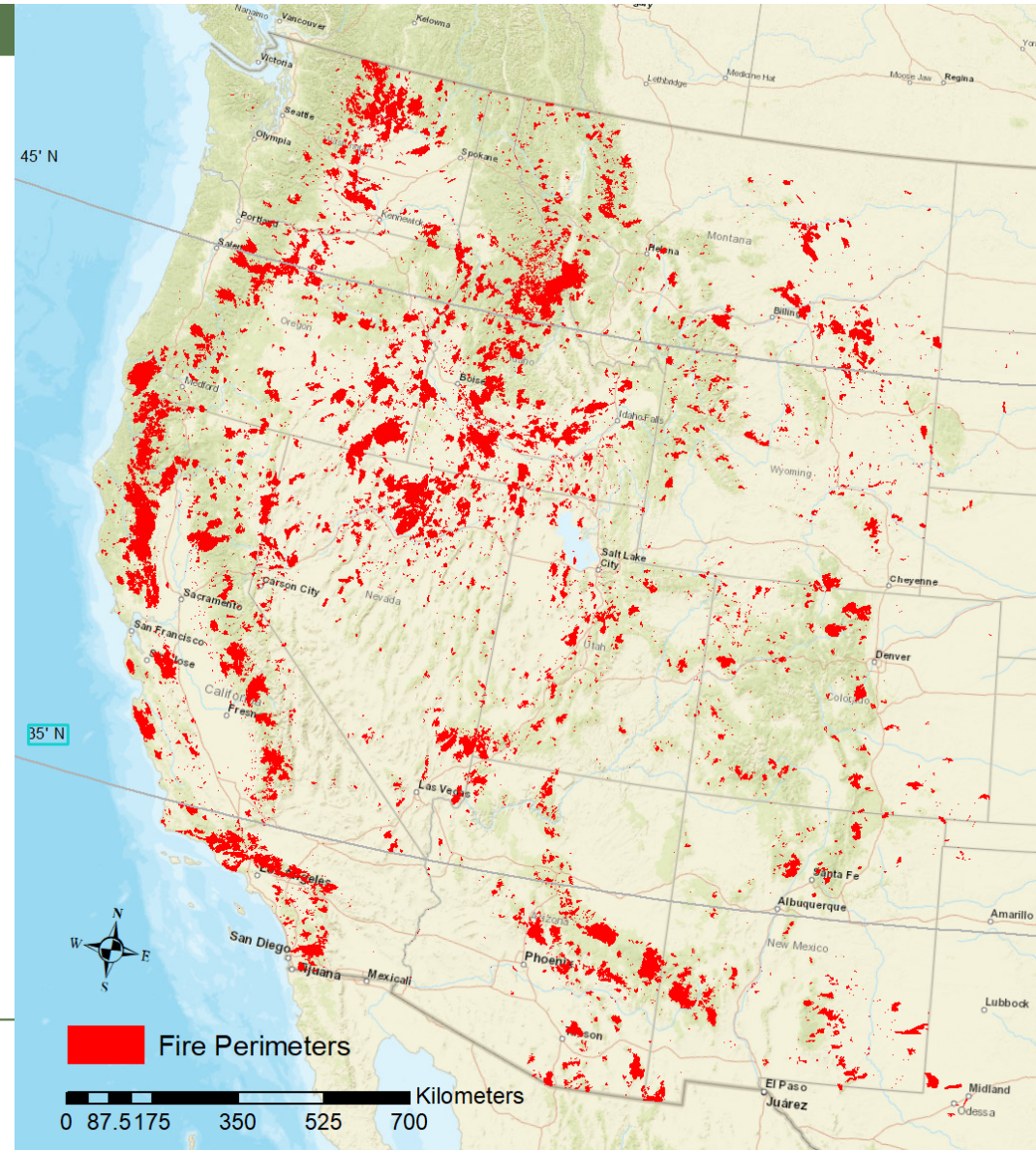
2. Historical Context

Fire Perimeters 2000 – 2020

- Spread across 11 western states
- 32.43 million hectares (80.14 million acres)
 - A little larger than Poland
- 77% of impacted hectares on federal land

Source: National Interagency Fire Center 10/31/2020

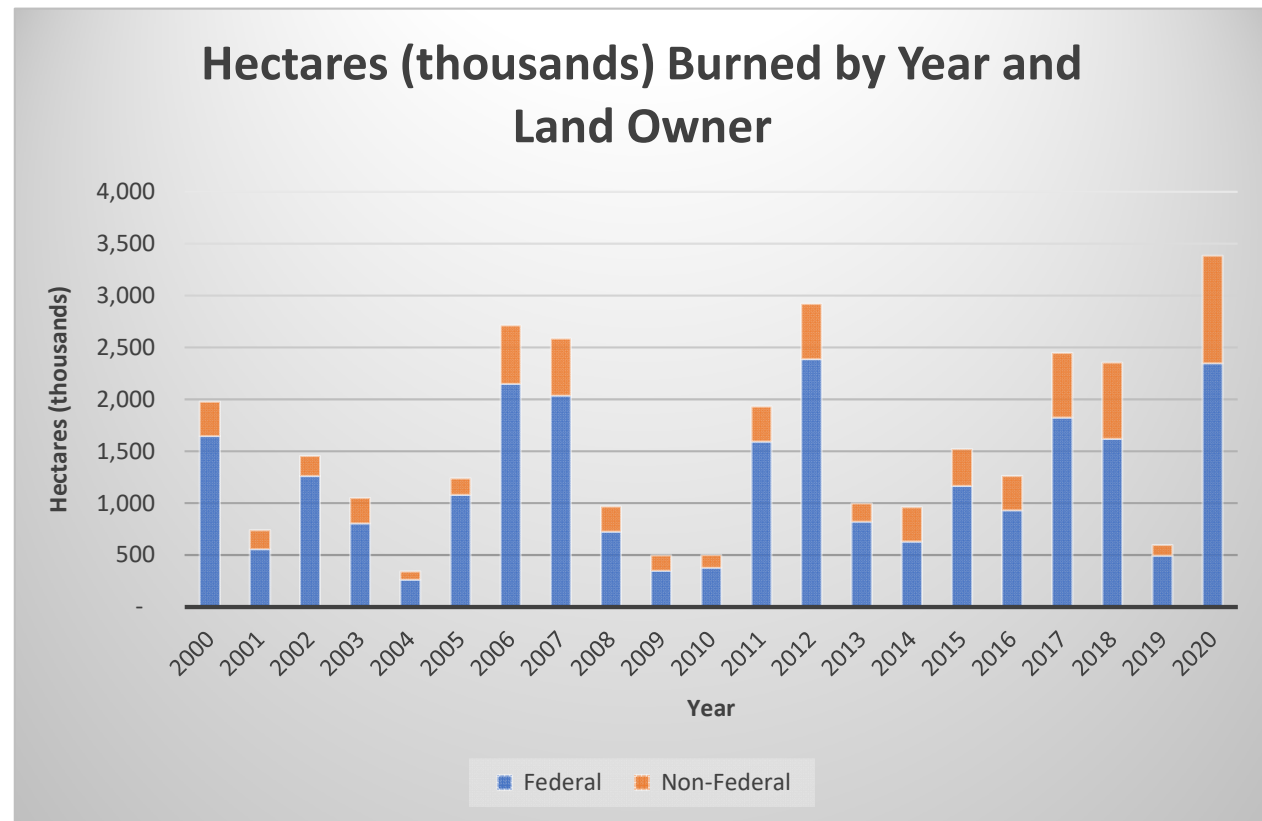
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Hectares in fire perimeter 2000 – 2020 – western US

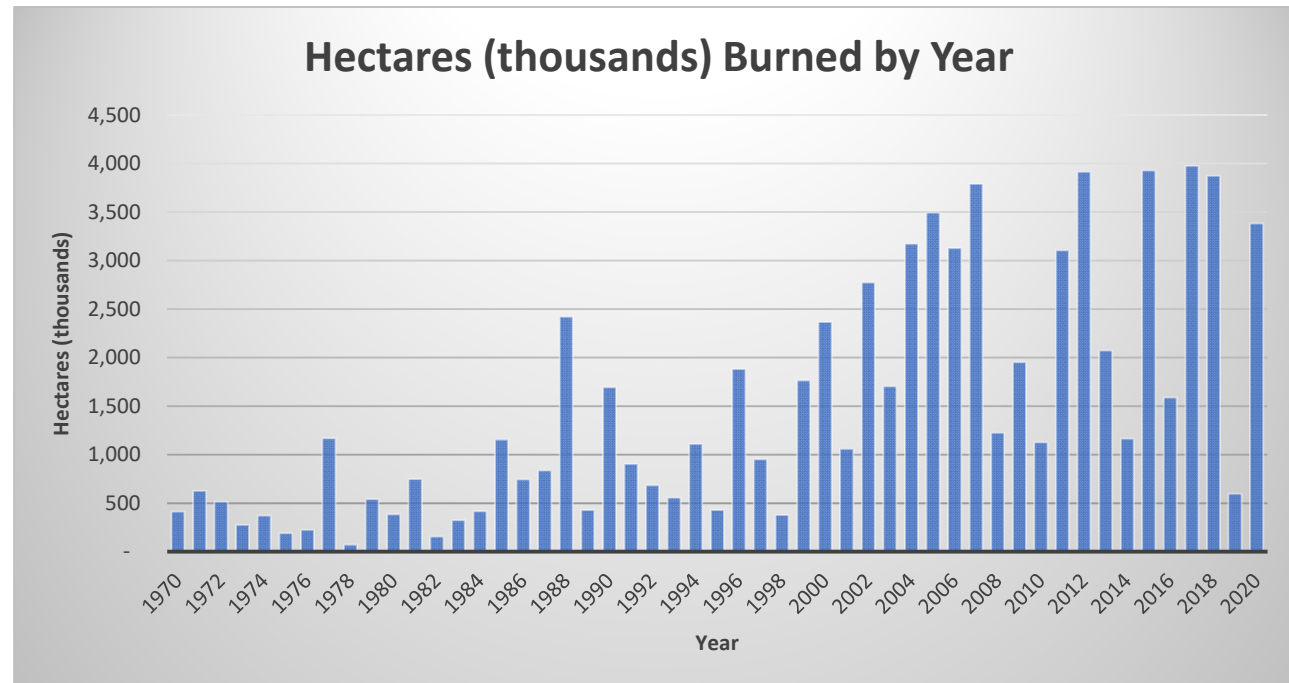
Year	Thousands of Hectares		
	Federal	Non-Federal	Total
2000	1,646	330	1,976
2001	556	182	738
2002	1,262	193	1,455
2003	805	245	1,050
2004	261	79	340
2005	1,078	160	1,238
2006	2,148	564	2,712
2007	2,035	551	2,586
2008	724	242	966
2009	348	150	498
2010	378	121	500
2011	1,594	337	1,930
2012	2,387	532	2,919
2013	820	177	998
2014	629	333	962
2015	1,165	355	1,520
2016	930	331	1,261
2017	1,824	622	2,447
2018	1,618	737	2,356
2019	493	104	598
2020	2,348	1,035	3,384
Total	25,050	7,382	32,432
% of Total	77%	23%	100%

Source: National Interagency Fire Center 10/31/2020



Hectares in fire perimeter 1970 – 2020 – entire US

- Across entire United States
- Upward trend in annual hectares burned



Source: National Interagency Fire Center 10/31/2020

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3. Fire Causes

How are forest fires starting?

Human Causes



- Campfires
- Debris burning
- Cigarette
- Arson
- Fireworks
- Powerlines
- Equipment/Cars

Natural Causes



- Lighting

How are forest fires starting?

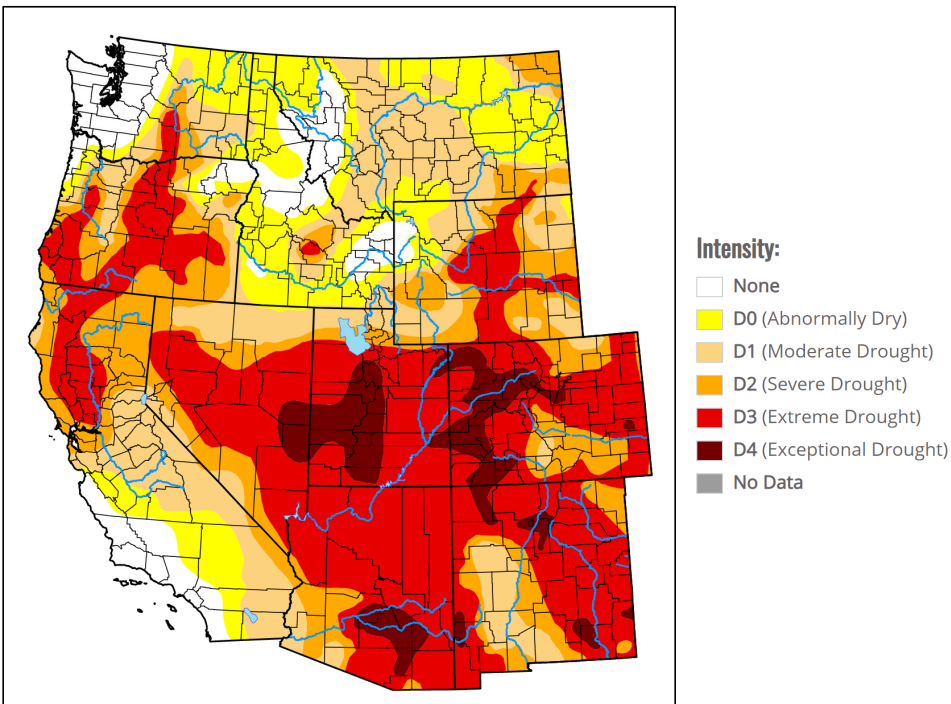


- Fire starts highly dependent on location
- 55% - 90% of starts are human caused*
- Remaining starts are from lighting
- Lightning starts tend to burn more acres
- Fires started from electrical equipment are becoming high profile with lawsuits

*Source: Insurance Information Institute; USFS Southern Forest Research Station General Technical Report SRS-171

Why are more hectares burning?

Is it climate change or forest management practices?



Source: US Drought Monitor 10/27/2020



Why are more hectares burning?

Is it climate change or forest management practices?

- **Drier**: years of drought killing trees/vegetation and creating fuels
- **Hotter**: temperature increases creating dry conditions
- **Windier**: high winds turning small fires into large fires
- **Suppression**: fire suppression practices allowing fuel to build
- **Management**: lack of thinning/clearing of understory allowing fuel to build
- **People**: population increase on edges of forest = accidental fire starts, more powerlines, makes prescribed burns difficult to implement

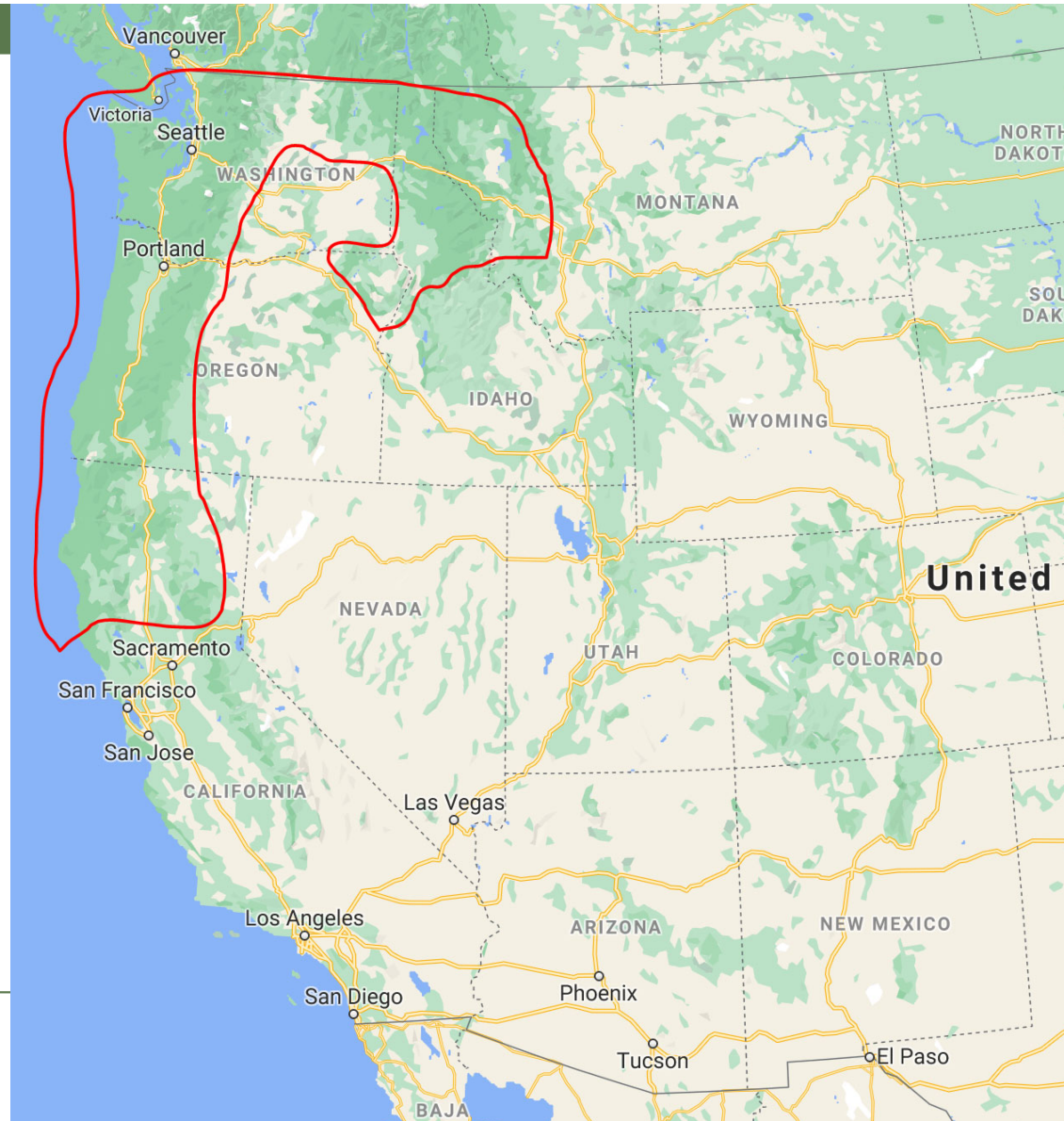
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4. Impacts to Markets – 2020

Impacts to markets in 2020

- Market impacts localized
- Manufacturing primarily in:
 - western Oregon
 - western Washington
 - northern Idaho
 - western Montana
 - northern California
- Majority of raw material coming from private lands



After a fire, what's next? Assessment

Non-Federal Lands – focus on assessing damage and identifying salvage opportunities

Federal Lands – focus on public safety and opening roads, trails, campgrounds, also on ecological impacts



Photo credit: KATU news Portland, OR 9/23/2020

After a fire, what's next? Salvage Operations

Non-Federal Lands –

focus on removing as much merchantable timber as possible over a 1-2-year timespan

Federal Lands –

limited focus on salvage opportunities, long permitting process



After a fire, what's next? Salvage Operations

Non-Federal Lands

- In 2020 the Market impacts are unknown
- In Oregon, estimated that 70% of 80% of annual harvest volume was impacted by the fire (\approx 1.5 – 2.0 billion board feet)
 - How will this impact green timber sales?
- Salvage logs are pouring into local mills
- Are there enough loggers and foresters?
- Is there enough equipment?
- Loss of harvest volumes over the next 5 – 25+ years will be impacted

After a fire, what's next? Reforestation

Non-Federal Lands

- 150+ million seedlings may be needed annually for the next few years
- Is there enough nursery capacity to grow them quickly?
- Is there enough labor to reforest?
- How many years will it take to reforest?

After a fire, what's next?

IMPACTS OF 2020 WILDFIRES ON WEST COAST LOG SUPPLY AND TIMBER MARKETS



Forest Economic Advisors



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Natural Resource Consultants Since 1921

A JOINT STUDY BY FEA AND MB&G

<https://getfea.com/publication/impacts-of-2020-wildfires-on-west-coast-log-supply-and-timber-markets>

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