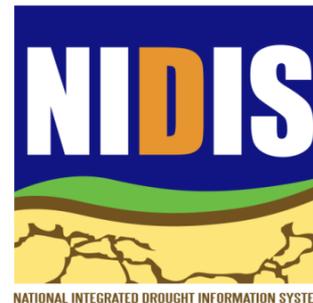


CoCoRaHS Condition Monitoring

Amanda F. Brennan

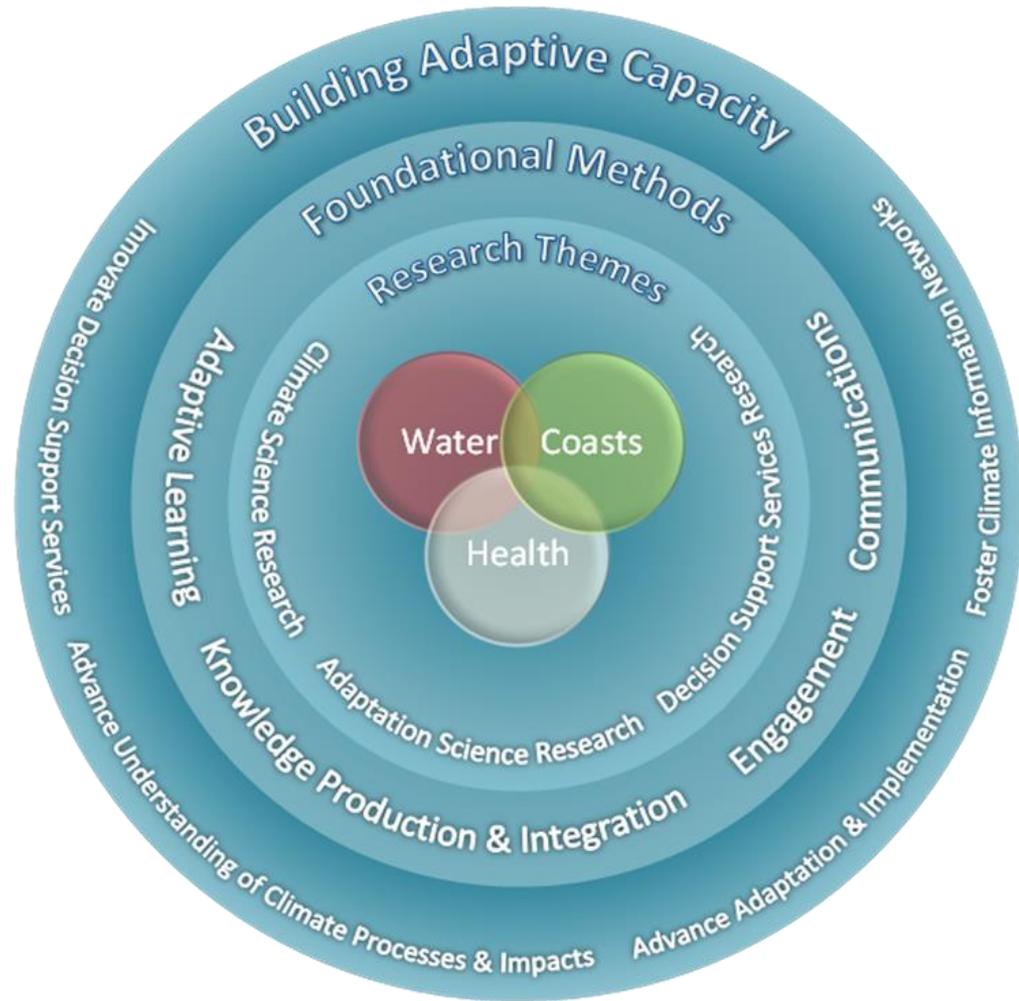
NC Drought Management Advisory Council Annual Meeting

Thursday, April 28, 2016





Working to build adaptive capacity in the Carolinas at the intersection of climate with water, coasts, and health

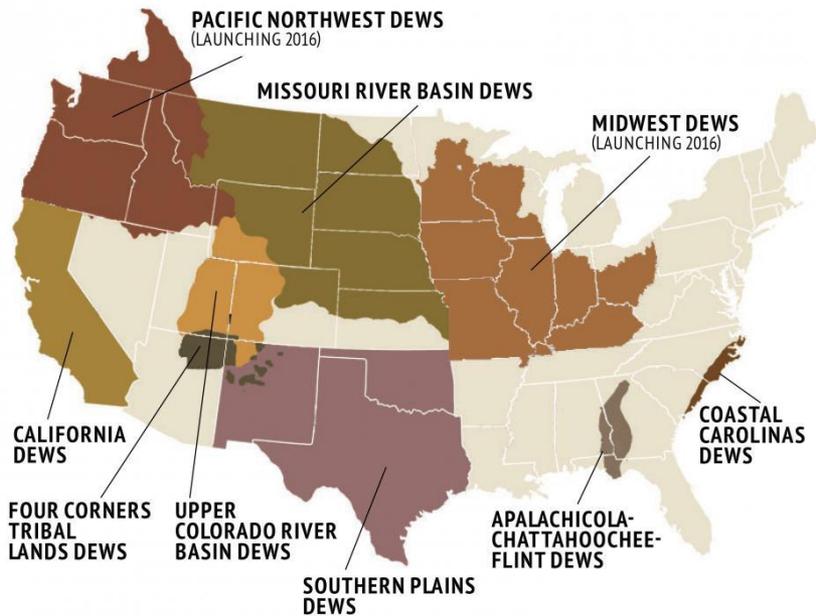




NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM

National Integrated Drought Information System

NIDIS Drought Early Warning Systems



- Moving the nation from a reactive to a more proactive approach to drought planning and preparedness
 - Information and tools to monitor and forecast drought
 - Stakeholder engagement, communications, and outreach
 - Drought early warning system programs

2012 Carolina DEWS Scoping Workshop



Key information needs identified by workshop participants:

- Improved on-the-ground drought impacts monitoring and reporting
- Understanding impacts not captured by traditional drought indices (e.g., agriculture, fire)
- Capturing more information about drought onset and recovery



Community Collaborative Rain, Hail & Snow Network



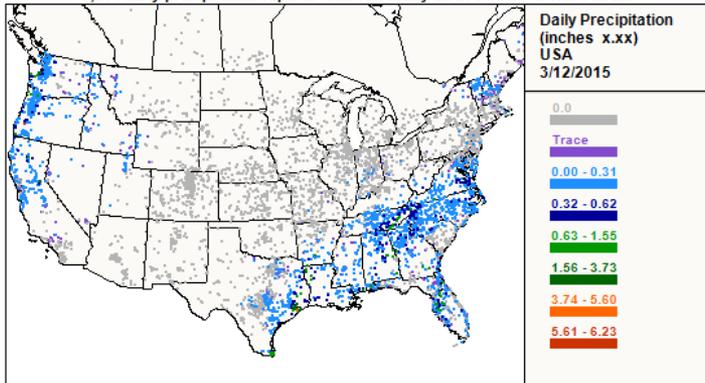
Welcome to CoCoRaHS! "Volunteers working together to measure precipitation across the nation."

- Main Menu**
- [Home](#)
 - [About Us](#)
 - [Join CoCoRaHS](#)
 - [Contact Us](#)
 - [Donate](#)

- Resources**
- [FAQ / Help](#)
 - [Education](#)
 - [Training Slide-Shows](#)
 - [Videos](#)
 - [Drought Impacts](#)
 - [Evapotranspiration](#)
 - [Volunteer Coordinators](#)
 - [Hail Pad](#)
 - [Distribution/Drop-off](#)
 - [Help Needed](#)
 - [Printable Forms](#)
 - [The Catch](#)
 - [Message of the Day](#)
 - [Data Analysis](#)
 - [CoCoRaHS Blog](#)
 - [Web Groups](#)

CoCoRaHS March Madness 2015
March 1–31, 2015
 How many new volunteers can you recruit in your state?

6,914 daily precipitation reports received today as of 3/12/2015 1:50 PM EDT



JOIN CoCoRaHS

TRAINING SLIDE-SHOWS

Things to know about...

- **Rain**
- **Hail**
- **Snow**

- Daily precipitation measurements using the “official” 4” CoCoRaHS rain gauge

- Severe weather reports

- Drought impacts reports
 - Incorporated into the National Drought Impacts Reporter

- Online data entry (mobile apps also available)

Weekly Condition Monitoring

Connecting weather and climate to the environment

- Regular observations help to identify:
 - Early signs of drought
 - Intensification of impacts
 - When conditions begin to improve
 - Any lingering impacts



Weekly Condition Monitoring



Condition Monitoring Report Form Submit Data Reset

Station Number : SC-RC-51
 Station Name : Columbia 6.6 SE

Condition monitoring reports are submitted on a regular (weekly, biweekly, monthly) basis to share information about the effects of local precipitation on the environment and society. By submitting reports on a regular basis, you create a baseline to see change through time, such as seasonal differences or changes caused by more or less precipitation. Please refer to the [Condition Monitoring training slide show](#) for more information.
 * indicates required field

Report Date *
 4/22/2016

Condition Scale Bar [More information on the scale bar](#) Clear Scale Bar

Severely Dry	Moderately Dry	Mildly Dry	Near Normal	Mildly Wet	Moderately Wet	Severely Wet
<input type="radio"/>						

Description
 Please provide a description of how dry, normal or wet conditions are affecting you, your livelihood, your activities, etc. *

Report Categories
 Please check at least one report category. If you check a category, please provide supporting information in the description. [More information on condition monitoring categories.](#)

- General Awareness
- Agriculture
- Business And Industry
- Energy
- Fire
- Plants And Wildlife
- Relief Response
- Society And Public Health
- Tourism And Recreation
- Water Supply And Quality

Submit Data Reset

Observe



Report

Photo credits: CoCoRaHS, Pat Momich, Melinda Ball

Sample Condition Monitoring Reports



Photo courtesy of observer Pat Momich

Madison County, NC – March 8, 2015

This has been a week of extremes – from a high of 73° to a low of 18° with a covering of snow and ice. The good news is that **definite signs of spring** are finally appearing. Song sparrows are starting to sing. Crocuses are blooming. And, best of all, **wood frogs have returned to our pond and laid eggs**. This is late.

According to my records over 10 years, the average date for wood frogs coming to the pond is February 18.

Buncombe County, NC – November 30, 2015

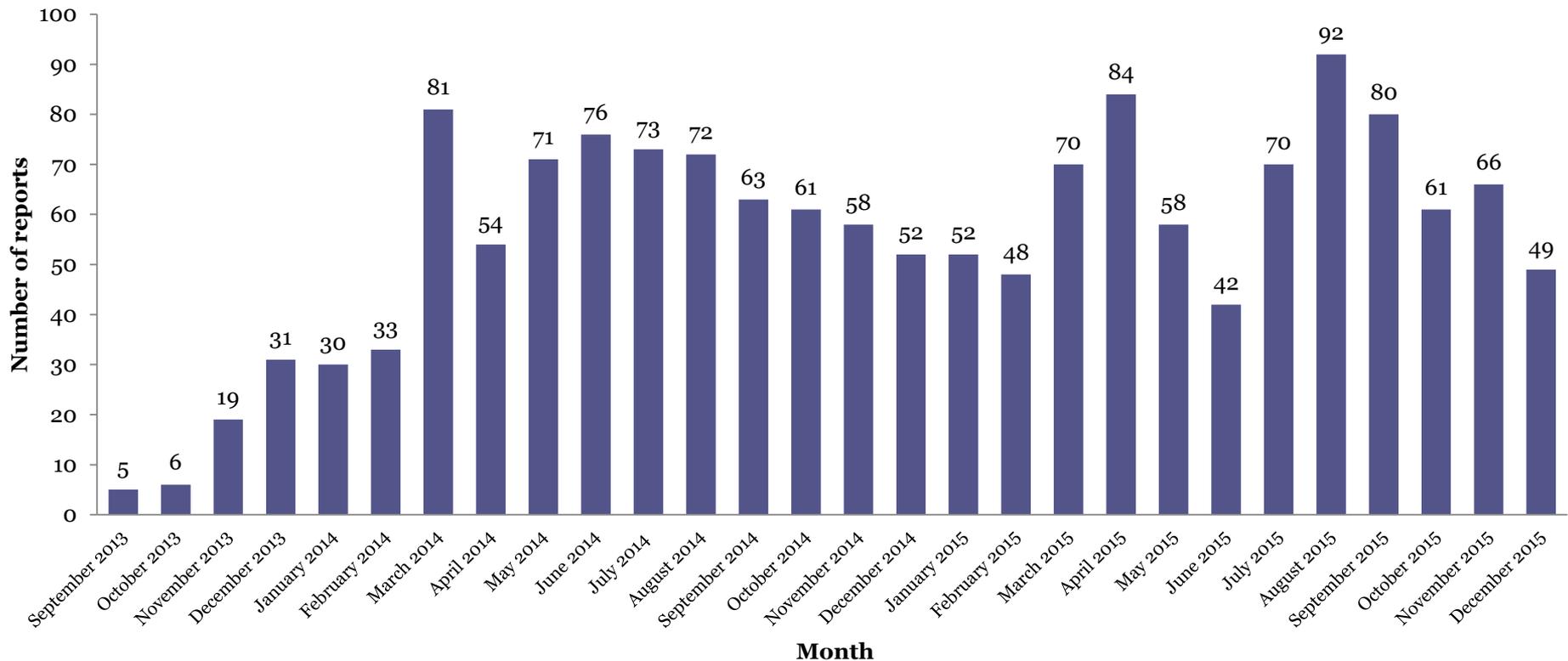
We continue in the **all or nothing weather pattern**. 6" rain, a week of unseasonably warm and dry, 2" 15 days warm and dry and a quick 2 day cool down, and now 2+ precip again. **In between the rain it has been alarming how quickly the streams and creeks go back to below normal levels**. Birds are emptying the feeders quickly, and I am still seeing snakes, groundhogs and one bear sighting. We ate our thanksgiving dinner on the porch. sunsets and sunrises have been spectacular.

Tourists are enjoying the warm dry spells for hiking and shopping. **Farmers** are shaking their heads! **Most everyone has a sniffle-seasonal whiplash!**

Condition Monitoring Report Breakdown

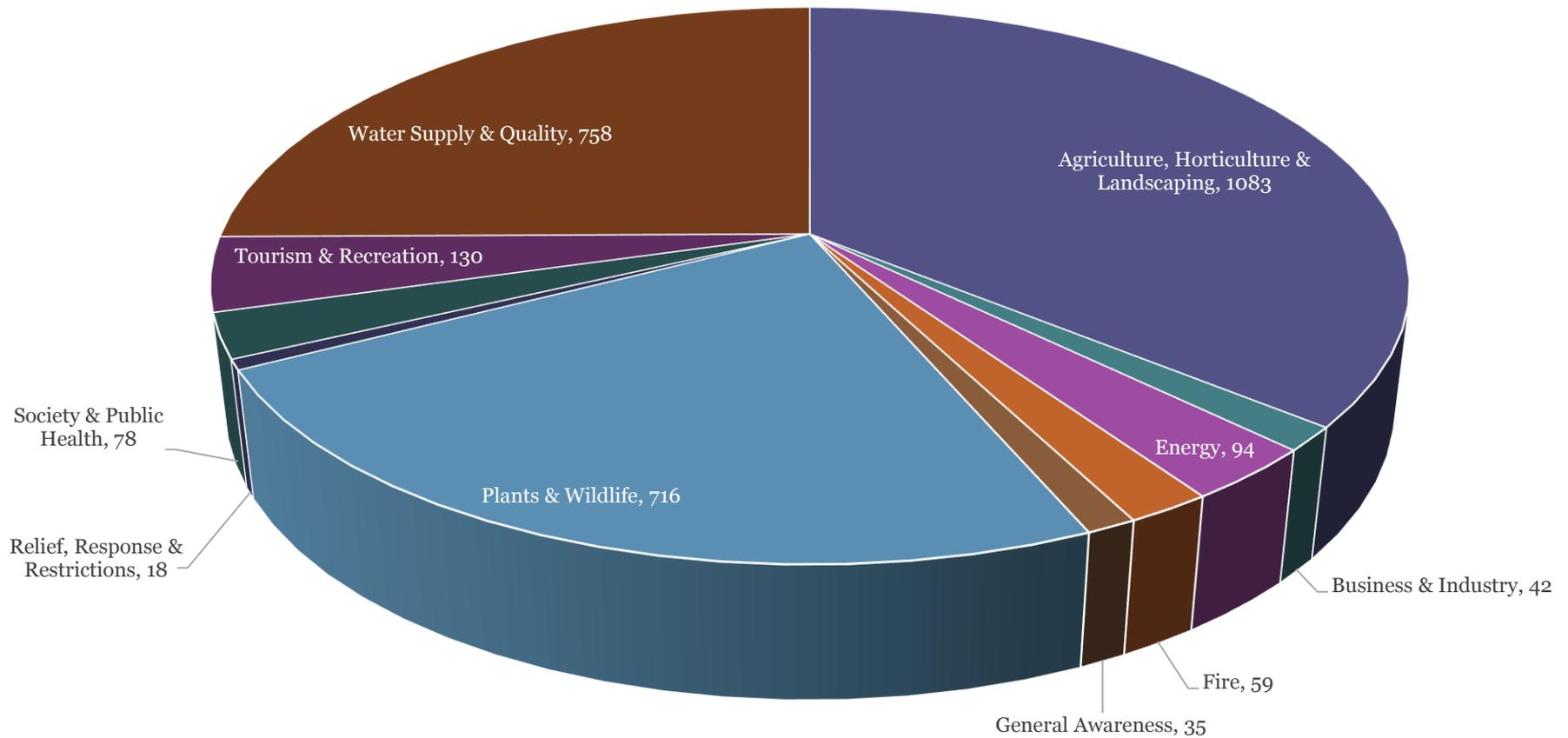
# of reports submitted, Sept 1, 2013 – Dec 31, 2015	1,572
# of observers who submitted reports	71
# of coded reference to all coding categories	17,229

Total Number of Reports Submitted Each Month

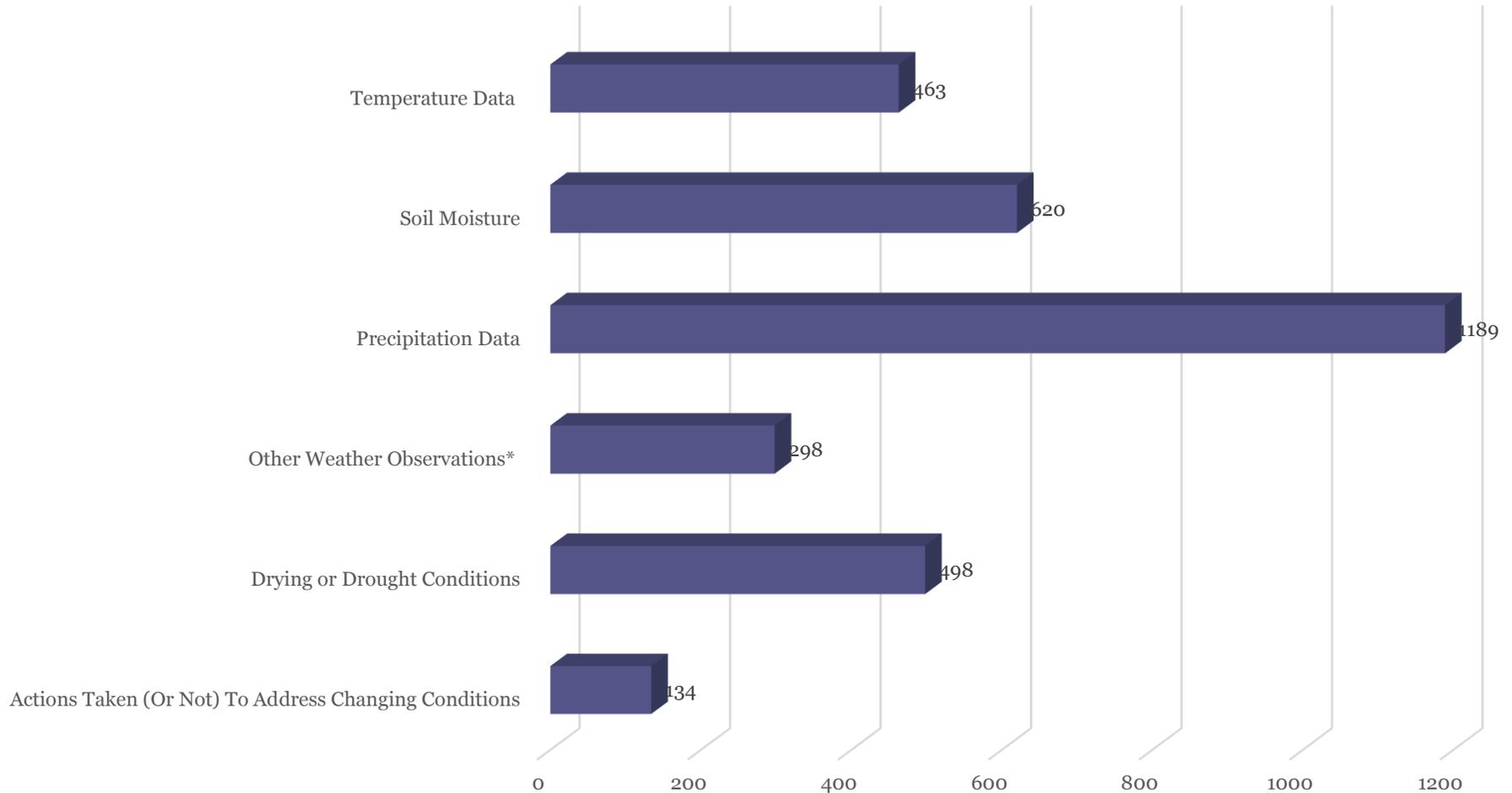


Coded by Drought Impact Categories

Number of reports which include information about each different impact category, n = 1,572

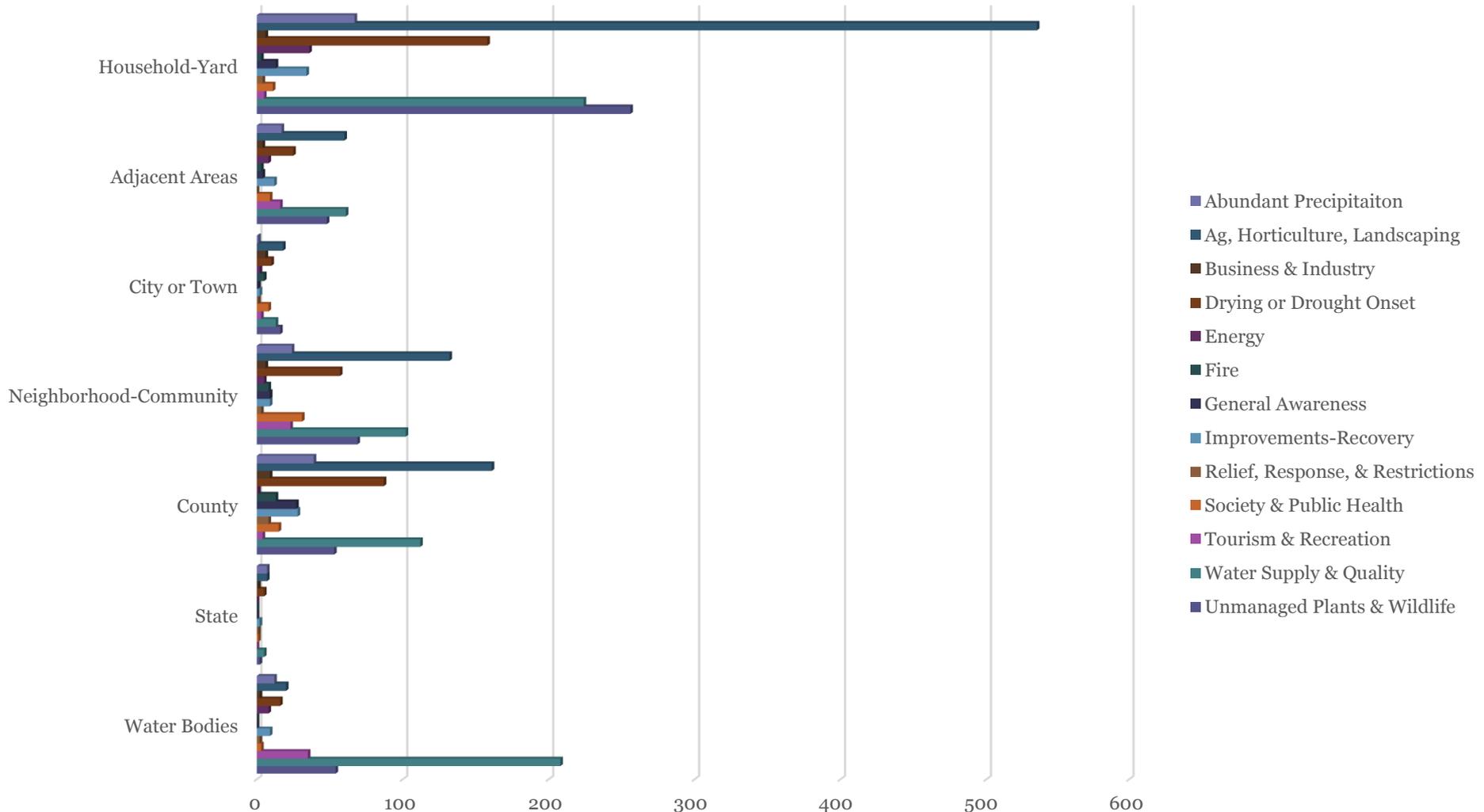


Other Report Content



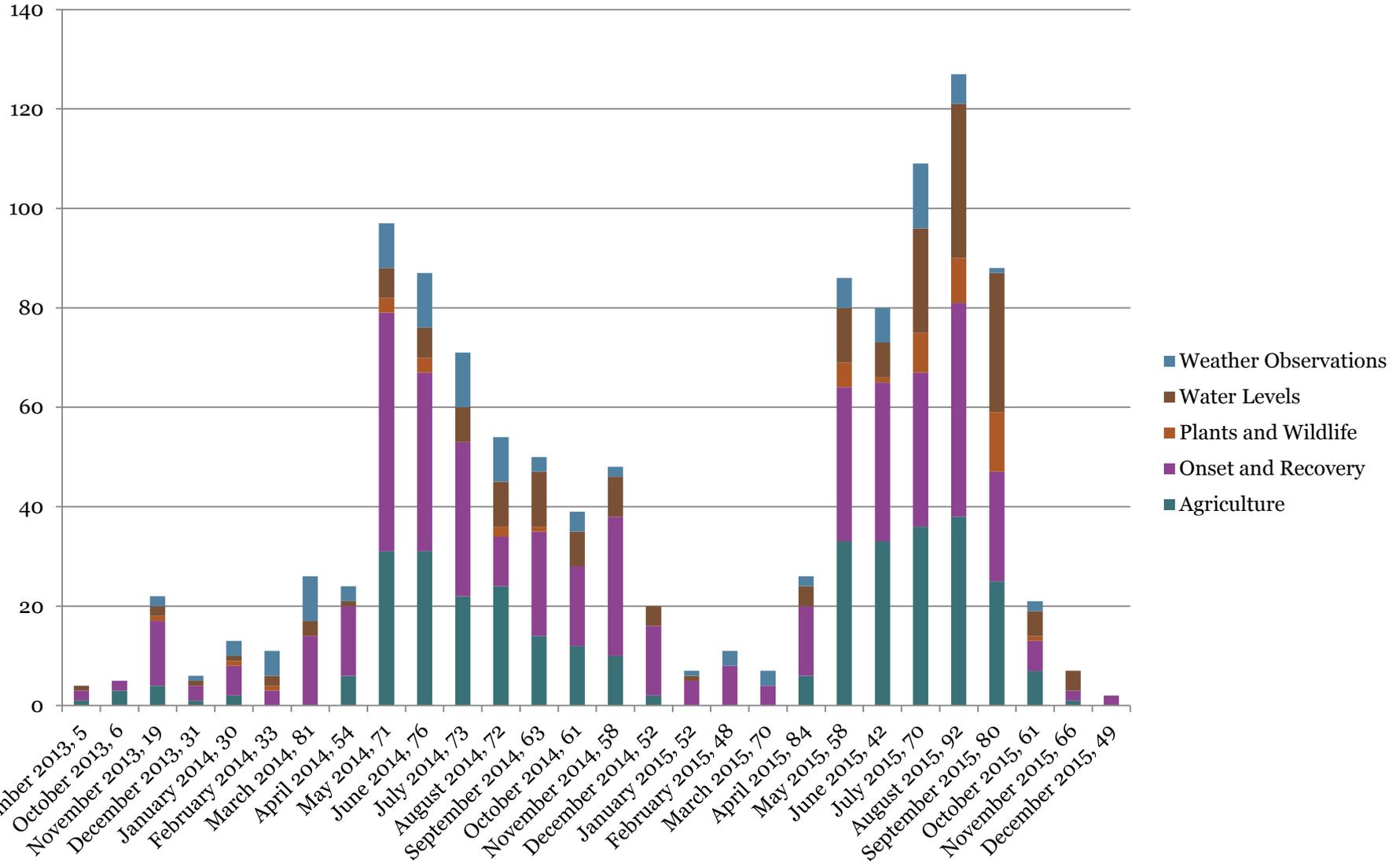
Other weather observations include: cloudiness, dew, fair weather, fog, frost, humidity, sunny, and wind.

Spatial Scale of Report Content

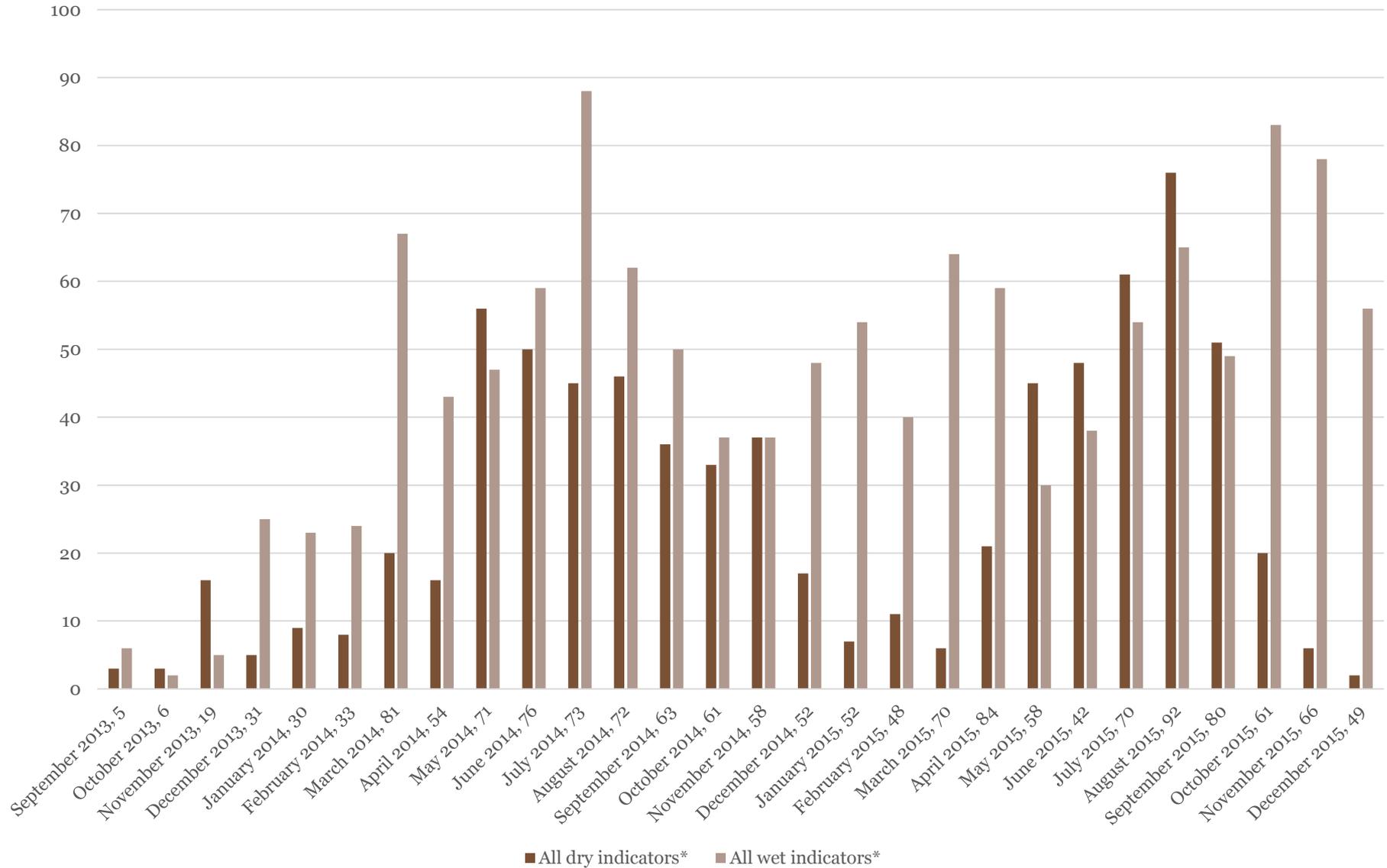


References to Dry Conditions

(Numbers in x-axis labels indicate reports submitted for the month)

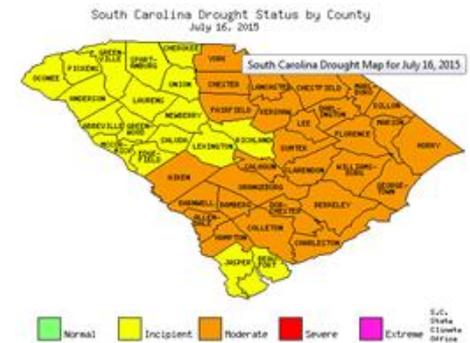
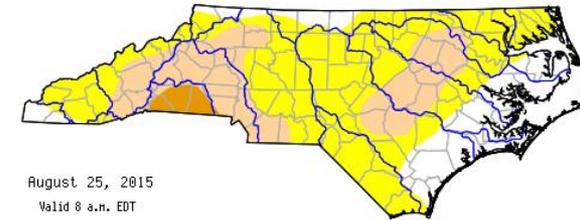
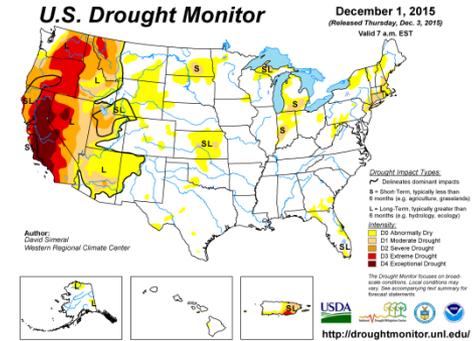


Wet vs. Dry Conditions



Decision Maker Interviews

- December 2014-September 2015
- 17 interviewees
 - USDM, Drought Impact Reporter, SCOs, CoCoRaHS, NWS Forecast Offices, Soil & Water Conservation District
- Questions about the usefulness and usability of information
 - Report content
 - Reliability and credibility
 - Visualization and communication



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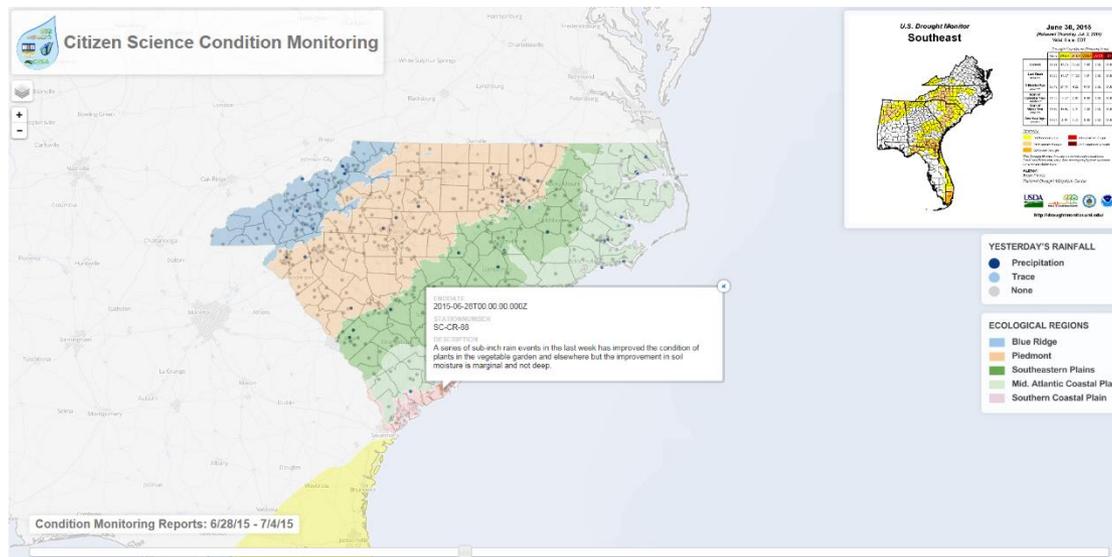
Submit Data Reset

Condition Monitoring Report Components

- Report Date
- Condition Scale Bar
- Description
- Selected categories of information included in the report

Condition Monitoring Web Map

- Available for NC and SC reports as part of a pilot testing program
- Users can view an observer's report content by clicking on a station location
- Many map layers available – National Weather Service forecast offices, US Climate division, counties, watersheds, US Drought Monitor map
- Temporal analysis – The time slider allows you to see change over time
- Available at www.cisa.sc.edu/webmap.



Volunteer Training & Engagement



- In-person trainings
- Webinars
- Training and informational materials
- Project webpage
 - www.cisa.sc.edu/CoCoRaHS.html
- Ongoing communications with participants
 - “Cuckoo for CoCoRaHS in the Carolinas” blog
 - <https://carolinascocorahs.blogspot.com/>
 - Monthly newsletter
 - Thank You postcards
 - Quarterly conference calls

NIDIS Carolinas DEWS 2-Year Strategic Plan

- In-person meeting June 2016
- To revisit and identify regional priorities for drought early warning in the Carolinas
- Focus on coastal drought issues
- 2-year strategic plan to be completed by August 2016

Thank You!

Questions or Comments?

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www.cisa.sc.edu

