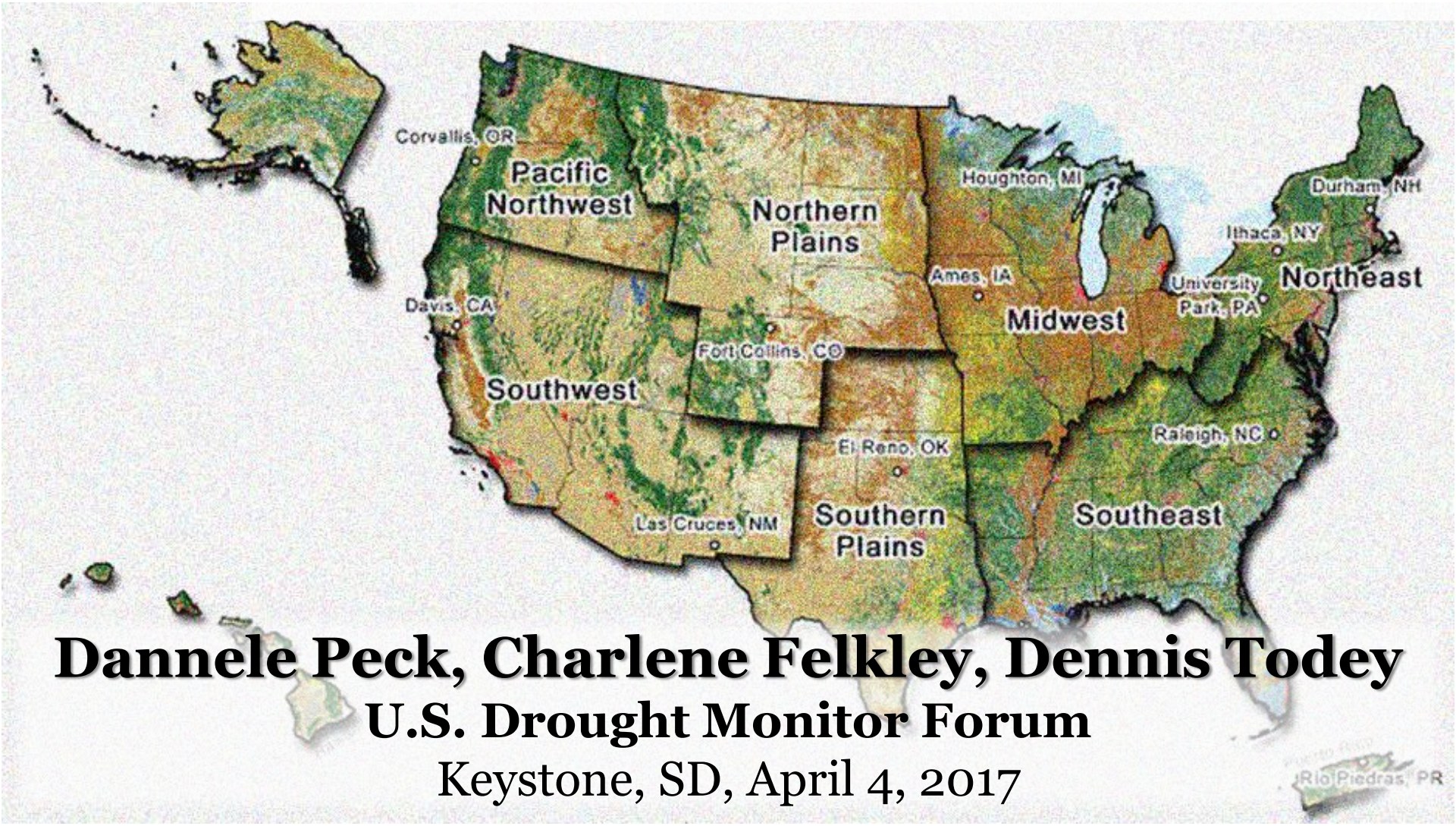
Climate Hubs:
Regional Partners in Drought Outreach



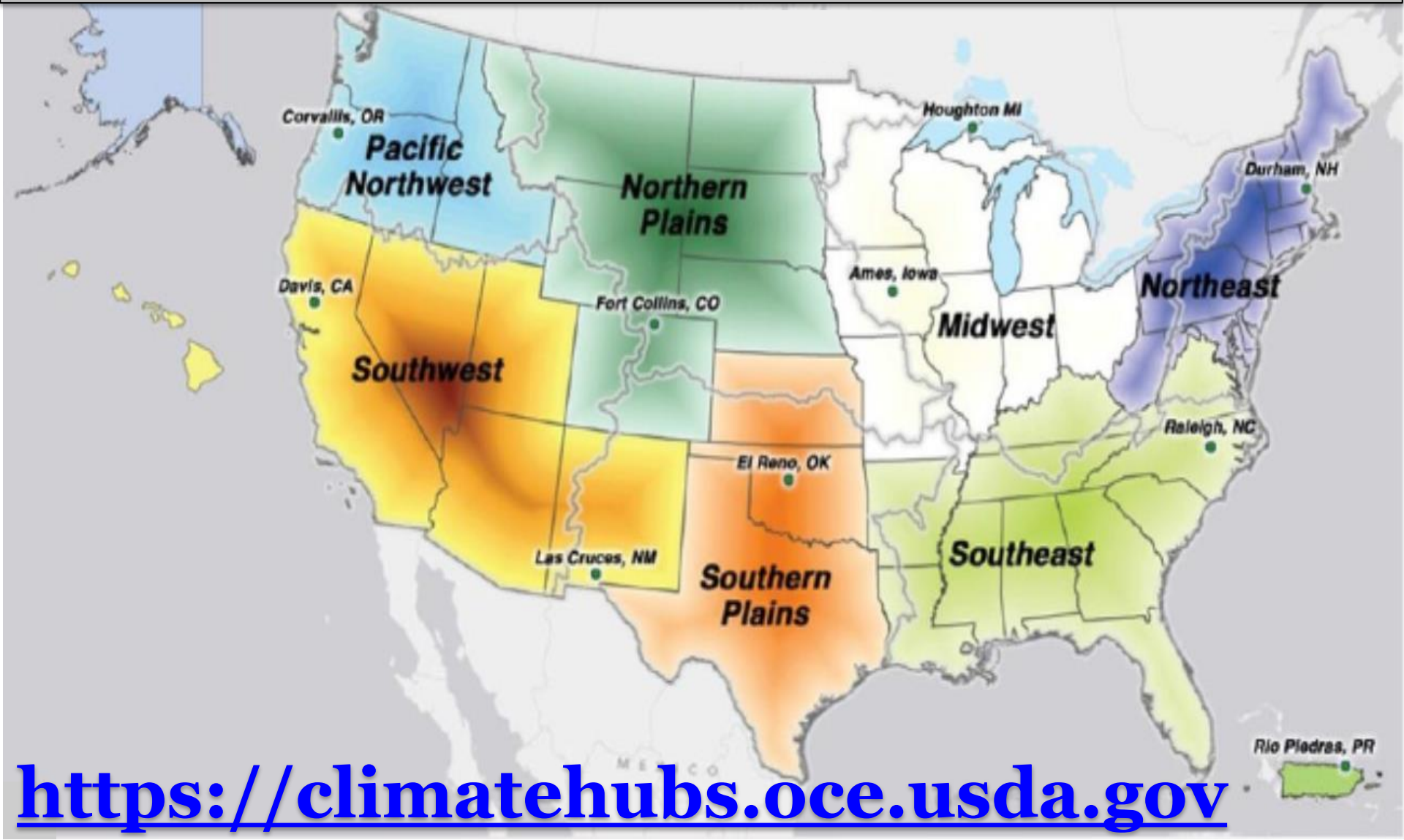
Dannele Peck, Charlene Felkley, Dennis Todey

U.S. Drought Monitor Forum

Keystone, SD, April 4, 2017

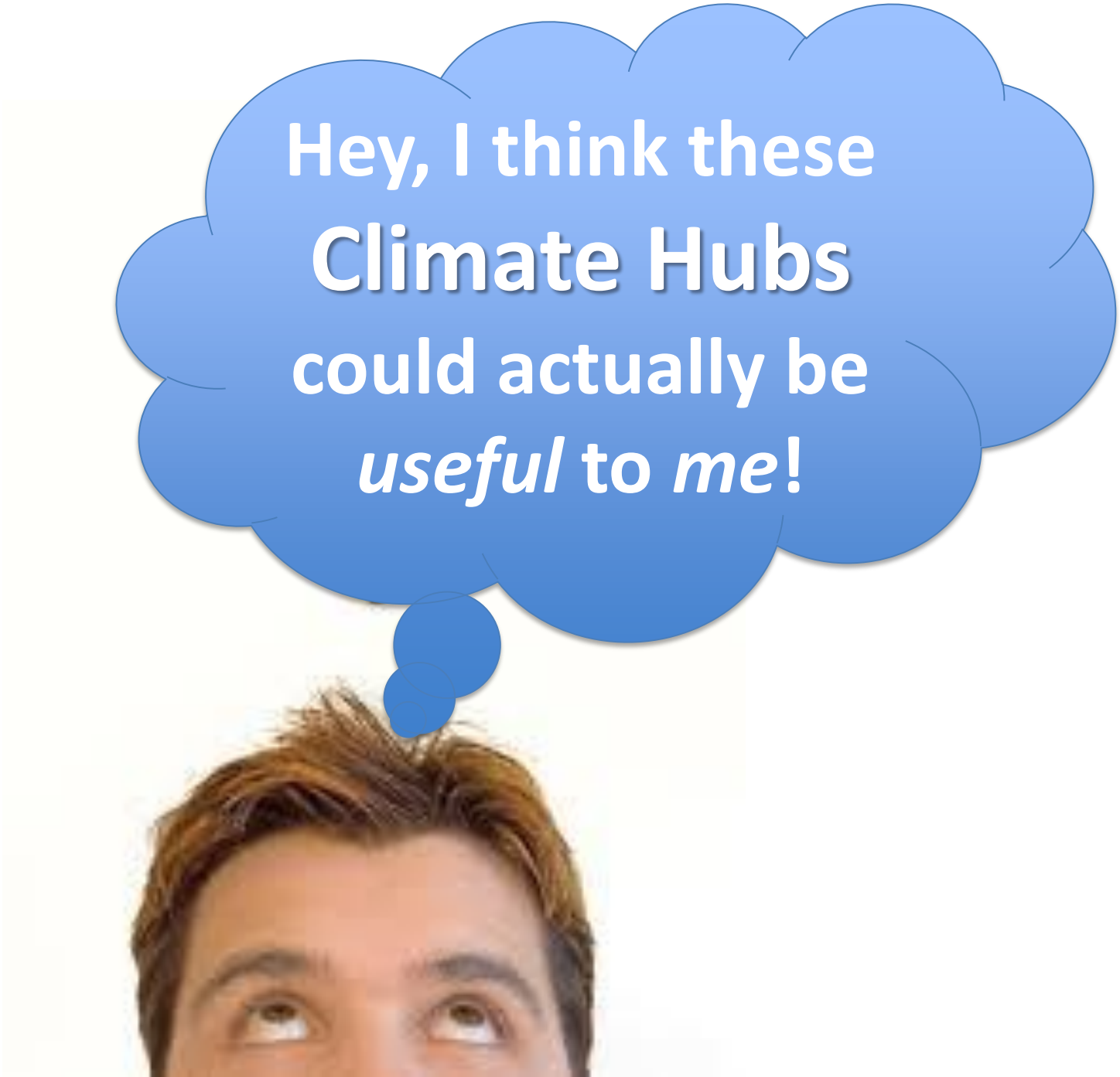
Climate information benefiting agriculture & forestry

Find YOUR Hub!



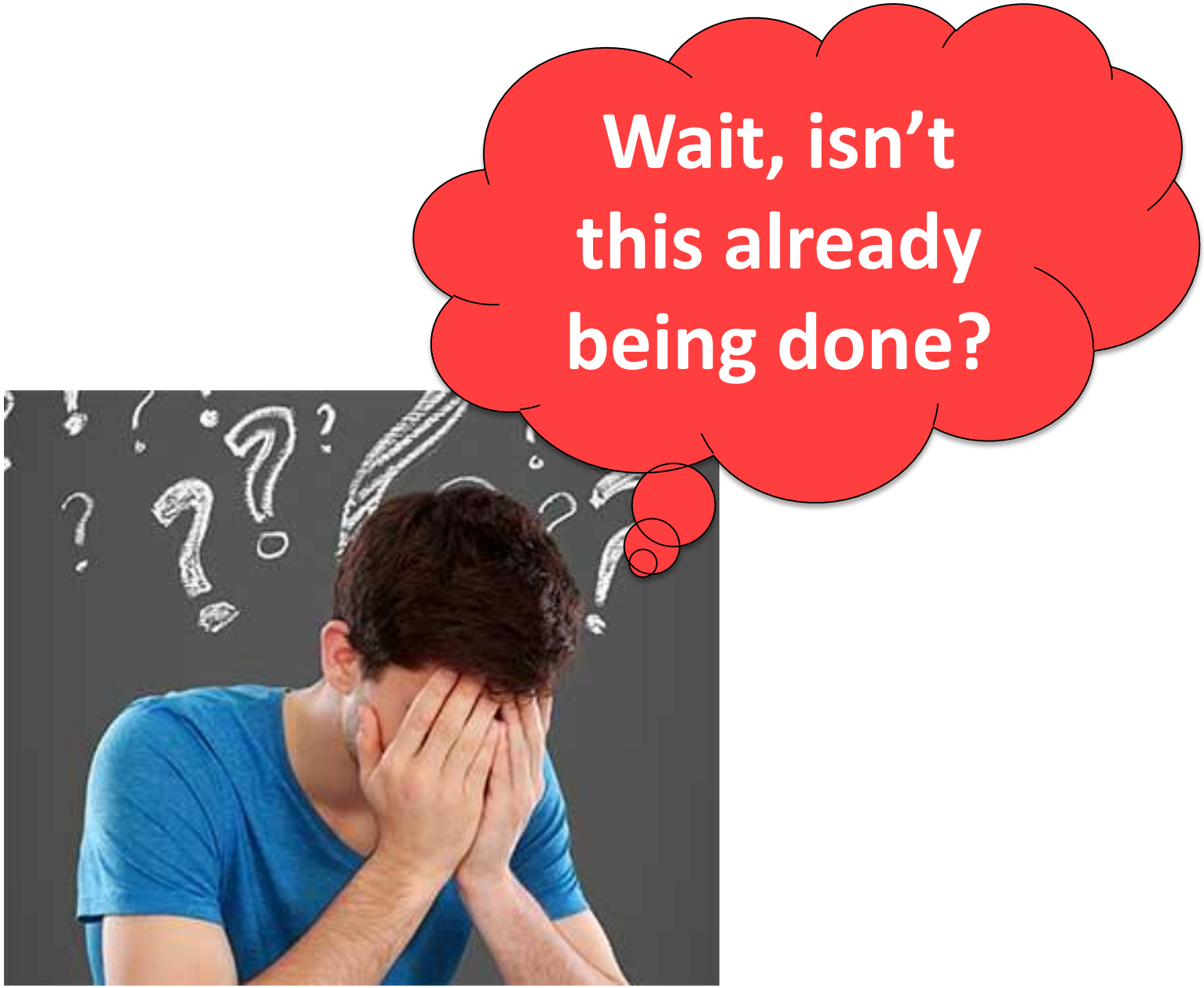
https://climatehubs.oce.usda.gov

I'm so confused…
What are these
things you call
"*Climate Hubs*"?

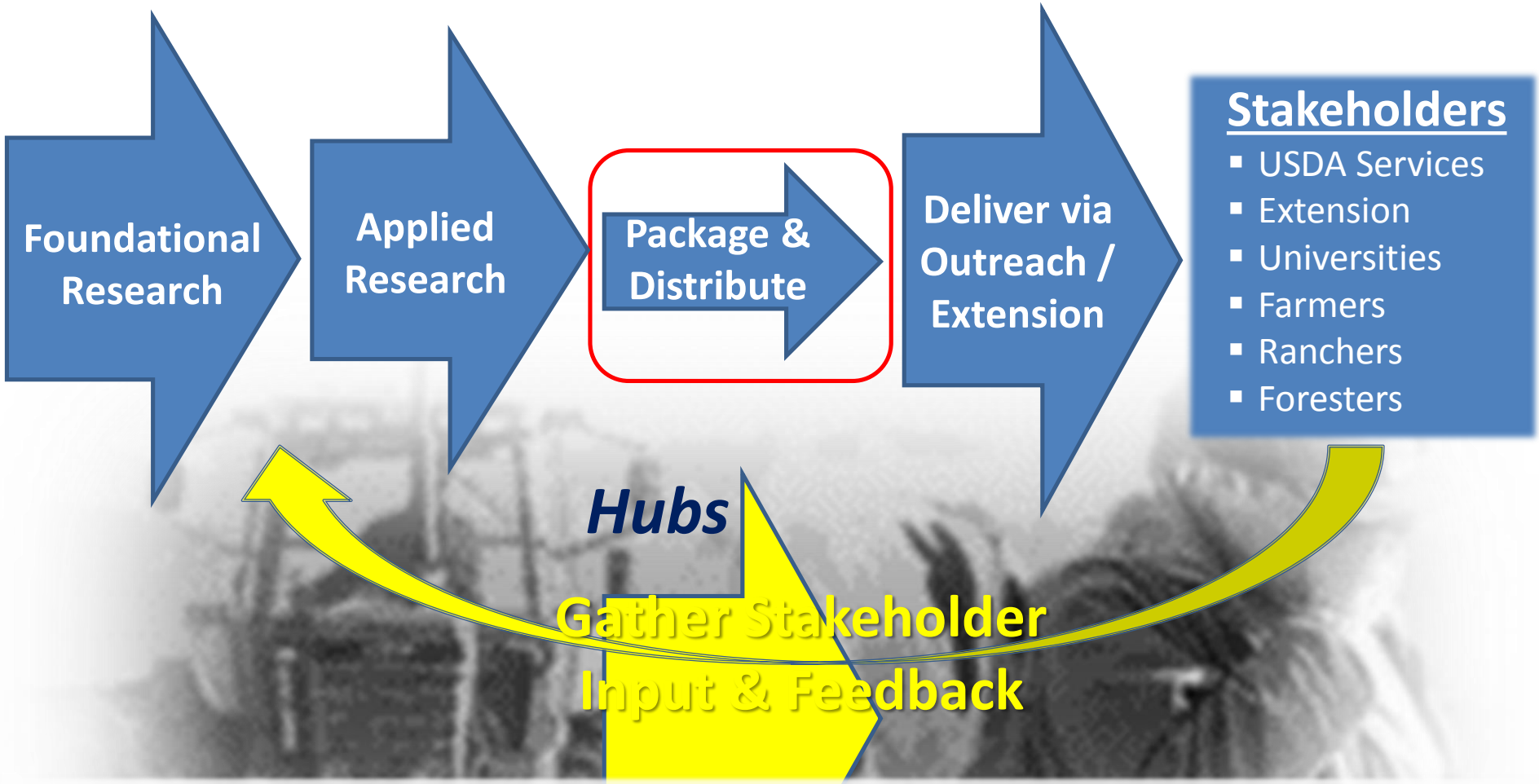

Hey, I think these
Climate Hubs
could actually be
useful to *me*!

Motivation for Climate Hubs

- Profit margins are thin in ag & forestry.
- Always been risky…but getting riskier!
- Managers need relevant & timely info & tools


Wait, isn't this already being done?

Motivation for Hubs



* Empower ***stakeholders*** by translating climate/ag science into useful info & tools!

How do the Hubs function?

Working-land Managers

Land-Grant Universities

Tech & Service Industries

USDA NORTHERN PLAINS CLIMATE HUB
Climate information benefiting agriculture and forestry

NIDIS

NOAA

NDMC

Water Resources Data System & Wyoming State Climate Office

NORTH CENTRAL CLIMATE SCIENCE CENTER
UNIVERSITY CONSORTIUM

WESTERN WATER ASSESSMENT
A NOAA RISA TEAM

HIGH PLAINS REGIONAL CLIMATE CENTER

USDA

What can we achieve together as partners?

USDA

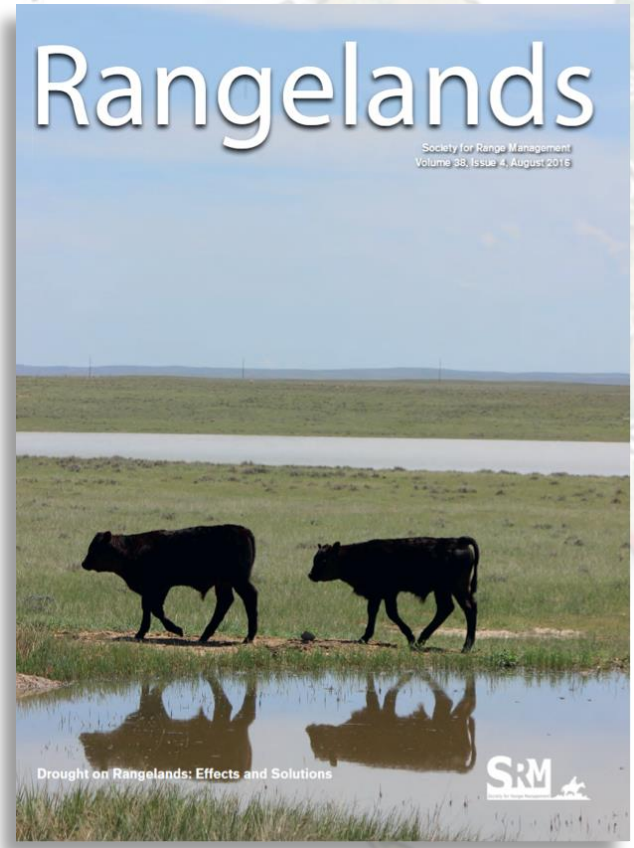
NORTHERN PLAINS CLIMATE HUB
EXTENSION & OUTREACH

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NOAA
U.S. DEPARTMENT OF COMMERCE

NATIONAL DROUGHT MITIGATION CENTER
NDMC
AT THE UNIVERSITY OF NEBRASKA-LINCOLN

Partners in Research

- *Rangelands* special issue on **drought**
  http://www.sciencedirect.com/science/journal/01900528/38/4



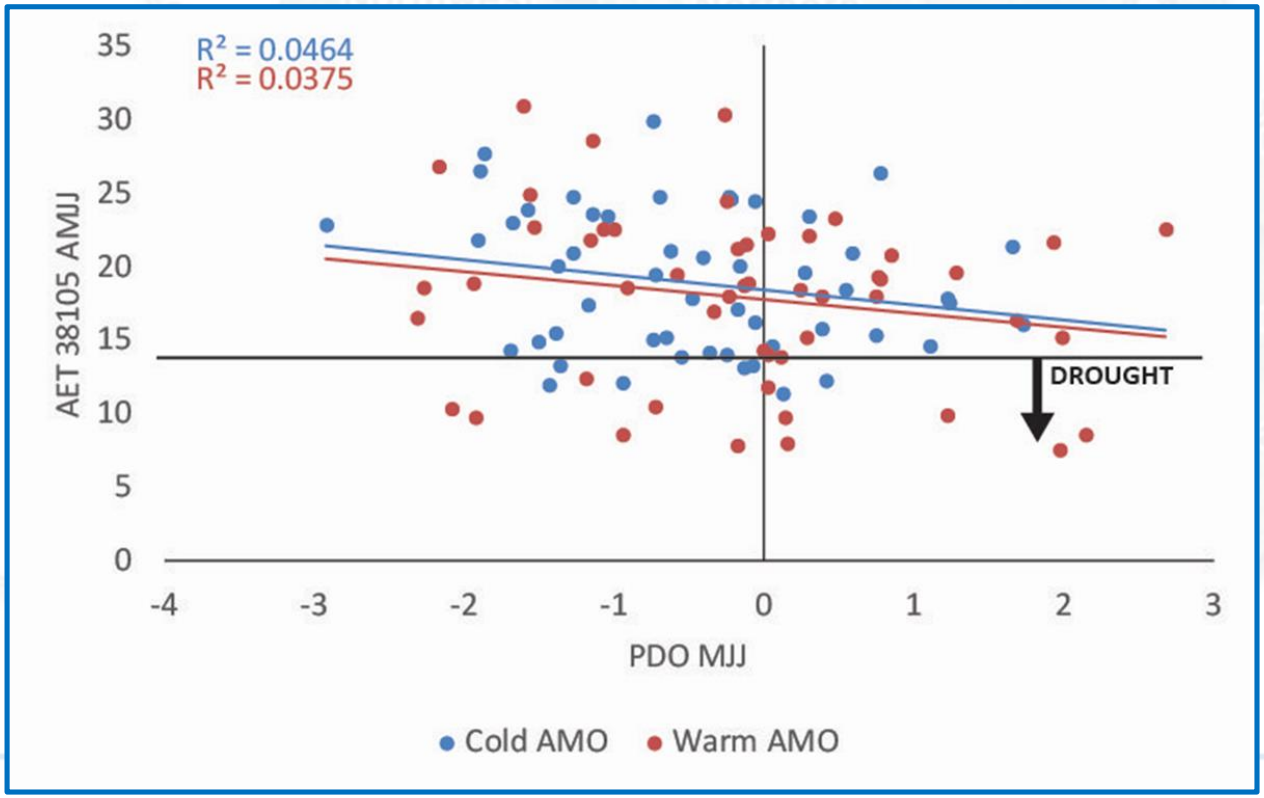
- Vol 38(4), Aug 2016
- **USDM & NIDIS co-authors**

  Brian Fuchs, Joel Brown, Doug Kluck, Chad McNutt, Michael Hayes, Cody Knutson

Partners in Research

NDMC & Hub Cooperative Agreements

- Expand USDM to PR-VI
- Assess info needs in MW specialty crops
- Forecast grassland NPP using AMO, PDO, AET



Partners in Info-Gathering

We provide regional info/context to

- US Drought Monitor discussions
- NOAA Quarterly Climate Impacts & Outlooks
- NDMC Drought Impact Reporter
- CoCoRaHS

SW Hub has recruited **100** FSA offices to CoCoRaHS!

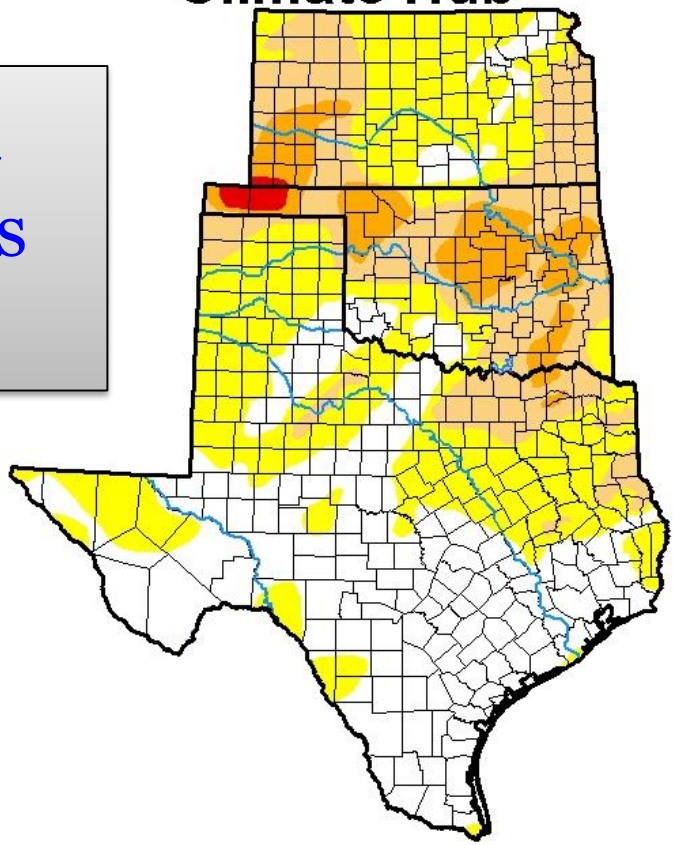
Partners in Product Development

Hub-specific Drought maps

Thank you!

U.S. Drought Monitor

USDA Southern Plains Climate Hub



March 28, 2017

(Released Thursday, Mar. 30, 2017)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	38.09	61.91	26.98	8.07	0.61	0.00
Last Week 03-21-2017	35.76	64.24	28.41	10.08	0.64	0.00
3 Months Ago 12-27-2016	52.55	47.45	22.59	11.46	0.55	0.00
Start of Calendar Year 01-03-2017	56.13	43.87	23.99	13.26	0.95	0.00
Start of Water Year 09-27-2016	89.65	10.35	3.58	0.51	0.00	0.00
One Year Ago 03-29-2016	59.75	40.25	9.59	0.00	0.00	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.

Author:

Eric Luebehusen

U.S. Department of Agriculture

http://droughtmonitor.unl.edu/

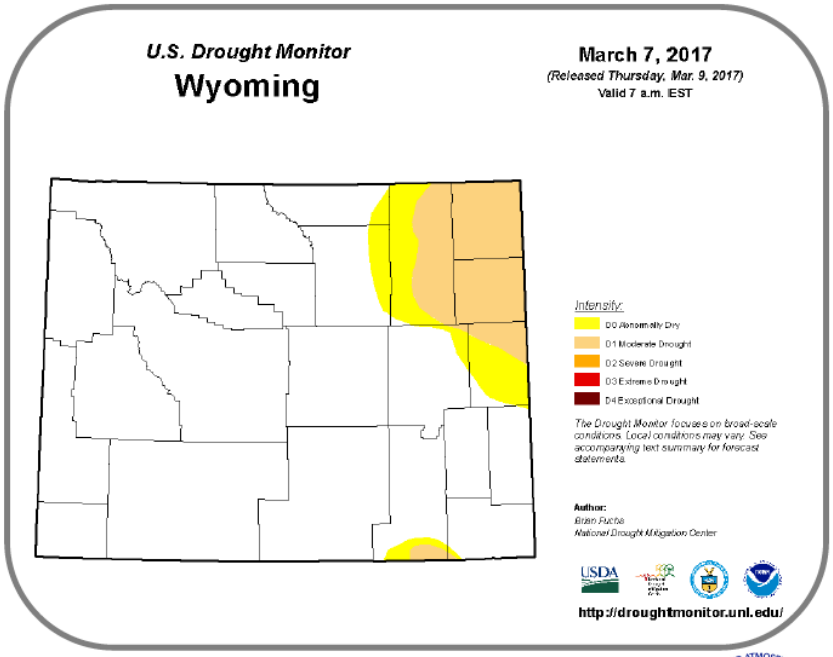
Partners in Outreach

Your **climate info** is the meat of *our* **newsletters!**

Drought Impacts and Outlook

Wyoming
January—February 2017

Wyoming — *Climate Overview*



Drought conditions have improved some in the southeast since the last outlook. The Abnormally Dry (D0) conditions have been removed from all but southern Albany and extreme southwestern Laramie counties. The areas of Moderate Drought (D1) in the northeast and southeast has remained the same.

Severe Drought (D2) has been removed from southeastern Weston and nort
counties.

The removal of D2 during the l
the first time since the week of
Wyoming has had no D2 or wo
borders.

Drought conditions in the nort
since those areas have been re
precipitation.

The U.S. Drought Monitor, is a week
produced jointly by the National Oce
Administration, the U.S. Department
Drought Mitigation Center (NDMC) a
Lincoln. The U.S. Drought Monitor w
by the NDMC. http://droughtmonitor

Contact: Tony Bergantino (Antonius@uwyo.edu)

Wyoming Drought Impacts and Outlo

Partners

Wyoming State Climate Office
www.wrds.uwyo.edu
National Integrated Drought Information System
www.drought.gov
National Weather Service
- **Riverton Weather Forecast Office**
  www.weather.gov/riw/
- **Cheyenne Weather Forecast Office**
  www.weather.gov/cys/

High Plains Regional Climate Center
www.hprcc.unl.edu
National Drought Mitigation Center
www.drought.unl.edu
USDA Northern Plains Climate Hub and University of Wyoming Extension
www.climatehubs.oce.usda.gov/northernplains/
Western Water Assessment

http://www.wrds.uwyo.edu/drought/reports/outlook.html

Partners in Outreach

WYOMING LIVESTOCK ROUNDUP®
The Weekly News Source for Wyoming's Ranchers, Farmers and AgriBusiness Community • www.wylr.net

CONNECTING AG to CLIMATE

By Windy Kelley, Northern Plains Climate Hub

UNIVERSITY OF WYOMING EXTENSION
USDA United States Department of Agriculture Climate Hubs

Wyoming Gets Cold, Wet

Wyoming experienced below-average tempera- rage uary, ttest have king mate eight

The U.S. Drought Monitor map, released on Feb. 16, shows moderate drought continues throughout all of Weston and Crook counties, the

are updated weekly.

One-month and seasonal forecasts

Based on the National Oceanic and Atmospheric Administration's (NOAA) Feb. 16 report, the northern tier of Wyoming has a 33 percent probability of below-nor-

basin? Visit Western Water Assessment's Climate Dashboard at wwa.colorado.edu/climate/dashboard2.html and look for "Current Basin Snowpack as % Median," which is updated daily.

Ag considerations

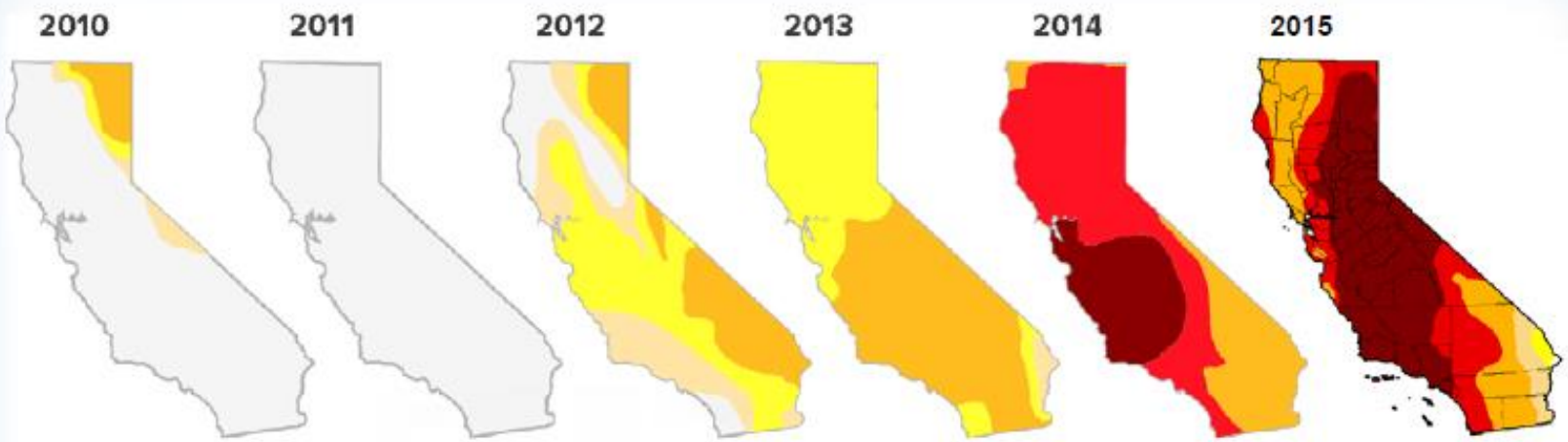
With calves and lambs dropping around the state, it is an exciting time of year. Wit be t year itor Wea fore can vari mat

Many other counties in Wyoming continue to experience abnormally dry conditions. To view the latest U.S. Drought Monitor map, which is updated weekly, visit weather.gov/riw/drought.

United States Department of Agriculture
CALIFORNIA SUB HUB OF THE SOUTHWEST REGIONAL CLIMATE HUB
climatehubs.oce.usda.gov/california caclimatehub.ucdavis.edu

California Drought Fact Sheet Series 1
Informing the general public about the 2012-16 drought

Causes and Consequences of the Drought



Graphic: Water in the West, Stanford University, 2015 U.S. Drought Monitor map courtesy of NDMC-UNL

The US Drought monitor maps of July 2010-2015 show the drought's increasing severity.

Partners in Outreach

Partners in Outreach

The Hubs also help CONNECT & CONVENE via

- Webinars
- Workshops
- Extension trainings
- Public presentations
  - NIDIS, NOAA-NWS, Hub, State Climate Office & Extension

Partners in Webinar Planning

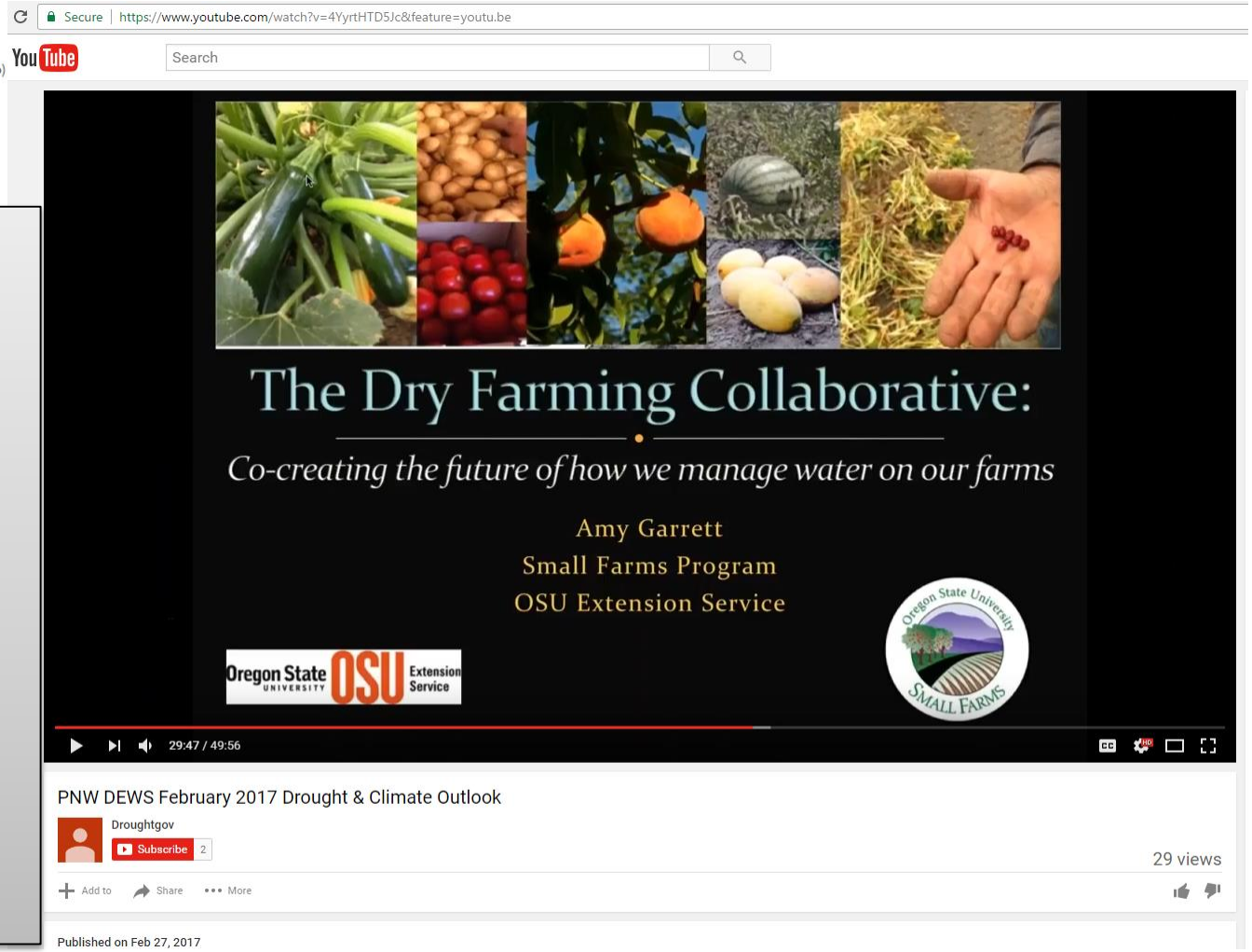
Pacific Northwest Drought & Climate Outlook Webinar - Feb 27

Event Date & Time:
Monday, 2017, February 27 - 11:00am
The Pacific Northwest Drought Early Warning System (PNW DEWS) February 2017 Drought & Climate Outlook Webinar is part of a series of regular drought and climate outlook webinars designed to provide stakeholders and other interested parties in the region with timely information on current drought status and impacts, as well as a preview of current and developing climatic events (i.e. El Niño and La Niña).

Access the recording

Presentations

- **Intro to NIDIS and the PNW DEWS** - Alicia Marrs (NIDIS)
- **Overview of Current Conditions** - Nick Bond (OWSC)
- **Climate Outlook** - Andrea Bair (NWS Western Region)
- **Overview of NW Climate ToolBox** - John Abatzoglou (CIRC/University of Idaho)
- **Intro to the NW Climate Hub** - Gabrielle Roesch McNally (NWCH)
- **Dryland Farming** - Amy Garrett (OSU Extension)



NW Hub finding speakers for **PNW-DEWS** webinars

Drought Workshops

SW & SP Hubs

USDA United States Department of Agriculture Southwest Climate Hub

USDA United States Department of Agriculture Southern Plains Climate Hub

- Secure funding
- Provide meeting location & organization

NIDIS

National Drought Mitigation Center

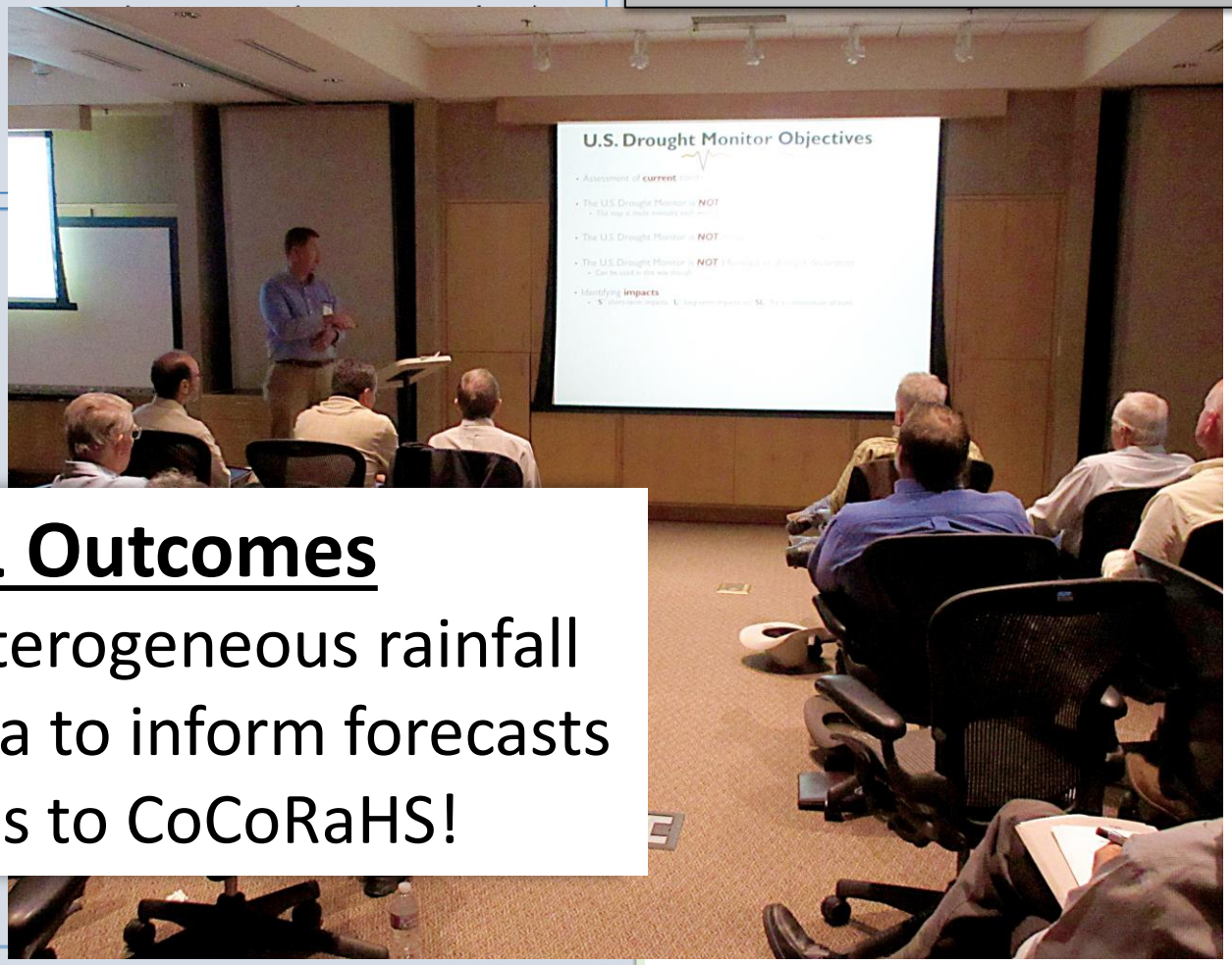
- Experience with similar workshops
- Presented data and information products (drought monitor) and
- Management tools "ranch planning tool"
- Provide speakers
  - Drought Early Warning and Preparedness

SCIPP A NOAA RISA TEAM

CLIMAS

NM STATE UNIVERSITY

NATIONAL WEATHER SERVICE



Insights & Outcomes

- SW = spatially heterogeneous rainfall
- Lack localized data to inform forecasts
- Recruit FSA offices to CoCoRaHS!

Can you picture our partnership yet?

Charlene & Mark, help!

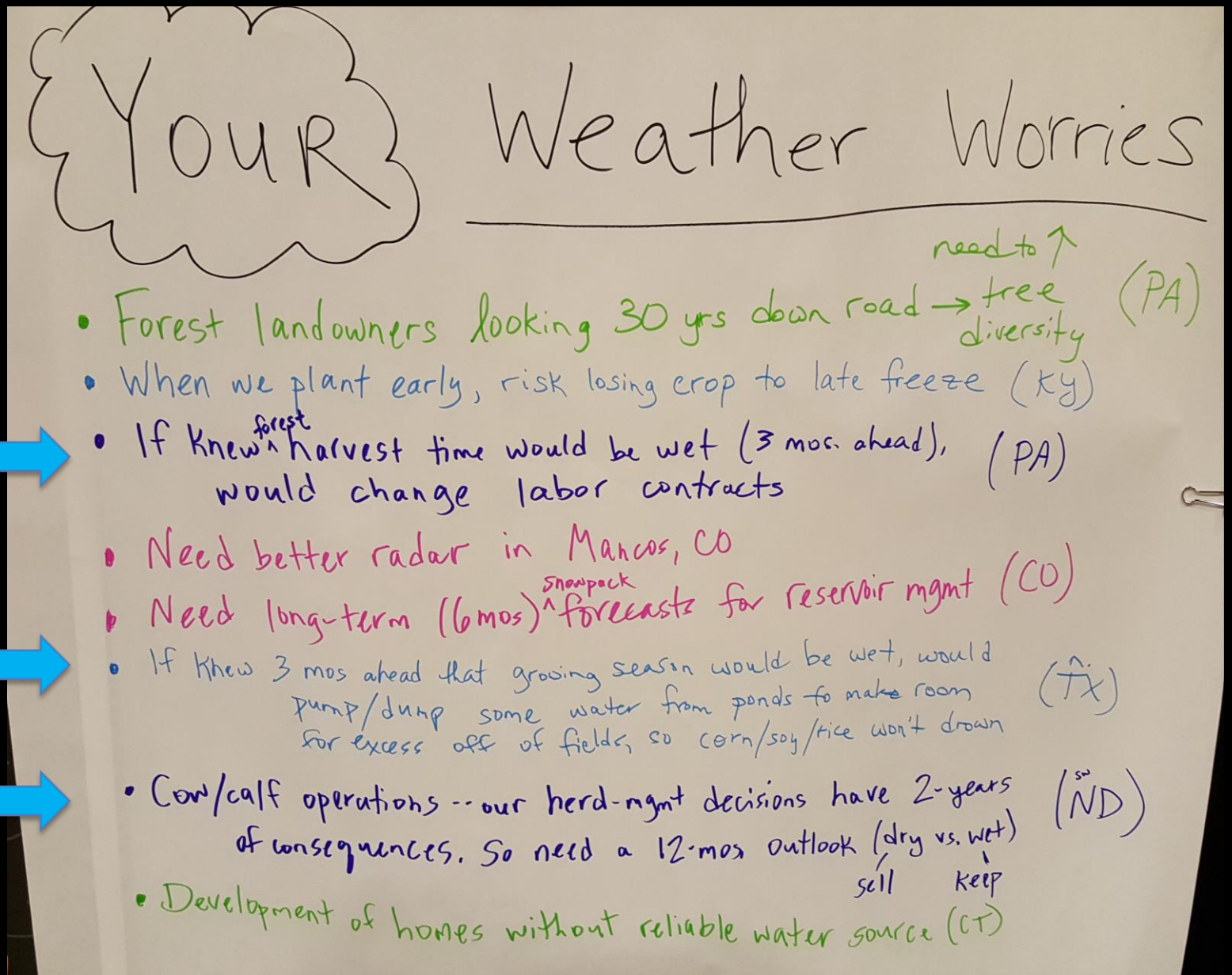
"I'm confused, yet intrigued."

Some Closing Fodder from Producers

YOUR Weather Worries

- Pasture re-seeding; if knew 1-3 mos. ahead if would be too dry & too wet, could Δ timing. & cover-crop planting (coastal WA)
- If I knew in advance that fields would be too wet for ____ days/weeks, I could Δ crop-type or variety based on their growing season length (120-day vs. 90-day variety) (S. OH)
- 28" of rain in June/July in OH, drowned corn (OH)
- Hay producers need to know whether/when to cut (MD)
- Cosmetic chilis -- if nights dip below freezing, kills seedlings (SE NM)
- Cotton -- wind erosion of soil, so uses cover crop in early growth stages (SE NM)

Relaying Their Needs to You



https://climatehubs.oce.usda.gov

Twitter: @USDAClimateHubs

Note to Self: Put the Hubs *to work* for me!

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