

The Drought Impact Reporter

<http://droughtreporter.unl.edu>

Map Options

Impact Categories:

Agriculture Fire

Water/Energy Social

Environment Other

Source:

Time Period:

[Show Drought Monitor Layers](#)

Legend

- No reported impacts
- 1 - 14 reported impacts
- 15 - 28 reported impacts
- 29 - 42 reported impacts
- 43 - 56 reported impacts
- 57 - 70 reported impacts

Instructions: Click on a state to see the reported drought impacts that affect that state.

Kelly Helm Smith
National Drought Mitigation Center

U.S. Drought Monitor Forum
 October 8, 2009



Why Track Drought Impacts?

- To know where to direct relief

GAO, 1979: Fed response to 1977 drought was too late, misdirected, overlapping, and inconsistent

CA DWR, 2009: “working ... to ensure the impacts of the drought on communities in the state are being tracked” ... to provide info on assistance



Why Track Drought Impacts?

- To know where to direct relief
- To reduce long-term vulnerability
- Physical drought differs from impacts

“It was a natural drought, but a man-made crisis.” – aide to GA Gov. Perdue



Why Track Drought Impacts?

- To know where to direct relief
- To reduce long-term vulnerability
- Physical drought differs from impacts
- No single method exists for assessing drought losses



Why Track Drought Impacts?

- To know where to direct relief
- To reduce vulnerability before the next drought
- Physical drought is not always the best predictor of impacts
- No single method exists for quantifying drought losses

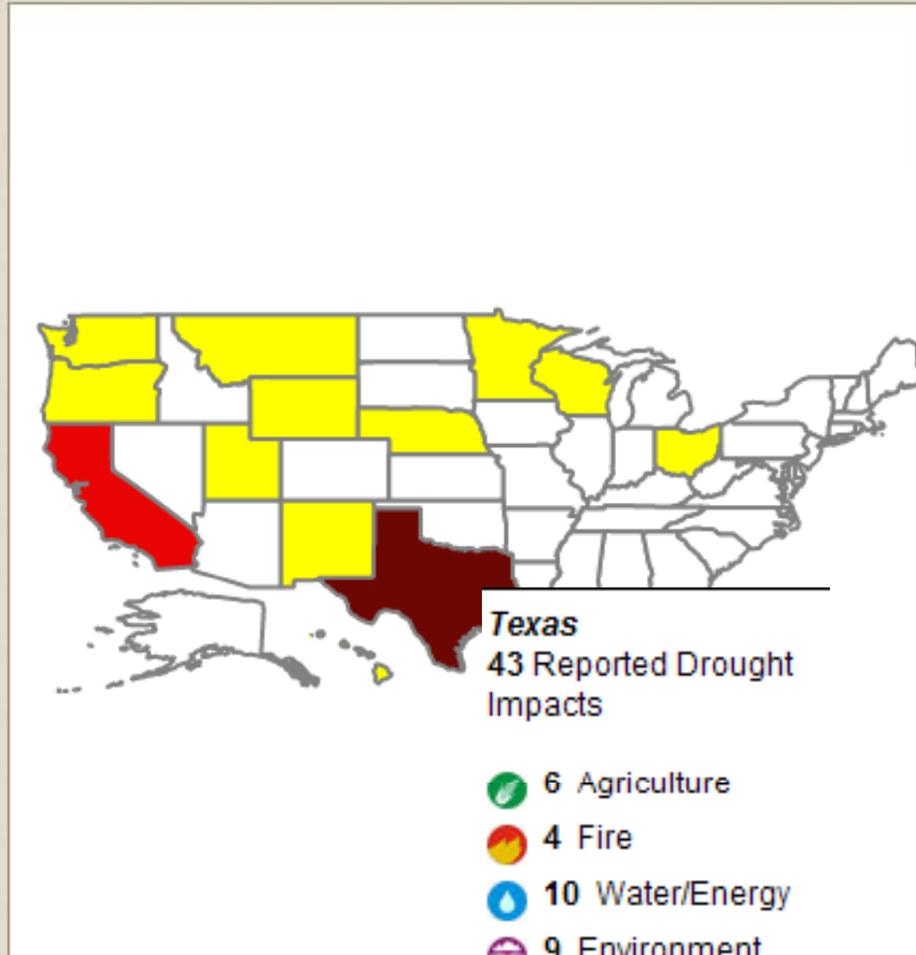


Outline

- Why track drought impacts?
- Drought Impact Reporter overview
- Lessons learned
- Drought impacts research

Drought Impact Reporter, October 5, 2009

[View Drought Impacts](#) | [Add A Drought Impact](#) | [Time-Lapse Animation](#) | [About](#) | [Help](#) | [User Login](#)



Instructions: Click or reported drought impact

Map Options

Impact Categories:

- Agriculture
- Fire
- Water/Energy
- Social
- Environment
- Other

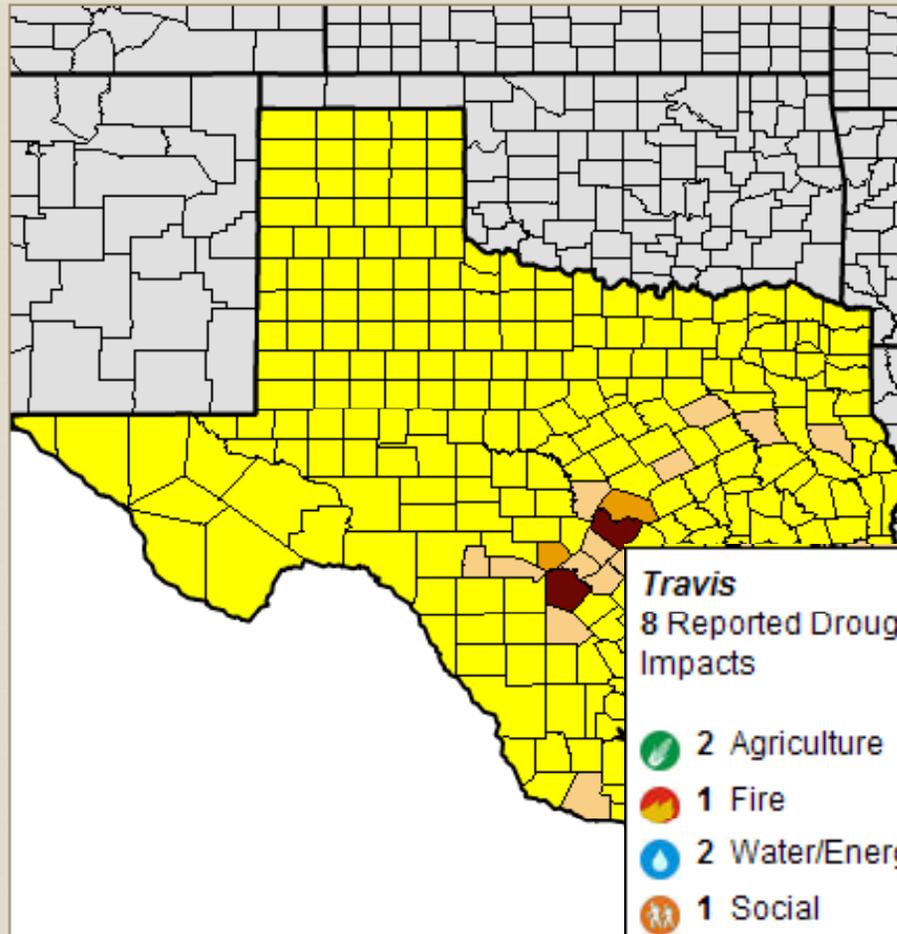
Source:

Time Period:

[Show Drought Monitor Layers](#)

Legend

- No reported impacts
- 1 - 9 reported impacts
- 10 - 17 reported impacts
- 18 - 26 reported impacts
- 27 - 34 reported impacts
- 35 - 43 reported impacts



Map Options

Impact Categories:

<input checked="" type="checkbox"/> Agriculture	<input checked="" type="checkbox"/> Fire
<input checked="" type="checkbox"/> Water/Energy	<input checked="" type="checkbox"/> Social
<input checked="" type="checkbox"/> Environment	<input checked="" type="checkbox"/> Other

Source:

Time Period:

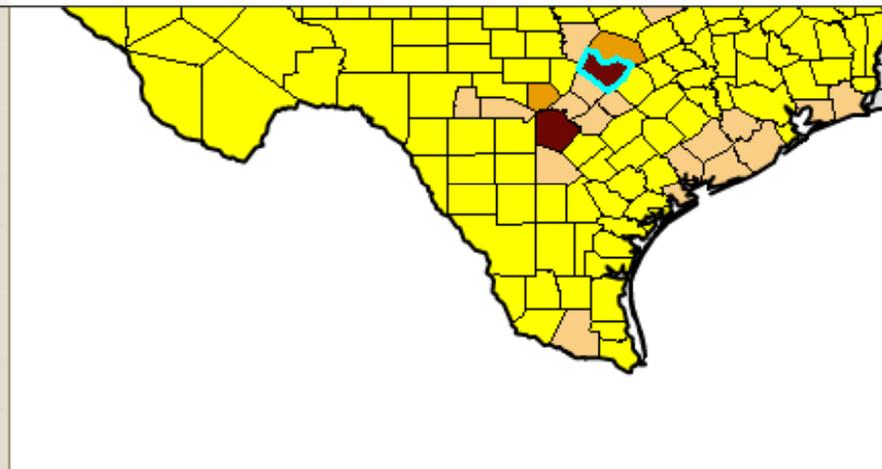
[Show Drought Monitor Layers](#)

Legend

	No reported impacts
	1 - 2 reported impacts
	3 - 4 reported impacts
	5 reported impacts
	6 - 7 reported impacts
	8 - 9 reported impacts

[Zoom To Entire U.S.](#)

Instructions: Click on a county to list the reported drought impacts that affect it.



Submit

Show Drought Monitor Layers

Legend

	No reported impacts
	1 - 2 reported impacts
	3 - 4 reported impacts
	5 reported impacts
	6 - 7 reported impacts
	8 - 9 reported impacts

[Zoom To Entire U.S.](#)

Sources: All Sources, Categories: All Categories
Date Range: September 5, 2009 to October 5, 2009

5 reported drought impacts for Travis County, Texas:

1. [Farmers and ranchers in](#) Texas who have lost livestock grazing... (click to read more)

Categories: Agriculture Other

Source: Media

Dates of Impact: 2009-01-01 to 2009-09-15

External URL: <http://www.beaumontenterprise.com/news/local/txa...>

2. [A ban on outdoor](#) burning is in effect for 30... (click to read more)

Categories: Fire Other

Source: Media

Dates of Impact: 2009-01-13 to 2009-09-15

External URL: <http://www.oakhillgazette.com/link.asp?twindow=De...>

3. [The low water level](#) of Lake Travis is exposing more... (click to read more)

Categories: Social Water/Energy

Source: Media

Dates of Impact: 2009-09-10 to 2009-09-10

What's in the DIR Now?

Media Reports: 90%

Drought Impact Event

A survey revealed that farmers and ranchers in the coverage area of the Dallas Federal Reserve Bank, which includes Texas, southern New Mexico, and northern Louisiana, are struggling financially as high temperatures and drought persist. Cattle have been sold at poor prices in the driest areas because it costs too much to keep the cattle when there is insufficient water and forage for the animals. Farmers and ranchers are having difficulty repaying loans and are seeking more loan renewals.

Categories:  Agriculture

Source: Media

Dates of Impact: 2009-04-01 to 2009-06-30

External URL:

http://www.mysanantonio.com/business/Federal_Rese...

([See Affected Areas](#))

- Electronic clipping service
- Moderator
- Historic material

What's in the DIR Now?

Government Reports: 5%

Drought Impact Event

Conditions continue to worsen due to lack of rainfall, high winds and extreme temps (even for June). May ended up about 75% below normal rainfall and June is way behind also. Producers are beginning to start the first round of hay production, which is short compared to normal. Moisture conditions continue to deteriorate as many small streams and ponds are drying up. Soil moisture appears to be about 6 inches deep. The south part of the county is considerably worse than the north half.

Categories:  Agriculture

Source: Government

Dates of Impact: 2009-06-15 to 2009-06-22

([See Affected Areas](#))

- Voluntarily submitted, similar to user reports

- Very good county-level information

What's in the DIR Now?

User Reports: 5% (or less)

Drought Impact Event

Forced sale of 74 cows that did not rebreed because of forage shortage
Drought Impact Event

Categories:  Rennerwood, Inc.,
Source: Public
Dates of Impact: terminate our H2A
their countries of or
trees.

([See Affected](#))

Categories:  Oth
Source: Public
Dates of Impact: 2
External URL:

([See Affected Area](#))

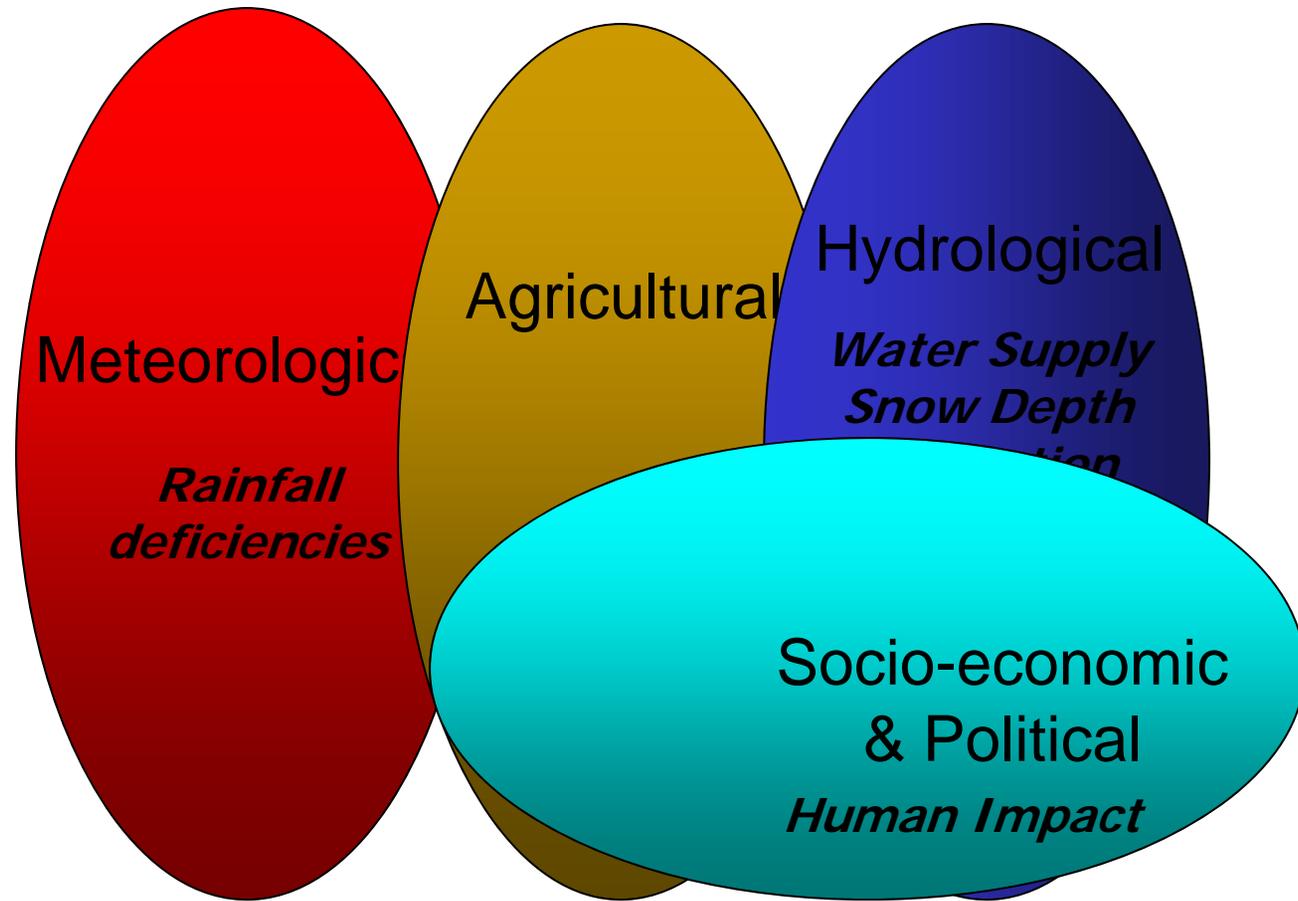
Drought Impact Event

Sycamore and cypress trees are turning brown and dropping leaves. Established tree death is occurring even along major creeks. I am also losing limbs in old established pear trees. Frog populations are dropping around the remaining pools; one pond has gone from 50 leopard frogs to none in the last 6 months. I am measuring less than half of normal rainfall for almost two consecutive years.

Categories:  Agriculture  Environment
Source: Public
Dates of Impact: 2007-07-30 to 2009-06-30

([See Affected Areas](#))

What we've learned: Defining Impacts



Time/Duration of the event

What we've learned: Impacts vs. Reports

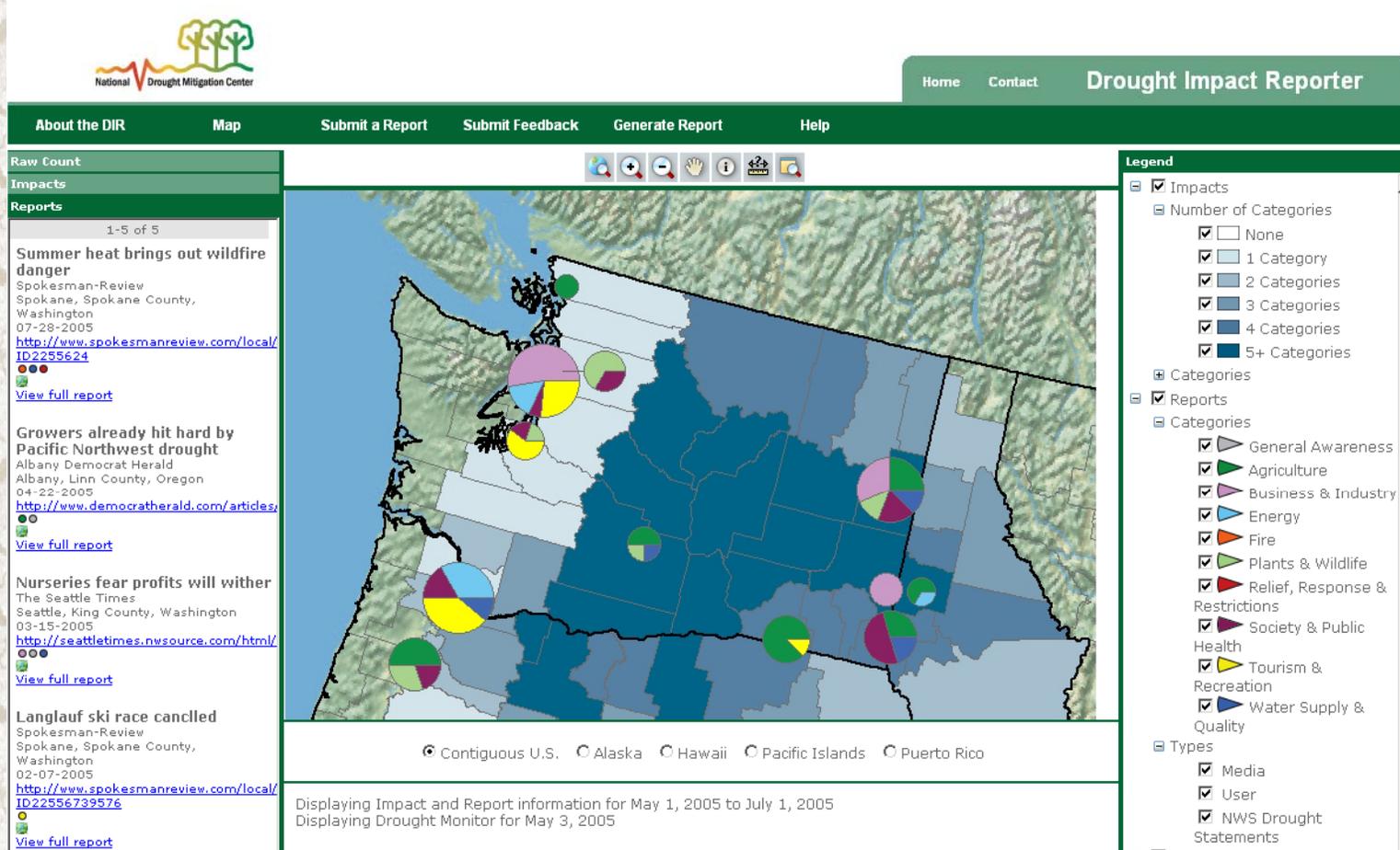
Report: Often an observation of dryness or drought *before* an impact occurs

→ indicator of awareness, vulnerability

Impact: More tangible, even quantifiable, happens at a specific place and time

What we've learned: Impacts vs. Reports (continued)

Since November, 1,225 impacts, 5,771 reports



What We've Learned: Refine Categories

Current

Map Options

Impact Categories:

<input checked="" type="checkbox"/>  Agriculture	<input checked="" type="checkbox"/>  Fire
<input checked="" type="checkbox"/>  Water/Energy	<input checked="" type="checkbox"/>  Social
<input checked="" type="checkbox"/>  Environment	<input checked="" type="checkbox"/>  Other

Source:

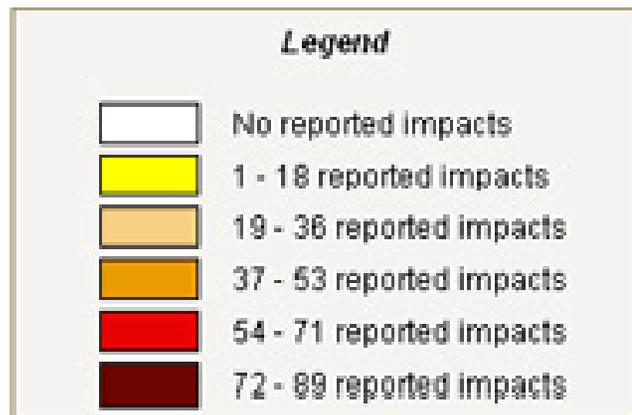
Time Period:

Planned

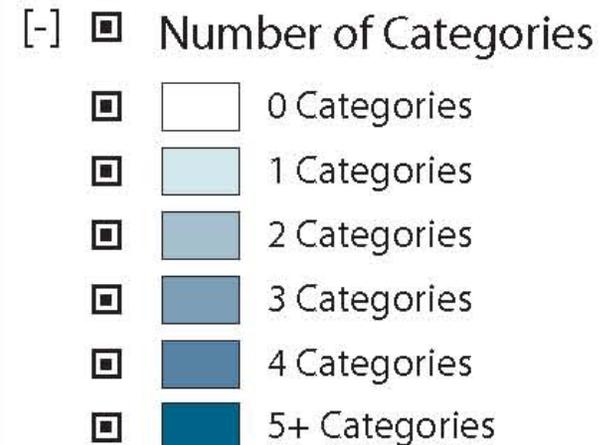
- [+] Media Reports
-  Society & Public Health
 -  Agriculture
 -  Disaster Declarations & Aid
 -  Energy
 -  Water Supply & Quality
 -  Wildfire
 -  Plants & Wildlife
 -  Other Business & Industry
 -  Tourism & Recreation
 -  General Awareness

Lessons Learned: Many Ways to Count

Count Impacts



Count Categories



Impacts per square mile

Impacts per capita

Impacts over density (population per square mile)



Raw Count

Impacts

1-5 of 5

Ski race cancelled due to drought

02-07-2005 to 02-07-2005
Langlauf annual cross-country ski race at Mount Spokane has been cancelled because of a lack of snow. This is the first time in the race's 27 year history that it has been cancelled. One official said that there are bare spots on the mountain side up to 45 feet in length.

Governor declares drought emergency for Washington

03-10-2005 to
The governor of Washington has declared the state in a drought emergency in response to the lack of precipitation across the state and low snowpack totals. The declaration has given authorization to the state's Department of Ecology to issue water restrictions and temporary transfers of water rights. To help combat the conditions, an additional \$8.2 million drought appropriations has been requested from the Legislature.

Water use restricted for a portion of Spokane County

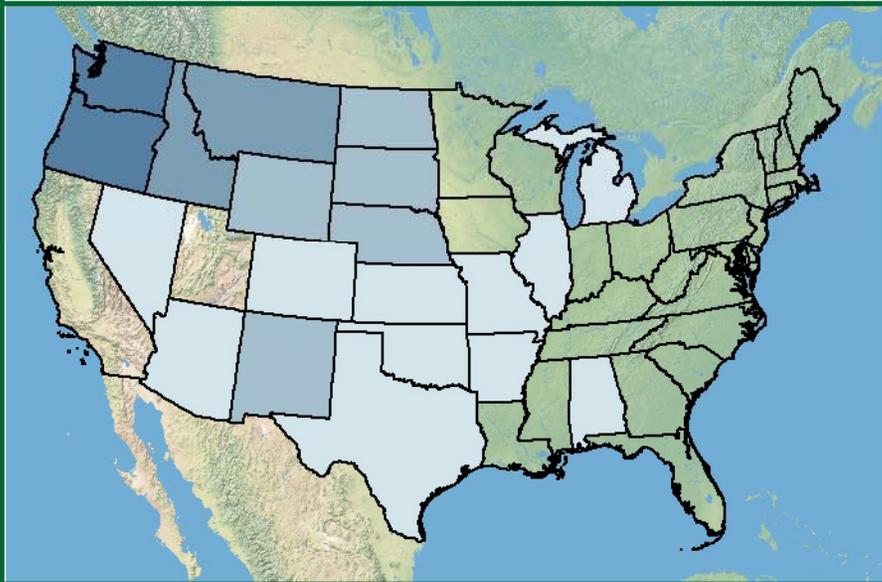
03-10-2005 to
The Dept. of Ecology has issued water use restrictions for 136 water users in the Little Spokane River drainage. To prevent the river from running too low, water users will not be allowed to water lawns and gardens.

Grape harvest above average due to drought

01-01-2005 to 12-31-2005
Wine grape growers in Washington state experienced a record harvest this year because grapes are one of few crops that can do well during a drought. The Washington Association of Wine Grape Growers estimates this year's harvest at 116,760 tons; the old record was 115,000 tons in 2002. Lack of moisture stresses the grapes, which concentrates the juice and makes better wine. In addition, a warm summer followed by steady, cool fall temperatures and a frost-free harvest allowed the fruit to stay on the vine longer.

Duck production reduced

Reports



Contiguous U.S. Alaska Hawaii Pacific Islands Puerto Rico

Displaying Impact and Report information for May 1, 2005 to July 1, 2005
Displaying Drought Monitor for May 3, 2005

Legend

- Impacts
 - Number of Categories
 - None
 - 1 Category
 - 2 Categories
 - 3 Categories
 - 4 Categories
 - 5+ Categories
 - Categories
- Reports
- Drought Monitor
- Reference Layers
 - Political
 - States
 - Counties
 - Congressional Districts
 - Federal Lands
 - Tribal Lands
 - Cities
 - Hydrological
 - Other

Selection

Search

Tasks



Raw Count

Impacts

1-5 of 5

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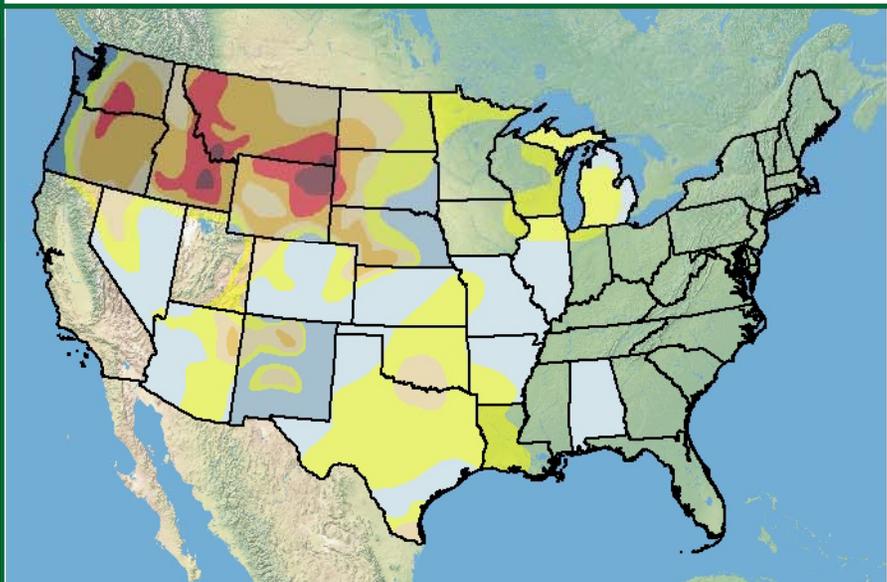
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Displaying Drought Monitor for May 3, 2005

Legend

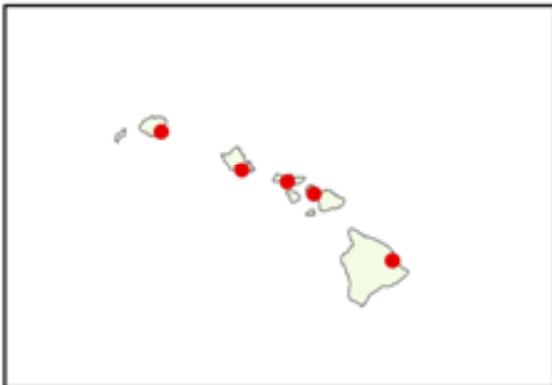
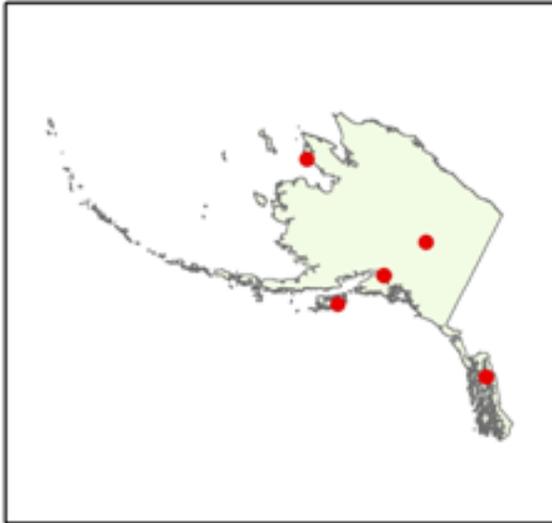
- Impacts
Number of Categories
None
1 Category
2 Categories
3 Categories
4 Categories
5+ Categories
Categories
Reports
Drought Monitor
D0 Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional
Reference Layers
Political
States
Counties
Congressional Districts
Federal Lands
Tribal Lands
Cities
Hydrological
Other

Selection

Search

Tasks

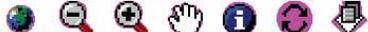
Lessons Learned: Sample



Lessons learned: Need “government layers”

Disaster Declarations and Relief

About Disaster Declarations & Relief | **View** | Search the Database | Submit Feedback

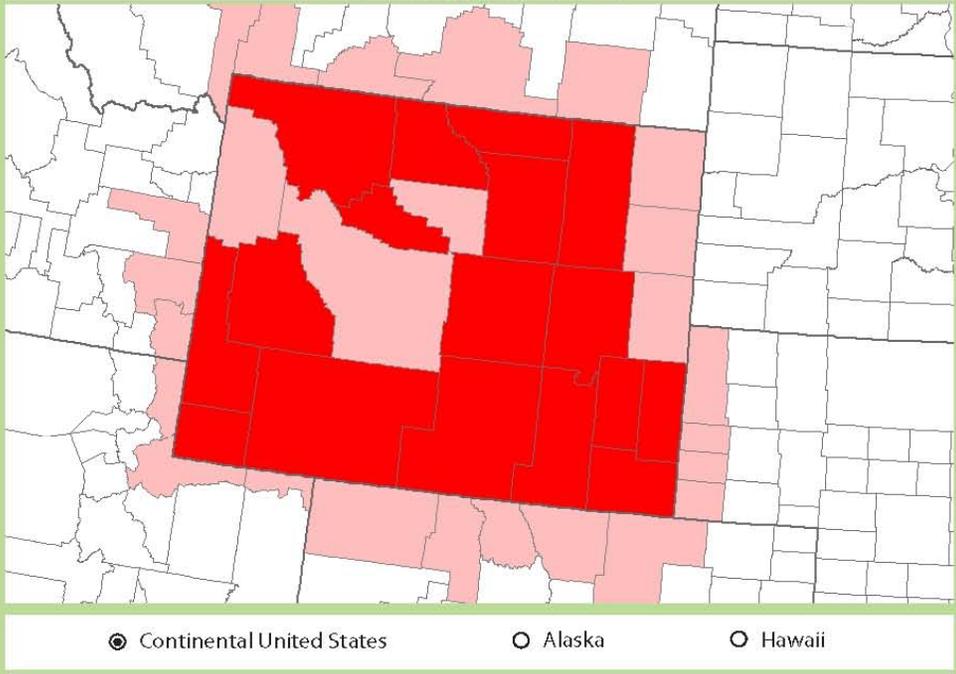
  ? Legend

USDA Secretarial Disaster Declaration S2424

The U.S. Department of Agriculture designated 17 Wyoming counties primary natural disaster areas, making all farm operators in the designated areas eligible for low-interest emergency (EM) loans from the USDA's Farm Service Agency (FSA). 26 secondary counties are eligible because they are contiguous.

Start Date: Dec.31, 2005
End Date:
Termination Date: June 24, 2007
Approval Date: Oct.11, 2006
Description: Drought, excessive heat, high winds, wildfires

[View county list](#)
[View full press release](#)
[Contact Information](#)



● Continental United States ○ Alaska ○ Hawaii

Legend

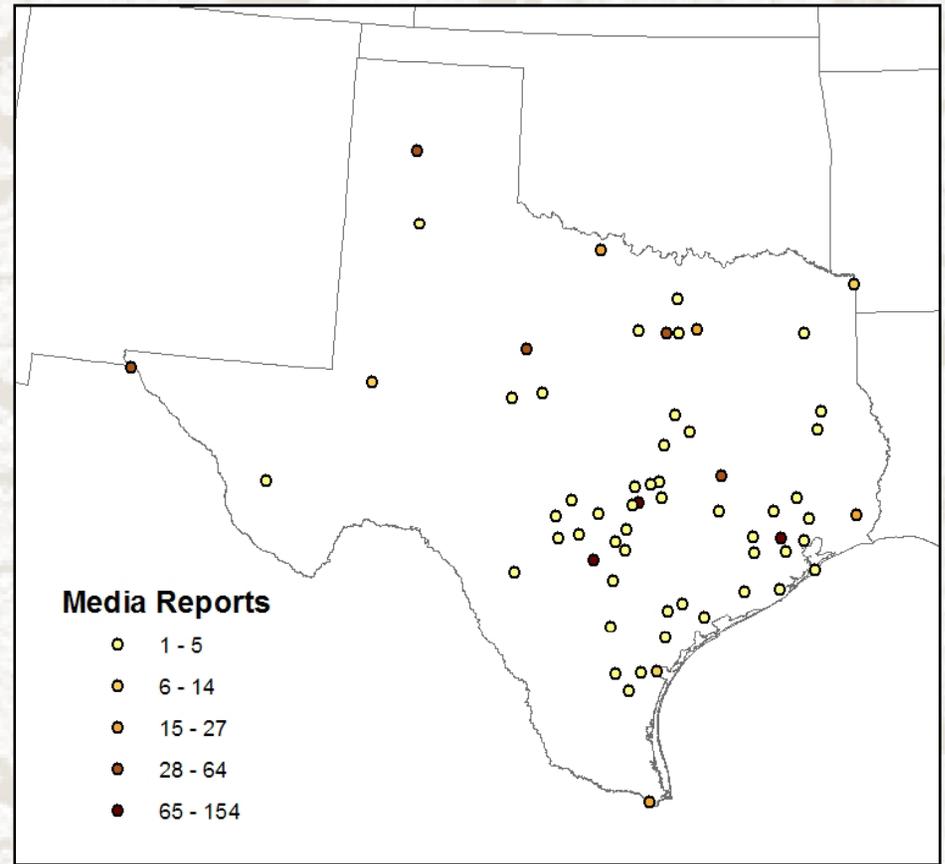
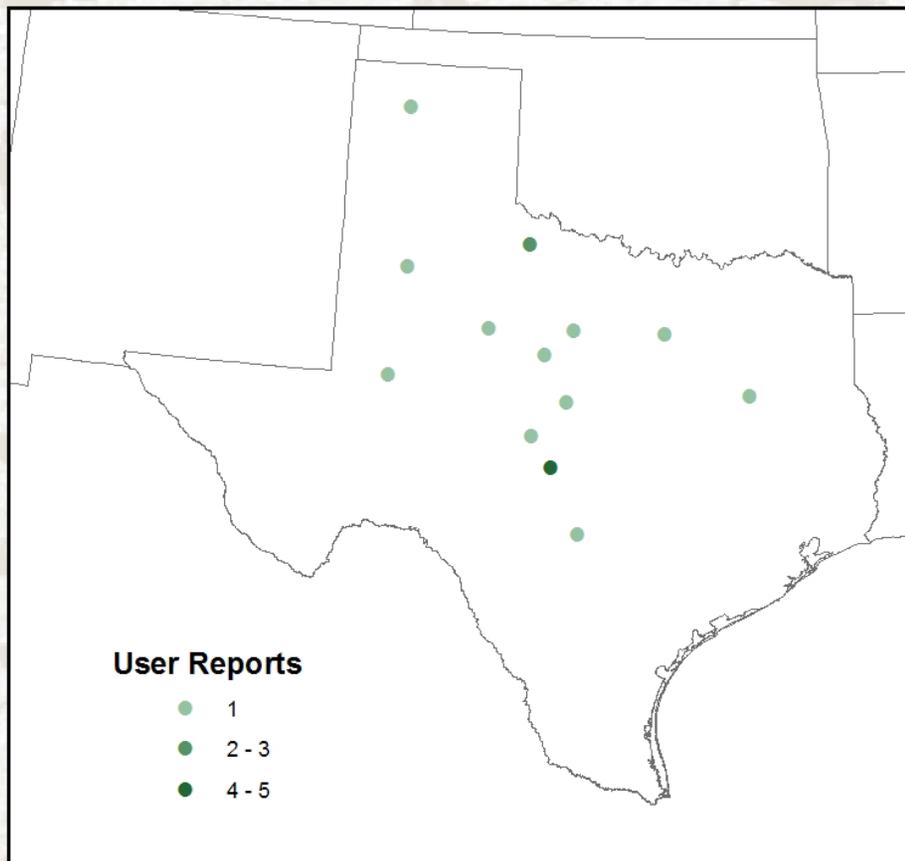
Visible

- Secretarial Disaster Declarations
 - SSD S2424
 - Primary County
 - Secondary County
 - SSD S2435
- Relief Programs
 - Low Interest Emergency (EM) Loans
 - Livestock Assistance Program (LAP)
 - Emergency Haying and Grazing of CRP Acreage

select Boundaries

Lessons learned: User Reports

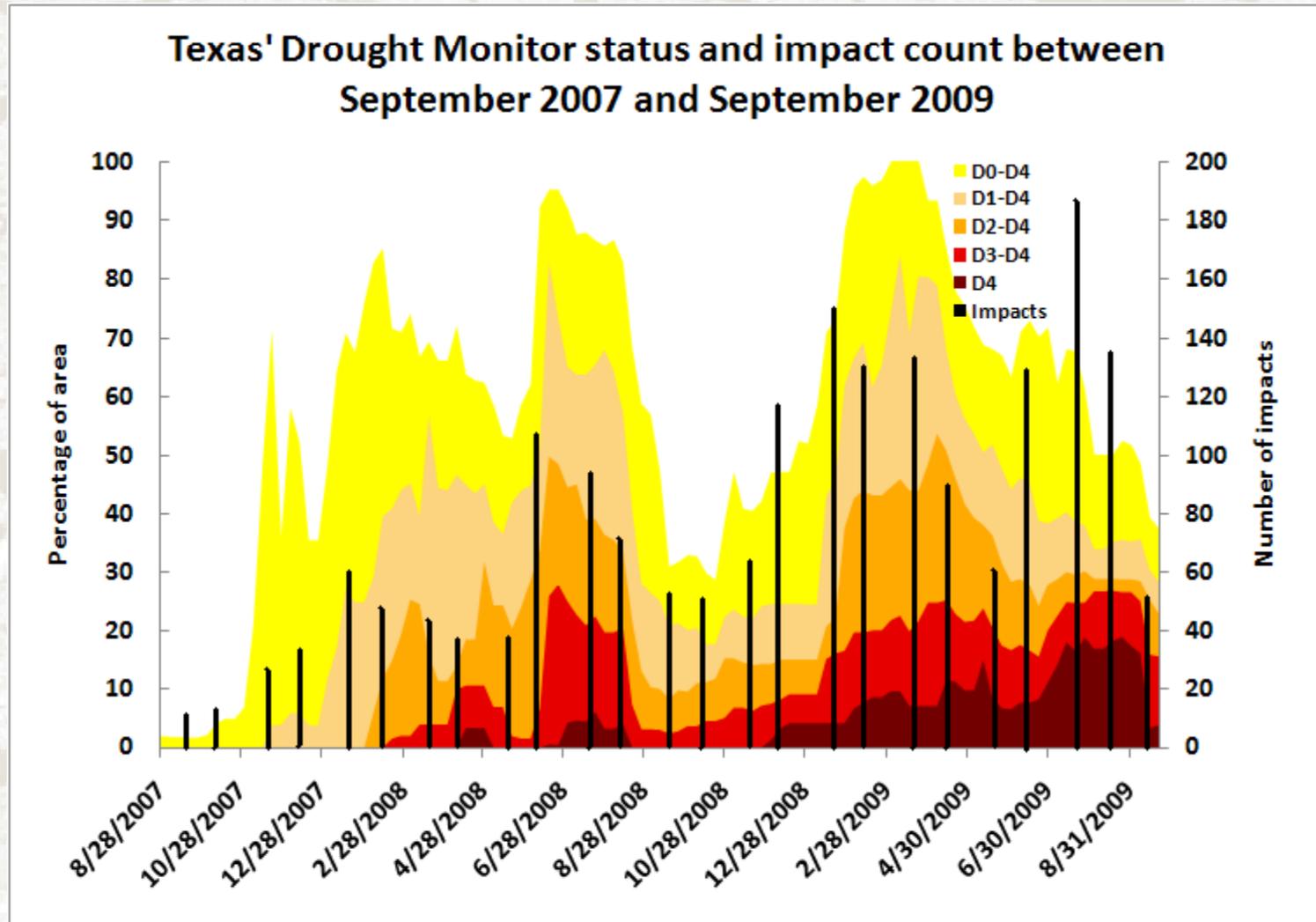
Geographic diversity?"



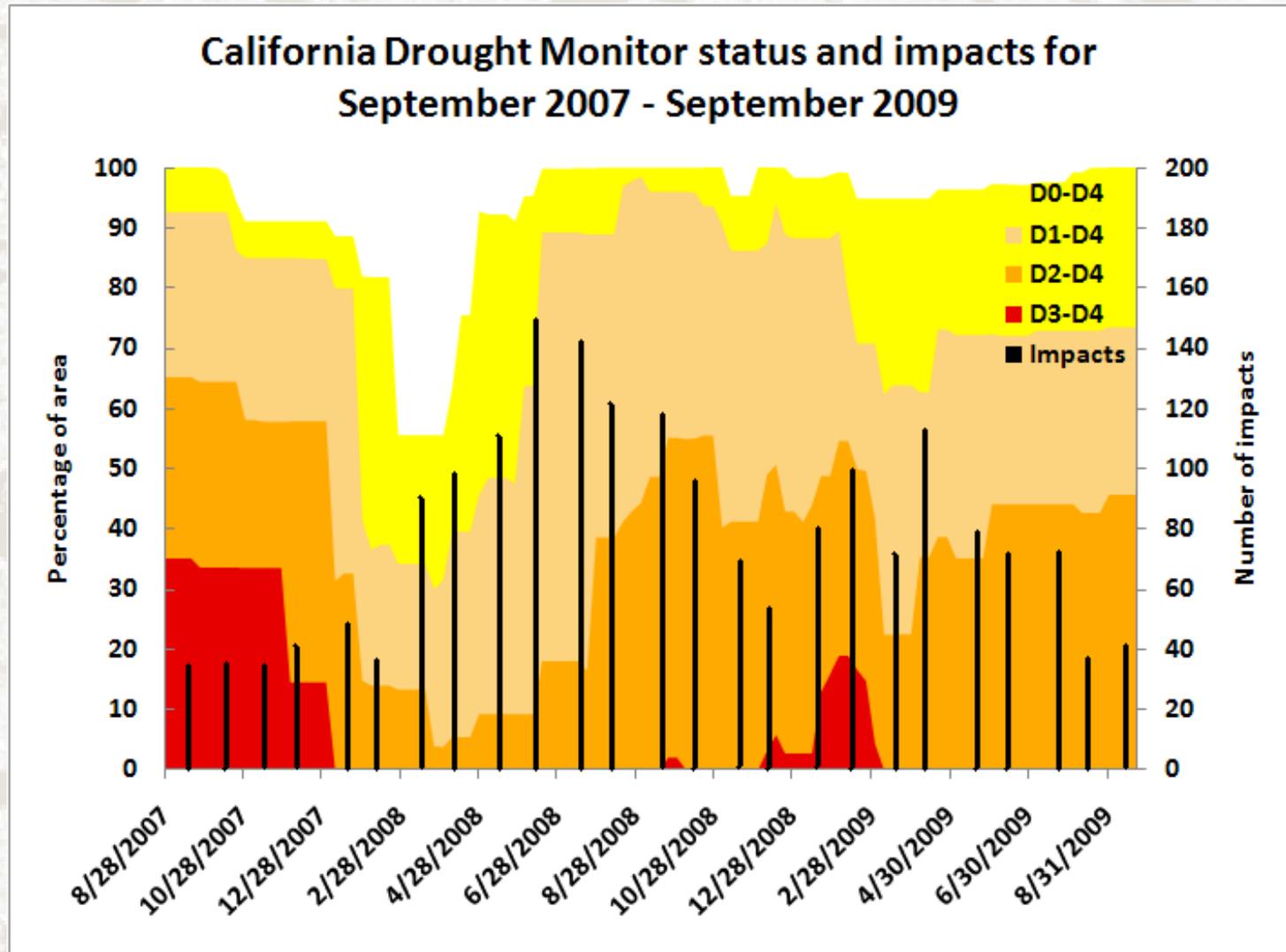
Lessons Learned: User Reports

- Geographic diversity?
- “What’s my motivation?”
- Spotter training, baseline reports

Drought Status & Impacts, TX



Drought Status & Impacts, CA



Drought impacts research questions:

- Is relief targeted effectively and equitably?
- Can a well-trained, locally rooted drought spotter “beat” statistical indicators? At what scale are observations relevant?
- Are rural and disadvantaged populations represented in impact reporting and in relief?
- What besides economic losses can and should be quantified?

Other Impacts Research:

- CoCoRaHS
- States: AZ, HI, CA, TX, reporting impacts – how connected to policy process is it?
- Case studies: North Carolina landscapers

Parting thoughts

George Santayana

- “Those who do not learn from history are doomed to repeat it.”

Science Policy Forum

- “Stationarity is dead.”

Ann Henderson-Sellers

- “We must act on the assumption that past climatic data is no longer a reliable guide to the future.”

Yogi Berra

- “The future ain’t what it used to be.”

Thank you. Questions?

Contact:

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