



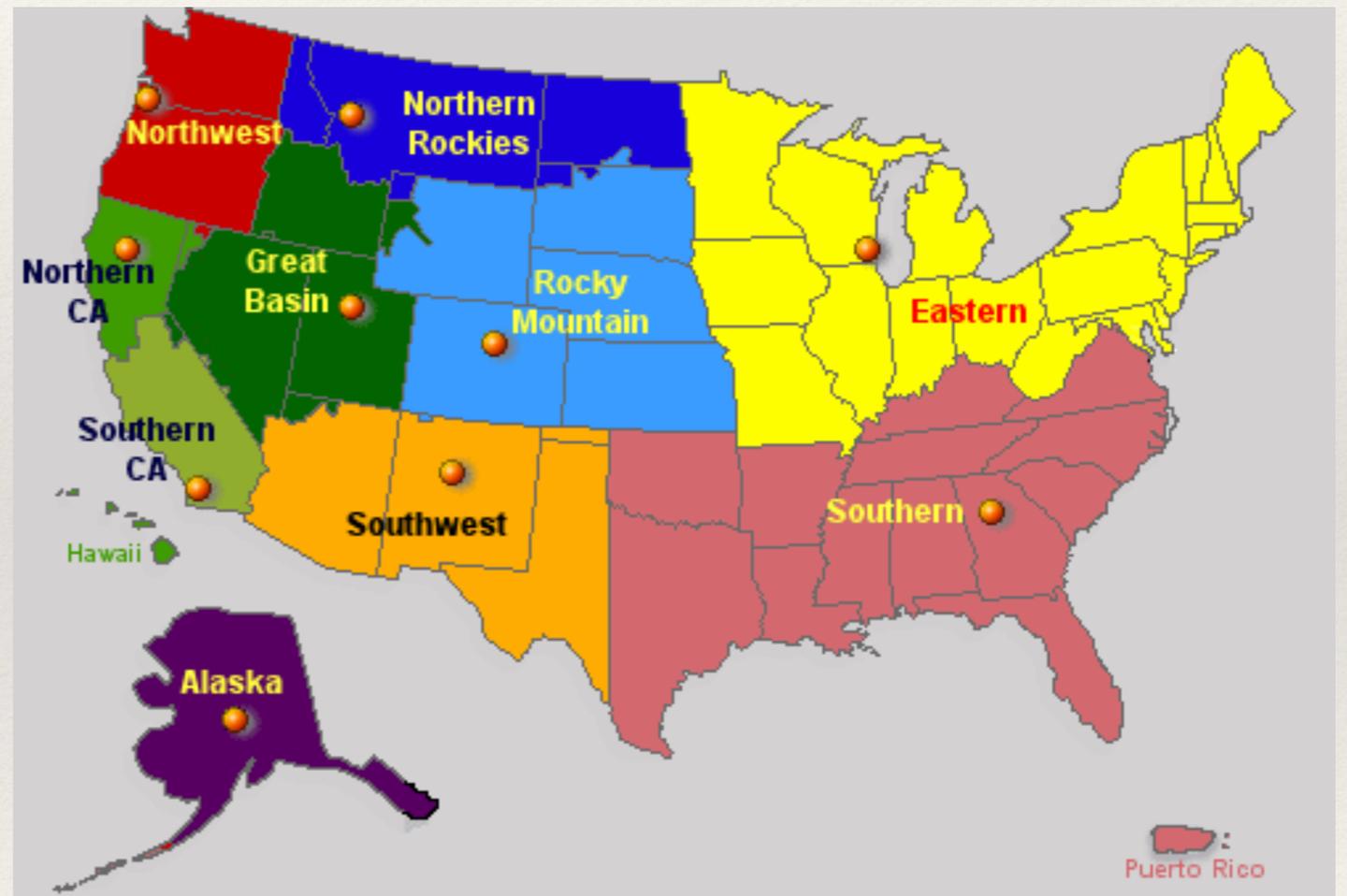
Challenges facing wildland fire forecasters

Ed Delgado

Predictive Services
National Program Manager
BLM/National Interagency Fire Center
Boise, Idaho

Predictive Services

- ❖ Established in 2001
- ❖ Decision-support for fire management and resource distribution
- ❖ 10 geographic area units
- ❖ National Office in Boise, ID
- ❖ 23 meteorologists
- ❖ 3 fire analysts



Predictive Services

- ❖ Support strategic planning for and operational management of wildland firefighting resources
- ❖ Three key functional areas:
 - ❖ Fire weather and climate
 - ❖ Fuels and fire danger
 - ❖ Fire activity and resources intelligence

Challenges

❖ What are we forecasting?



Eagle Creek Fire, Columbia River Gorge 4 Sep 2017

Challenges

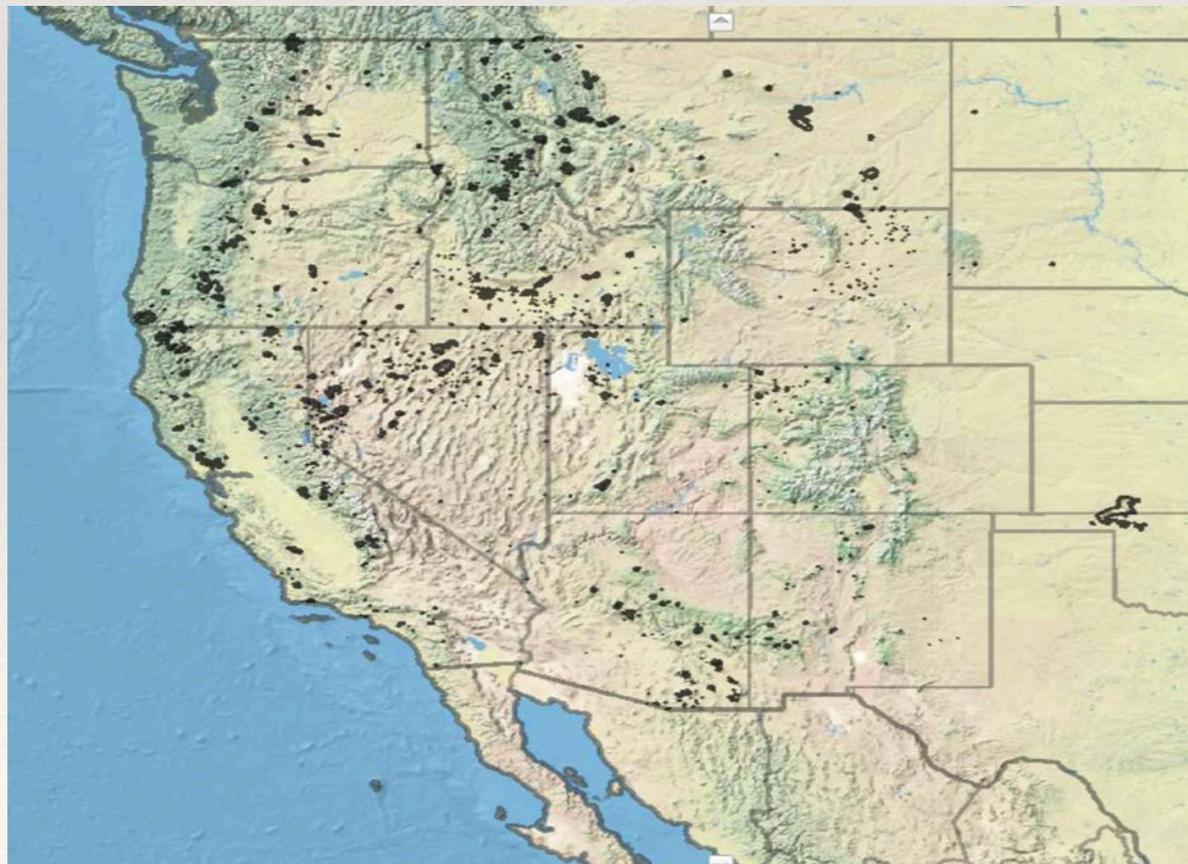
- ❖ **What are we forecasting?**
- ❖ **What are the business needs?**



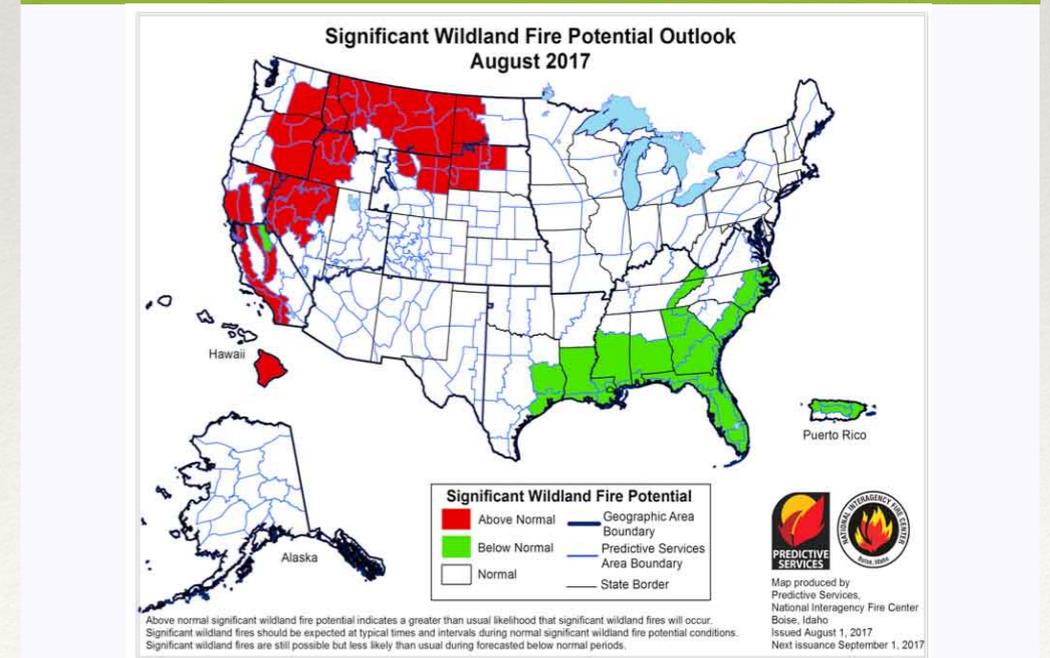
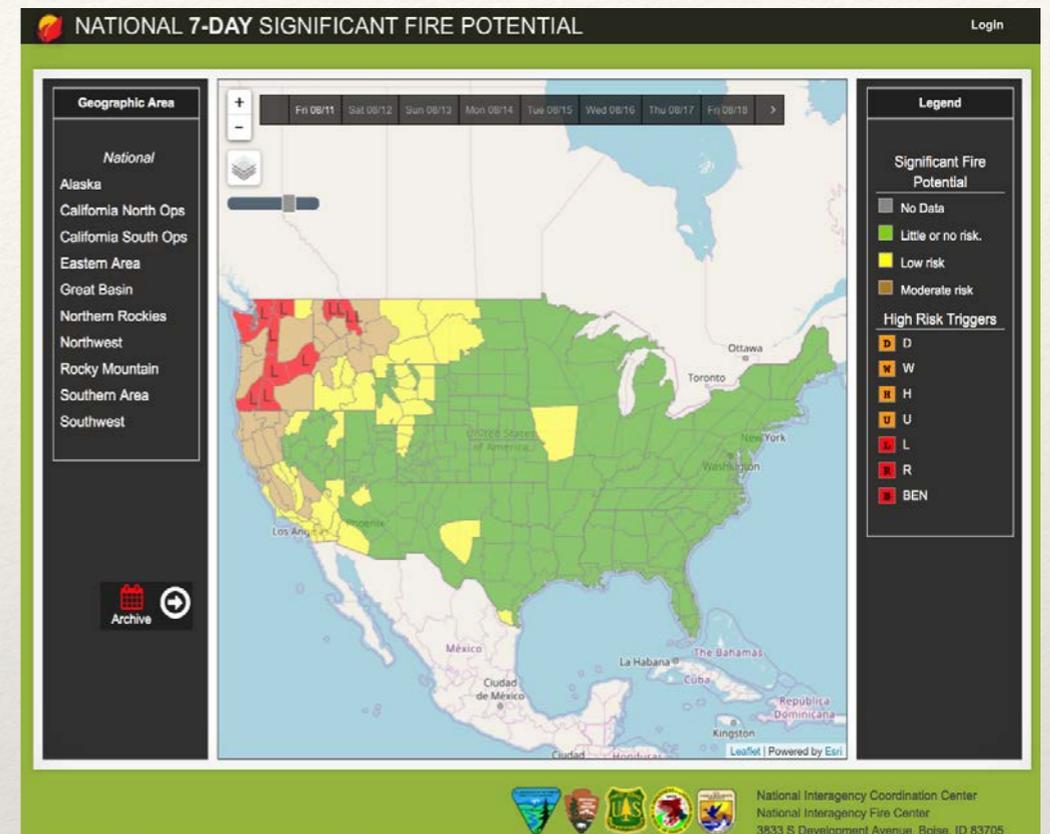
La Tuna Fire, Burbank, CA , 2 Sep 2017

Challenges

- ❖ What are we forecasting?
- ❖ What are the business needs?
- ❖ Spatial and temporal scales?

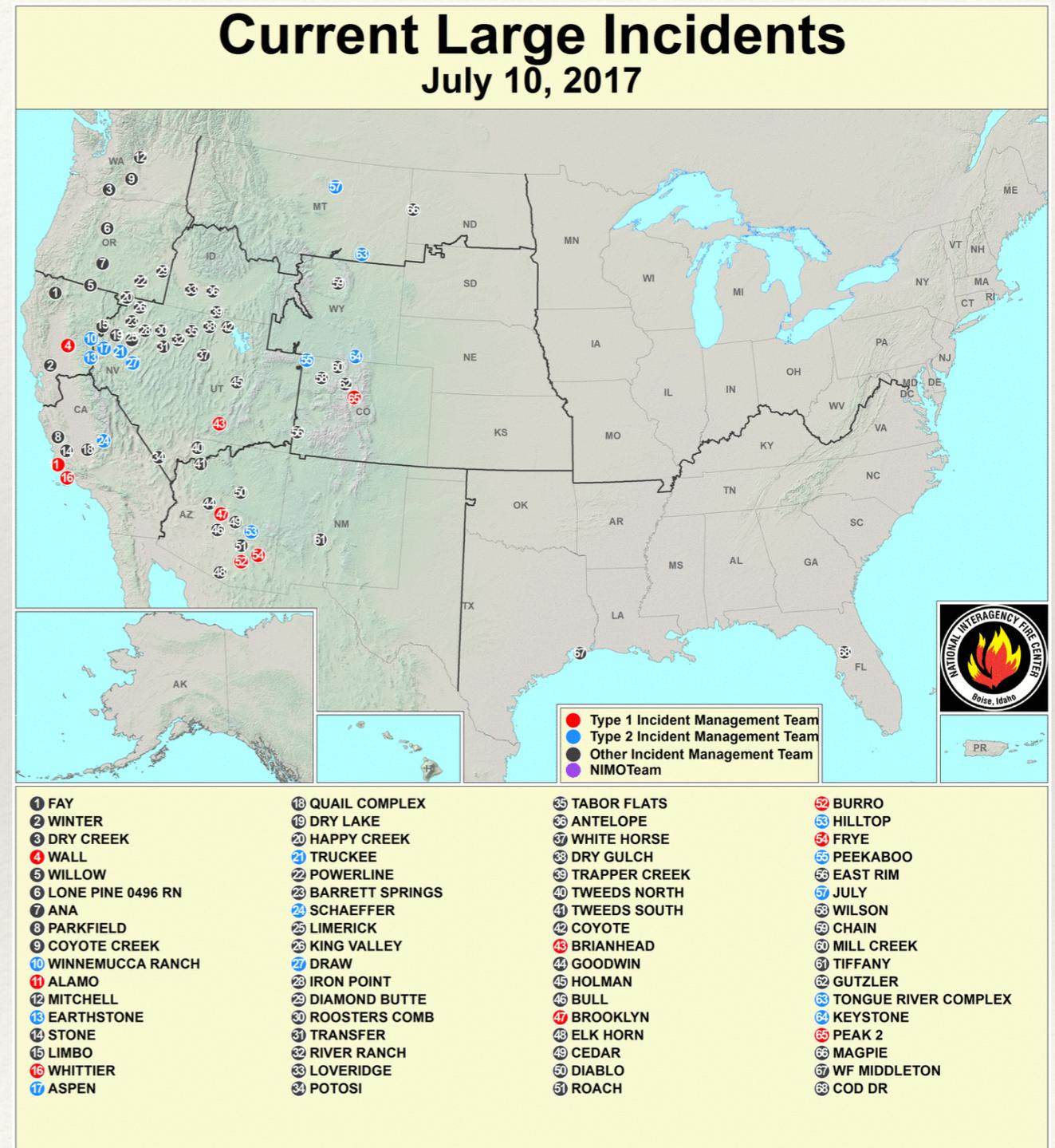


2017 Fire Perimeters (from GeoMAC)



What are we forecasting?

- ❖ Ignitions
- ❖ Number?
- ❖ Probability?
- ❖ Cause?



What are we forecasting?

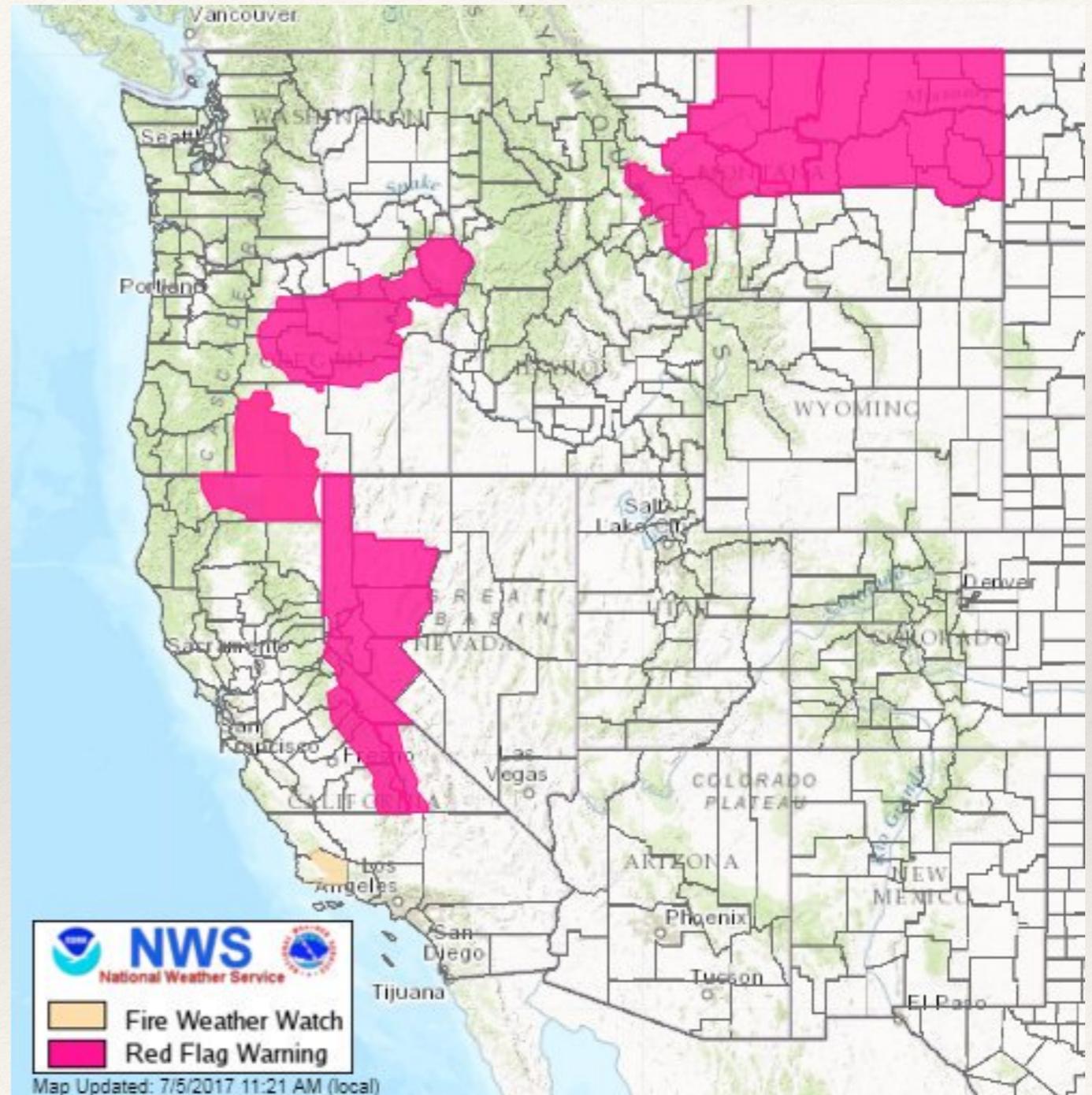
- ❖ Ignitions
 - ❖ Number?
 - ❖ Probability?
 - ❖ Cause?
- ❖ Size
 - ❖ Threshold?
 - ❖ Growth?

Incident Name	Unit	Size		%	Ctn/ Comp	Est
		Acres	Chge			
Nena Springs	OR-WSA	40,000	0	60	Ctn	08/16
Bridge Creek	WA-COA	1,118	-2	13	Ctn	08/31
Falcon Complex	OR-UPF	1,000	311	10	Comp	08/30
Blanket Creek	OR-RSF	4,820	0	51	Ctn	08/31
Whitewater	OR-WIF	6,569	0	0	Comp	10/31
Noisy Creek	WA-COF	4,000	0	49	Ctn	09/30
Flounce	OR-MED	690	0	75	Ctn	08/20
Spruce Lake	OR-CLP	4,885	0	45	Ctn	08/31
Bear Butte	WA-WWF	499	0	90	Ctn	08/20
Indian Creek	OR-MHF	83	0	10	Comp	09/30
Chetco Bar	OR-RSF	5,358	30	14	Comp	10/15
Diamond Creek	WA-OWF	26,938	1,500	8	Comp	10/15
Jones	OR-WIF	2,380	680	0	Ctn	10/31
* Umpqua North Complex	OR-UPF	425	---	0	Ctn	UNK
* Milli	WA-DEF	110	---	0	Ctn	10/01
Jolly Mountain	WA-OWF	327	-273	0	Ctn	08/31
Whychus	OR-OCF	2,012	1,712	60	Ctn	08/14
East Saddle	WA-MCR	17,000	10,500	41	Ctn	08/15
* Head Water	WA-SES	125	---	25	Ctn	08/18
* Shan Creek	OR-RSF	140	---	20	Ctn	09/01
Ferry Canyon	OR-PRD	500	---	100	Ctn	---

Incident Management Situation Report, 14 Aug 2017, MT fires

What are we forecasting?

- ❖ Ignitions
 - ❖ Number?
 - ❖ Probability?
 - ❖ Cause?
- ❖ Size
 - ❖ Threshold?
 - ❖ Growth?
- ❖ Environmental Conditions?



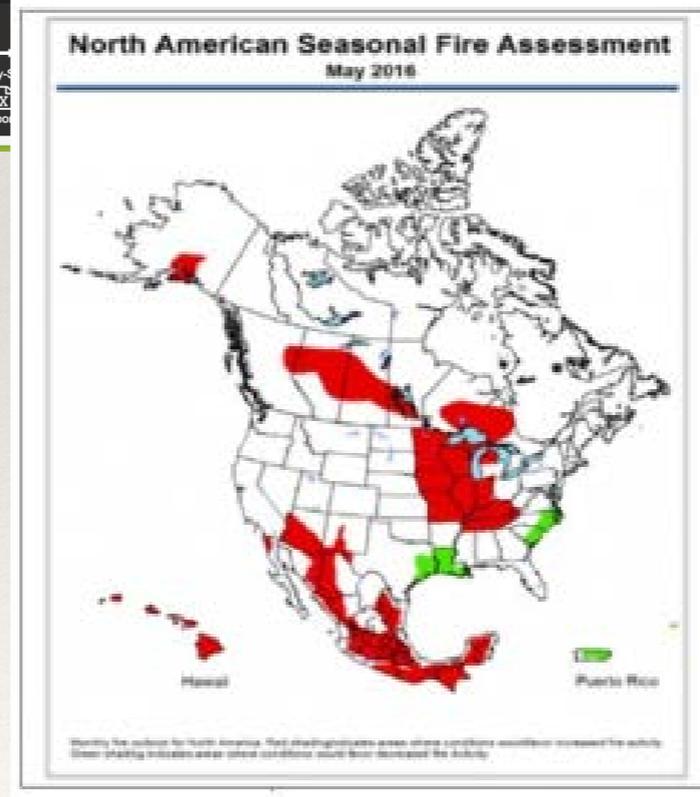
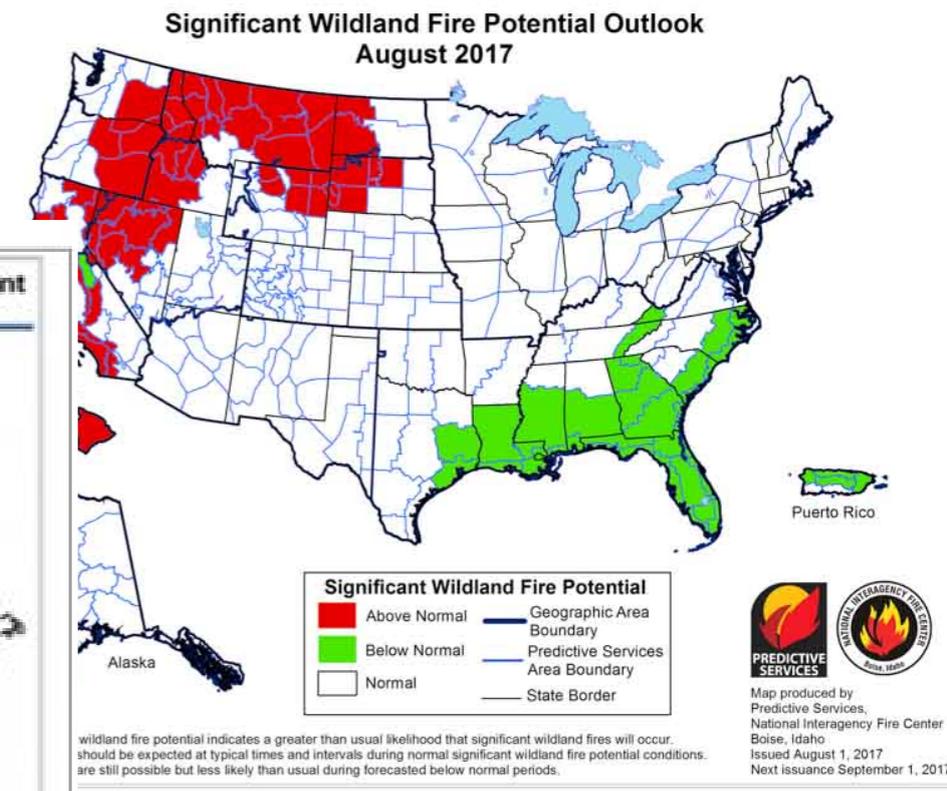
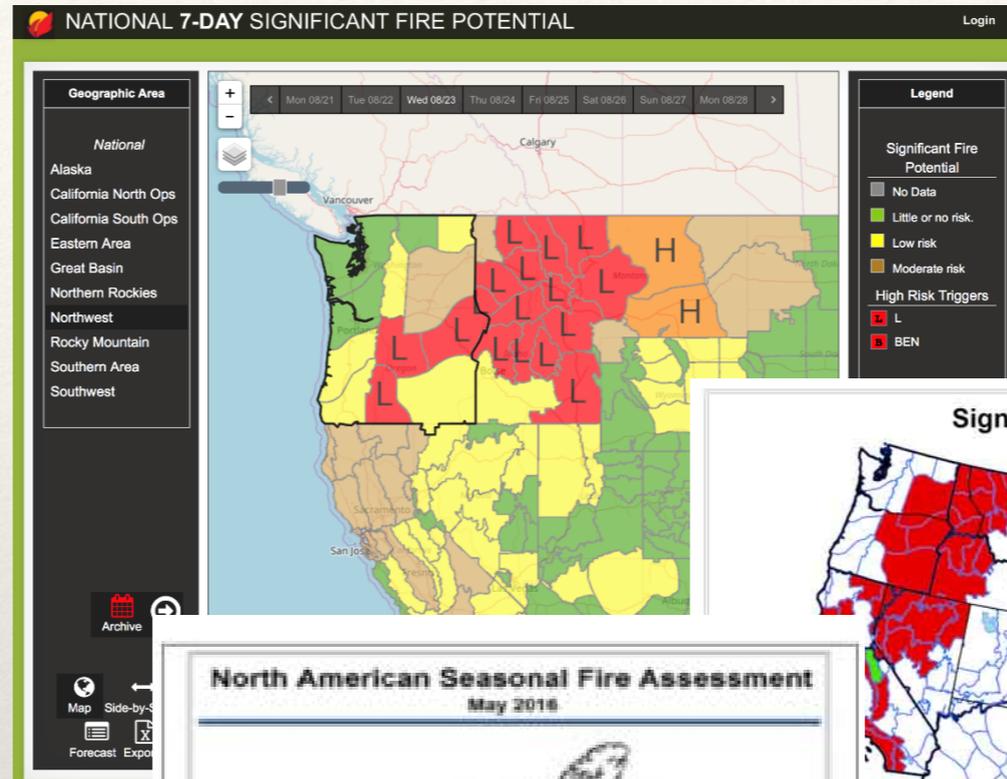
What are the business needs?

- ❖ Wildland fire management
 - ❖ Safety
 - ❖ Suppression
 - ❖ Natural resources management
 - ❖ Firefighting resources management



Spatial and temporal scales

- ❖ Spatial scales
 - ❖ Local unit/incident
 - ❖ Geographic area
 - ❖ National
 - ❖ International
- ❖ Temporal scales
 - ❖ Burn periods
 - ❖ Days to weeks
 - ❖ Seasonal



What can we do about it?

- ❖ Clearly define what we're forecasting
 - ❖ Develop new forecast models.
 - ❖ What is normal in monthly/seasonals?
- ❖ Tie forecasts to business needs
 - ❖ Tactical/strategic decisions
 - ❖ Economics
- ❖ Just plain ol' weather forecasting

Questions?



Ed Delgado
edelgado@blm.gov