Oregon State University

Part I: Review of mapping methods and outcomes for Oregon's 2021 Senate Bill 762

Part II: What we learned from public engagement and options for moving forward

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Andy McEvoy, College of Forestry, Oregon State University, Corvallis, OR

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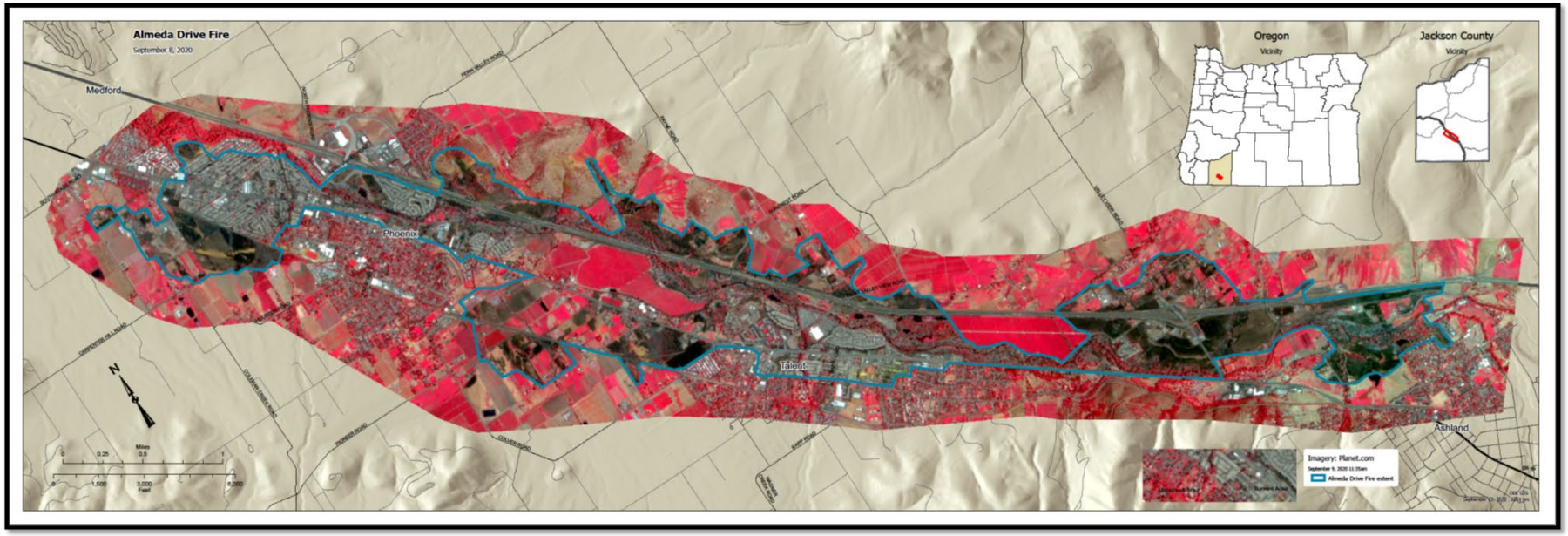


Science-based mapping team

Oregon State University

Dr. Christopher Dunn, Assistant Professor in Wildfire Risk Management

Chris's research focuses on wildfire risk management science, through the lens of our fire management service, including assessment, mitigation, response and performance of actions.

Dr. Erica Fischer, Associate Professor in Civil and Construction Engineering

Erica's research revolves around innovative approaches to improve the resilience and robustness of structural systems affected by natural and man-made hazards.

Dr. Mindy S. Crandall, Associate Professor of Forest Policy

Mindy's research is focused on the intersection between people and forests in rural places in the US. In particular, the role of forestry and the forest products industry in regional economies.

Andy McEvoy's, Wildfire Risk Scientist

Andy's work and applied research focuses on wildfire risk management and analytics, including the development of wildfire risk assessments, optimal allocation of limited resources, and outcome indicators assessing the effectiveness of ongoing mitigation actions.

Caitlyn Reilley studies the intersection of human communities and wildfire. In particular, her research explores the relationship between socioeconomic factors of communities and human caused wildfire ignitions and whether socially vulnerable communities experience disproportionate amounts of wildfire.

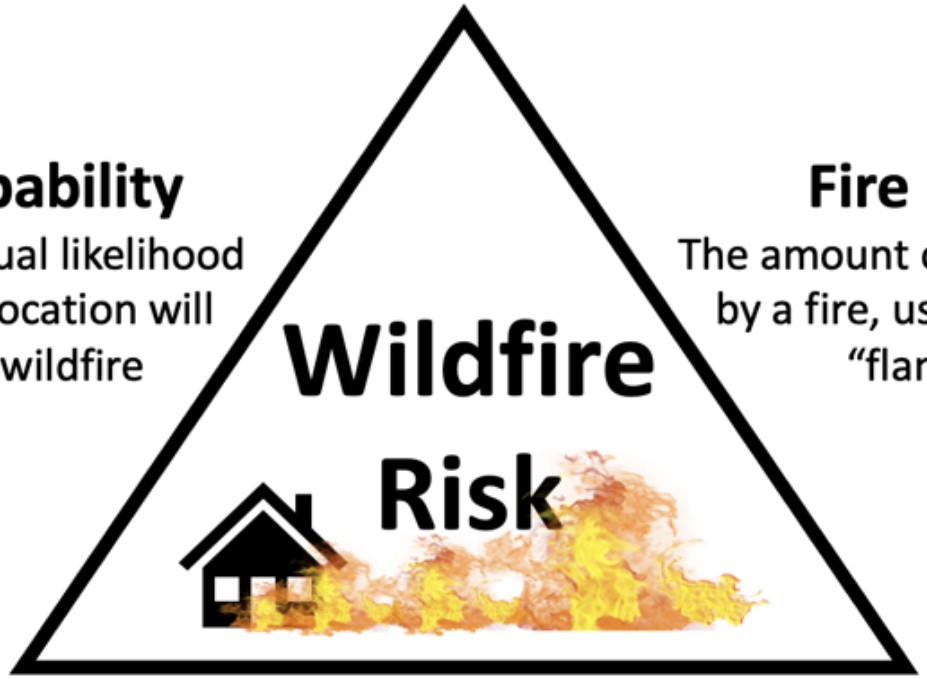
INSTITUTE FOR NATURAL RESOURCES

PYROLOGIX

Mapping Wildfire Hazard and Risk

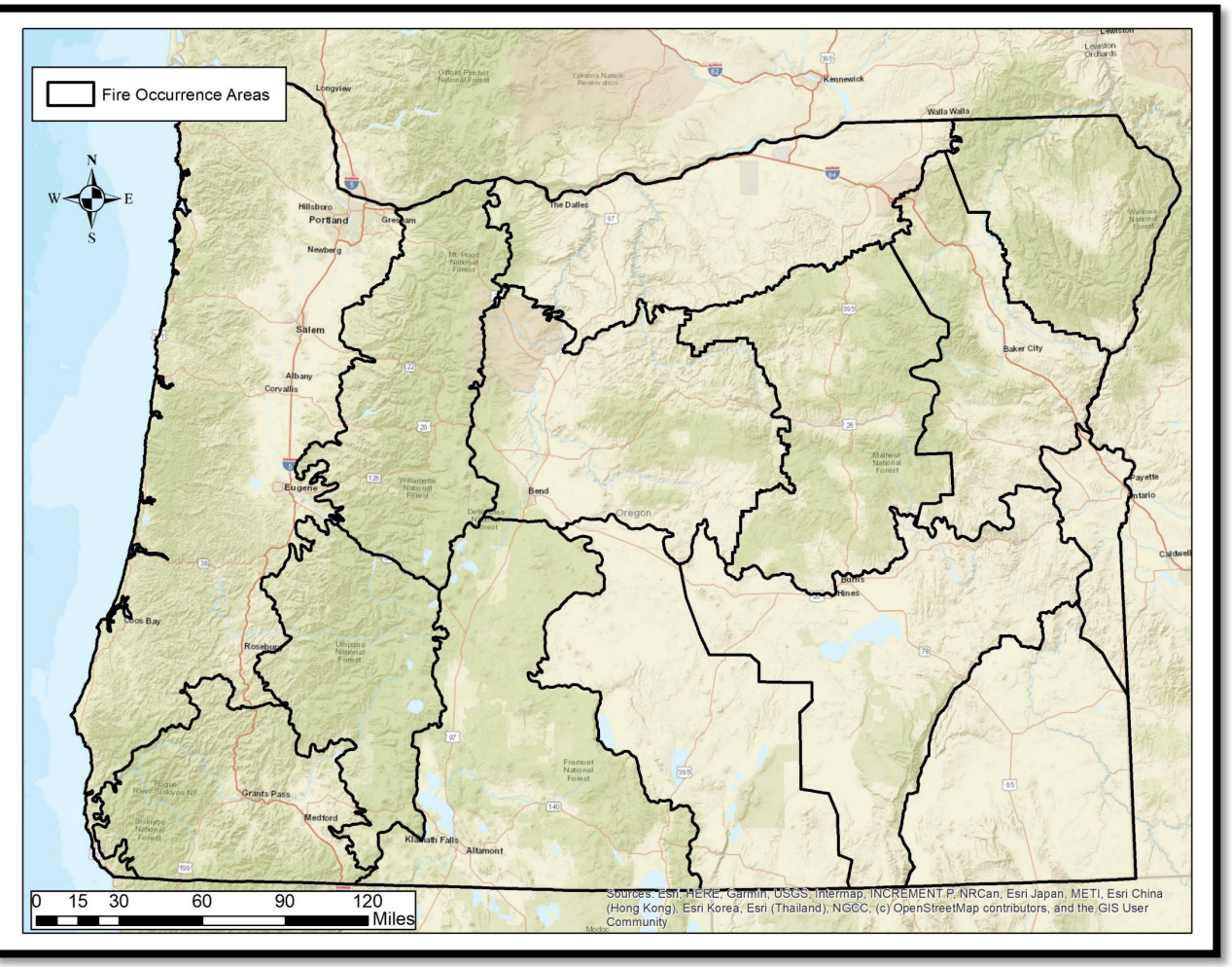
Burn Probability
The average annual likelihood that a specific location will experience wildfire

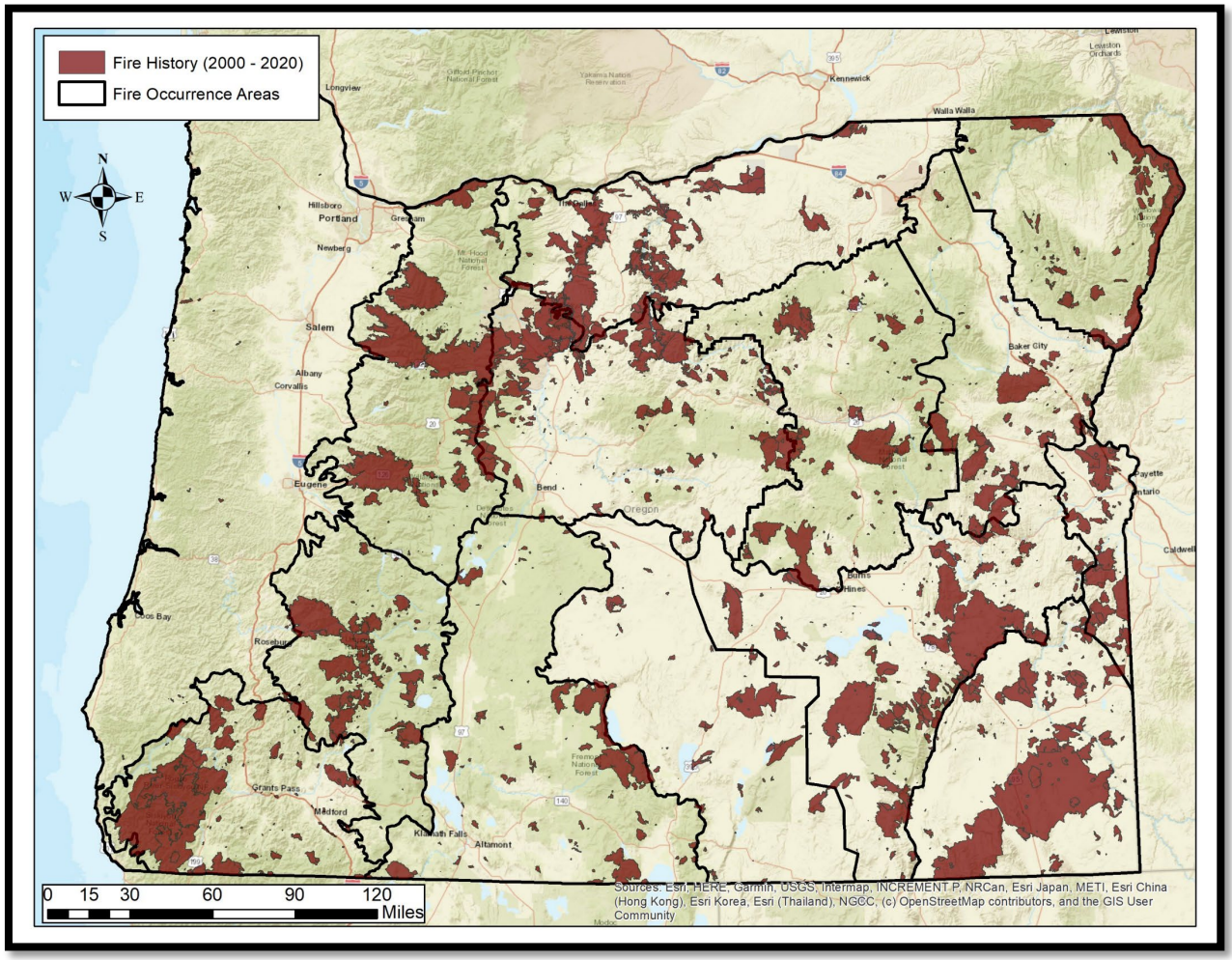
Fire Intensity
The amount of energy produced by a fire, usually reported as "flame length"



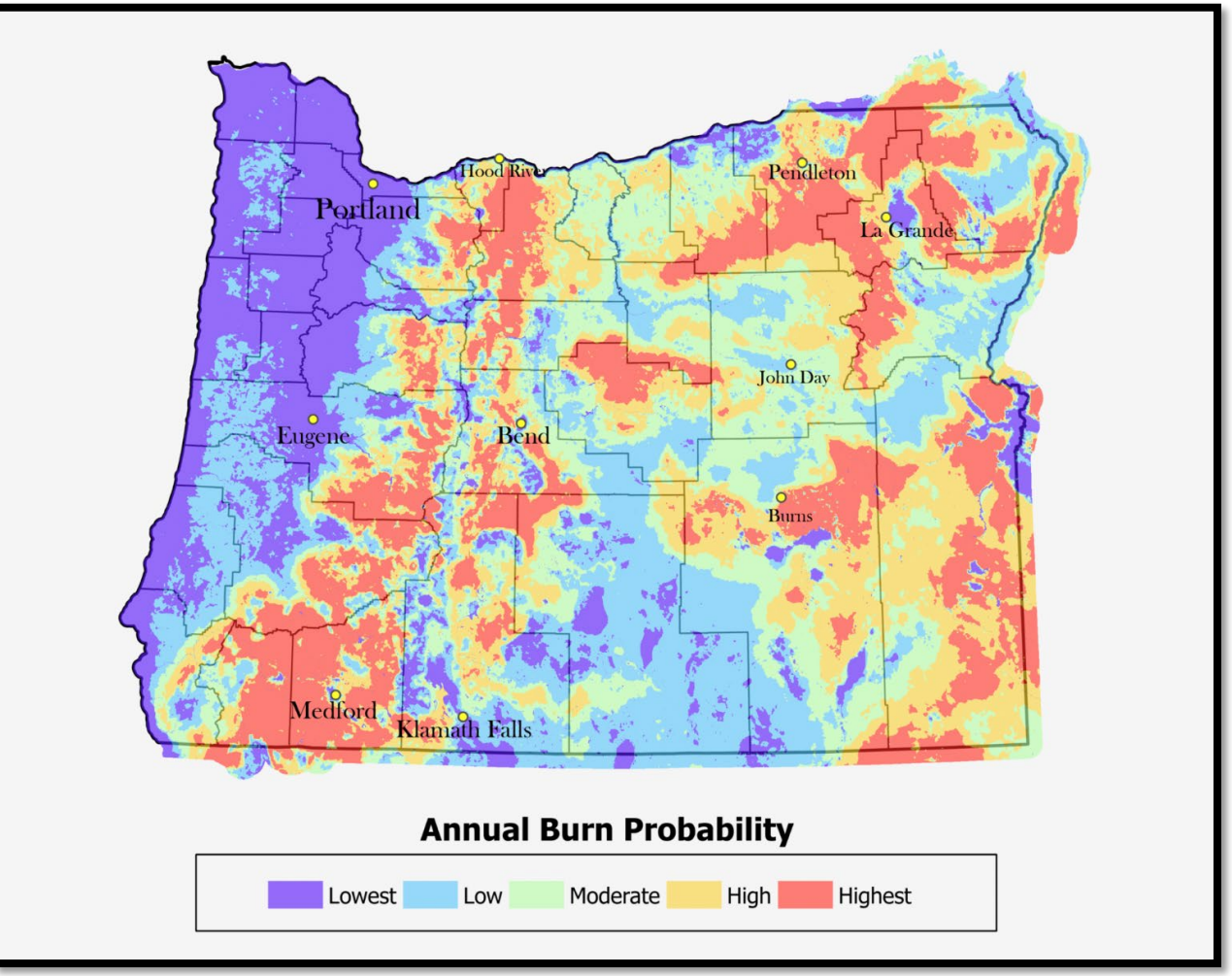
Susceptibility
An estimate of the potential impact to structures when they are affected by fires of various intensities

Climate and Fire History Calibration

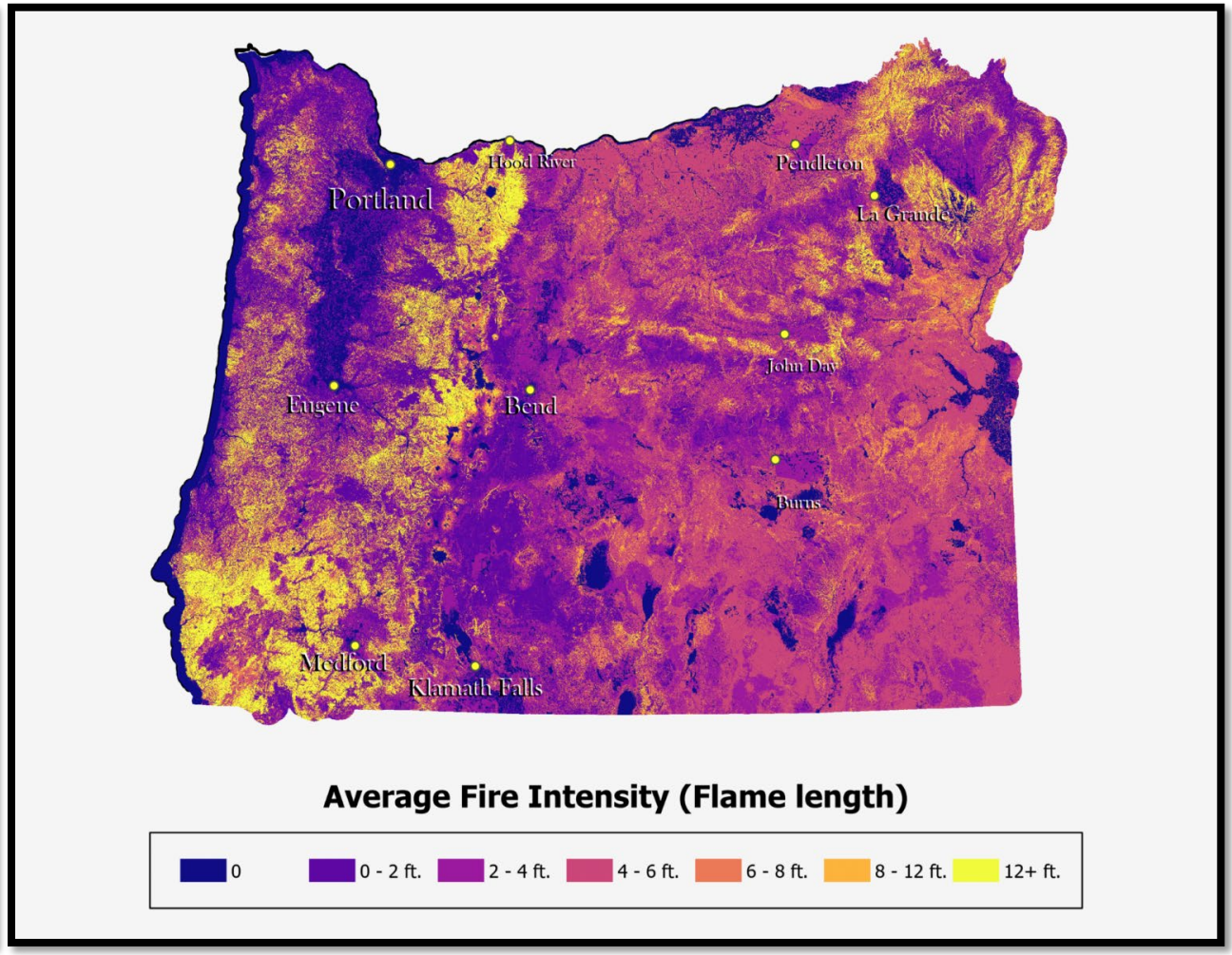




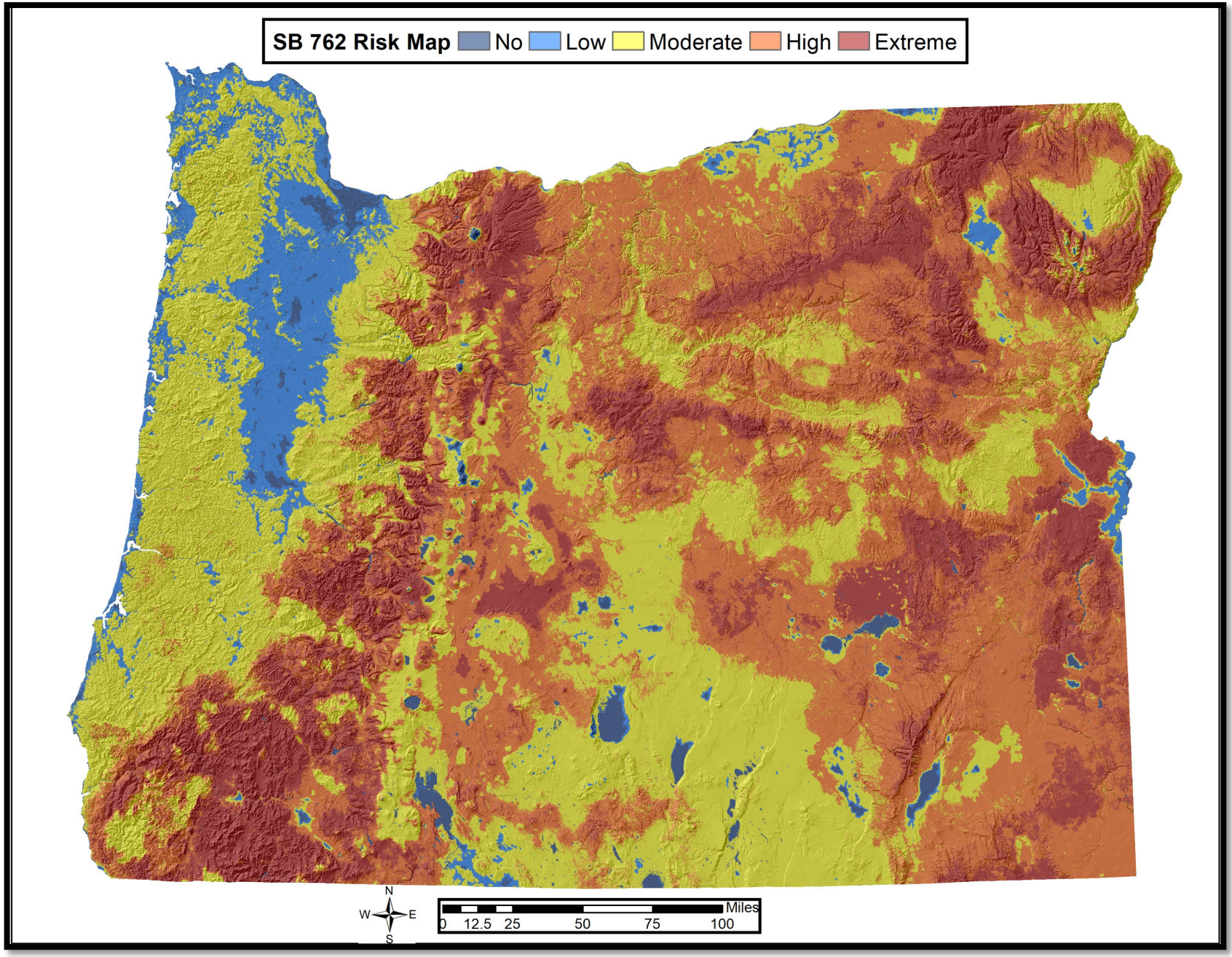
Burn probability



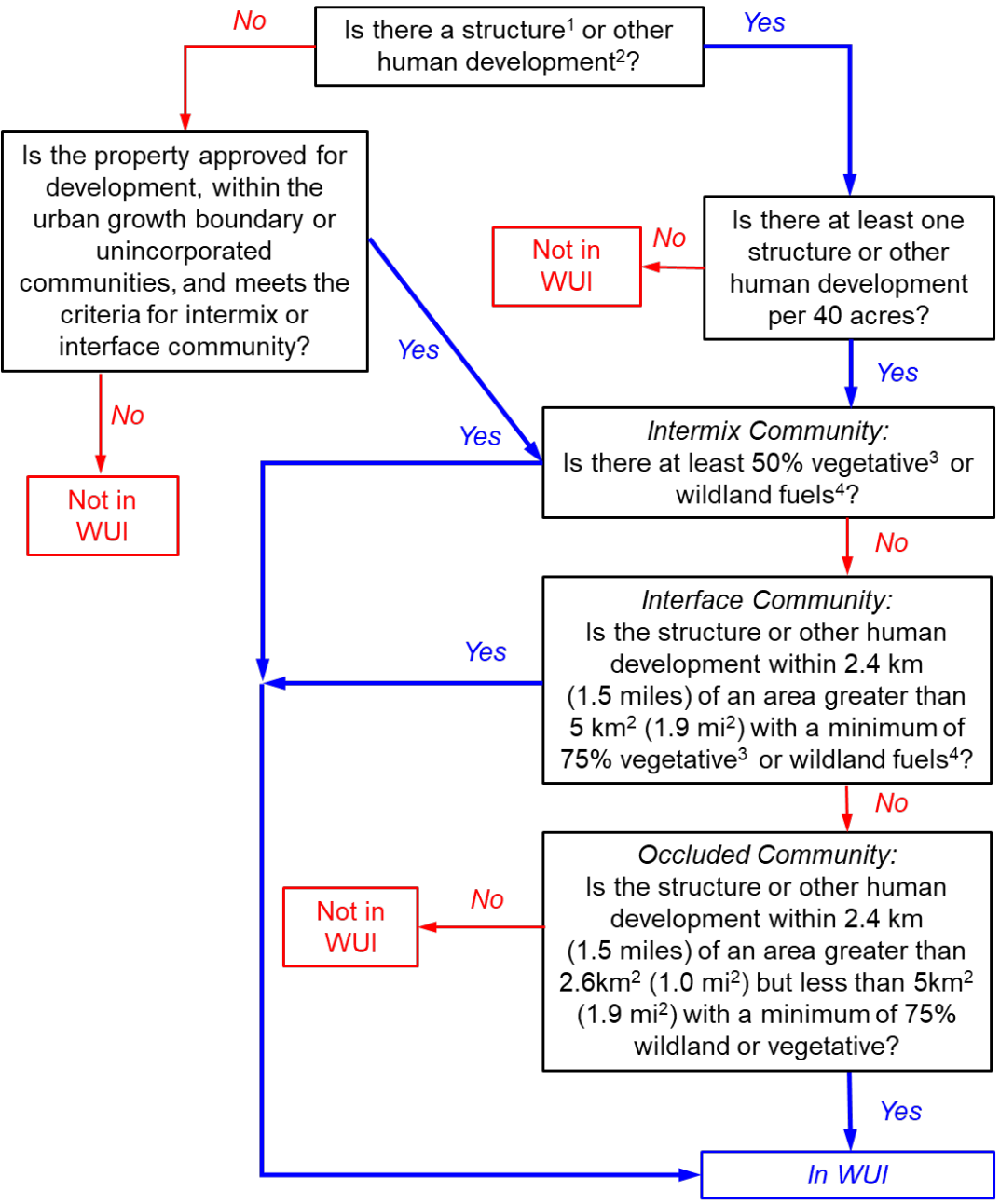
Fire intensity



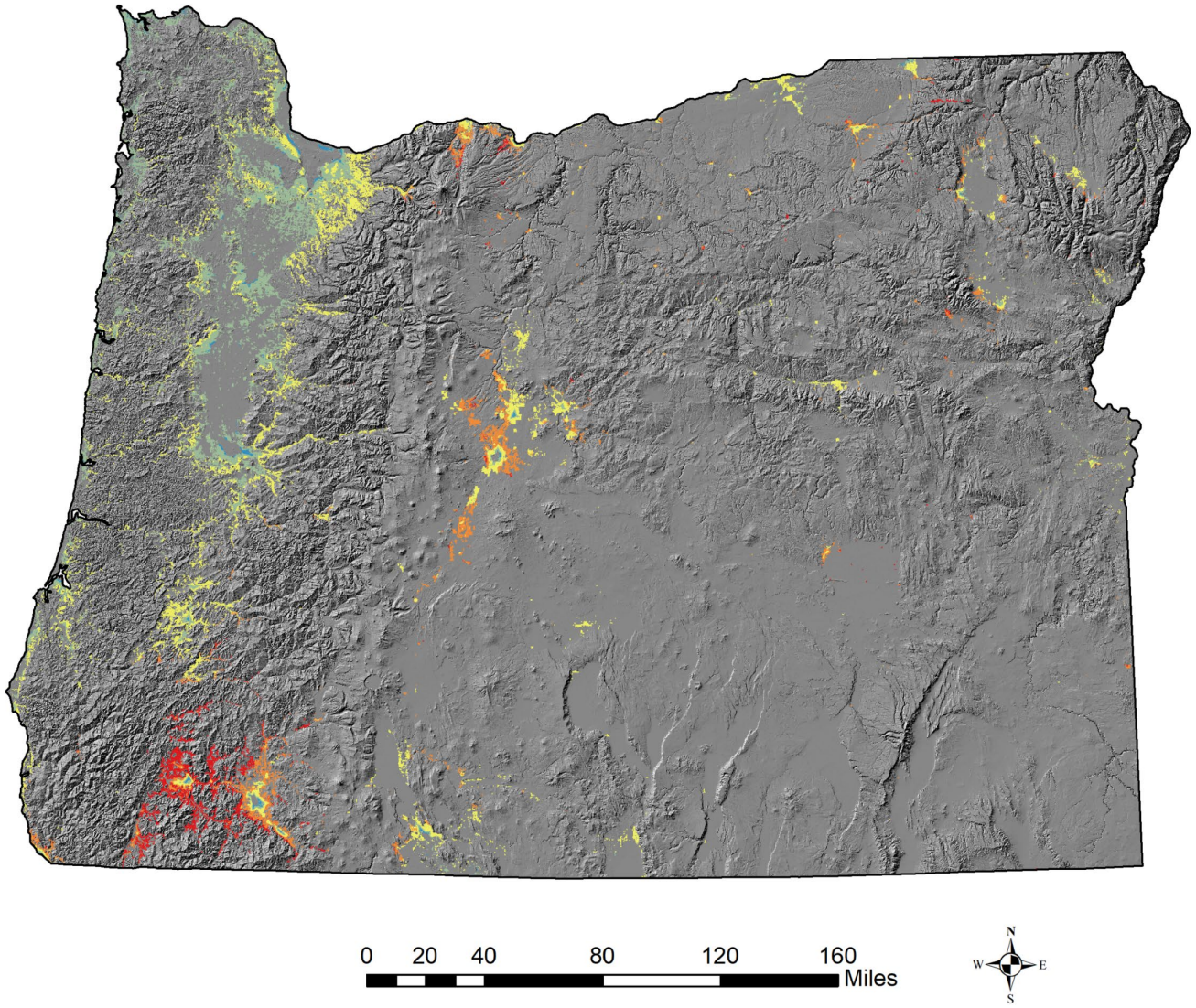
SB 762 Statewide Wildfire "Risk" Map



WUI Definition: The geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels



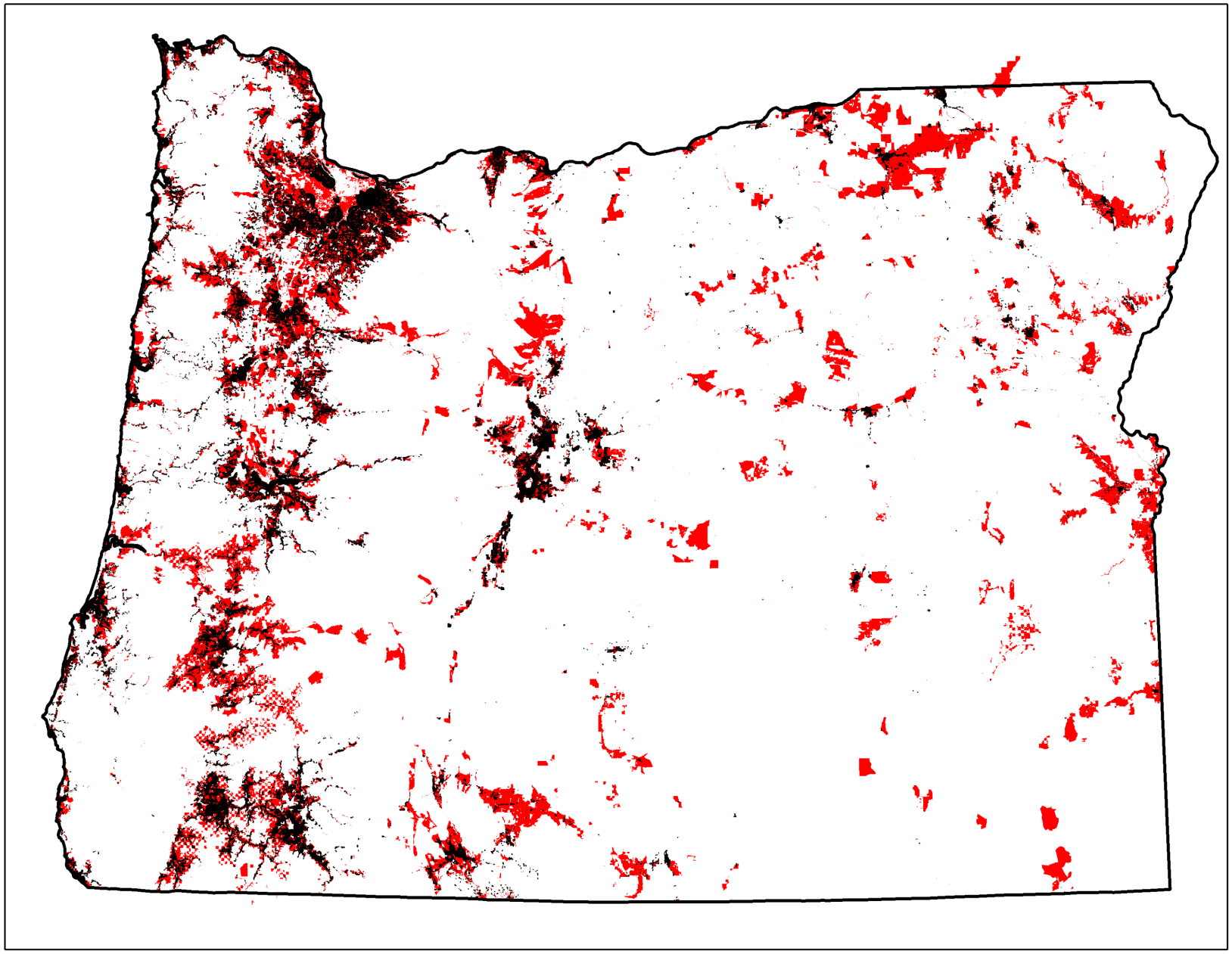
WUI Distribution in Oregon



Only areas in orange or red were subject to additional requirements under Senate Bill 762

= Previous WUI Map

= SB762 WUI Map



By the numbers

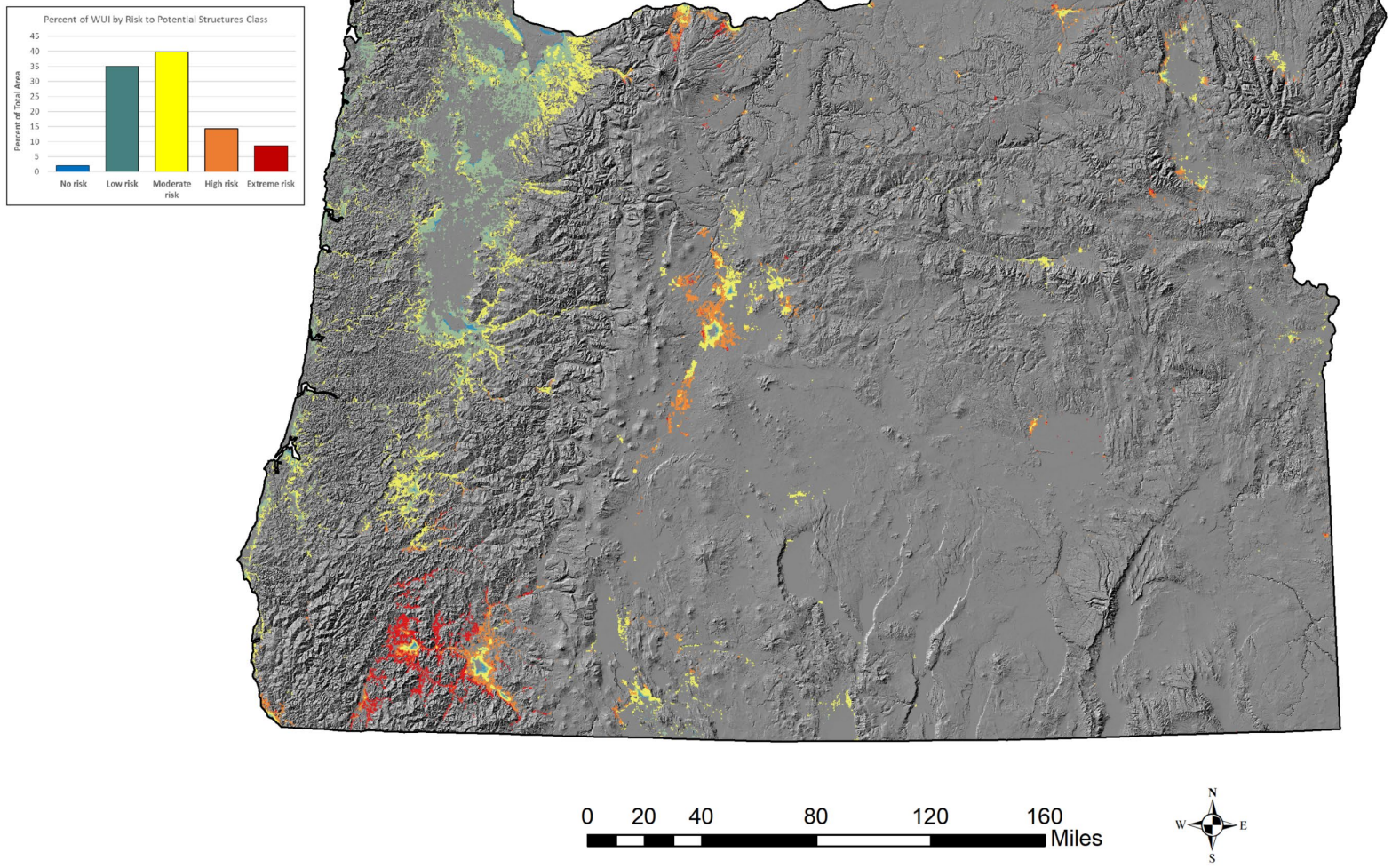
Only 4.4% of Oregon was within the Wildland-Urban Interface

- An estimated 23% (by area) is within high or extreme risk

Approximately 120,000 tax lots (of ~1.8 million) were at high or extreme risk and within the WUI

- Only 8.8% of Oregon tax lots
- Estimated 80,000 tax lots currently have structures present

Oregon WUI Wildfire "Risk" Classes



Town Hall Meetings

Insurance concerns	20%
Already has some level of defensible space on property	11%
Confusion regarding assigned risk class	10%
SB 762	10%
Reference to Government Land	7%
Question or comments about the WUI Wildfire Risk Map	7%
Questions or comments about appeal process	6%
Arson	6%
Questions about new regulations, compliance or building codes	5%
Questions about grants or incentives	5%
Access barriers	4%
Site Visits	4%
Past wildfire experience	2%
Climate Reference	2%
Comparison to neighbor's property	1%

Written Appeals

Already has some level of defensible space on property	31.79%
Request Appeal Form	21.86%
Request Homeowner Report	19.50%
Confusion regarding risk notice letter	6.71%
Confusion regarding assigned risk class	6.00%
Comparison to Neighbor's Property	3.43%
Questions about defensible space or home hardening	3.43%
Questions about grants or incentives	1.93%
Question about the Wildfire Risk Map	1.86%
Access Barriers	1.36%
Insurance Concerns	0.86%
Questions or comments regarding SB 762	0.57%
Reference to Government Land	0.57%
Tribal Reference	0.14%

Issue #1: The expectation that parcel-level risk classifications should almost always be the same amongst neighbors. The first version of the map showed some adjacent neighbors with different risk classifications,

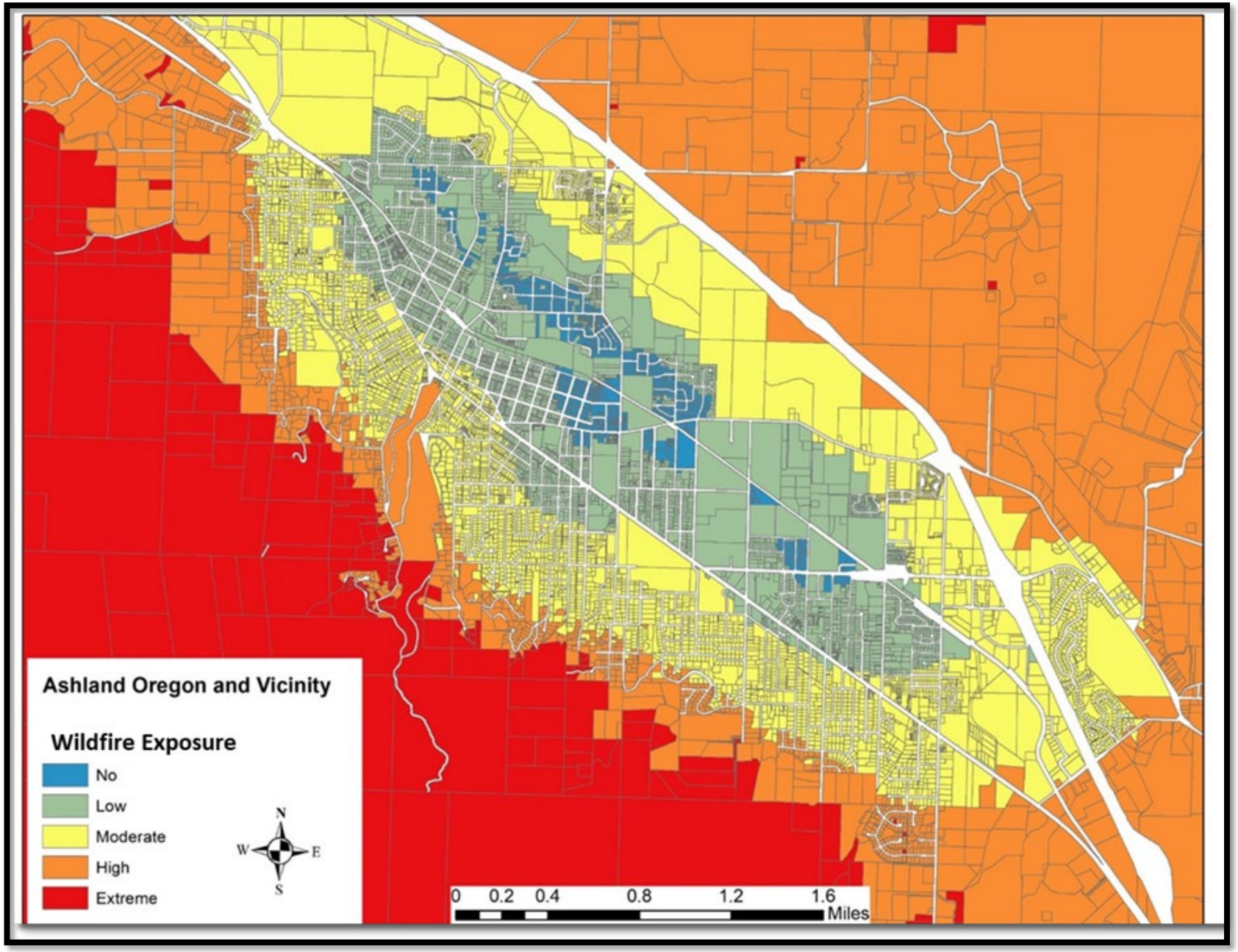
Issue #2: The expectation that the map would reflect actions taken at the home with respects to home hardening and defensible space,

Issue #3: The expectation that hazard would be lower than represented in hay and pasture lands. The first version of the map illustrated high and extreme risk in some pastureland which members of the public felt was unreasonable and unrealistic,

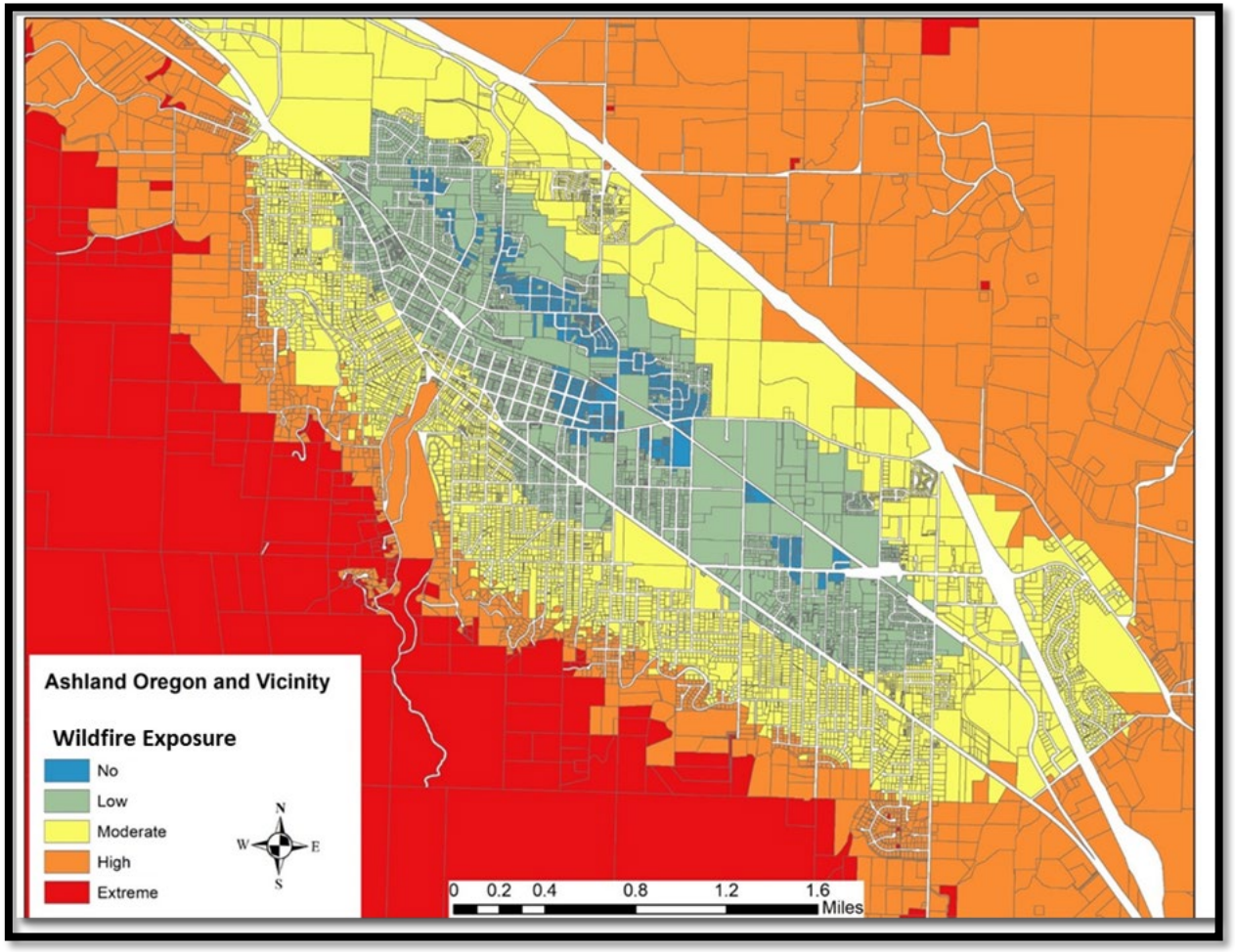
Issue #4: The expectation that the map reflected no, or extremely low, wildfire hazard in and around irrigated farmland.

https://www.bbc.com/news/world-us-canada-66575234

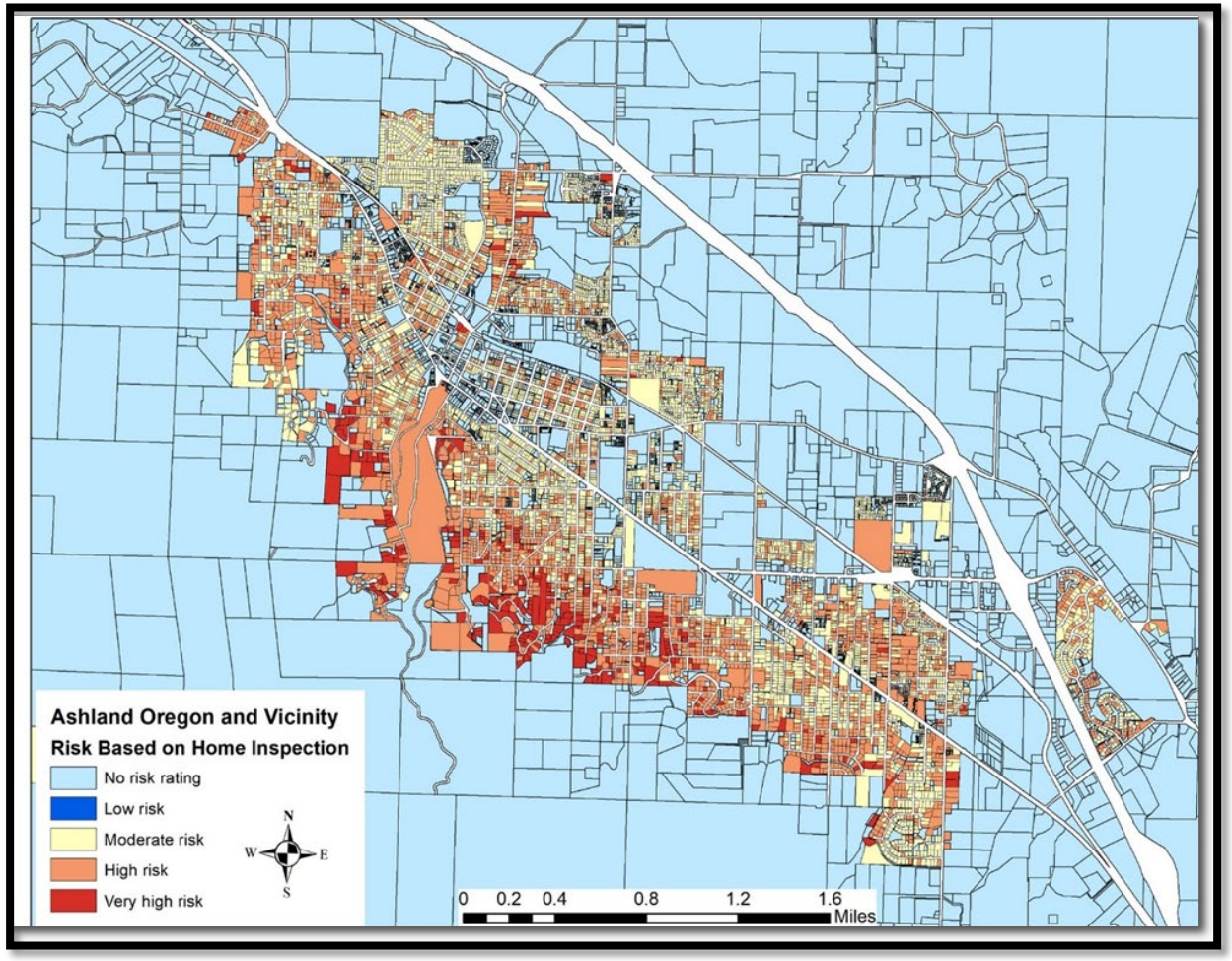
Issue #1: Adjacency



Wildfire Hazard Assessment



Wildfire Susceptibility Assessment

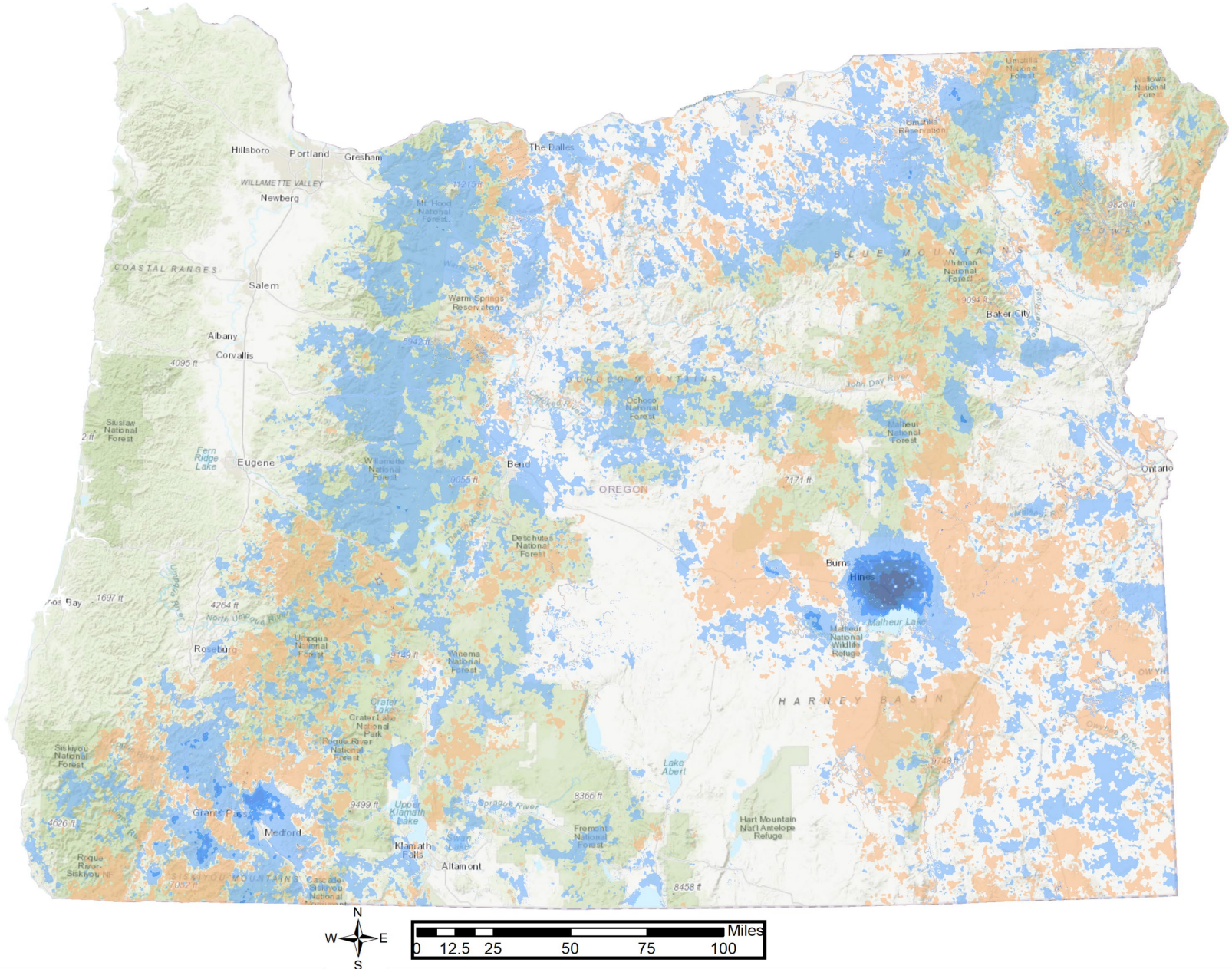


Change in Burn Probability

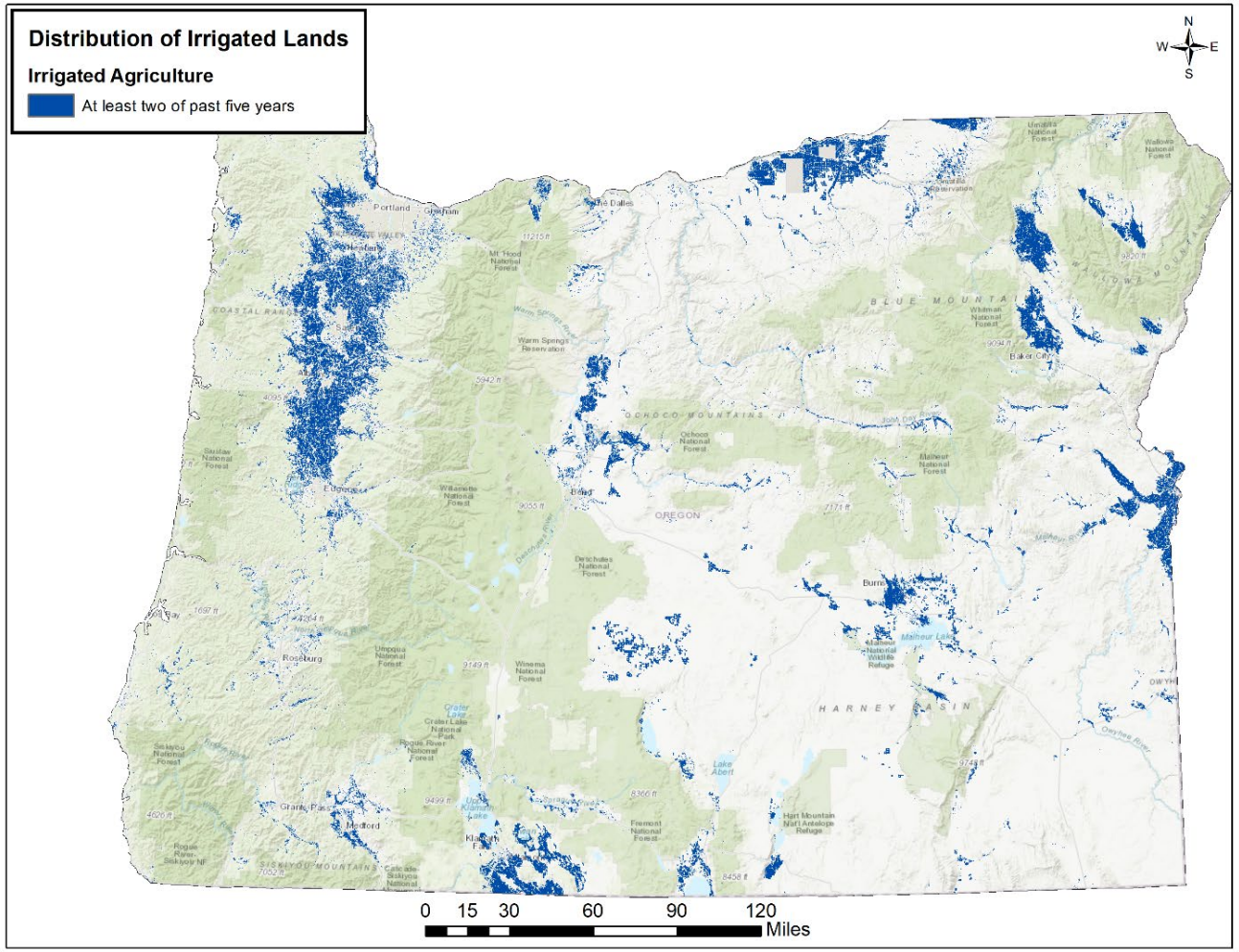
Version 3 minus Version 2

Absolute Difference

- -0.069 - -0.04 (decrease)
- -0.04 - -0.03
- -0.03 - -0.02
- -0.02 - -0.01
- -0.01 - -0.001
- -0.001 - 0.001 (neutral)
- 0.001 - 0.01
- 0.01 - 0.02
- 0.02 - 0.03
- 0.03 - 0.042 (increase)



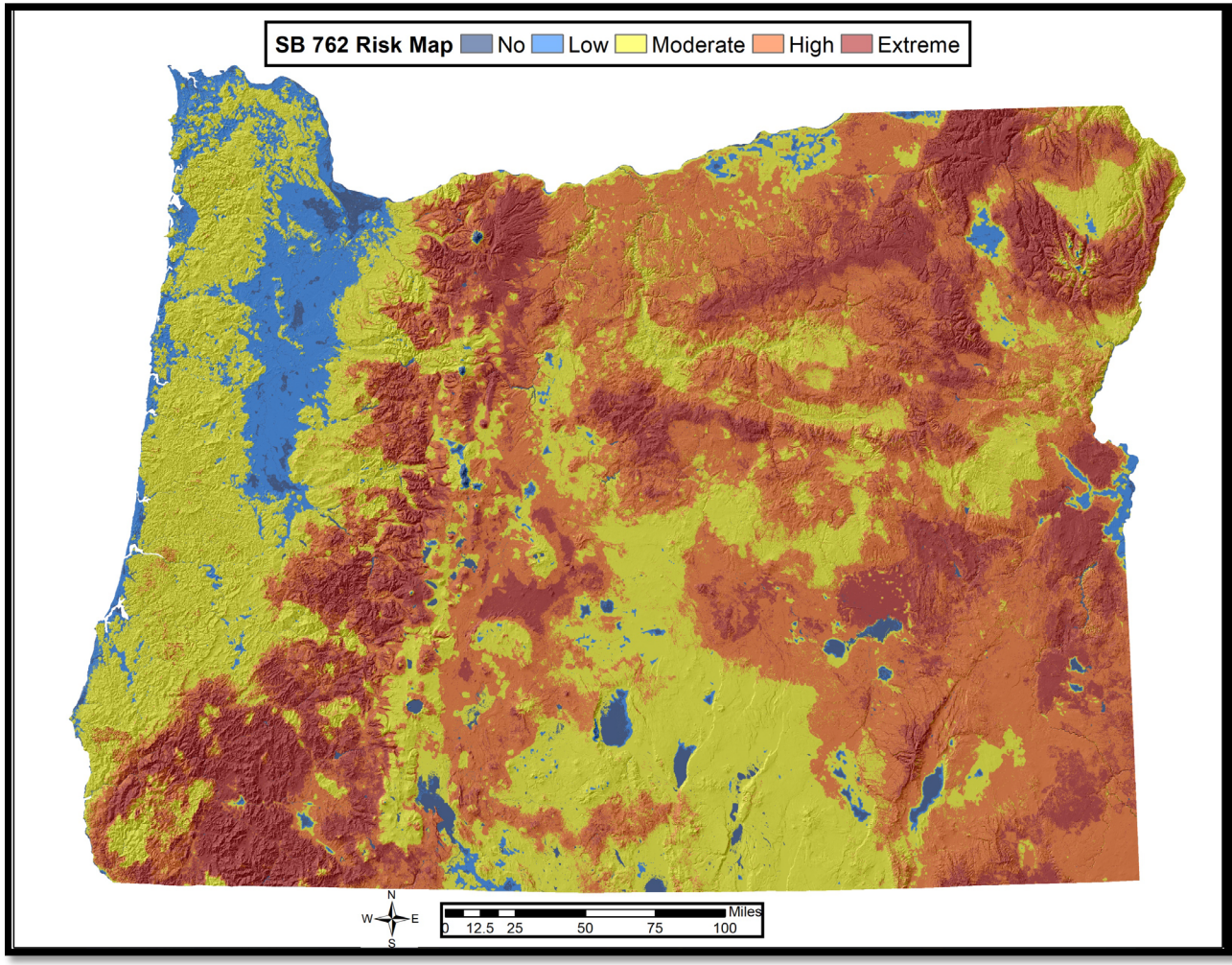
Should the map integrate irrigated agriculture?



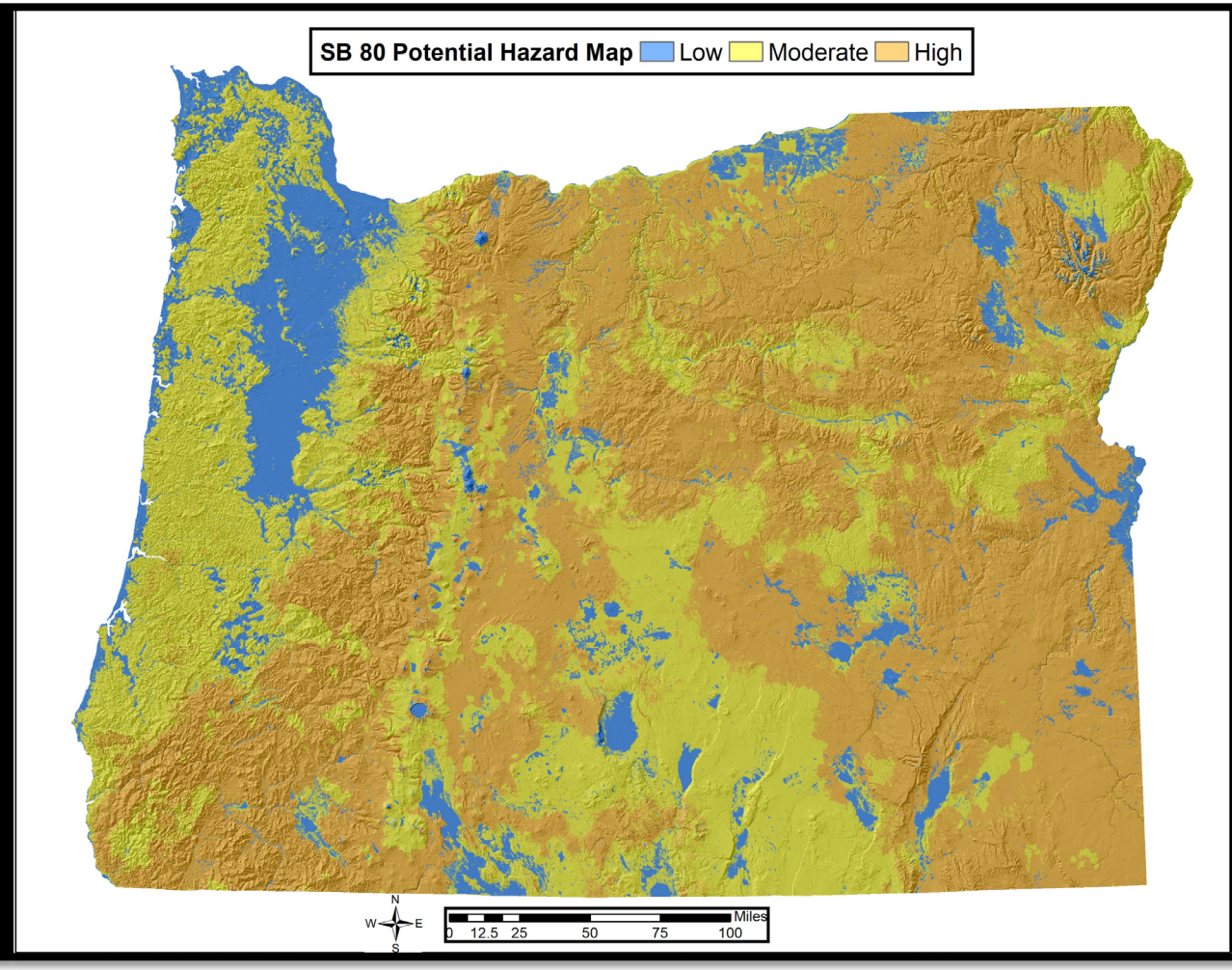
2022 Miller Road Fire

= irrigated agriculture

SB 762 Wildfire Risk Map



SB 80 Potential Wildfire Hazard Map



Potential Changes in Parcels Affected by SB 762/80

Home survived 2020 Holiday Farm fire with proper mitigation

County (Total WUI Difference)	Total Tax lots	Original Total County Exposure-class Counts		Updated Total County Exposure-class Counts		Original WUI Exposure-class Counts		Updated WUI Exposure-class Counts	
		High	Extreme	High	Extreme	High	Extreme	High	Extreme
Baker (146)	16,268	5136	1125	4823	1061	2501	517	2391	481
Benton	36,746	0	0	0	0	0	0	0	0
Clackamas (721)	162,133	2865	313	2141	175	2245	202	1625	101
Clatsop	33,709	0	0	0	0	0	0	0	0
Columbia	28,551	0	0	0	0	0	0	0	0
Coos	41,852	27	3	47	3	0	0	0	0
Crook (809)	17,993	4647	400	3431	339	2598	86	1810	65
Curry (145)	18,913	3187	372	3080	270	2281	181	2204	113
Deschutes (2467)	102,273	23758	719	21477	434	22318	584	20095	340
Douglas (519)	62,486	3868	3799	3718	3306	2349	1782	2286	1326
Gilliam (24)	3,712	2059	45	1896	47	337	10	313	10
Grant (16)	8,455	2397	171	2544	175	407	8	423	8
Harney (1212)	11,459	4806	3185	4102	1053	1494	228	455	55
Hood River (1462)	12,304	3189	972	1932	733	2857	623	1593	425
Jackson (10159)	93,274	19011	15817	11448	12836	17449	11828	10154	8964
Jefferson (685)	12,902	3349	114	2646	108	2408	11	1726	8
Josephine (1079)	41,375	7397	18529	8238	16585	7198	16474	8037	14556
Klamath (139)	61,142	11924	555	11470	494	7006	240	6902	205
Lake (5)	17,973	912	74	837	79	16	3	13	1
Lane (1)	158,277	1558	556	1453	587	644	16	640	21
Lincoln	45,019	0	0	0	0	0	0	0	0
Linn (10)	54,114	665	291	623	213	58	10	53	5
Malheur (95)	20,497	4749	1421	4418	1519	584	114	498	105
Marion (1)	115,407	42	1	36	1	4	0	3	0
Morrow (90)	7,965	1921	663	1787	587	509	260	457	222
Multnomah (54)	249,968	246	26	144	13	87	0	33	0
Polk	34,892	0	0	0	0	0	0	0	0
Sherman (32)	3,618	2059	3	1881	9	368	0	336	0
Tillamook	30,900	0	0	0	0	0	0	0	0
Umatilla (583)	37,134	5886	2972	5445	2664	2797	1022	2265	971
Union (417)	16,103	3026	1076	2518	1053	1606	191	1194	186
Wallowa (12)	9,136	2462	652	2460	629	1244	275	1257	250
Wasco (169)	16,659	5472	2168	5254	2112	3401	823	3212	843
Washington	190,975	0	0	0	0	0	0	0	0
Wheeler (46)	2909	1488	193	1425	195	286	10	242	8
Yamhill	41,658	0	0	0	0	0	0	0	0
Total (21064)	**1,818,751**	**128,106**	**56,216**	**111,274**	**47,280**	**85,052**	**35,498**	**70,217**	**29,269**

Note: 26 County's decreased number of regulated properties, 2 increased, and 8 remained unchanged with a total reduction of 17.5% of the tax lots.

Public process for hazard map