TFRSAC

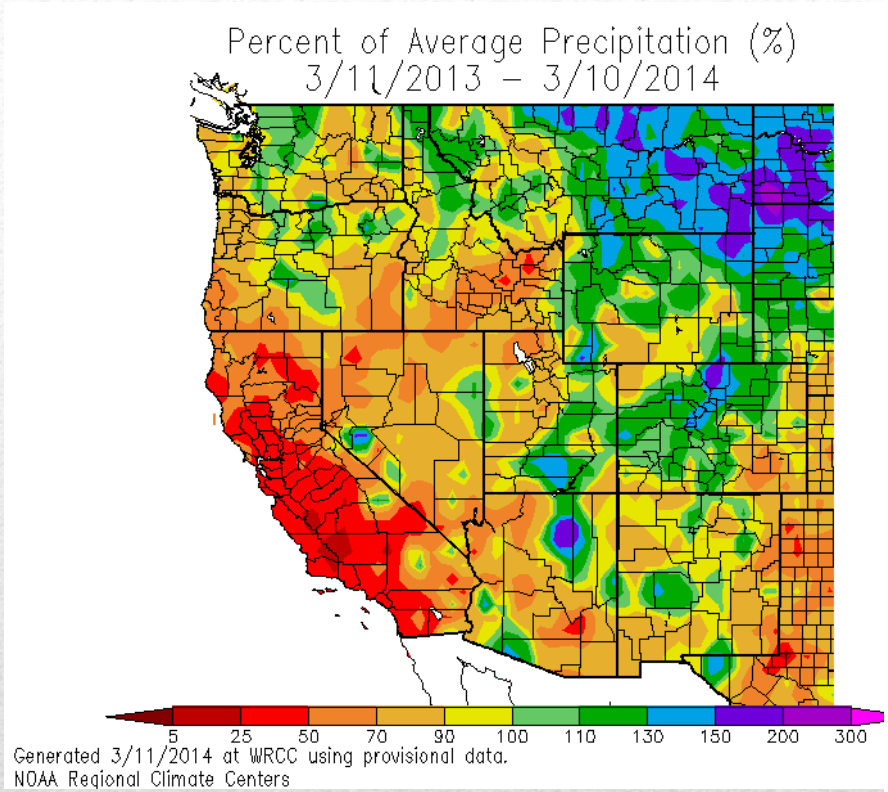
CAL FIRE Update

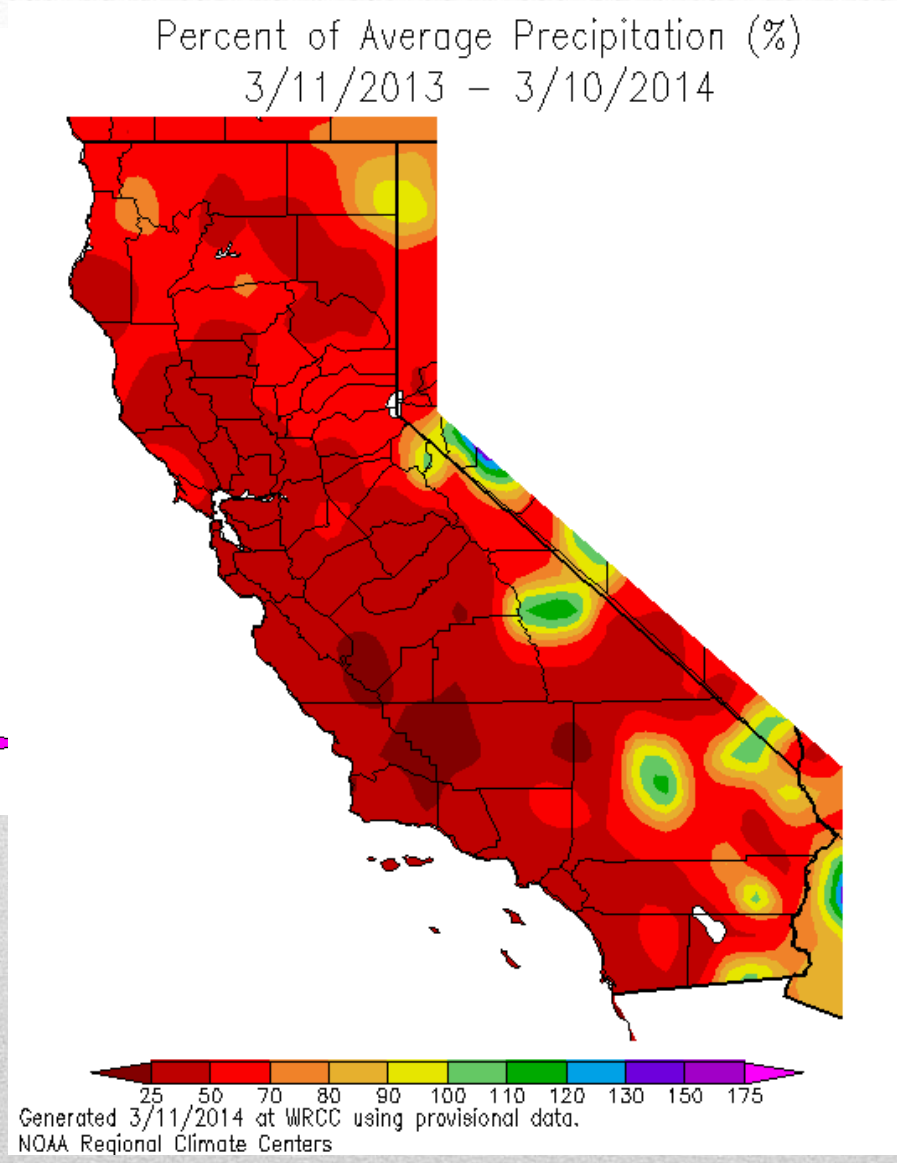
Chris Waters

Battalion Chief – South Lake Tahoe & Alpine County

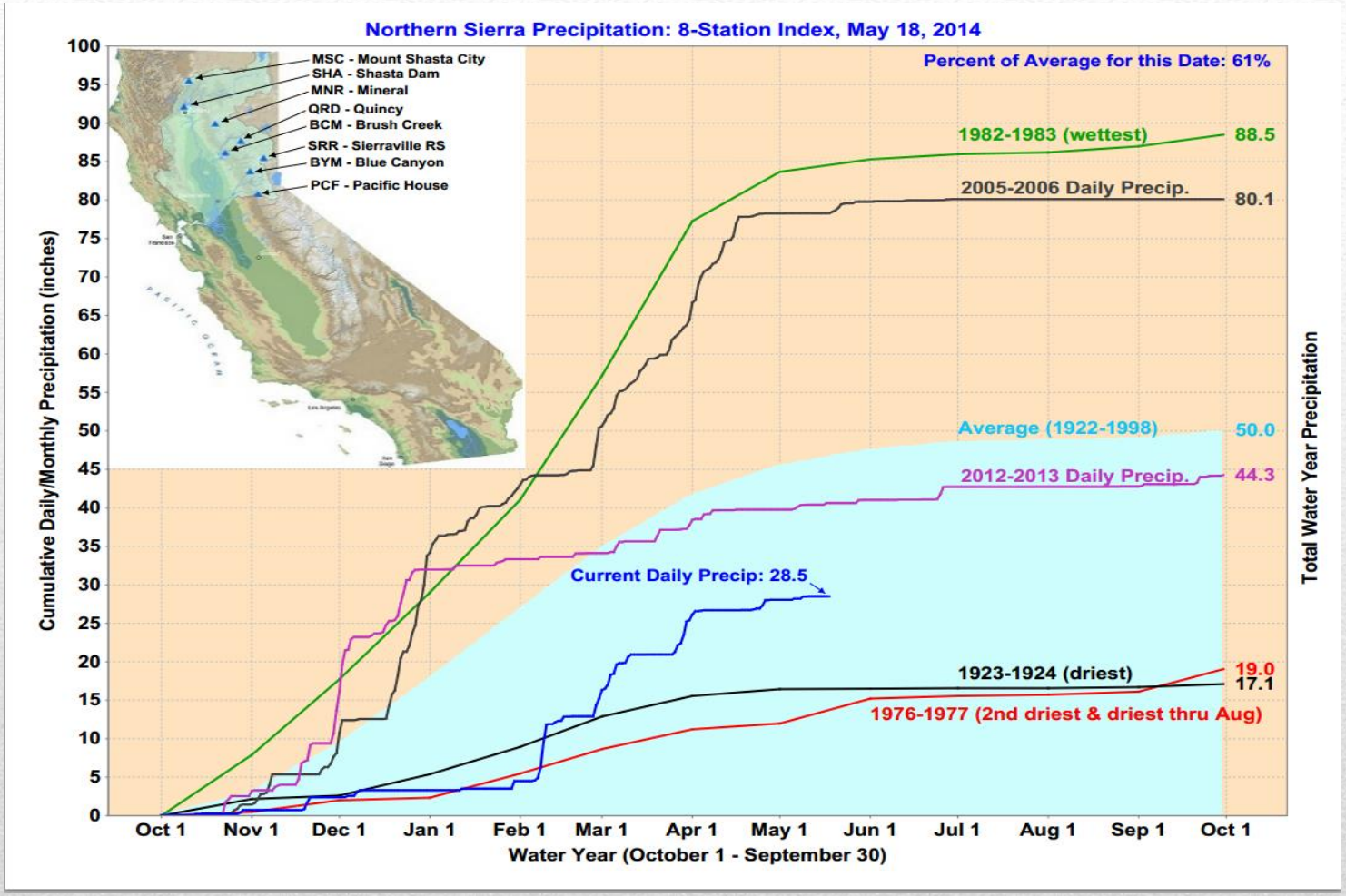
- **The Drought**
- **2014 Fire Season Re-Cap**
- **Notable Events**
- **Remote Sensing**

CAL FIRE 2014

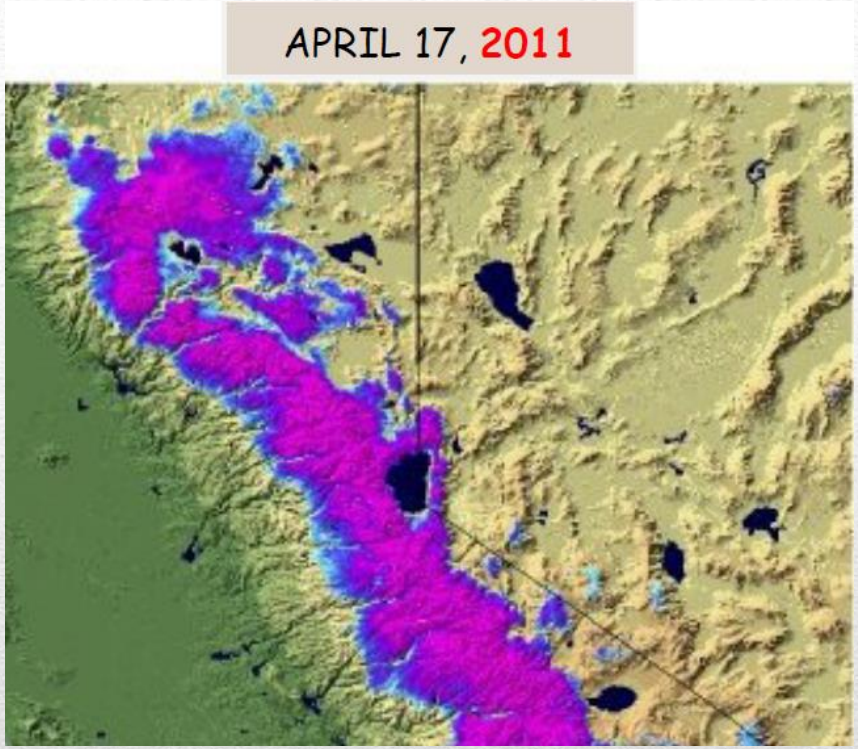

Percent of Average Precipitation (%)
3/11/2013 – 3/10/2014
5 25 50 70 90 100 110 130 150 200 300
Generated 3/11/2014 at WRCC using provisional data.
NOAA Regional Climate Centers

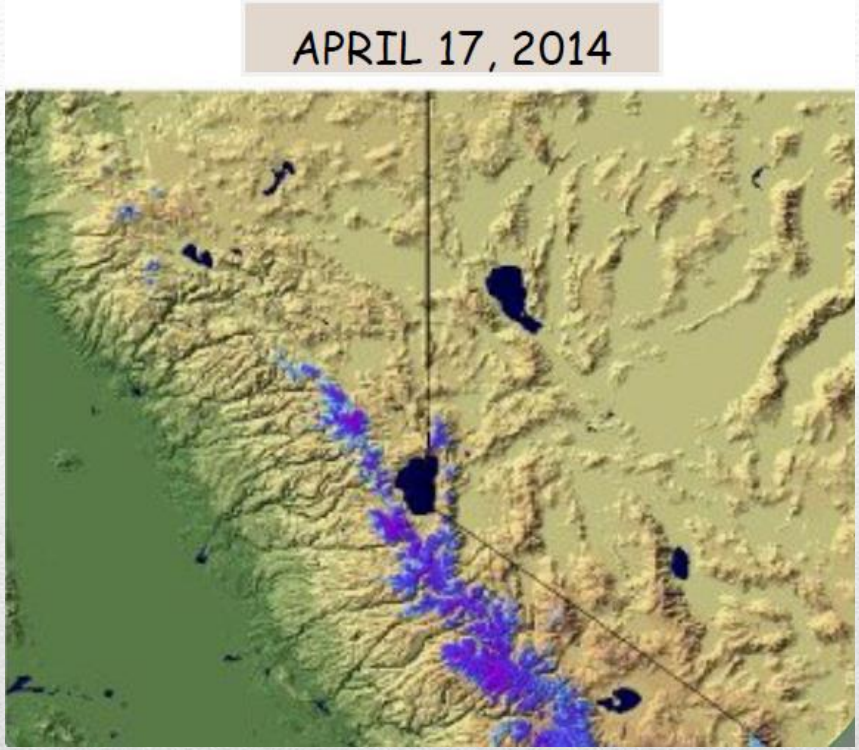

Percent of Average Precipitation (%)
3/11/2013 – 3/10/2014
25 50 70 80 90 100 110 120 130 150 175
Generated 3/11/2014 at WRCC using provisional data.
NOAA Regional Climate Centers

DROUGHT



- This year ~29” precip
- Last year ~44” precip
- Average (1922-1998) = 50” precip





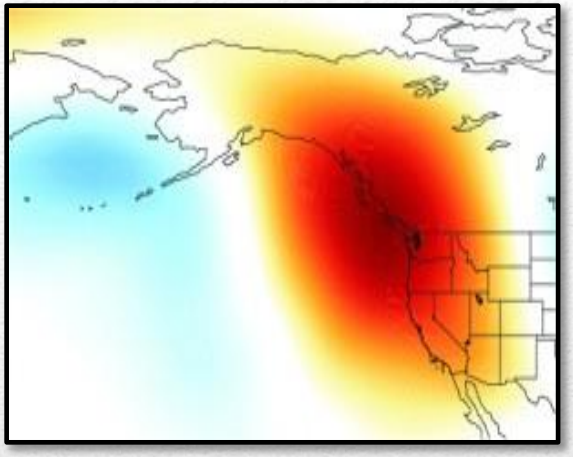
Spring Pack

Drought

- *“Ridiculously Resilient Ridge”*

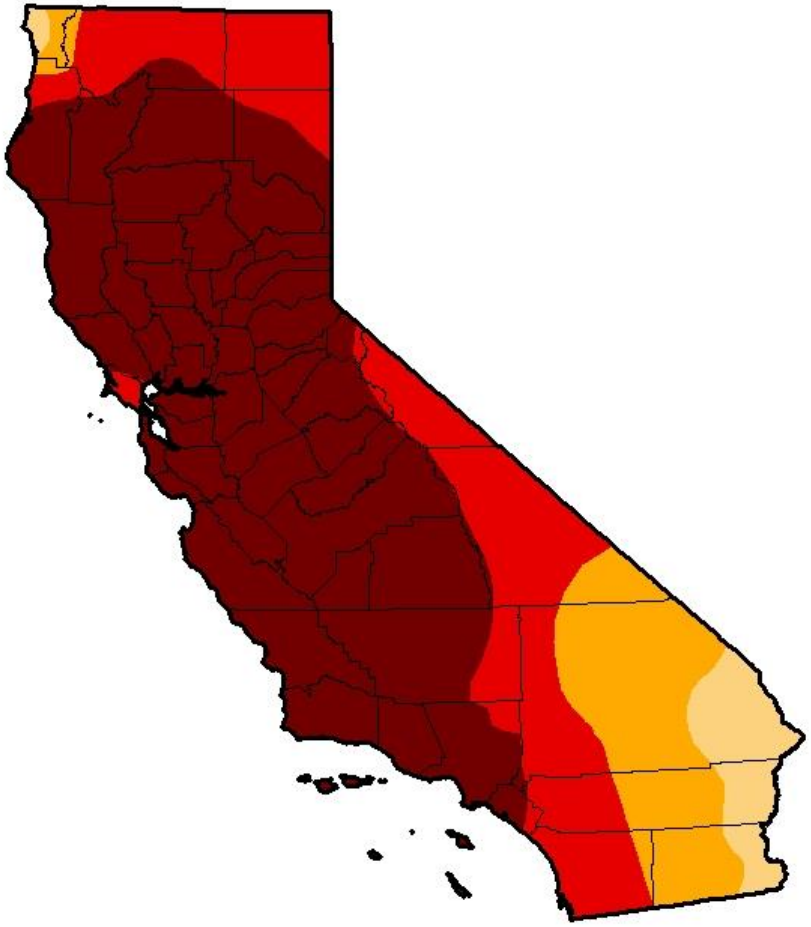
  http://www.weatherwest.com/archives/tag/ridiculously-resilient-ridge

- *Three Year Drought*
- *Early Season Predictions*
- *Extent Unprecedented*



U.S. Drought Monitor

California



October 14, 2014

(Released Thursday, Oct. 16, 2014)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	95.04	81.92	58.41
Last Week 10/7/2014	0.00	100.00	100.00	95.04	81.92	58.41
3 Months Ago 7/15/2014	0.00	100.00	100.00	100.00	81.85	36.49
Start of Calendar Year 12/31/2013	2.61	97.39	94.25	87.53	27.59	0.00
Start of Water Year 9/30/2014	0.00	100.00	100.00	95.04	81.92	58.41
One Year Ago 10/15/2013	2.65	97.35	95.95	84.12	11.36	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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National Drought Mitigation Center

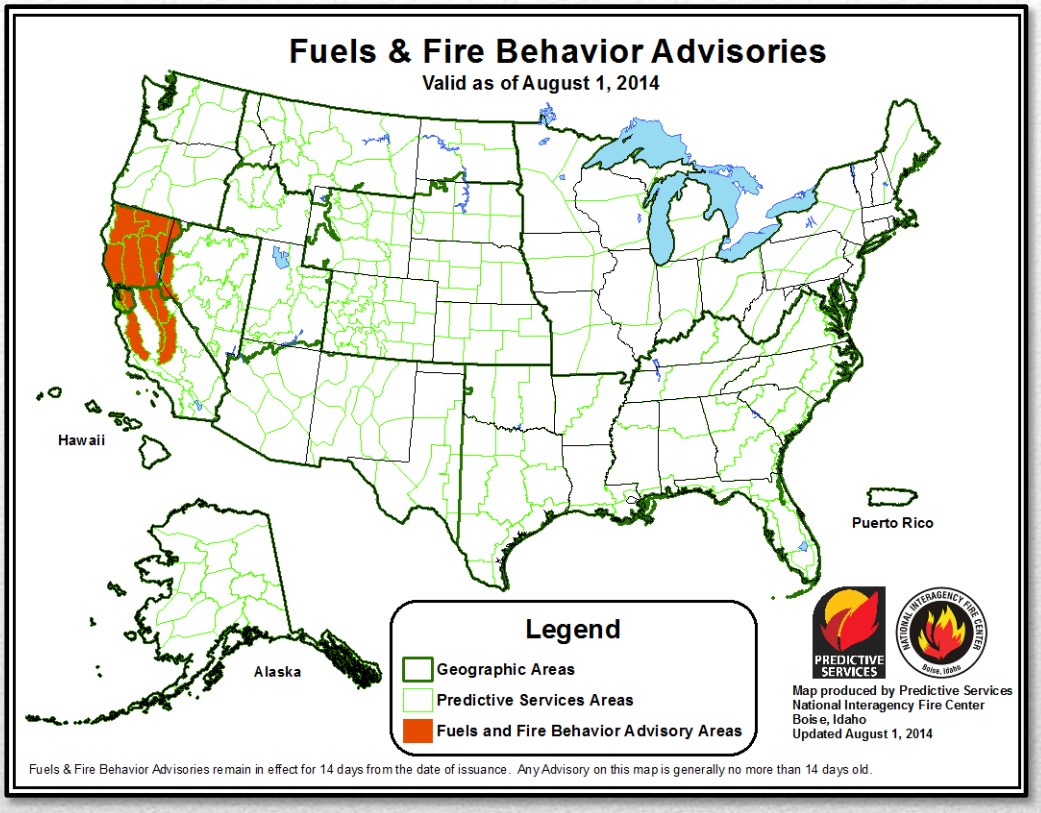
http://droughtmonitor.unl.edu/

Fuels Response

- **Predictable**
- **Live Fuels**
- **Heavy Dead Fuels – Timber**
- **Northern California**
- **Ready for the Wildcards**

Fuel Conditions

- Fuel Conditions throughout the state were at or near record levels of dryness.
- Fuels and Fire Behavior Advisories are used when fire behavior is above normal for a specific time of year. Advisories were posted from early July to the end of September.
- These advisories are updated every two weeks to ensure effectiveness of the advisory.



2014 Season Re-Cap

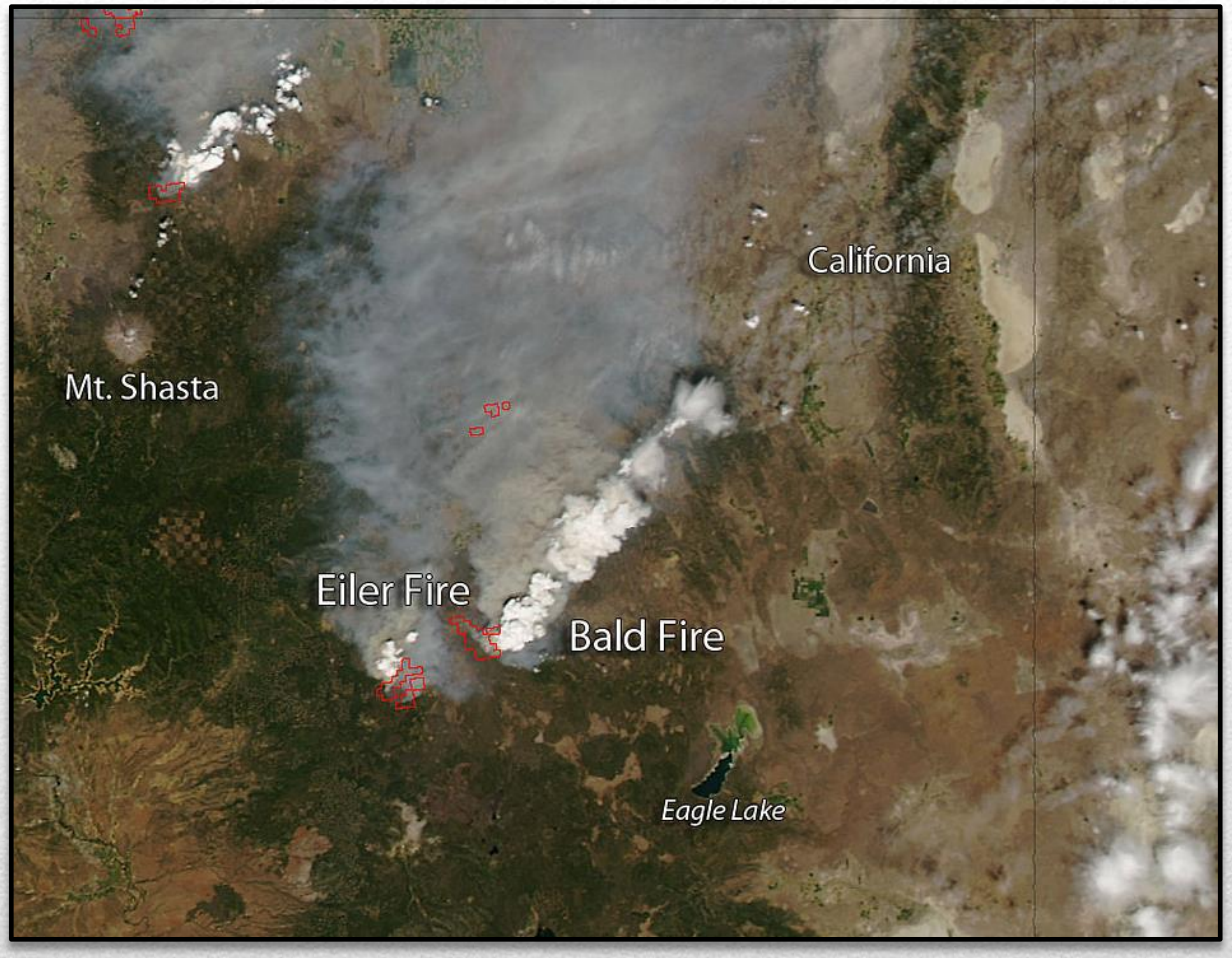
- **Fire Season Early**
- **Fire Behavior Indicators**
- **Acres Down From Last Year**
  - **2014 – 91,000 Acres**
  - **5 yr. Ave – 89,000 Acres**
- **Fire Intensity**
- **Extreme Fire Behavior**

2014 Season Re-Cap

- **Northern California – Tough Terrain**
- **Lightning – Distribution/Frequency**
- **Heavy Fuels**
- **Numerous IMT Deployments**
- **Numerous Close Calls – Destroyed Equipment**

Notable Events

Equipment and Close Calls



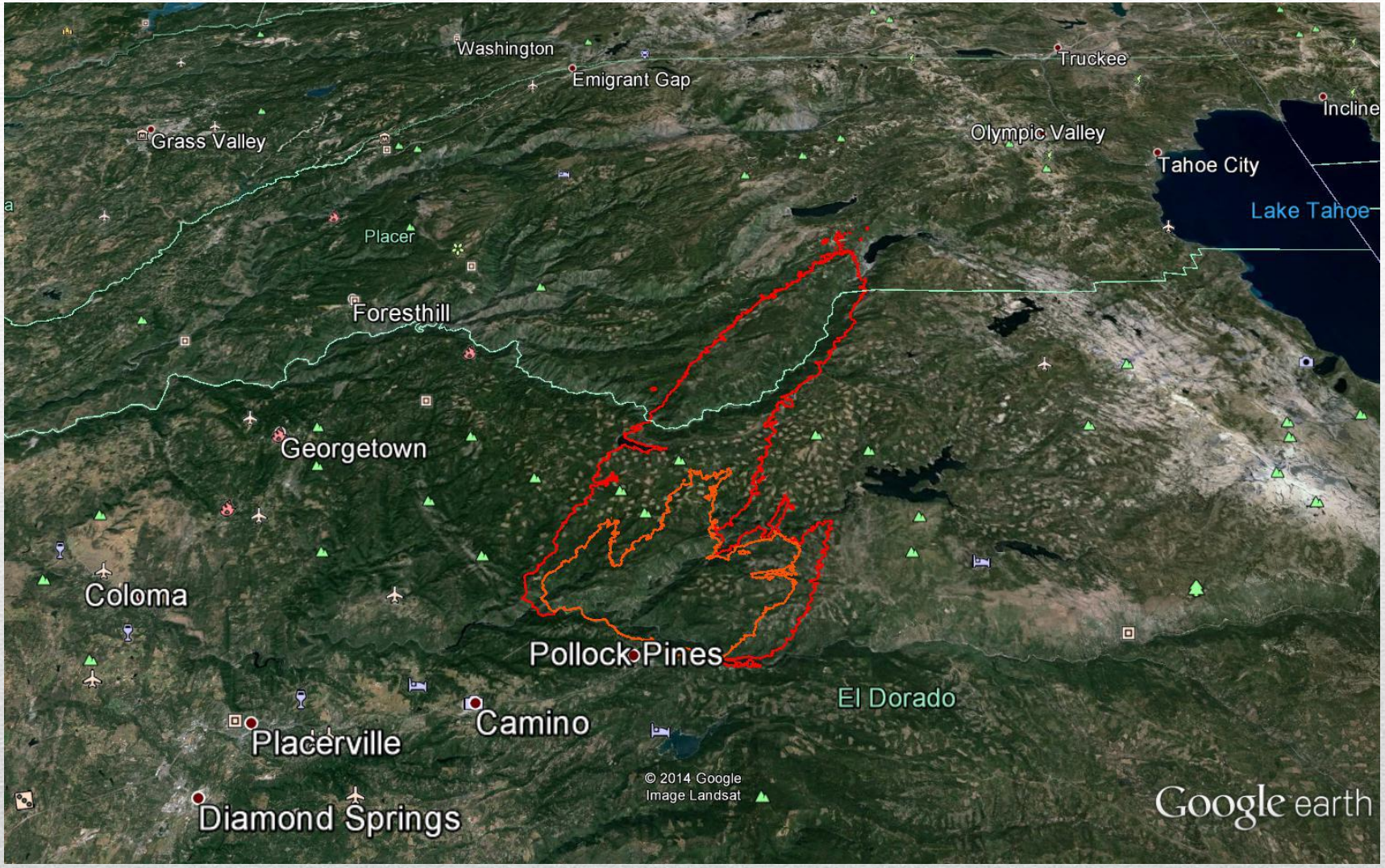
Eiler – Bald – Day

Eiler Fire and Hat Creek

King Fire Pyrocumulus Sunset Timelapse.mov

King Fire

King Fire – Remote Sensing


Washington
Emigrant Gap
Truckee
Incline
Grass Valley
Olympic Valley
Tahoe City
Lake Tahoe
Placer
Foresthill
Georgetown
Coloma
Pollock Pines
El Dorado
Camino
Placerville
Diamond Springs
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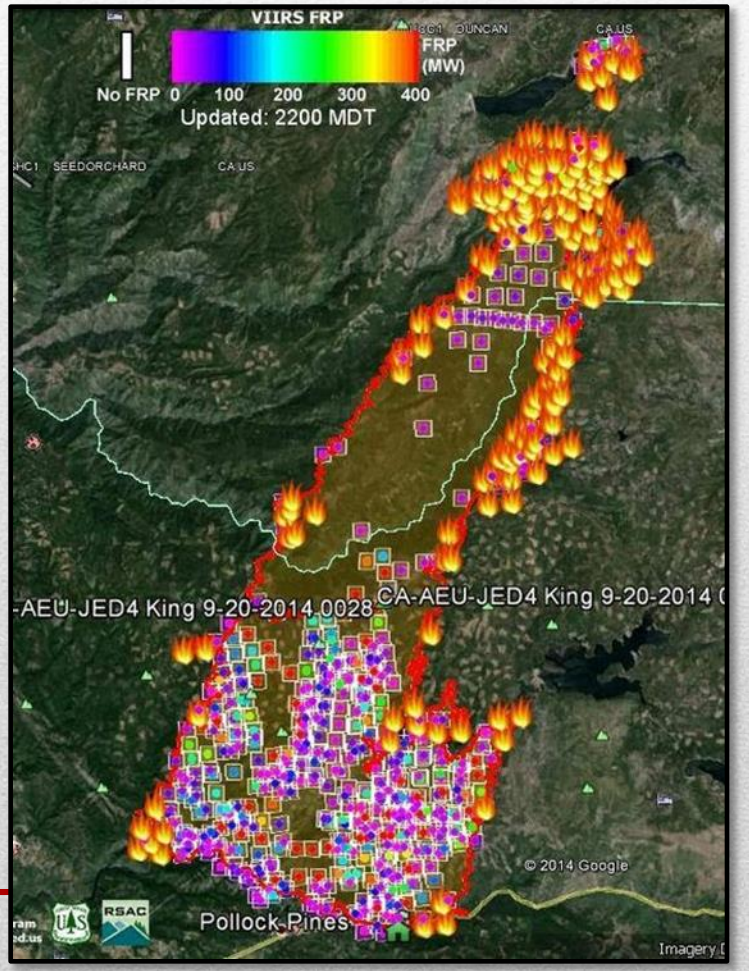
Google earth

As of October 9, 2014 California Fire Agencies used Infrared remote sensing on 55 Incidents with 348 flights

Agency	Incidents	Flights
BLM	2	9
CAL FIRE	22	70
NPS	3	20
USFS	28	249
Total	55	348



National Guard RC-26

- National Guard RC-26 was used for two flights - August 13th and 14th .
- RC-26 was used for real time fire detection during a summer lightning siege.
- RC-26 can gather data from altitudes of 12,000 or more feet.
- Hotspots can be detected from a distance of 90 miles with a live video feed of 40 miles.

National Guard RC-26

- Lessons learned
  - Pre-load current fire perimeter information onto aircraft computer system to help detect new fires.
  - RC-26 thermal IR remote sensing technology is not able to detect heat source through cloud cover.
  - On board radio is not capable of programing “narrow banded” frequencies.
  - Staff with a fire agency representative to coordinate mission related activities with ground resources.

RC Drone/Helicopter passed in front of a CAL FIRE helicopter while it was attempting a landing during a wildland fire on September 7, 2014. The helicopter was forced to make a evasive maneuver to avoid a collision.

"As I rolled out of my base turn to final at approx. 500ft AGL and 60kts, I encountered an RC Drone/Helicopter directly in front of me. I had to break hard left to avoid a collision. The RC/ Drone passed about 10 feet off my windshield…… When I first rolled out on final I thought for a split second that it was just the other helicopter in the distance because of its size and then the next second I was banking hard left. The depth perception was crazy. It was a bigger four rotor system type drone that probably would have caused some damage to our helicopter. Because we were on an IA mission I did not try and follow the unit to see where it went."

Civilian Drone Incidents

"While flying Air Attack over the Sands incident in AEU, Camino reported to AA a drone flying over Branch I, Division 'O'. No further information was available. AA notified helicopters currently working of the hazard, of which all chose to remain working over the fire. Options of moving to another part of the fire to work or landing at the helibase were given. AA notified Camino that air operations over the fire could be shut down if the drone remained. Approximately 30 minutes later, Camino notified Sand AA that Eldorado County Sheriff located the party operating the drone and the hazard had been mitigated."

- **500 homes, 1200 personnel: up to 12 Air tankers and 6 or more helicopters were in the air as well as a DC-10 VLAT 911 flying at low levels along ridge tops.**

Any Questions