

Ranchers' Experiences with Drought

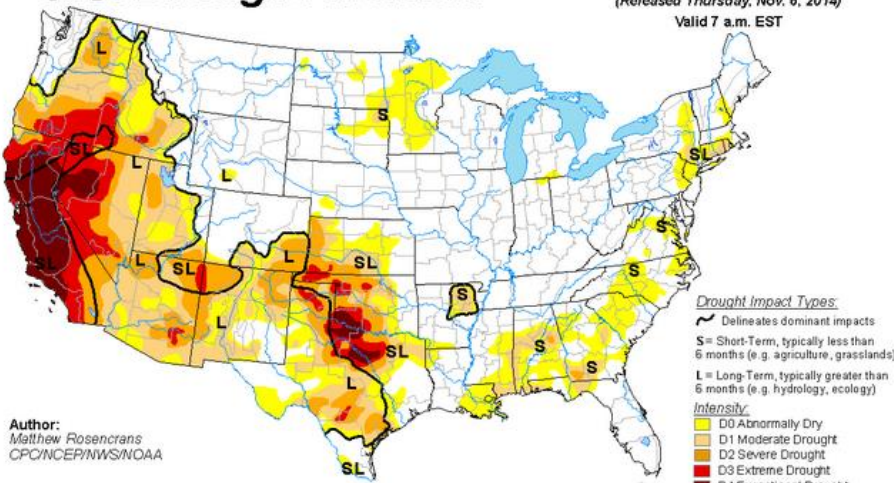
A California perspective



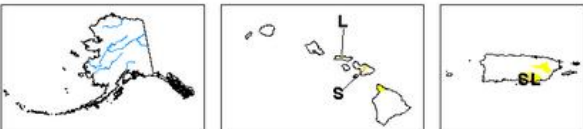
Leslie Roche and Ken Tate
Rangeland Watershed Lab • UC Davis

U.S. Drought Monitor

November 4, 2014
 (Released Thursday, Nov. 6, 2014)
 Valid 7 a.m. EST



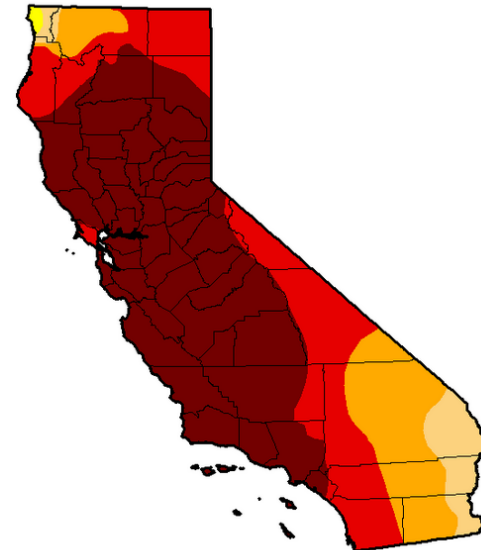
Author:
 Matthew Rosencrans
 CPC/NCEP/NWS/NOAA



USDA
 National Drought Mitigation Center
<http://droughtmonitor.unl.edu/>

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Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	98.71	94.42	79.69	55.08
Last Week 10/29/2014	0.00	100.00	100.00	95.04	81.92	58.41
3 Months Ago 05/20/14	0.00	100.00	100.00	99.80	81.92	58.41
Start of Calendar Year 12/01/2013	2.61	97.39	94.25	87.53	27.59	0.00
Start of Water Year 05/01/2014	0.00	100.00	100.00	95.04	81.92	58.41
One Year Ago 11/02/2013	2.62	97.38	95.98	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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Adaptive Rangeland Decision-Making

Rancher mail survey

- Spring 2011
- 1700 producer members of CA Cattleman's Association
- **509** surveys returned

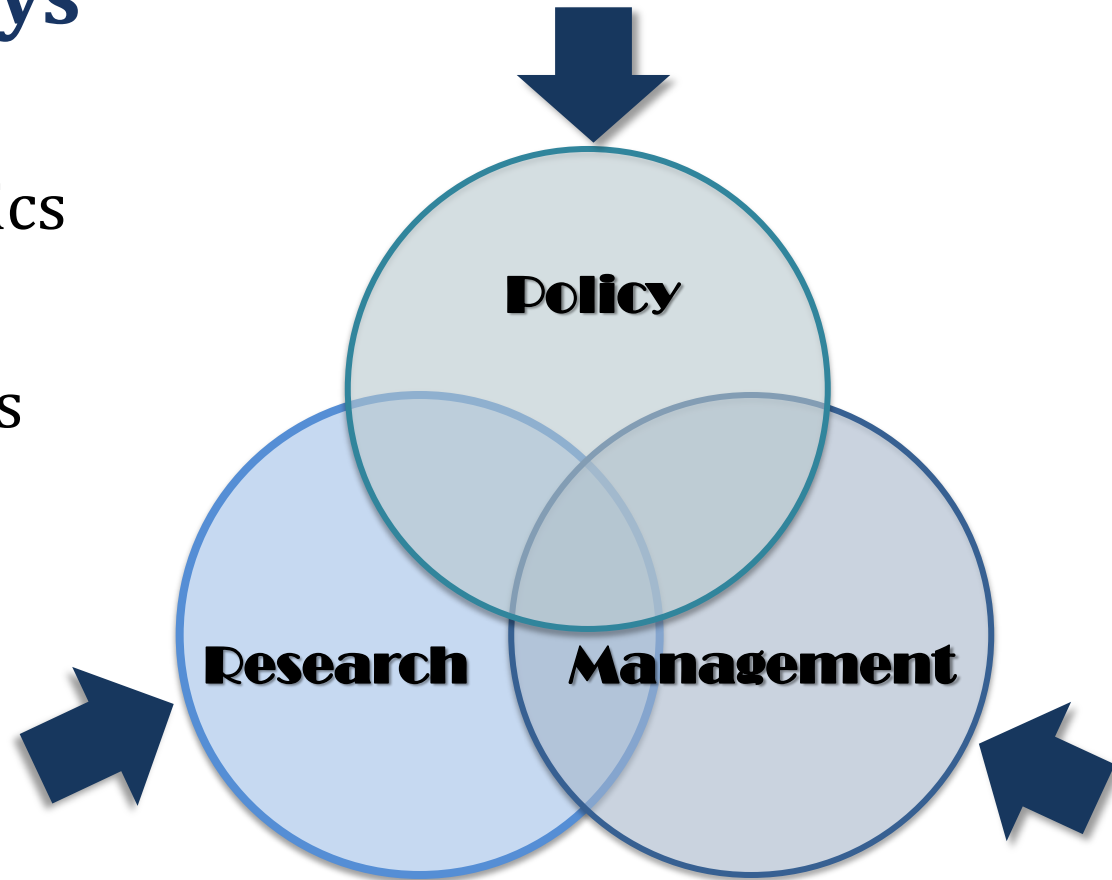
Semi-structured rancher interviews

- Spring 2013-Fall 2014
- **102** ranching families across CA

Adaptive Rangeland Decision-Making

Rancher Mail Surveys & Interviews

- 1) Operation demographics
- 2) Goals, values, beliefs
- 3) Management strategies
- 4) Information networks



Reactive Strategies

2011 Mail Survey

Drought Adaptation Strategies

% (n = 490)

Reduce herd size	70
Purchase feed	69
Government assistance programs	39
Wean early	39
Rent additional pasture	26
Move livestock to another location	24
Earn off-ranch income	23
Sell retained yearlings	22
Place livestock in a feedlot	8
Allow livestock condition to decline	7

Proactive Strategies

2011 Mail Survey

Drought Adaptation Strategies

%
(n = 490)

Employ conservative stocking rates	34
Incorporate pasture rest into system	23
Incorporate cow-calf and stockers	21
Grass bank/Stockpile forage	12
Use 1-3 mo. weather predictions	11
Add other livestock types	3

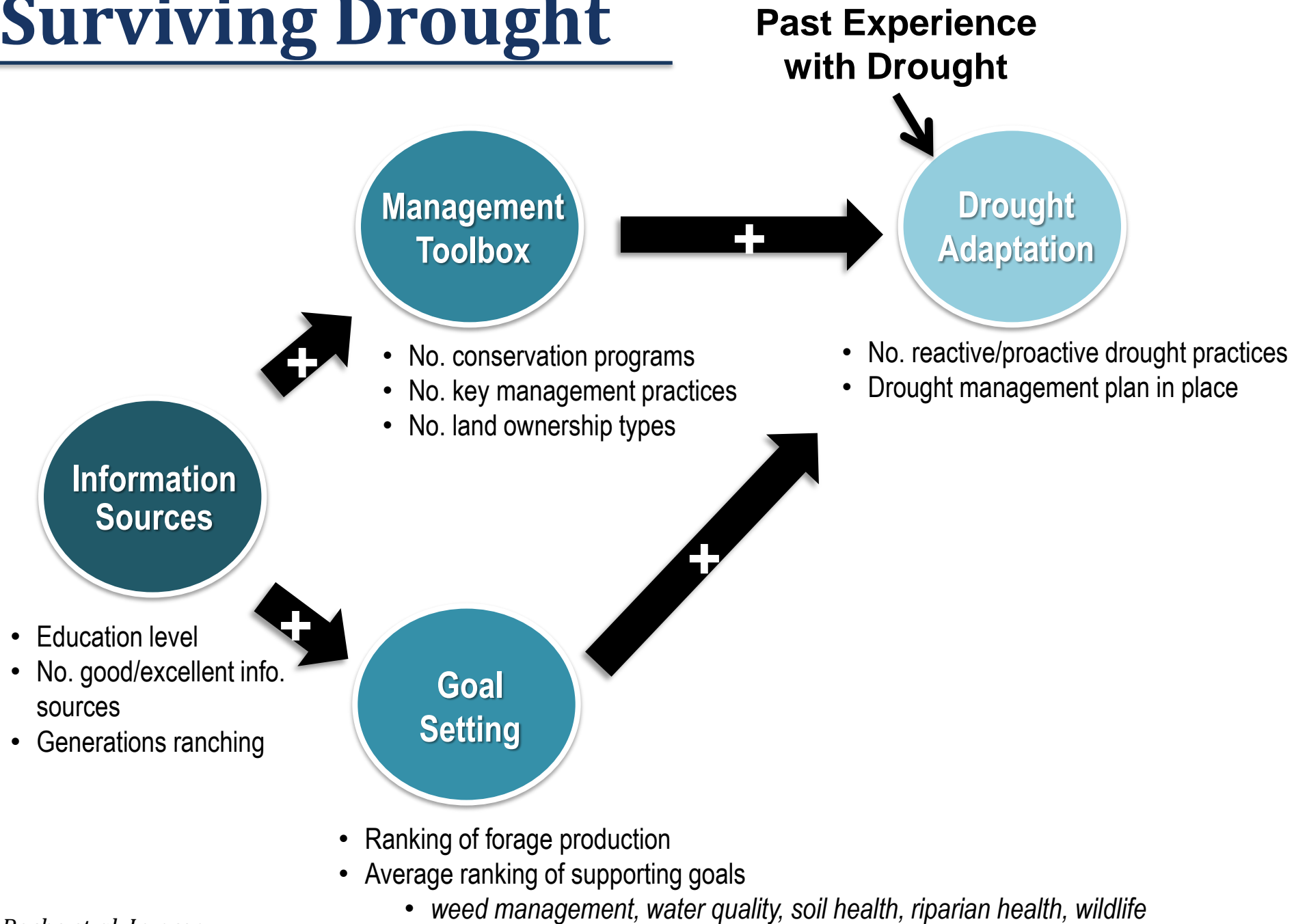
Impacts of Drought

2011 Mail Survey

**Impacted more severely than expected
by LAST drought** **%**
(n = 473)

Lost grazing capacity	77
Reduced winter forage availability	62
Lost profit	55
Lower calf weaning weights	44
Reduced reproduction rates	23
Shortage of livestock drinking water	20

Surviving Drought



Surviving Drought

2013/2014 Interviews

	Last drought	No. reactive practices	Drought years/decade
<i>Median</i>	2013/14	4	4
<i>Min</i>	1976/77	0	1
<i>Max</i>	2013/14	7	10

N = 67, Sept 2013 through Feb 2014

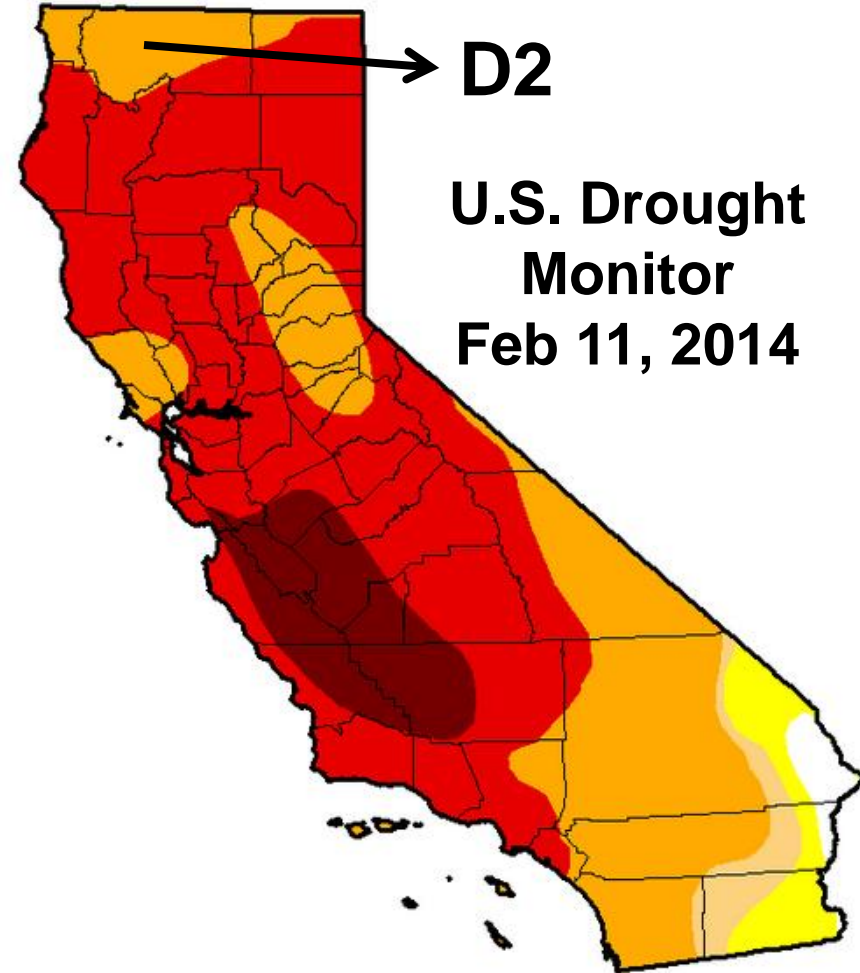
Surviving Drought

2013/2014 Interviews

	Last drought	No. reactive practices	Drought years/decade
<i>Median</i>	2013/14	4	4
<i>Min</i>	1976/77	0	<i>Multiple years of recent droughts.</i>
<i>Max</i>	2013/14	7	10

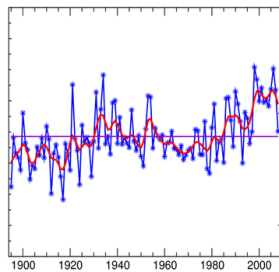
N = 67, Sept 2013 through Feb 2014

Surviving Drought

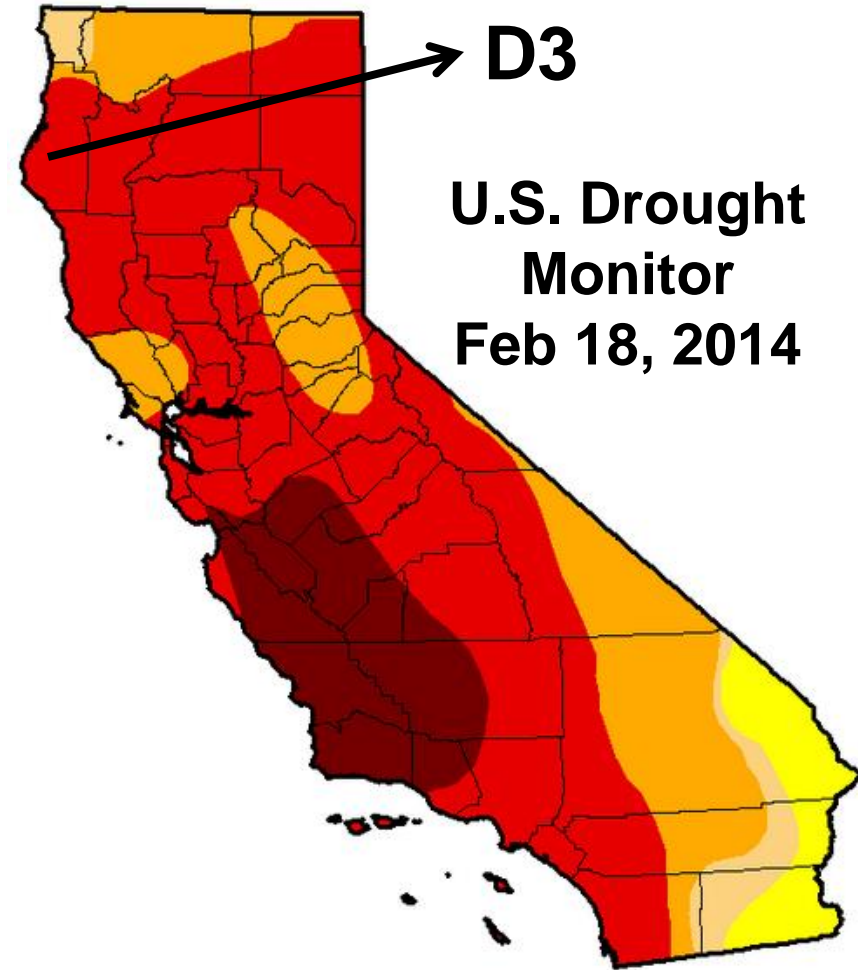


Siskiyou County

- **Last drought**
2013/2014 (*all*)
- **Number of reactive practices**
3.2 (*avg*)
- **Drought years**
2.2/10 years (*avg*)

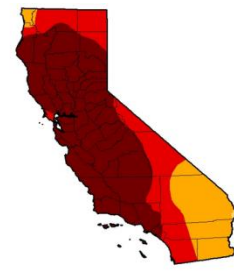
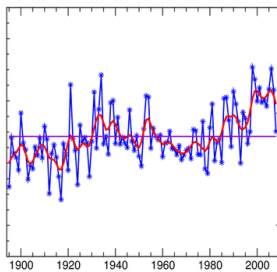


Surviving Drought



Humboldt County

- **Last drought**
2013/2014 (*all*)
- **Number of reactive practices**
3.6 (*avg*)
- **Drought years**
2/10 years (*avg*)

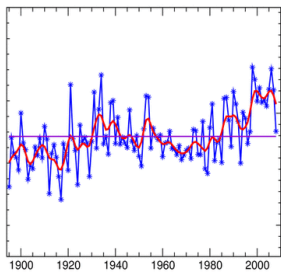
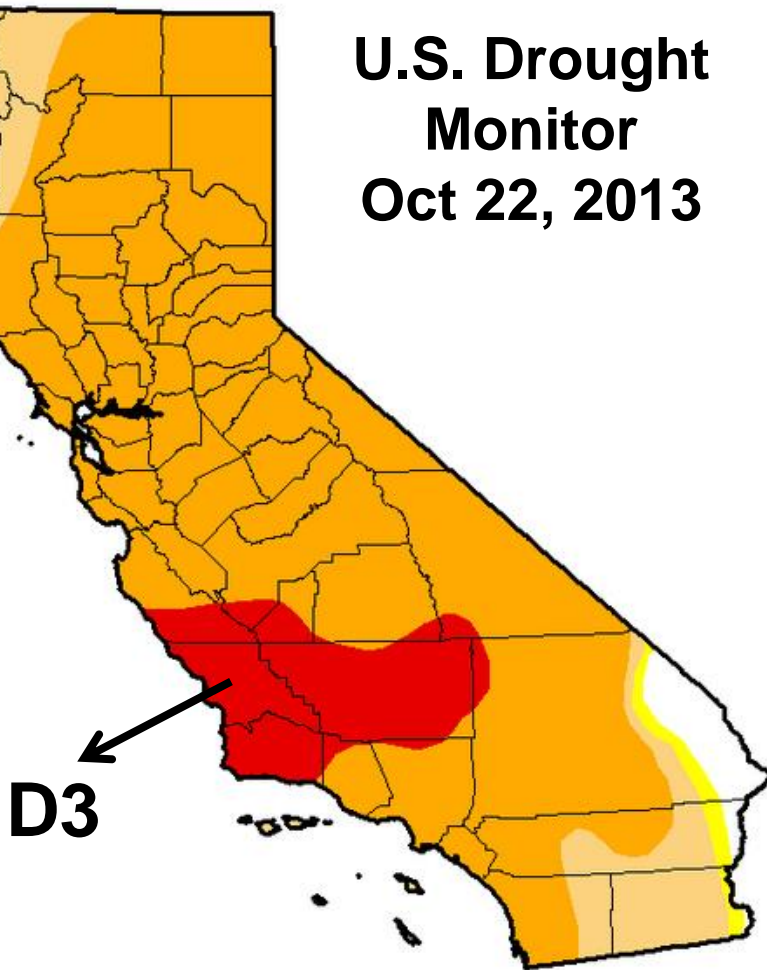


Surviving Drought

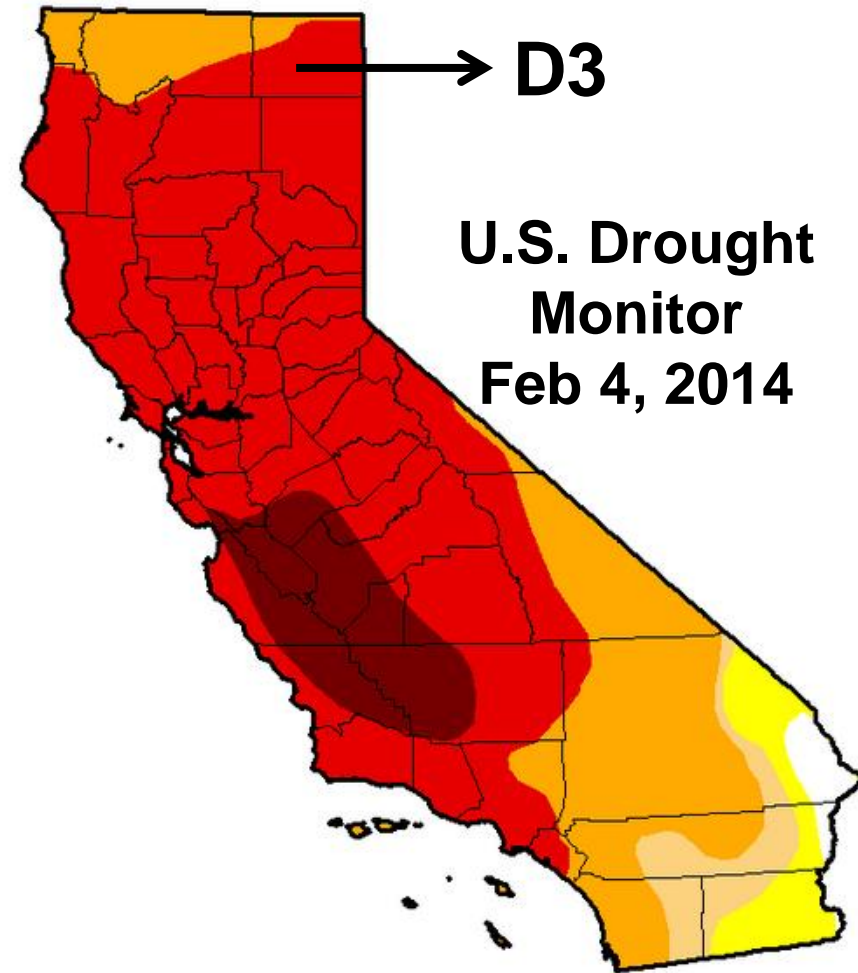
U.S. Drought
Monitor
Oct 22, 2013

San Luis Obispo County

- Last drought
2013/2014 (all)
- Number of reactive
practices
3.3 (avg)
- Drought years
3.5/10 years (avg)

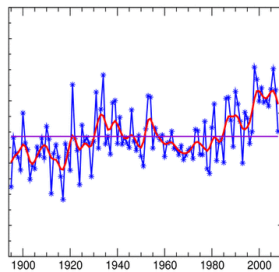


Surviving Drought



Modoc County

- Last drought **2013/2014** (*all*)
- Number of reactive practices **4** (*avg*)
- Drought years **5.4/10** years (*avg*)



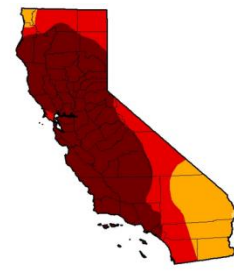
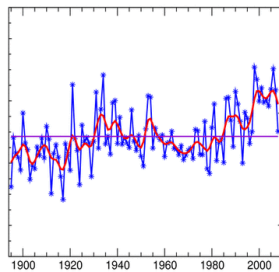
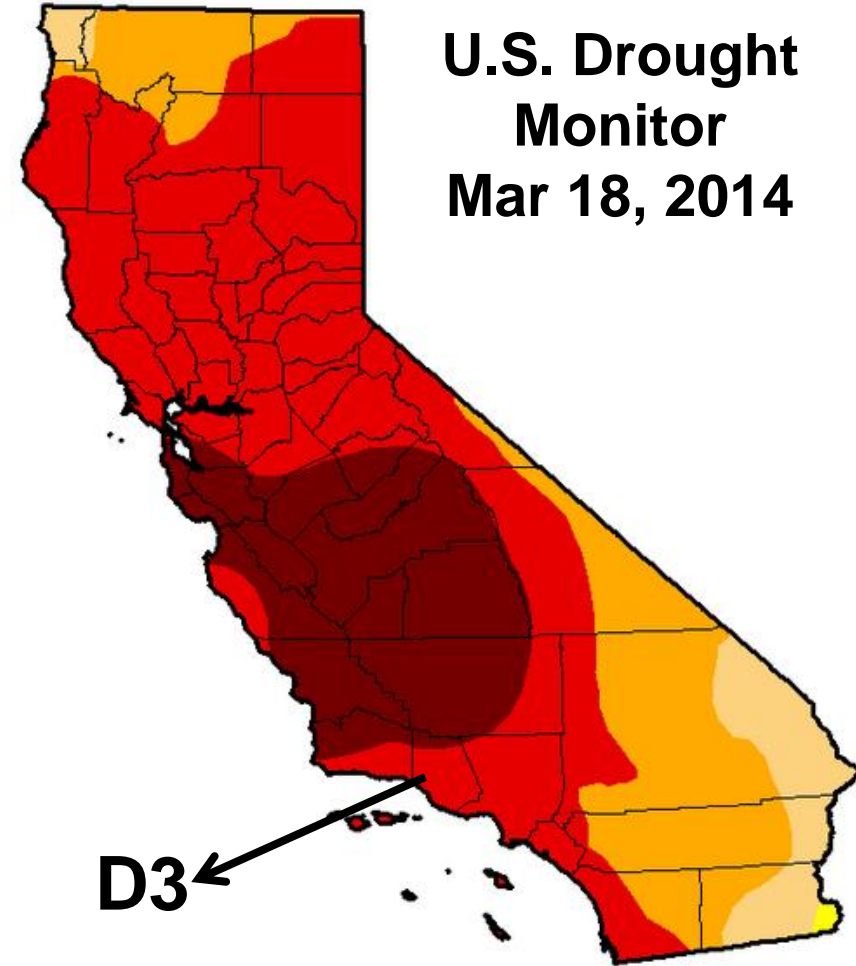
Surviving Drought

U.S. Drought
Monitor
Mar 18, 2014

Ventura County

- Last drought
2013/2014 (all)
- Number of reactive
practices
3.6 (avg)
- Drought years
6.6/10 years (avg)

D3



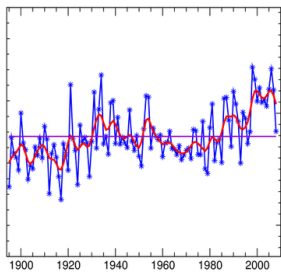
Surviving Drought

U.S. Drought
Monitor
Jul 22, 2014

Kern County

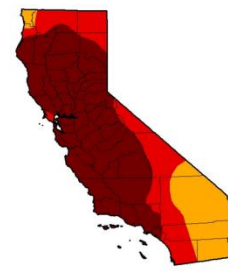
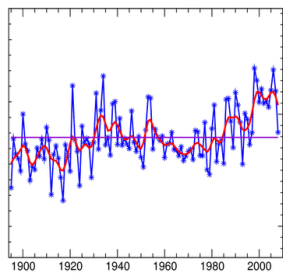
- Last drought **2013/2014** (*all*)
- Number of reactive practices **5.7** (*avg*)
- Drought years **6/10** years (*avg*)

D4



Surviving Drought

	Intensity (at interview)	No. reactive practices	Drought years/decade
Siskiyou	D2	3.2	2.2
Humboldt	D3	3.6	2.0
SLO	D3	3.3	3.5
Modoc	D3	4.0	5.4
Ventura	D3	3.6	6.6
Kern	D4	5.7	6.0



Ranching and California's Drought

Management flexibility is essential

- Large toolbox of proactive and reactive practices
- Drought resilience increases with experience, information, options, and focus on forage production

Partnerships

- Include local *experiential* social-economic-ecological *knowledge* in regional and national drought discussions.
 - Considering impacts of multiple years of drought
- Integrated research, management, and policy to best inform solutions from ranch to national scales.



Farmer and Rancher Voices from the Drought

A chronicle of oral stories of farming and ranching families.

<https://soundcloud.com/groups/farmer-and-rancher-voices-from-the-drought>

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MODERATED

Farmer and Rancher Voices from the Drought

The worst drought in 500 years is devastating California's farming and ranching families. This project seeks to capture their stories through their own voices.

4 | 1

Join Share

Inspired by Letters from the Dust Bowl, researchers and farm advisors affiliated with the University of California are chronicling the oral stories of farming and ranching families. The hope is to share the best management practices while spreading awareness of the impacts of this drought.

UCDavisPlants
Bud Sloan 3 hours

UCDavisPlants
Fred Chamberlin 4 hours

UCDavisPlants
Tom Crocker, Pt. 2 5 hours

UCDavisPlants
Tom Crocker 5 hours

VENTURA COUNTY CATTLEMEN

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Rangeland Watershed Laboratory

<http://rangelandwatersheds.ucdavis.edu>

Google “rangeland watersheds”

