The United States Drought Monitor

How to be part of the Process

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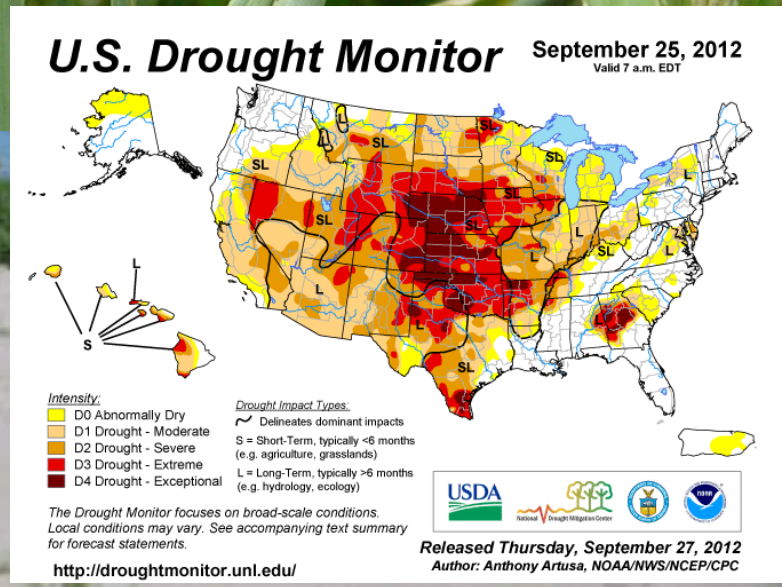
National Drought Mitigation Center
School of Natural Resources
University of Nebraska-Lincoln

Ranching and California's Drought

November 7, 2014
Davis, California



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What Types of information are the U.S. Drought Monitor Authors looking for?

- **Regional/State/local data which the authors may not be aware of**
  - Lake/reservoir levels compared to long-term averages
  - Agricultural information
    - Production estimates/data compared to normal
    - Fallowing of land and how much. Is it normal?
    - Irrigation availability: Decreased deliveries, how much?
    - Natural grazing lands/public grazing lands: Reduction of leases, forage availability etc.
  - Water availability/restrictions
    - For both municipal and agricultural uses
  - Groundwater/Well information
    - Wells going dry, new wells being drilled, groundwater levels compared to normal
  - Natural Landscapes conditions

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What Types of information are the U.S. Drought Monitor Authors looking for?

- **Seasonal data**
  - Snow course data
  - State/Regional mesonet data which may not be getting into the national data streams
  - State calculated streamflow forecasts
- **Drought Impact Data**

- **Current data compared to long-term rankings/historical averages.**
  - **This allows data to be put into percentiles which relates directly to Dx categories on the U.S. Drought Monitor**

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Ideas for what to monitor the condition of fall into several categories, sometimes more than one:

Plants & Wildlife

- Height or density of natural vegetation, one particular plant or a patch
- Presence or absence of a certain kind of plant, including invasive species
- Landscape or garden plants, height, progression through growth cycles
  - Ex: Frequency of lawn mowing
- Whether landscape or garden plants need watering
  - Brown spots on lawns
- How close wildlife are coming to human populations in search of food and water
  - Ex: Frequency of deer in yards
  - Ex: Number of bears looking for food or water
- Number of animals or species at a drinking water source
  - Ex: Number of birds or species at birdbath or feeder
- Presence or absence of aquatic species at a favorite fishing hole; number or size of a certain species; number of species counted
- Presence or absence of mosquitoes, grasshoppers, other insects with life-cycles related to dry and wet weather

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Ideas for what to monitor the condition of fall into several categories, sometimes more than one:

- **Agriculture**
  - Irrigated crop progress, appearance
  - Unirrigated crop progress, appearance
  - Availability or quality of forage or hay for livestock on both irrigated and natural grazing lands
  - Pasture/Grazing Land conditions
  - Availability of water for livestock
  - Availability of water for irrigation

- **Water Supply & Quality**
  - Water supply quality and quantity for human consumption: Need to haul or boil water
  - Water quality and characteristics: Changes in taste, odor, color, chemical content (if a well is tested regularly)
  - Municipal supply: Voluntary or mandatory watering restrictions
  - Availability of water for livestock
  - Availability of water for irrigation

Ideas for what to monitor the condition of fall into several categories, sometimes more than one:

- **Recreation & Tourism**
  - Water-based recreation: Number of people boating, canoeing, swimming, fishing at a certain spot
  - Outdoor recreation: Number of people hiking, camping, etc.

- **Society & Public Health**
  - Water supply quality and quantity for human consumption: Need to haul or boil water
  - Air quality related to dust, aerosols, smoke: Whether outdoor activities are accessible or need to be curtailed due to air quality
  - Mood: How do you or the people around you -- farmers, ranchers, neighbors, family, etc. -- sound when talking about the weather? You could describe the mood in words such as normal, glad, amazed, depressed, scared, or relieved. Or you could use a scale such as 1 to 10, with 1 being "very unpleasant" and 10 being "very pleasant."

- **Business & Industry**
  - Pounds of bait sold>
  - Number or quality of fish catch, or the need to diversify species or business activities
  - Number of watercraft rented (canoes, kayaks, pontoon boats)
  - Effects on landscaping business, such as number of plants replaced or planted, people employed
  - Prices or availability of agricultural products
  - High or low irrigation costs

- **Relief, Response & Restrictions**
  - Presence or absence of burn bans or fireworks bans
  - Presence or absence of watering restrictions

There are several methods to get information into the United States Drought Monitor *process* already in existence

- US Drought Monitor Listserv
- The Drought Impact Reporter
- CoCoRaHS
- California State Climate Office
- California/Nevada Drought Monitoring Group
- CalDry Group
- Direct Email to the authors
- Generic Email to the U.S. Drought Monitor

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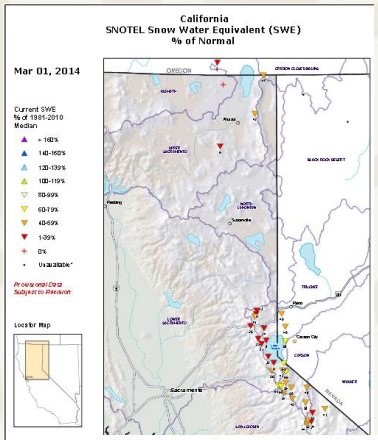
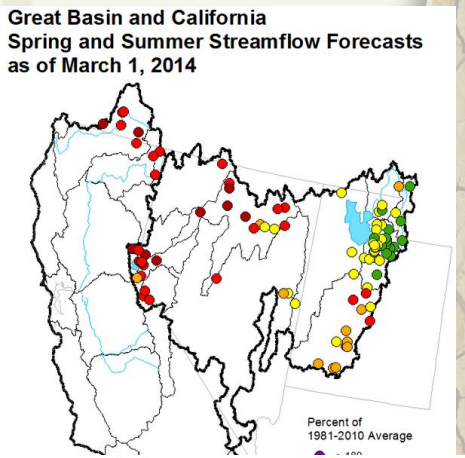
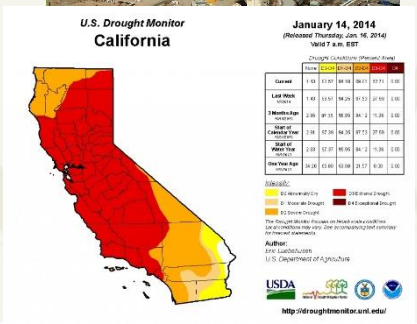
The Importance of Local Expert Input

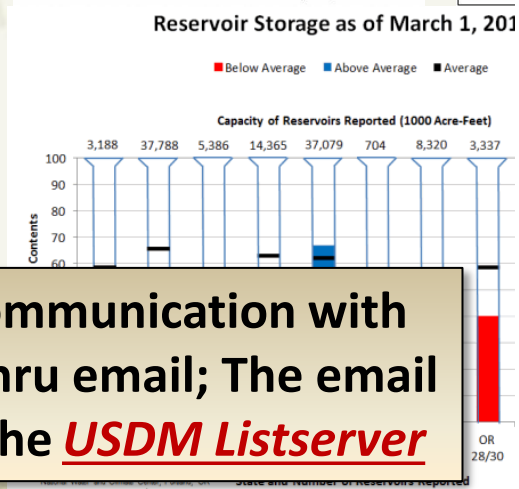
- **The U.S. Drought Monitor Team Relies on Field Observation Feedback from the Local Experts for Impacts Information & "Ground Truth"**
  - ***Listserver (350+ Participants: 2/3 Federal, 1/3 State/Univ.)***

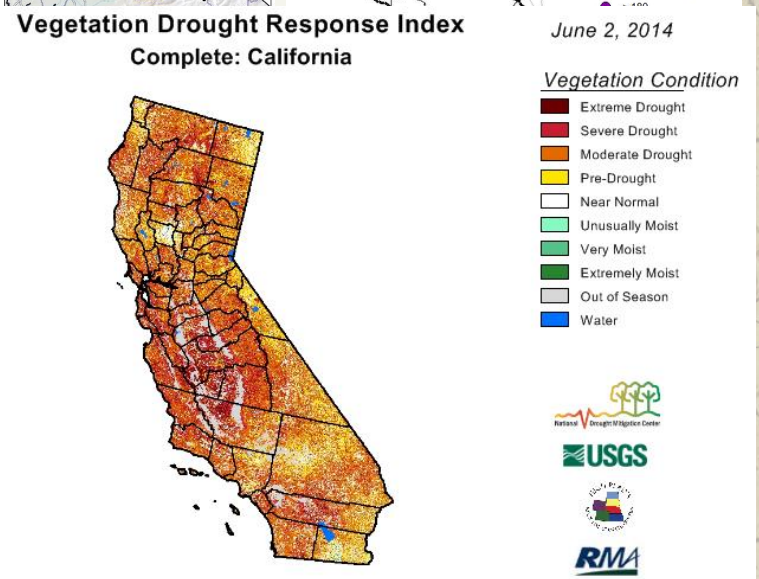
- **Local NWS & USDA/NRCS Offices**
- **State Climate Offices**
- **State Drought Task Forces**
- **Regional Climate Centers**
- **NIDIS Basin**







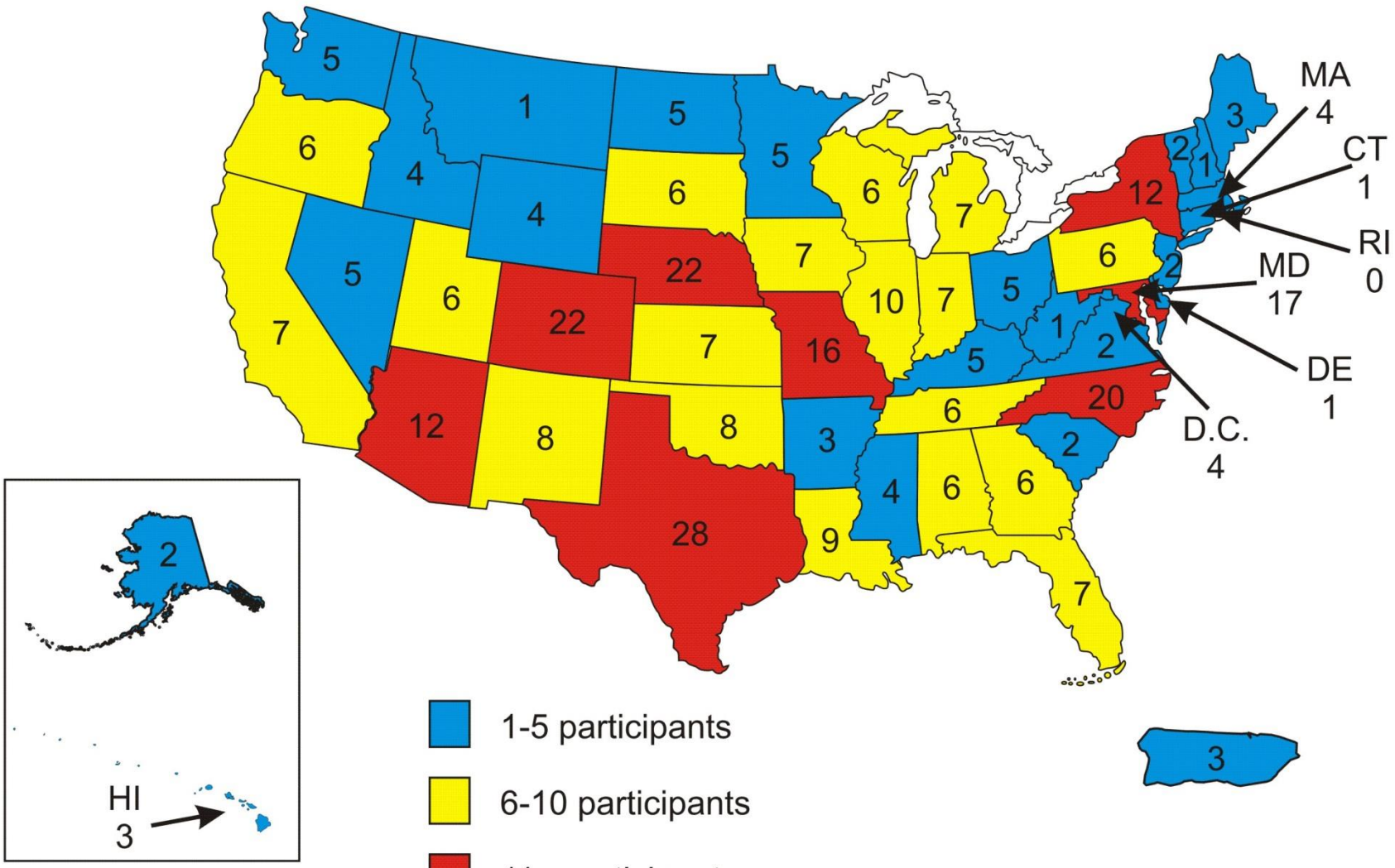




The primary means of communication with our "eyes in the field" is thru email; The email "Expert Group" is called the *USDM Listserver*

USDM Listserve Subscribers

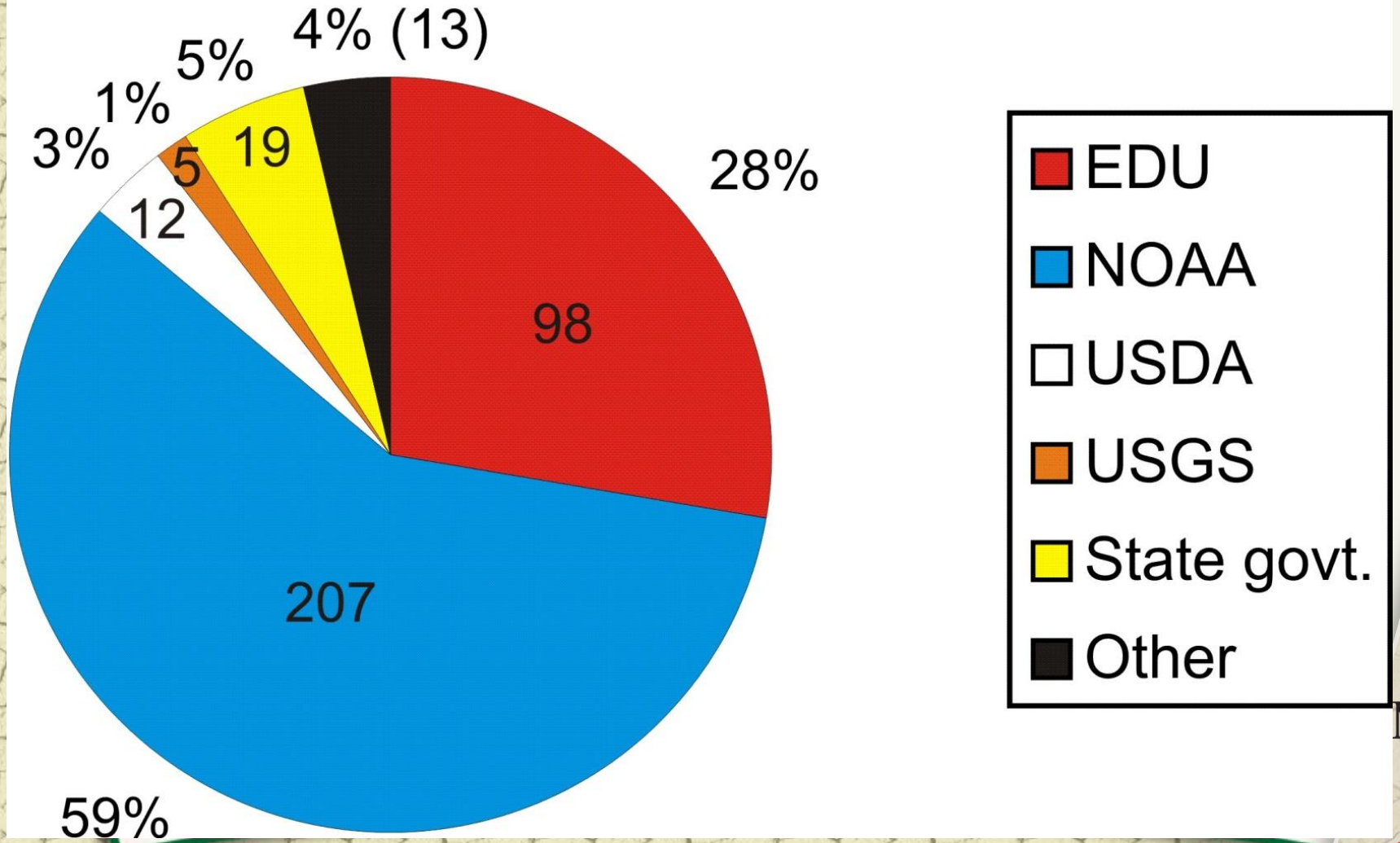
(as of September 4, 2014)



Total: 351 (does not include 1 participant from Canada and 2 participants from Brazil)

USDM Listserve Subscribers

(as of September 4, 2014)



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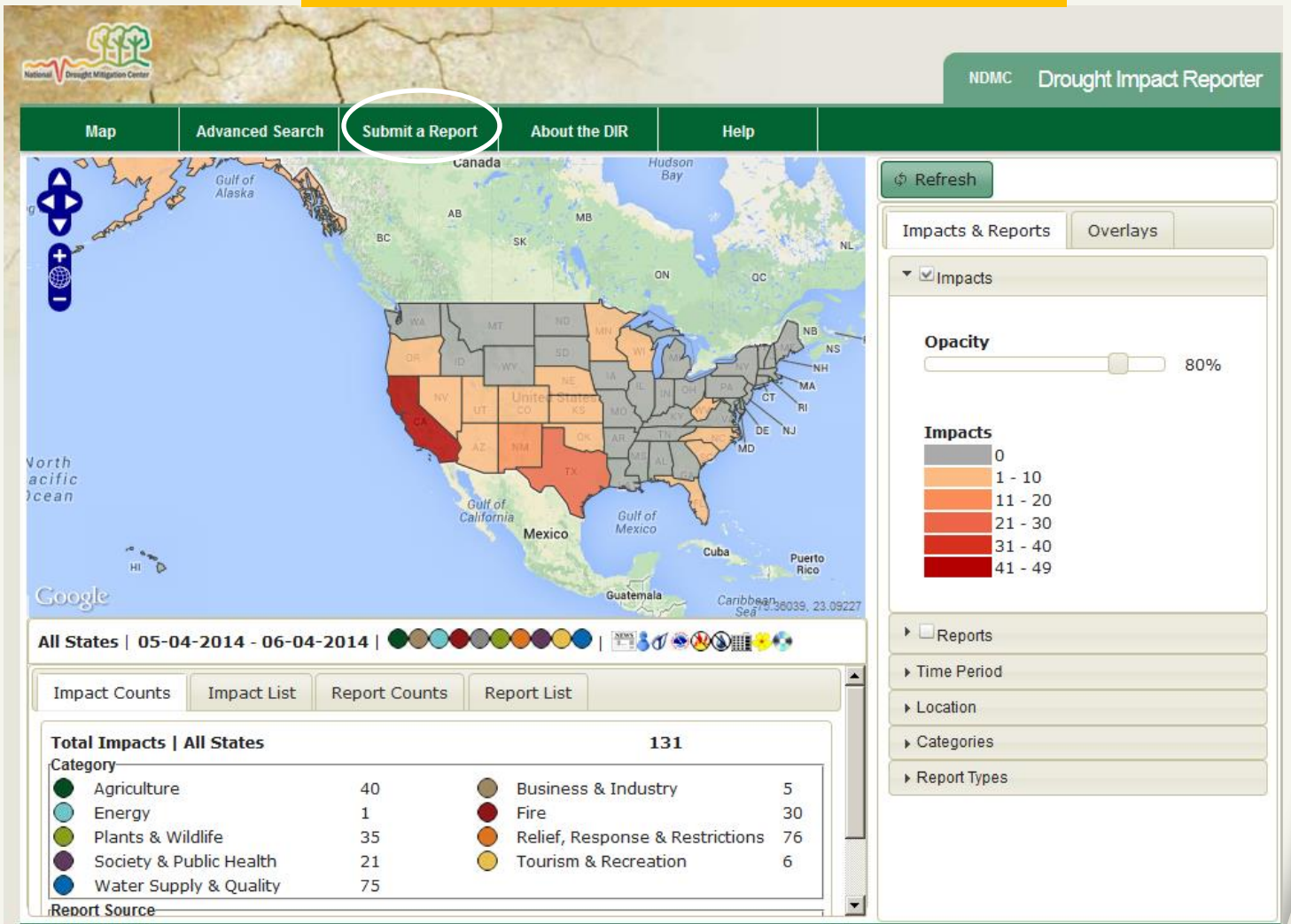
To Subscribe:

- Email **Brian Fuchs** at the National Drought Mitigation Center to join the US Drought Monitor Listserv
  - bfuchs2@unl.edu

Drought Impact Information

http://droughtreporter.unl.edu/



Anyone can provide drought impact information

- Archive of drought related impacts since 2005 with some historical impacts also available
- Over 18,850 impacts logged to date from all sources
- Partnerships with **CoCoRaHS** (5,000 since 2010) and the *Carolinas Integrated Sciences Assessments*: **CISA** (600 since 2013) have enhanced submissions directly into the DIR.

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Submit a Report

Learn how your report becomes an impact.

* indicates required field

Description

Please provide a **Description** of how drought is affecting you, your livelihood, your activities, etc.

If there is a report online that helps illustrate your observation, please use the **Related Link** box to provide the link.

A **Condition Monitoring Report** allows a regular observer to describe normal conditions that are likely to change during drought, to create a basis for comparison. Please check Condition Monitoring Report if that's what you are submitting. If you aren't sure, please leave it unchecked.

Impact Description*

Related Link

☐ Condition Monitoring Report

Categories

To help get a handle on drought's complex impacts, we divide them into **Categories**. Not all impacts fit neatly within a category, but many do.

Please click on the checkbox or category name to select it.

When you select a category, you have the option to enter a **Value** in dollars for losses or gains. Any information about dollar losses or gains will appear along with the other information you submit in your report.

Categories	Value (not required)
☐ Agriculture	$
☐ Business & Industry	$
☐ Energy	$
☐ Fire	$
☐ General Awareness	$
☐ Plants & Wildlife	$
☐ Relief, Response & Restrictions	$
☐ Society & Public Health	$
☐ Tourism & Recreation	$
☐ Water Supply & Quality	$

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Duration

The **Start Date** and **End Date** can be approximate. A **Start Date** is required. It is OK to leave the **End Date** blank if the impact is ongoing or if you don't know when it ended.

Click on the calendar icon and then on a specific date to select a **Start Date** or **End Date**, or manually enter a date using MM/DD/YYYY format.

* Start Date

End Date

Affected Places

To select an entire state, click on the arrow to the right of the name of the state. The name of the state should appear in the **Affected Places** box above.

To report on an impact in a specific location, first click on the name of the state where it is. The state should be highlighted, but should not appear in the **Affected Places** box. A list of counties in the state will appear. To select one or more counties, click on the arrow to the right of the name of one or more counties. The counties you selected will appear in the **Affected Places** box.

To select a city, first click on the name of the state where it is. The state should be highlighted, but should not appear in the **Affected Places** box. Then begin typing the name of the city in the box at the top of the **City** column, and select the city you want when it appears by clicking on the arrow to the right of its name.

To unselect a state, county or city, click on the x to the left of its name in the **Affected Places** field.

Clicking on **Add All States** will do just that. It may be faster to add all and then unselect a few than to select a large number of states. Please use this option with caution.

If all but a few counties in a state are affected, you can **select all**, which will highlight all of them, and then hold down the control key and click on the county names to unselect them, and then click **add selected** to make the ones still highlighted appear in the **Affected Places** box.

State add all states | County select all add selected | City

- Alabama
- Alaska
- Arizona
- Arkansas
- California

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Images

Browse to the **Photo** you would like to submit. Attach up to five gif/jpg/jpeg/png image files smaller than 10 MB.

Please enter the photographer's name and organization, if applicable, as it should appear in the **Credit**.

Enter the **Date** the photo was taken.

Enter the **Location** where the photo was taken.

Please provide **Caption** information that helps people understand what effect of drought the photo shows. It may be helpful to submit before and after photos, if possible, so that people can contrast drought conditions with normal conditions.

By submitting images, you agree that the National Drought Mitigation Center may publish them in the Drought Impact Reporter, on NDMC websites, or via social media. You also agree that you are the photographer or that you have the photographer's permission to submit the photo.

Photo Browse... No file selected.

Credit

Date

Location

Caption

add another image

Contact Information

Please provide your **First Name** and **Last Name**. We can keep it confidential based on your answer below, but we still need it for our records.

Please select the **Observer Type** that best describes you.

If you are submitting a report on behalf of an organization, agency, or business, please let us know.

Please provide your **State** and the nearest **City**.

Please provide an **Email** address and a **Phone** number in case our moderators need to contact you to verify information.

* First Name

* Last Name

* Observer Type Please Select

Organization

Address 1

Address 2

* State Please Select

* City Begin typing in the window and select your city when it appears below.

Zip

* Phone 1

Phone 2

* Email

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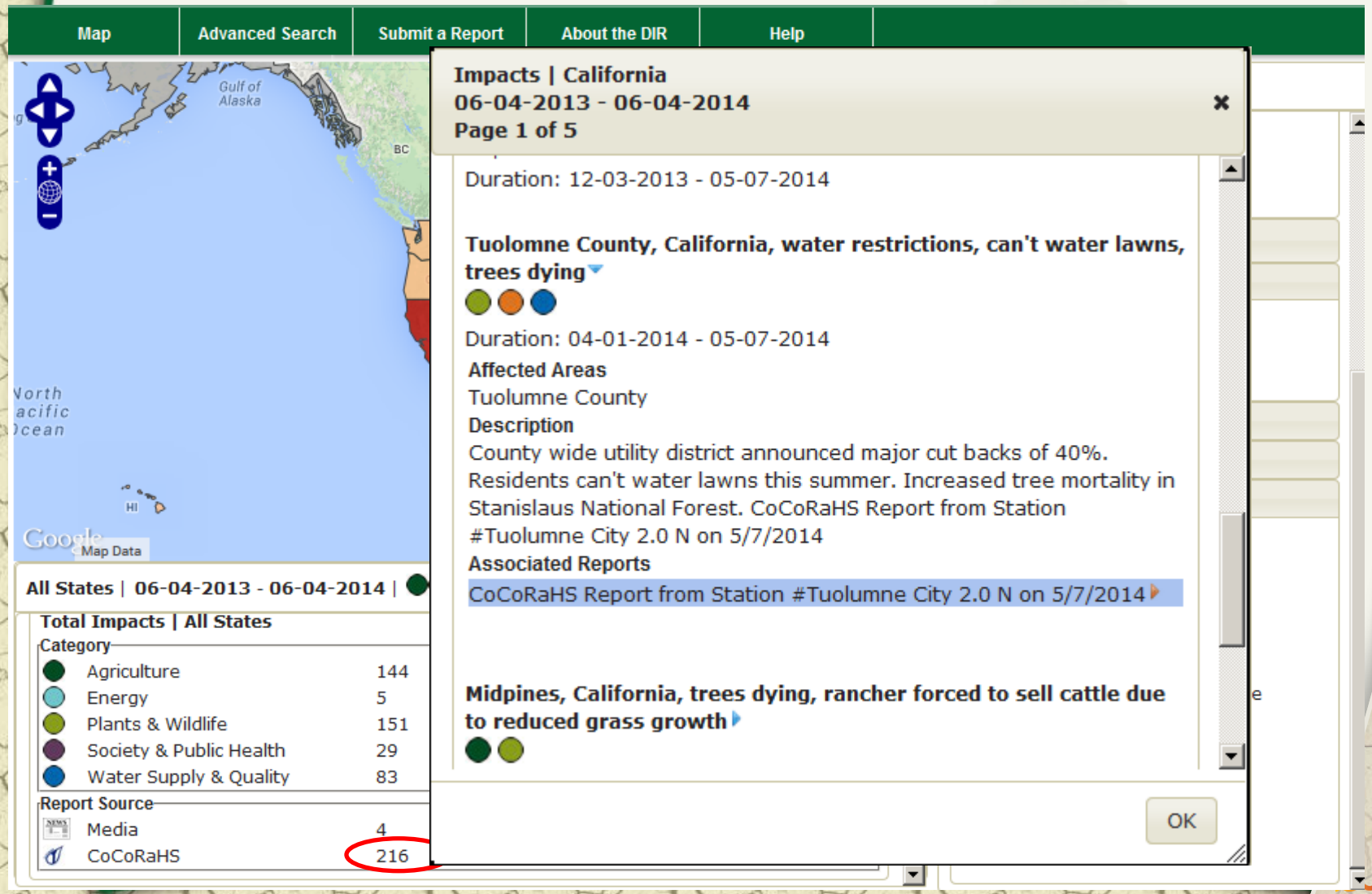
Citizens Providing Impact Information



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Citizens Providing Data and Impacts

COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK

"Because every drop counts"

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Drought Impact Reports

http://www.cocorahs.org/

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DROUGHT IMPACTS REPORTING RESOURCE PAGE

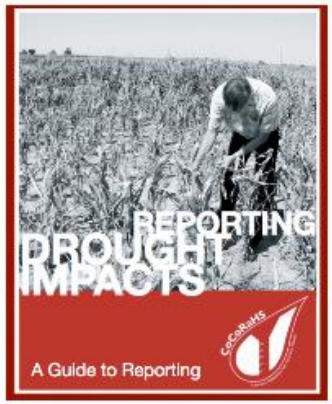
Has your community been
IMPACTED BY DROUGHT?
Tell us by submitting a "CoCoRaHS Drought Impact Report"

Please take a moment to view the "Drought Impacts Reporting Guide" below and then go ahead and submit an "Impact Report" on-line.

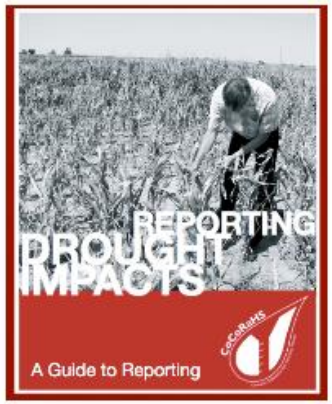
View Drought Impact Reports

DROUGHT IMPACT REPORTING GUIDE

View our short guide on Reporting Drought Impacts by clicking on the icon below:



HTML Slideshow



Downloadable PDF

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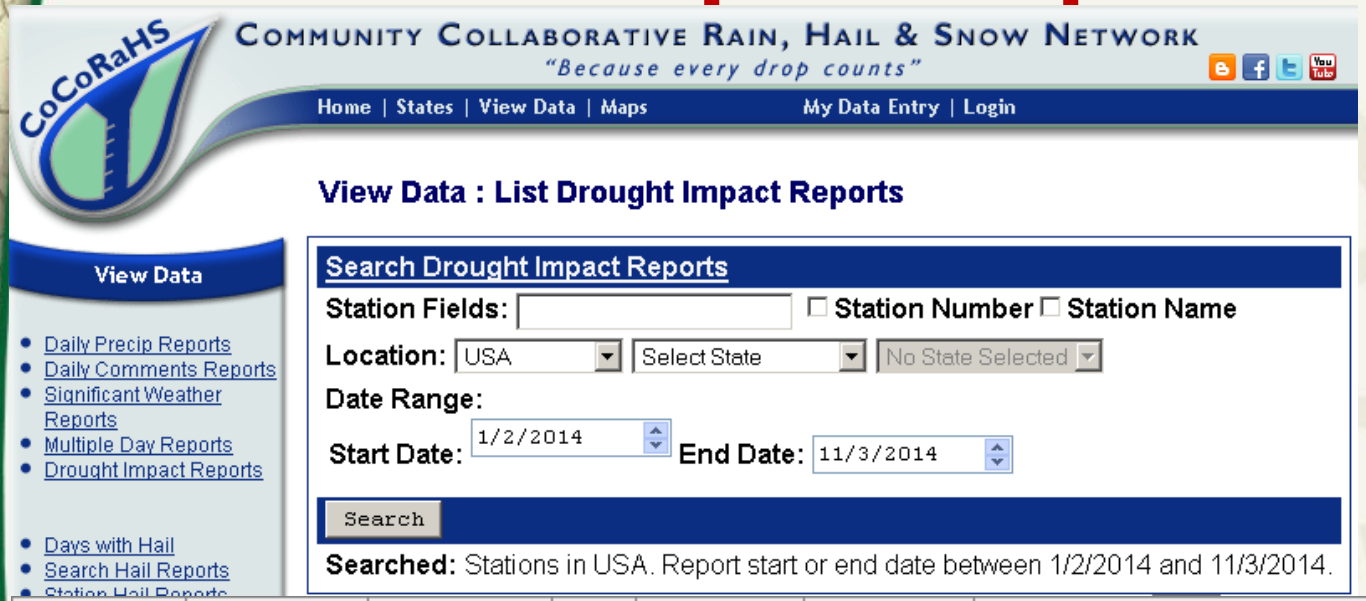
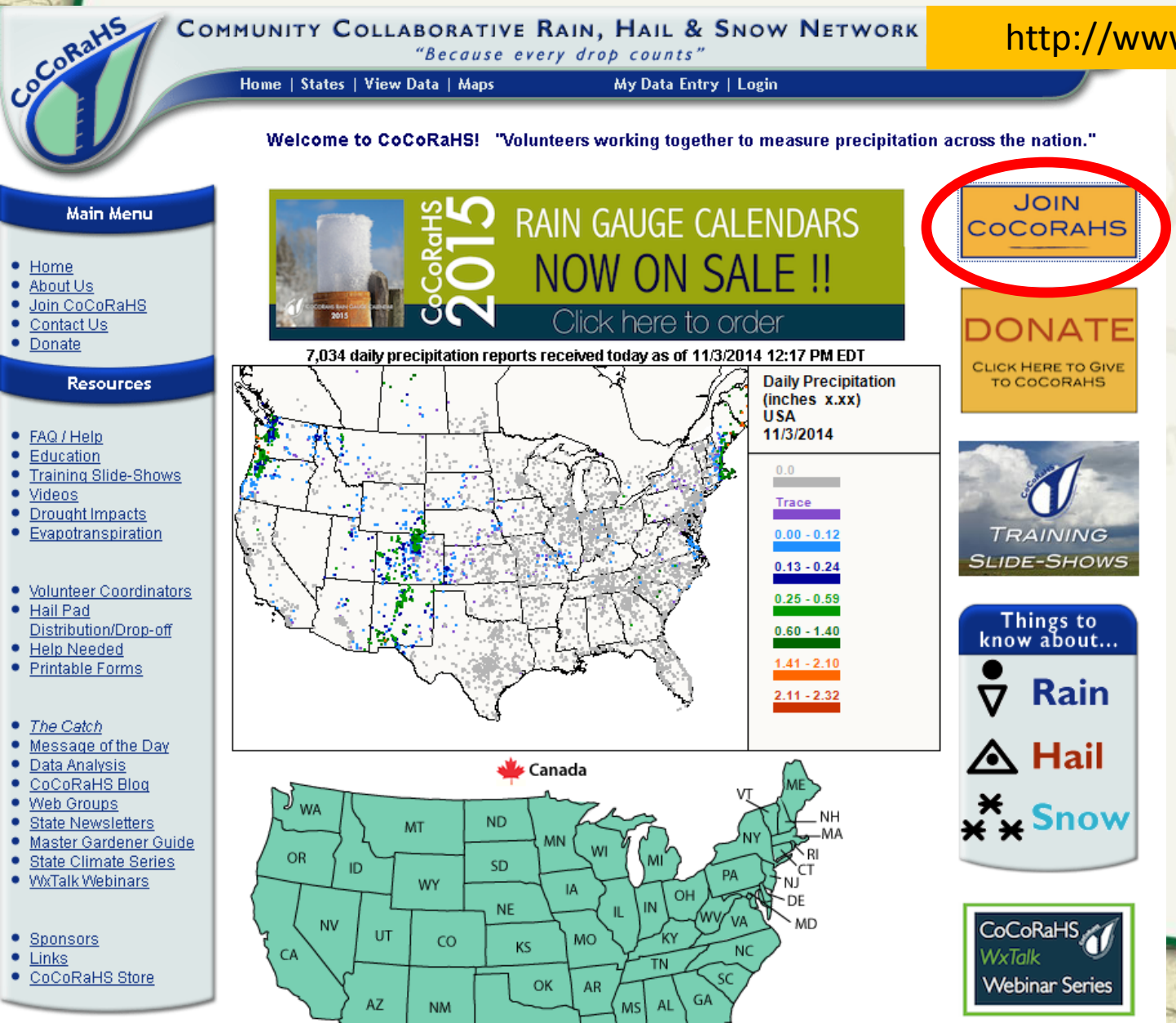
Example of CoCoRaHS Drought Impact Reports



6/4/2014	6/4/2014	CA-FR-2	CA	Fresno	False	Agriculture : $8,000.00	Well went dry yesterday, almond trees will die, and I'll have roughly two and a half acres of firewood.	
6/11/2014		CA-FR-2	CA	Fresno	False	Agriculture : $6,000.00	Neighbor's well went dry yesterday, a week after mine. He is going to lose 4 acres of orange trees.	

To become a CoCoRaHS Observer:

http://www.cocorahs.org/



Contacting your State Climatologist directly

http://www.water.ca.gov/floodmgmt/hafoo/csc/

To find and contact all of the state climatologists, please go to the American Association of State Climatologists (AASC) webpage

http://www.stateclimate.org/

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California/Nevada Drought Monitor Group

To Join:

- **Contact:** Mike Anderson

Michael.L.Anderson@water.ca.gov

(916) 574-2830

Cindy Matthews

cindy.matthews@noaa.gov

(916) 979-3041 Ext 240

- **Group Email:** sto.ca.nv.droughtm@noaa.gov

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CalDry Email List

To Join:

- **Contact:** Mike Anderson

Michael.L.Anderson@water.ca.gov

(916) 574-2830

Cindy Matthews

cindy.matthews@noaa.gov

(916) 979-3041 Ext 240

- **Group Email:** caldm@water.ca.gov

Contact the USDM Authors Directly

- All the authors contacts can be found here: http://droughtmonitor.unl.edu/AboutUSDM/ContactUs.aspx

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  - **Richard Tinker**, Climate Prediction Center, (301) 683-3411 rich.tinker@noaa.gov

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Generic U.S. Drought Monitor email:

- If all else fails or if you have questions concerning the U.S. Drought Monitor map, data, process etc, the following email can be used to get an answer:

- DroughtMonitor@unl.edu

Any Questions ?

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Contact Information:

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bfuchs2@unl.edu
402-472-6775

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