

Wildfire in 21st Century California: New and Old Problems

--Dave Sapsis

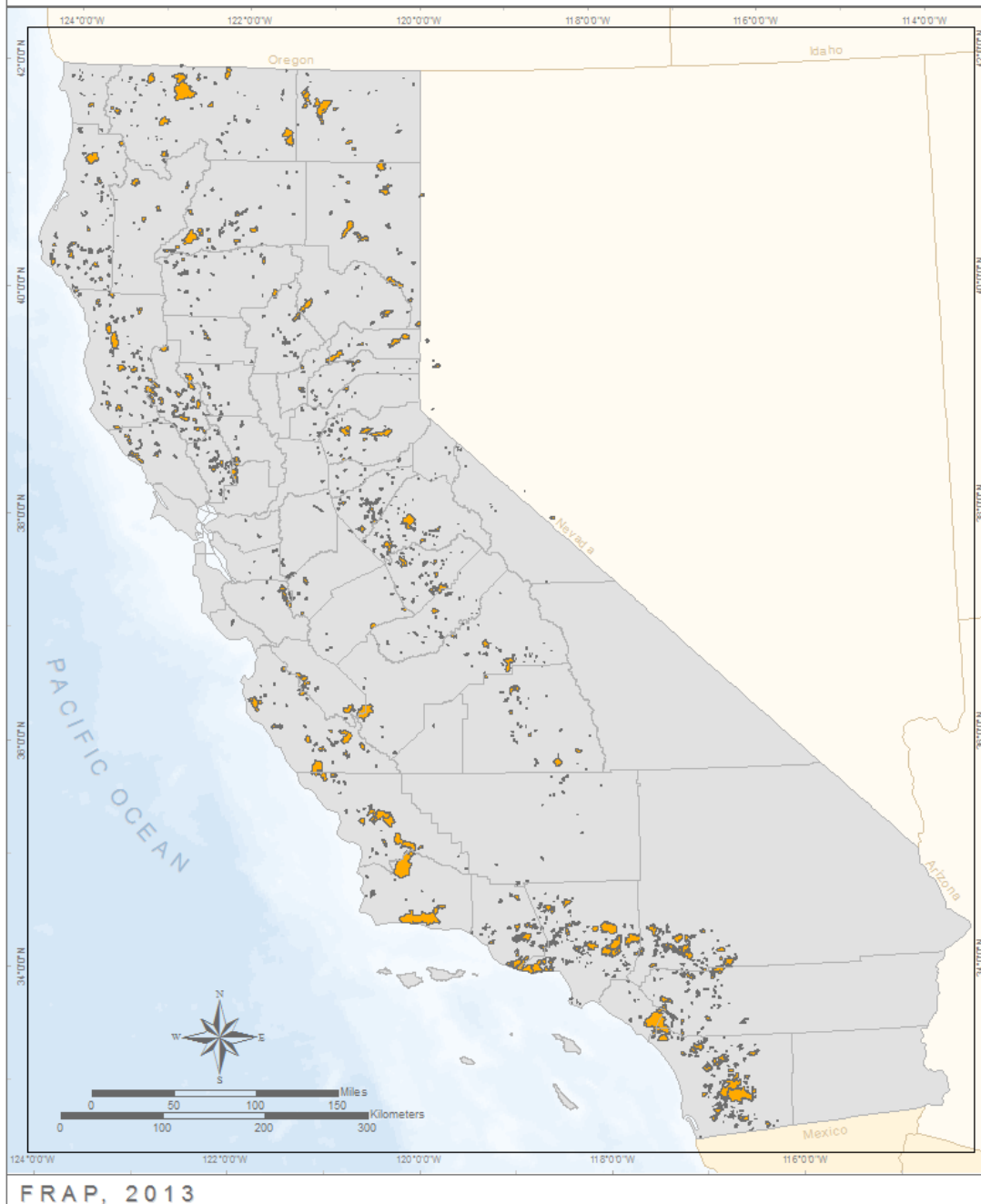
Jan 23, 2014



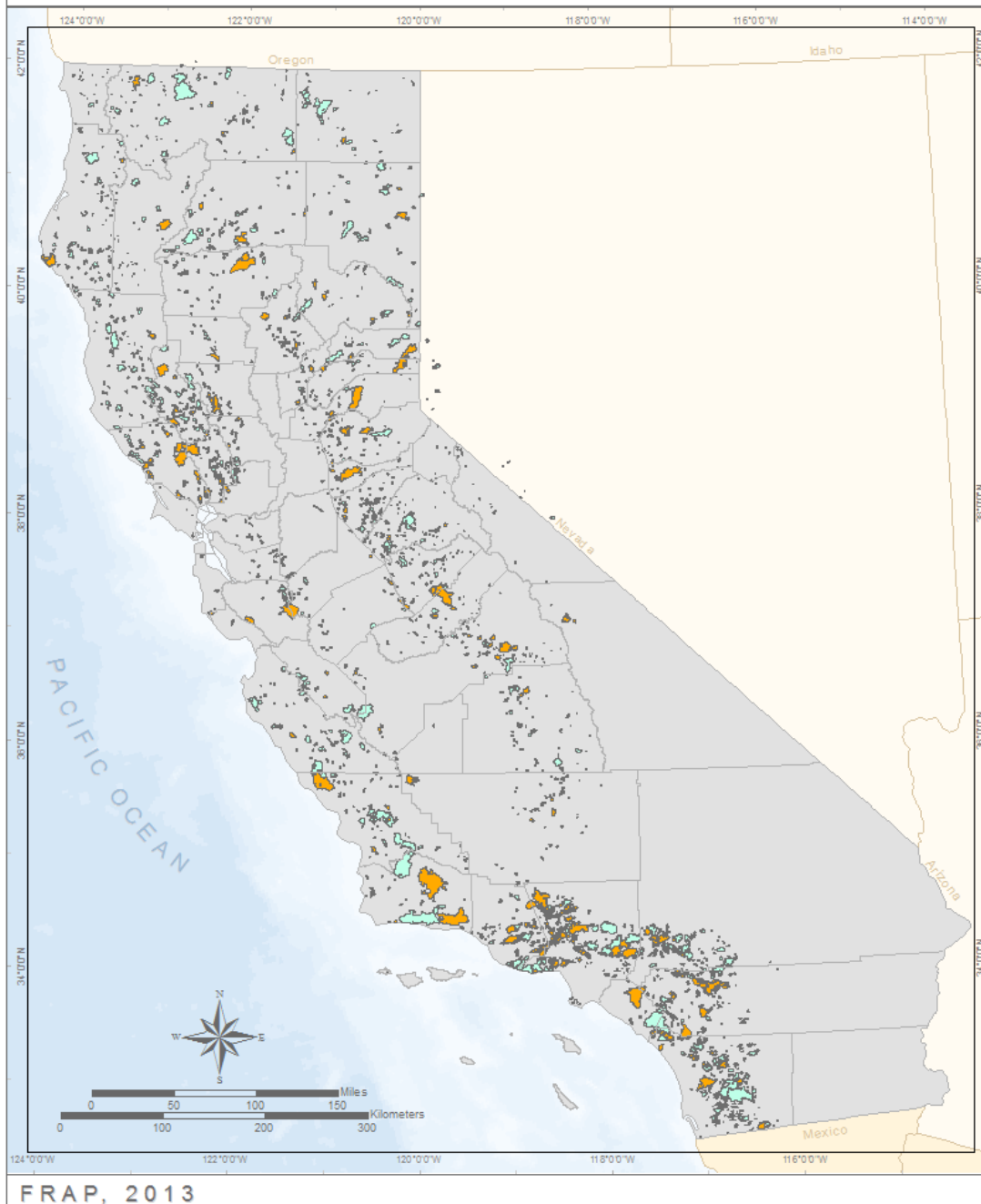
What do we know?

- California is “fire-prone”

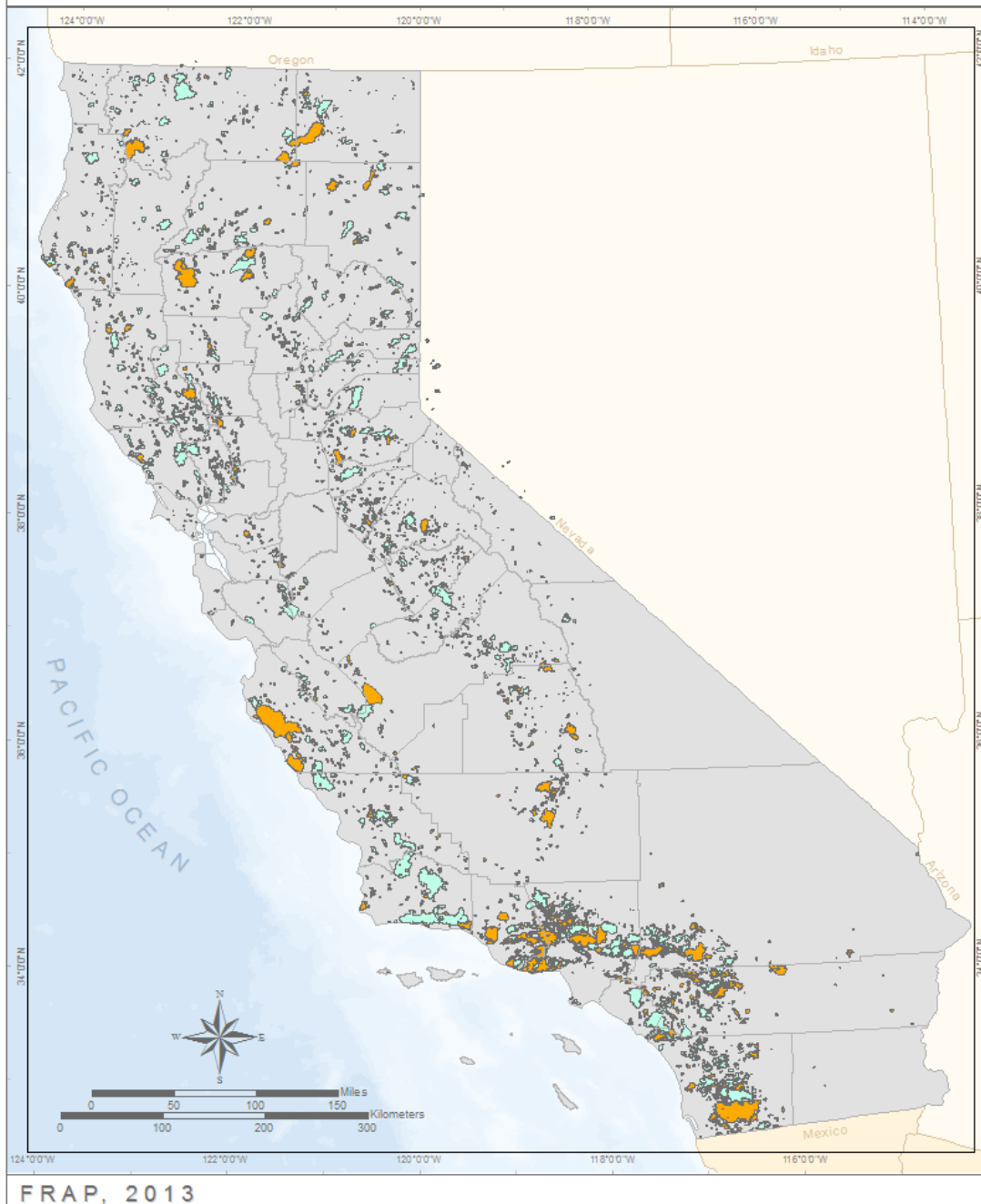
Fire History 1950-59



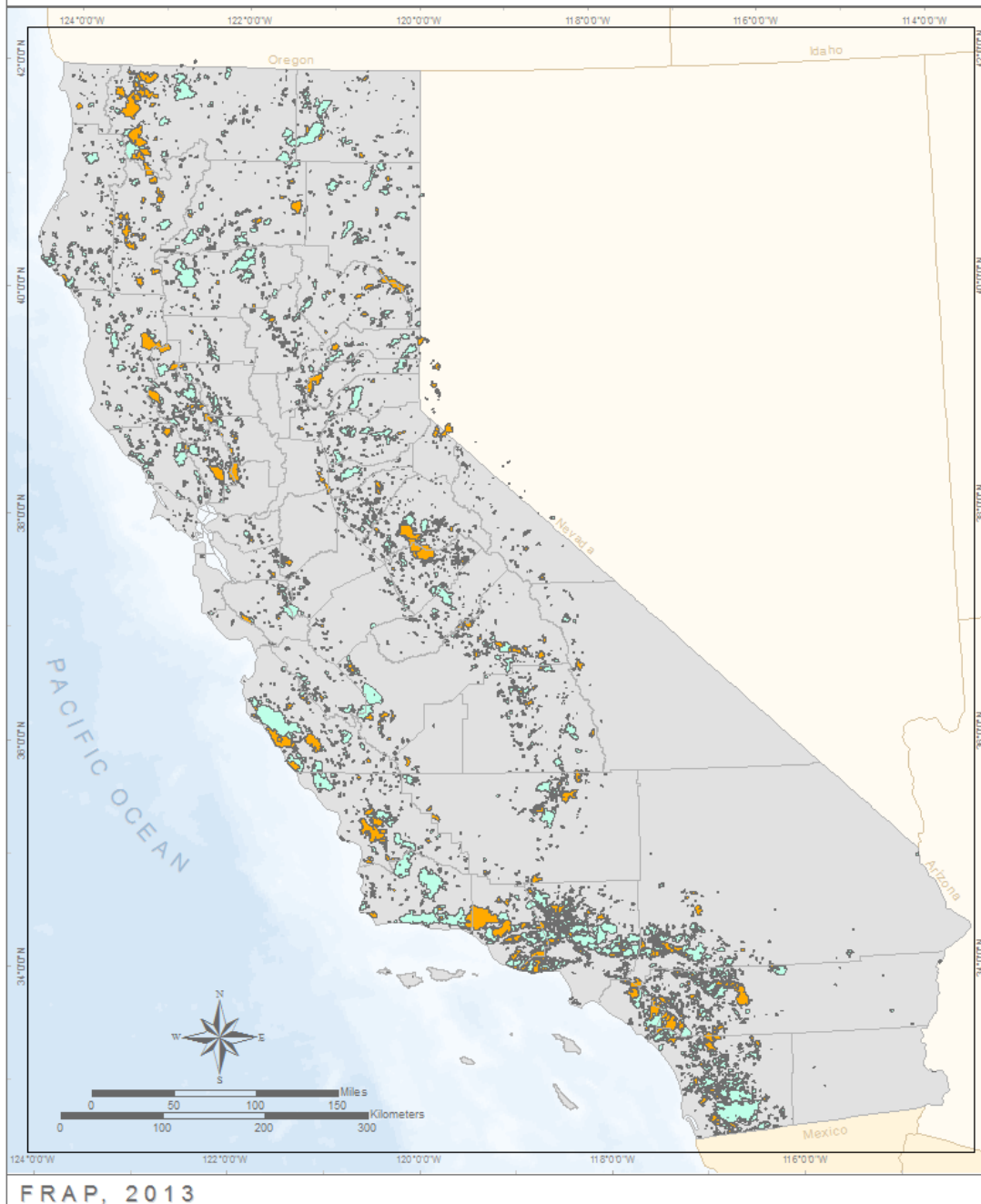
Fire History 1960-69



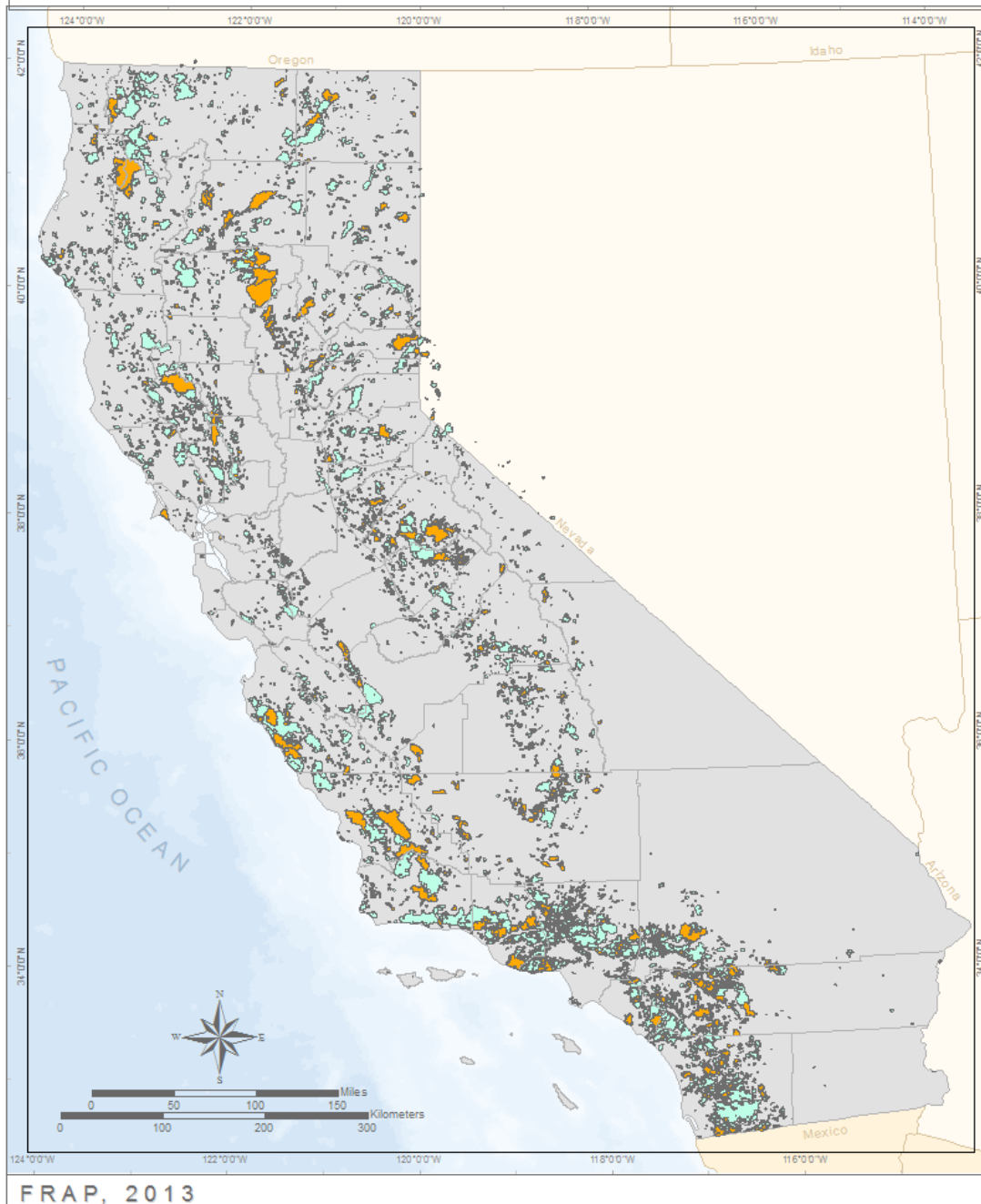
Fire History 1970-79



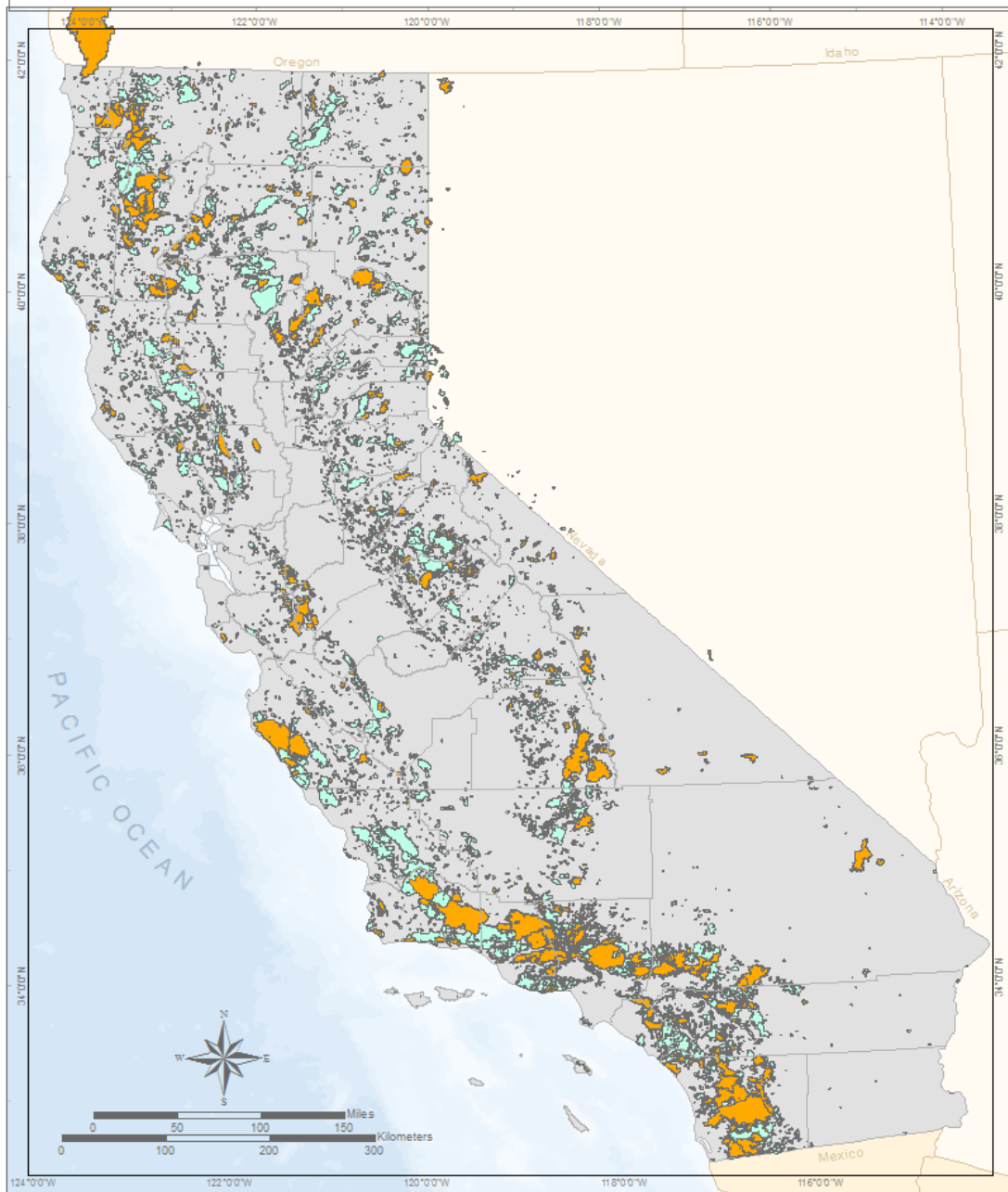
Fire History 1980-89



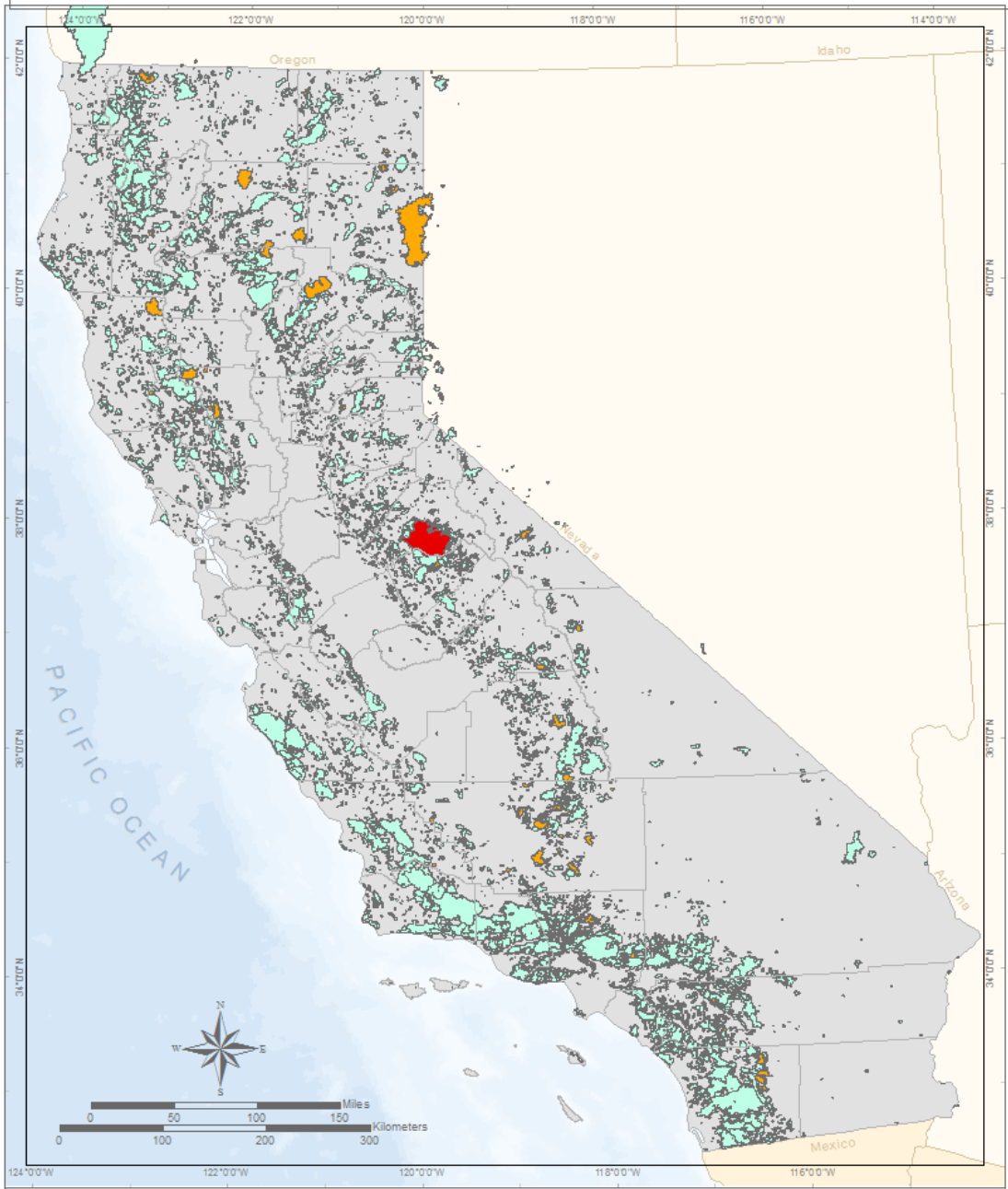
Fire History 1990-99



Fire History 2000-2009



Fire History 2010-2012 Plus*



What Do we know?

- California is “fire-prone”
- Some patterns and trends are evident

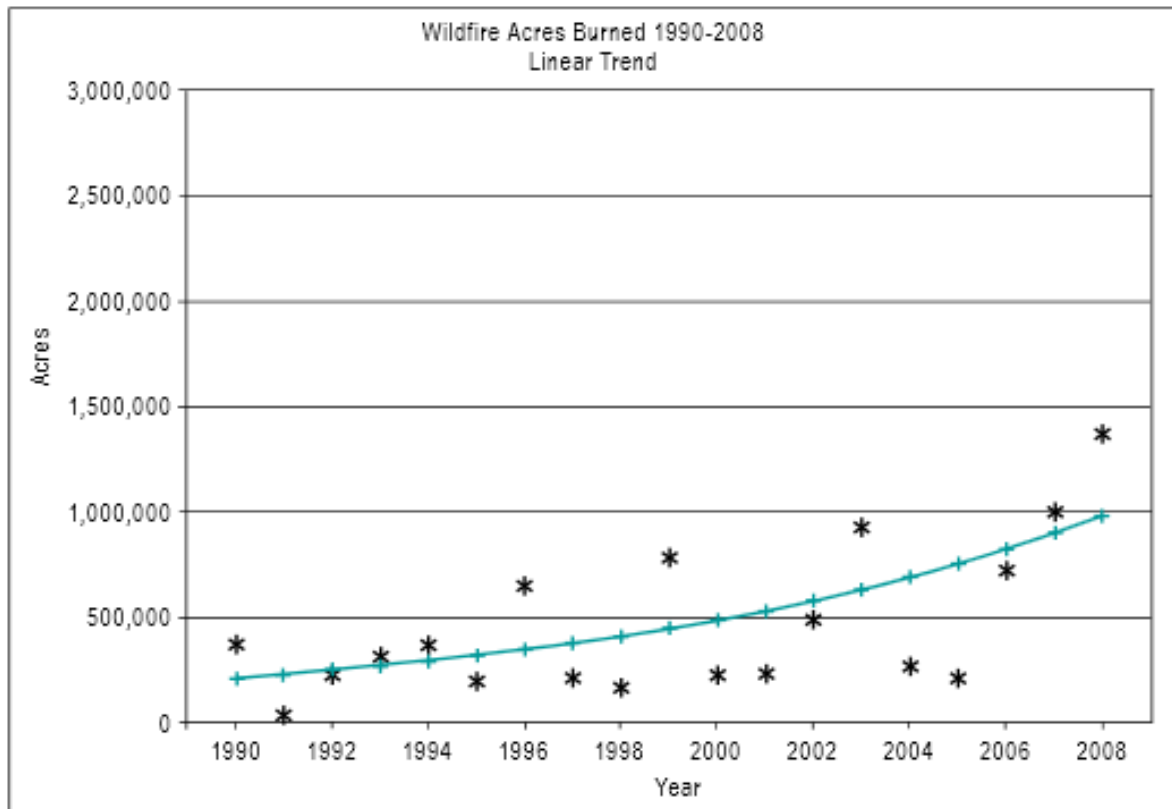


Figure 2.1.3.
 Log-linear trend model for annual acres burned as a function of time, 1990–2008.
 Data Sources: *Fire Perimeters, FRAP (2009 v1)*; *Statewide Land Use / Land Cover Mosaic, FRAP (2006)*

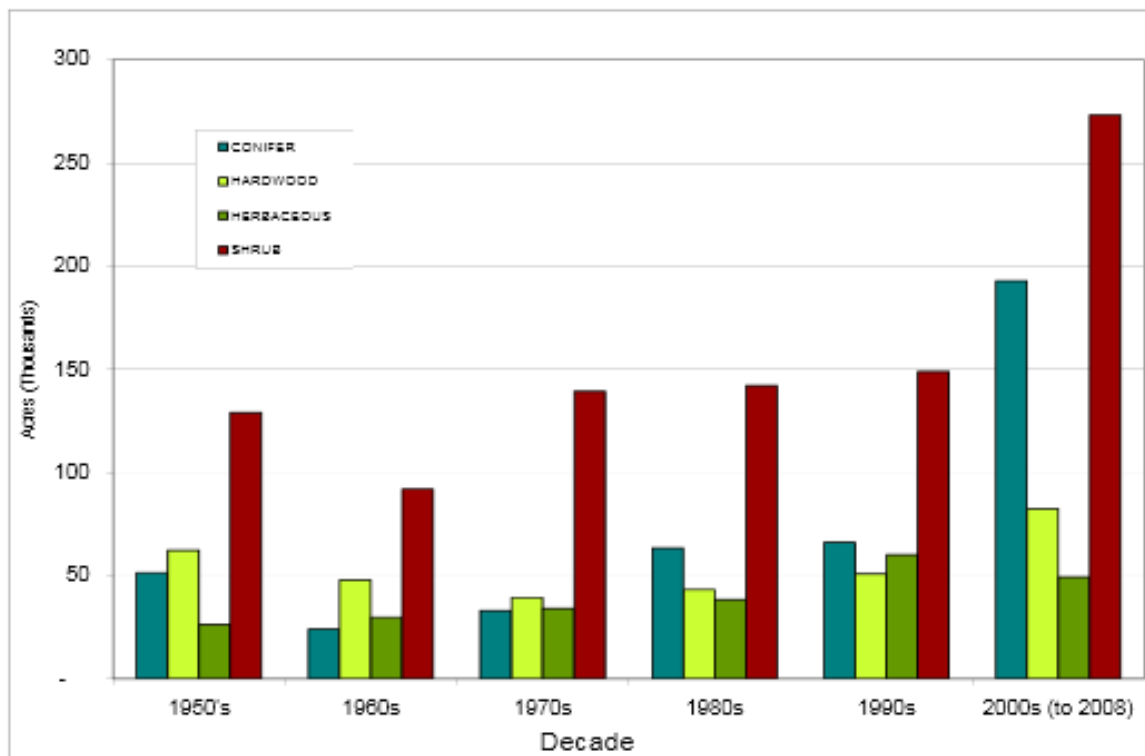
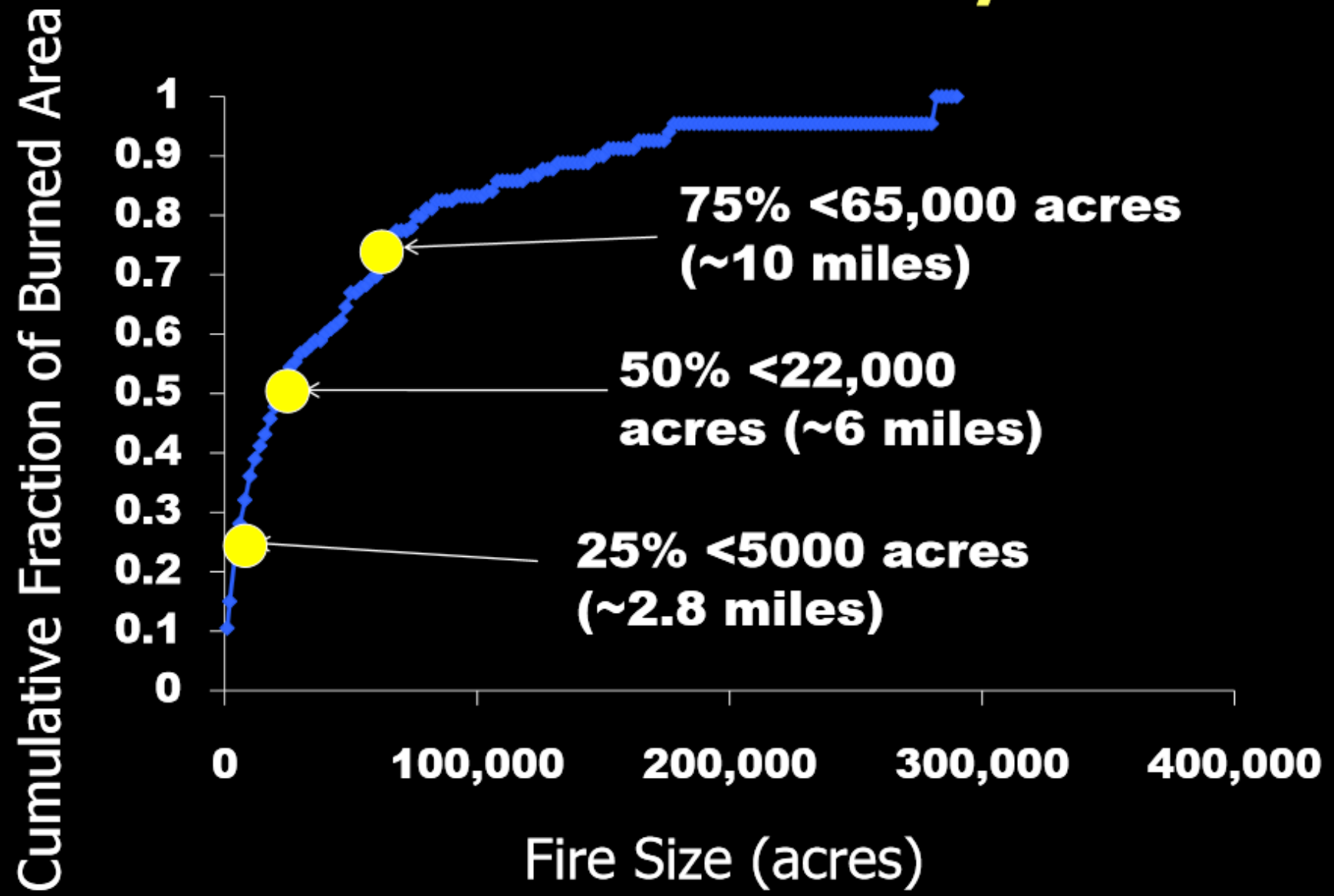


Figure 2.1.2.

Annual acres burned by decade and by life form, 1950s to 2000s.

Data Sources: Fire Perimeters, FRAP (2009 v1); Statewide Land Use / Land Cover Mosaic, FRAP (2006)

California Burned Area by Size



Hazard vs. Risk and the challenge to “manage”

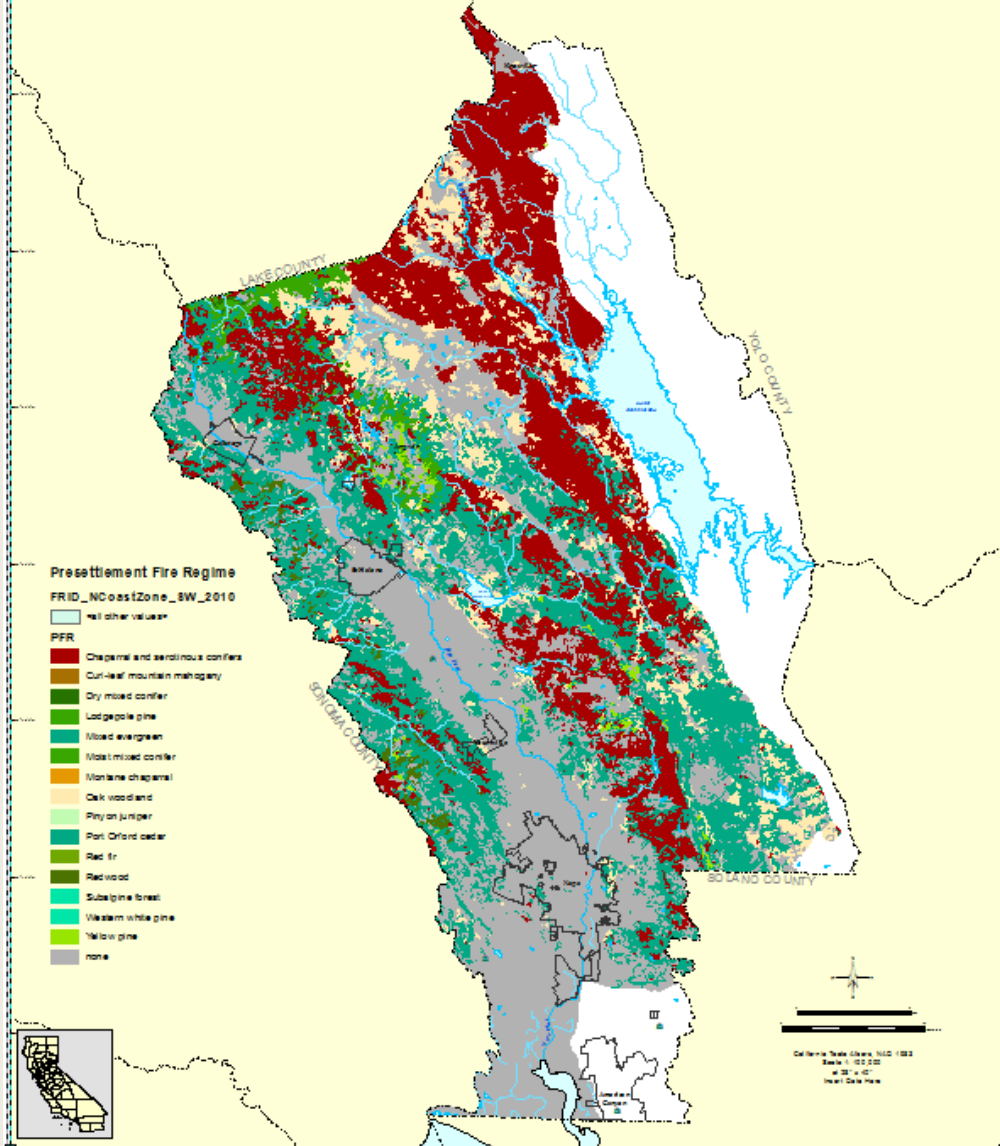
- Good Fire vs. Bad Fire
- Too much fire/too little fire
- Stochasticity -> Uncertainty
- Conflicts (houses in chaparral; smoke)
- \$\$\$\$
- Institutional Momentum
- Societal Memory/scale

Ecological Risk

- Fire Regime Interval Departure (FRID)
- A measure of current fire frequencies compared to reference conditions (~1600 ad)
- Positive Departure = too little fire
- Negative Departure = too much
- Doesn't directly address variability in severity/impacts on vegetation

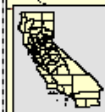
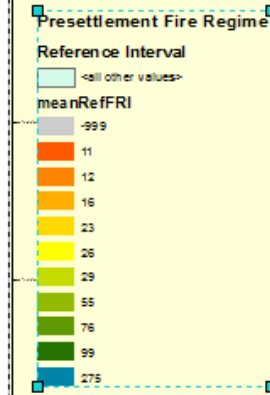
Vegetation -- Regime Groups

- Step 1:
Vegetation
grouping

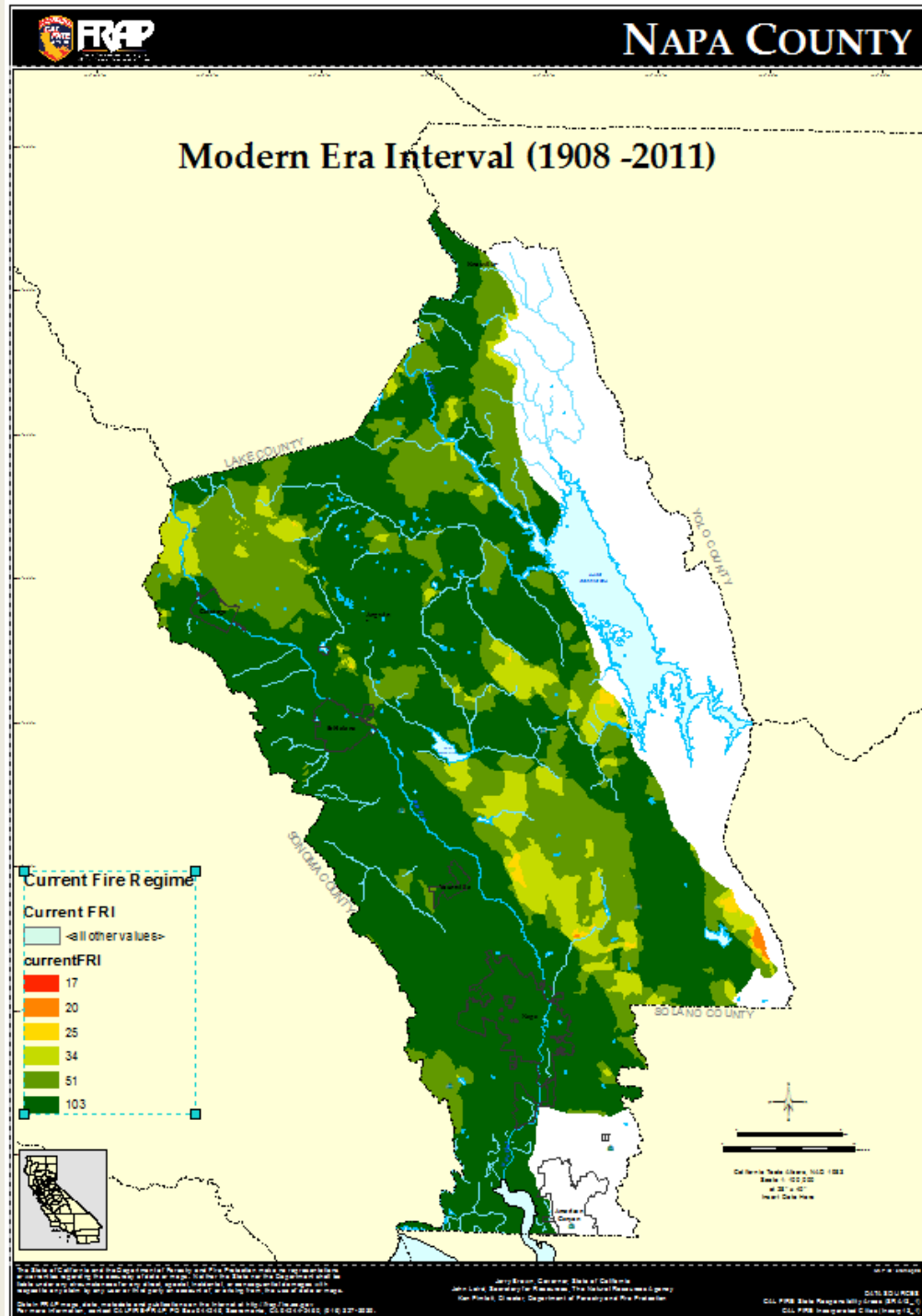


Vegetation -- Regime Groups

- Step 2:
Reference
Regime
assignment

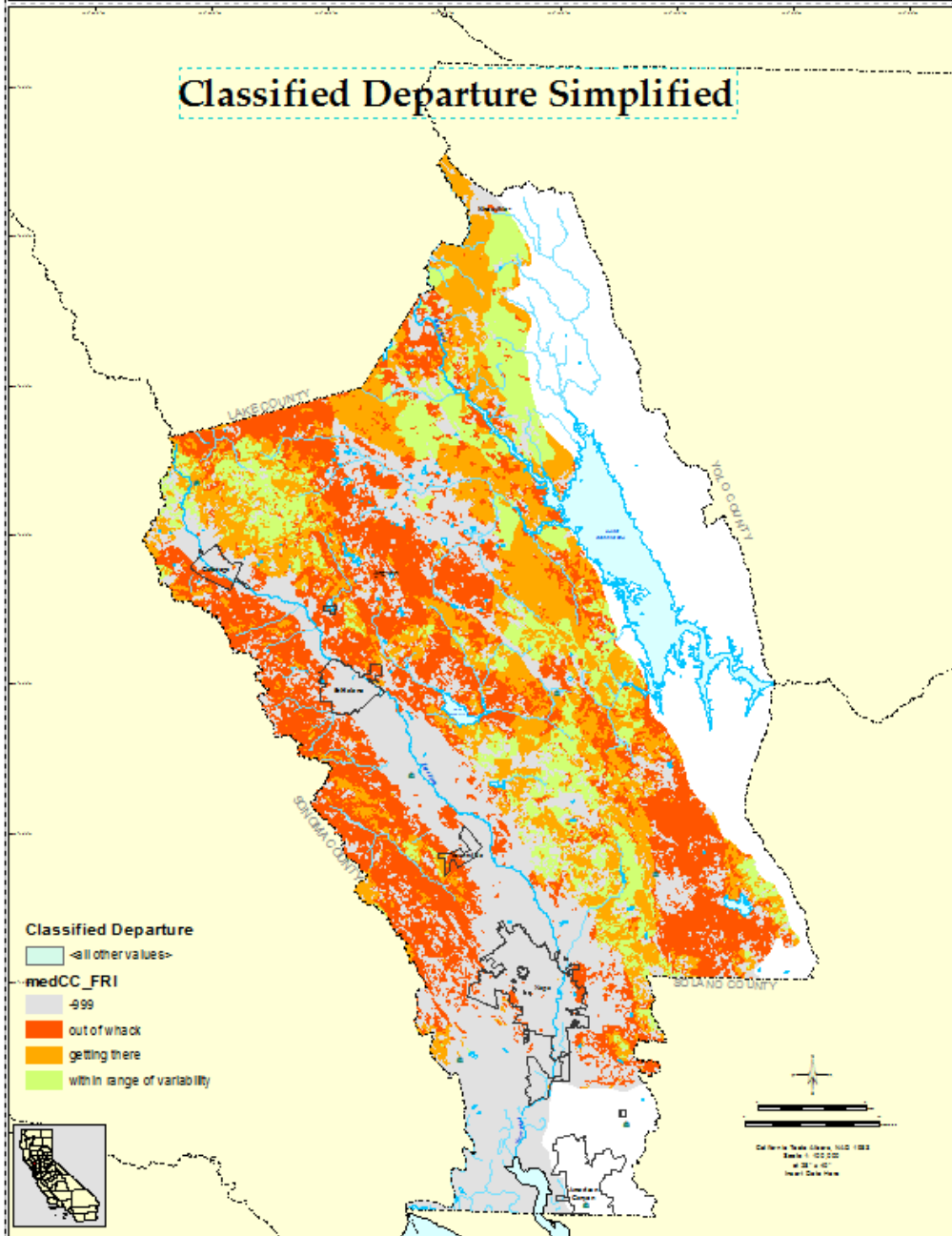


- Step 3:
Calculate
Current Fire
Interval
Based on
1908-2011
Fire
Perimeter
Atlas



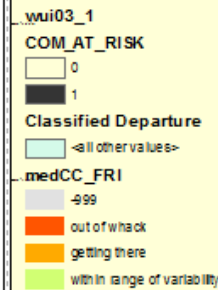
Classified Departure Simplified

- Simplified -- Combined by level of departure



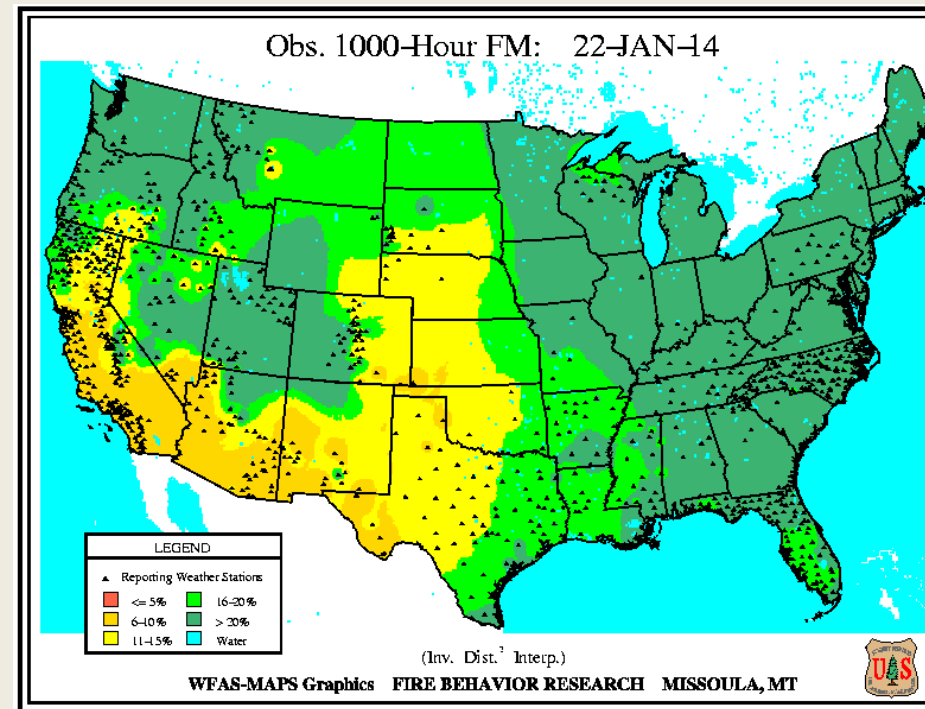
Classified Departure Simplified + WUI

- Most basic nature of conflict -- Ecosystems that need fire, and those that don't



What does the future hold?

- More of the same?
- Climate change
 - Longer seasons
 - More extreme conditions
 - More conflict
- Better tools and data
- Better approaches?
- Better budgets?



Questions?

dave.sapsis@fire.ca.gov

