

# Drought Tools and Monitoring for the Intermountain West

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COLORADO  
CLIMATE  
CENTER



ATMOSPHERIC SCIENCE  
COLORADO STATE UNIVERSITY

# The tools we use...

includes a vigorous weekly assessment and monthly webinar series

coordination with local, state, and federal partners throughout the region is key to success

<https://climate.colostate.edu/~drought/>

**NIDIS**

**NIDIS InterMountain West  
Drought Early Warning System  
September 17, 2019**

**COLORADO CLIMATE CENTER**

NIDIS Weekly Summary  
Precipitation  
Snow  
Streamflow  
Surface Water  
Evaporative Demand  
Impacts Reports  
Outlook  
Interactive SPI Maps  
Monthly Precip Contribution  
Composite Drought Evaluator eXperiment (CoDEX)

**Current U.S. Drought Monitor Depiction**

**Recommended Changes**

**Summary: September 17, 2019**

The last week in the Intermountain West region saw some precipitation in Wyoming and northern Utah and southern New Mexico and dry through the rest of the region. Northern and southwestern Wyoming saw between 0.50 and 2.00" last week, with the higher amounts to the north. North-central Utah also saw precipitation amounts up to 2.00", and drier through the rest of the state seeing less than 0.25". Colorado was mostly shut out of precipitation seeing less than 0.10" over much of the state. Far northeastern and northwestern Colorado did see some precipitation amounts between 0.25" and 0.50".

Despite the dryness in the region, temperatures in Utah, western Colorado and Wyoming were slightly cooler than average for this time of year. Eastern Colorado and New Mexico continued to see much warmer than normal temperatures for this time of year, while Arizona was near average for the last week.

The lower temperatures helped the evaporative demand in the western portion of the region. Helping to slightly ease the dry impacts. Areas in Wyoming and Utah that saw precipitation are still seeing high evaporative demand over the last month, keeping the improvements from the recent precipitation to a minimum.



[Precipitation](#)

Snow

Streamflow

Surface Water

Evaporative Demand

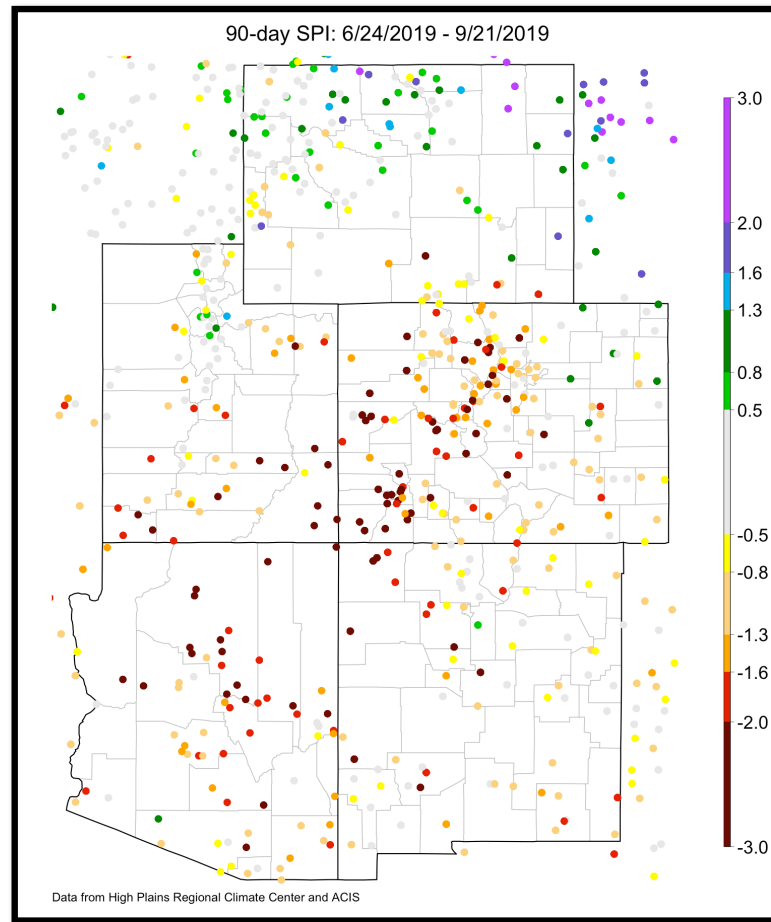
Impacts Reports

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[Interactive SPI Maps](#)

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short and long term SPIs  
show us areas with strong  
precipitation anomalies

these help guide our  
decisions for deterioration  
or improvement



Precipitation

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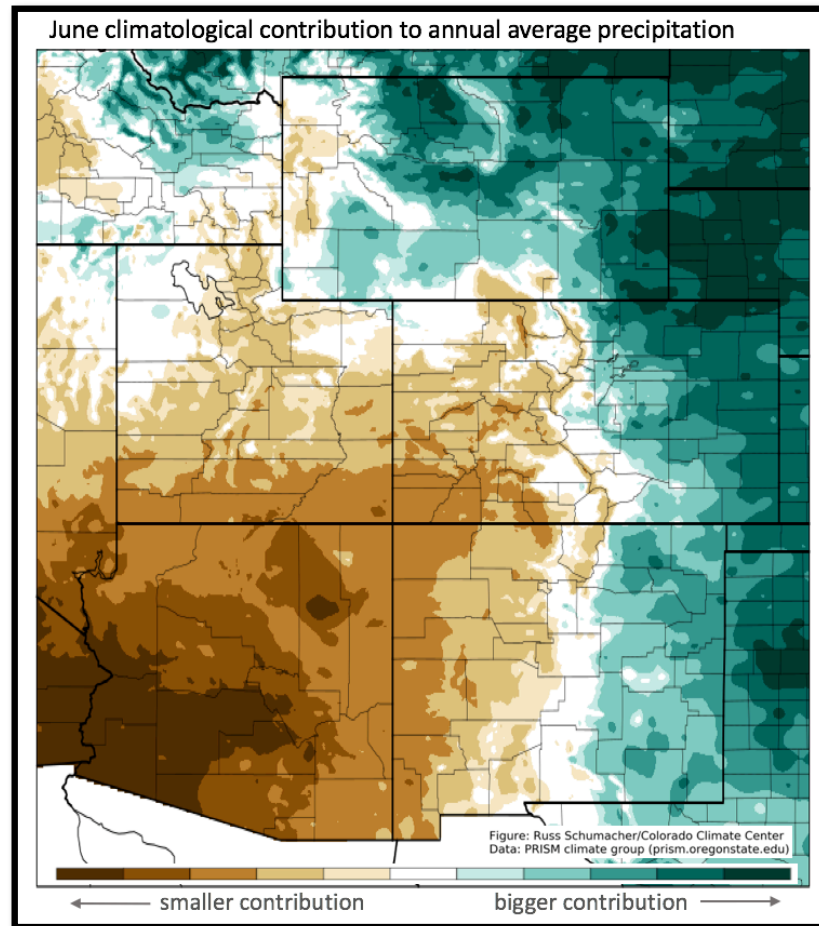
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monthly contributions  
remind us where the  
current month's  
precipitation really matters

generally, it's the wet  
periods that make or break  
droughts



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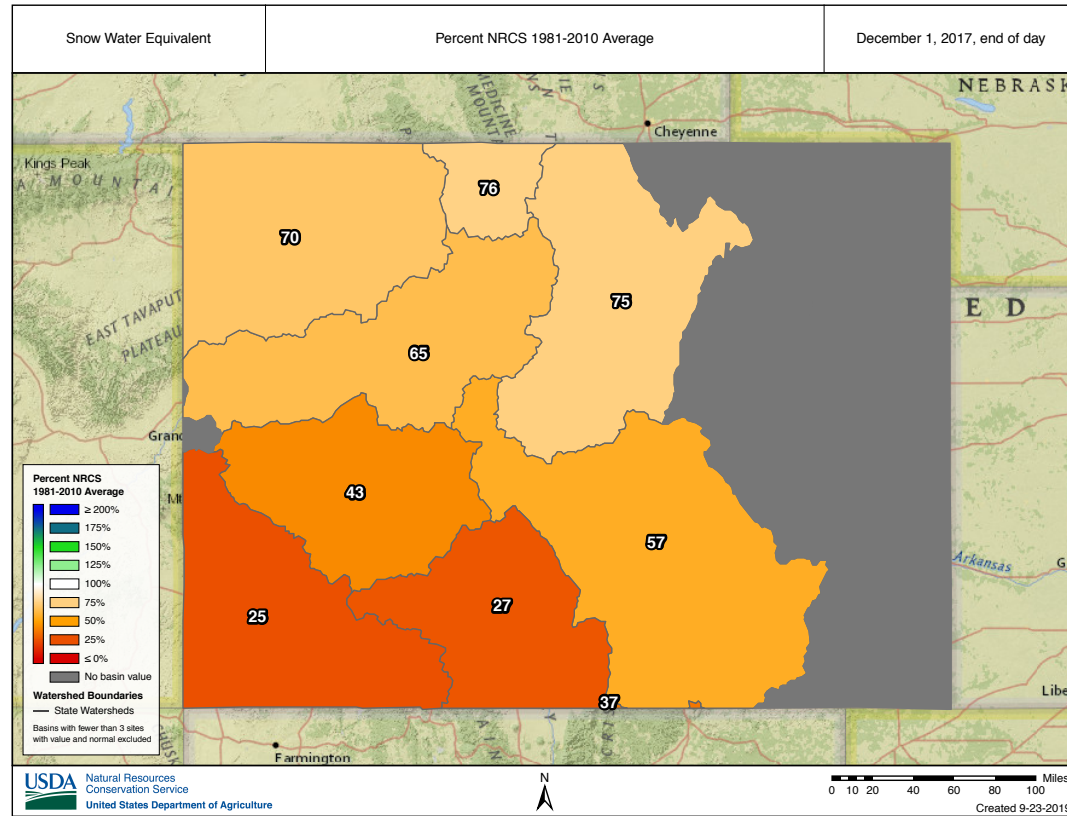
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mountain snowpack can be our first indicator that we're going into drought...



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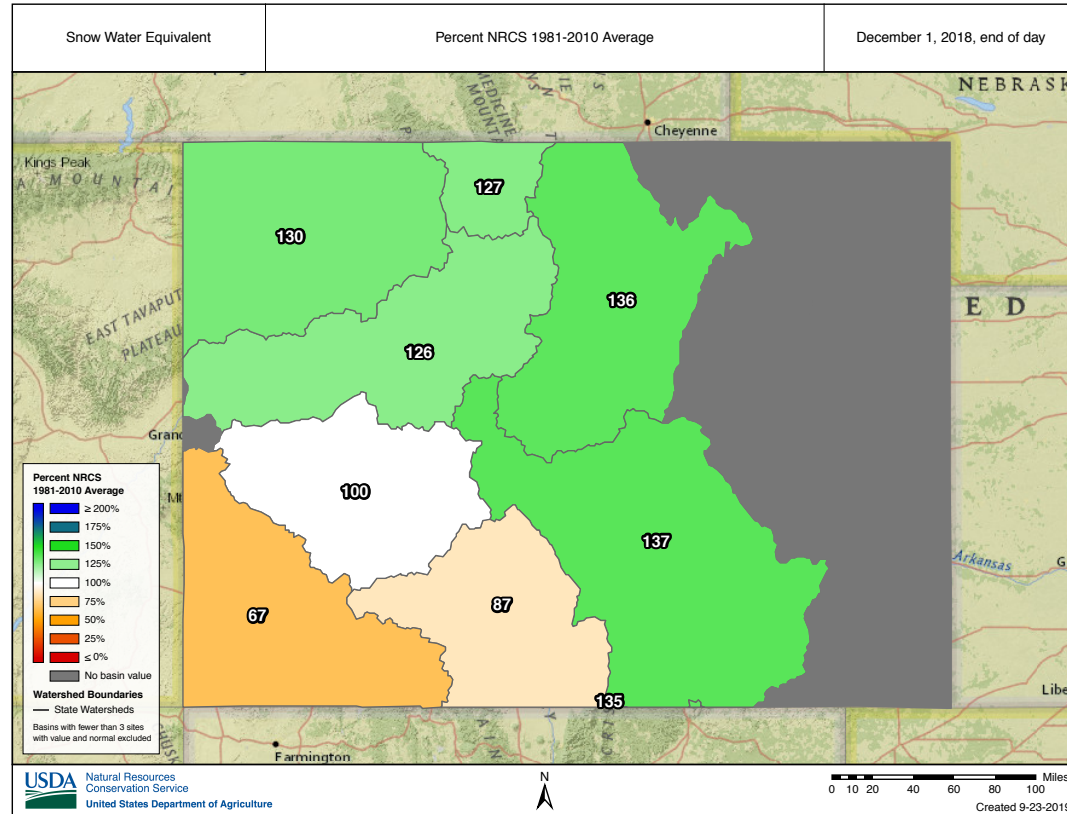
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... and our first indicator that we will  
recover from drought



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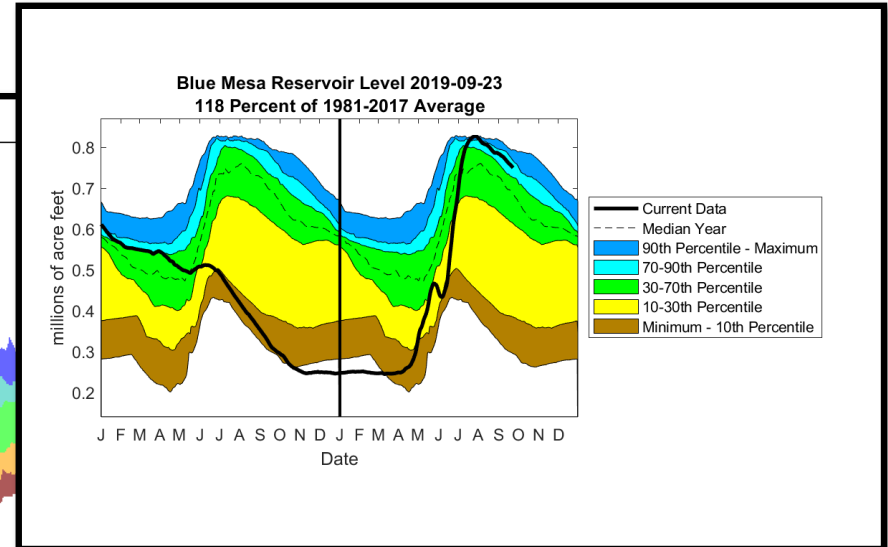
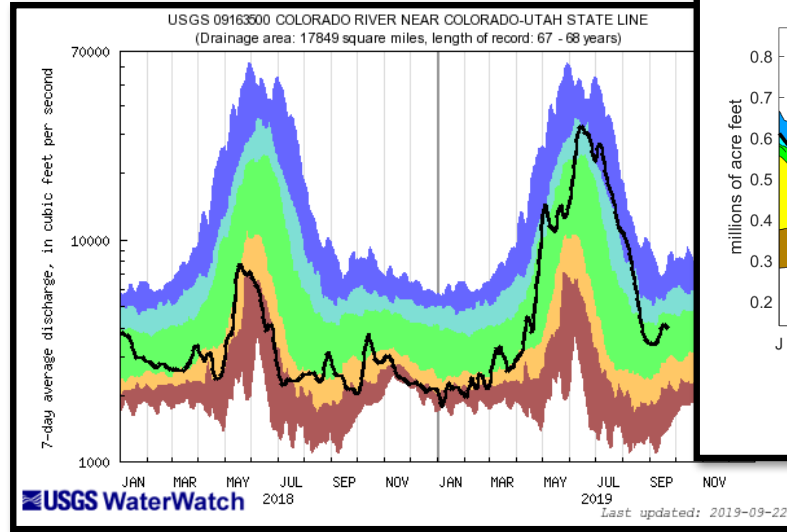
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streams are the delivery system from the snowpack  
“bank account” into the water use “wallets”

when the water's not there, we've got to dip into our  
reservoir “savings account”



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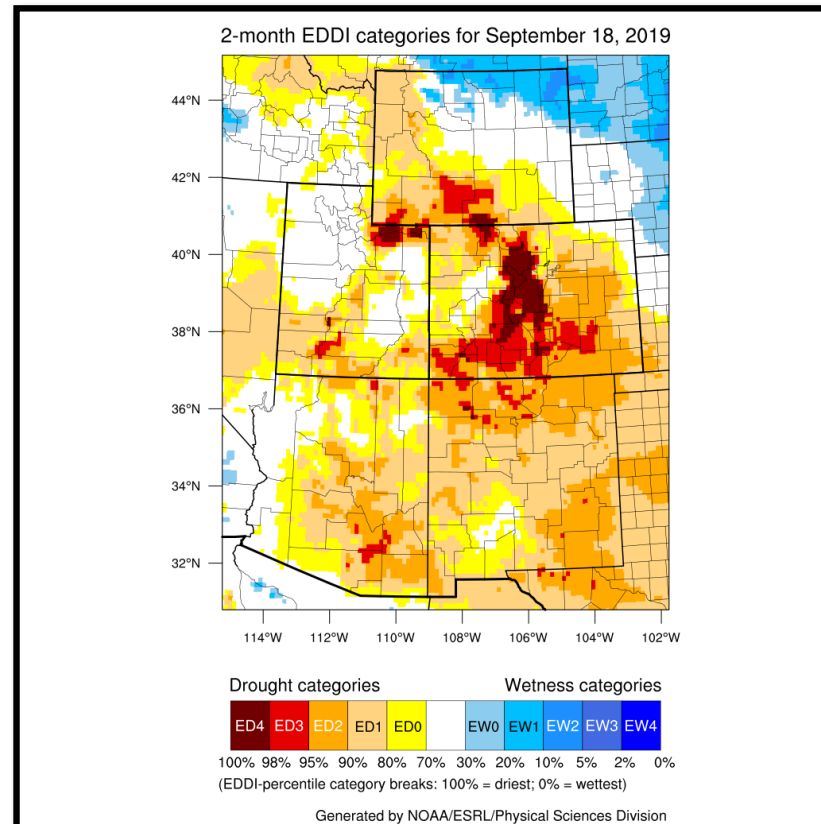
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temperatures play a  
critical role in drought

in the summer, we watch  
evaporative demand for  
signs of increase or  
decreased water demand  
and consumptive use





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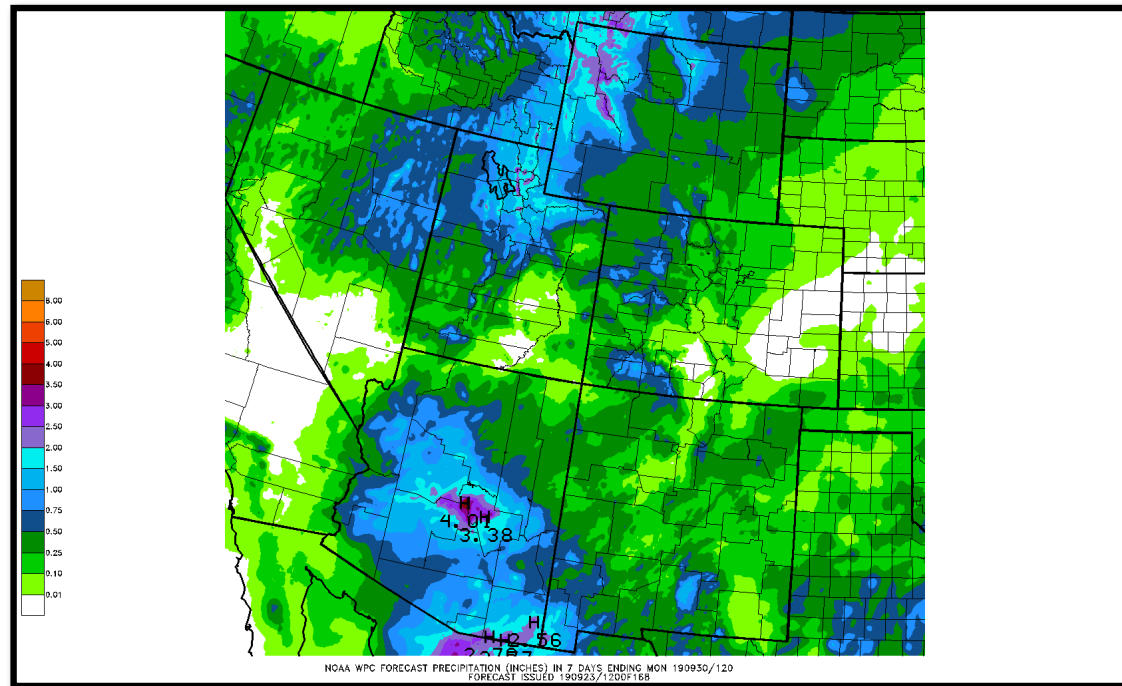
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outlooks can indicate areas that may see relief or recovery in the short-term

we're working on seasonal/projection products to better depict what is needed (or possible) for recovery



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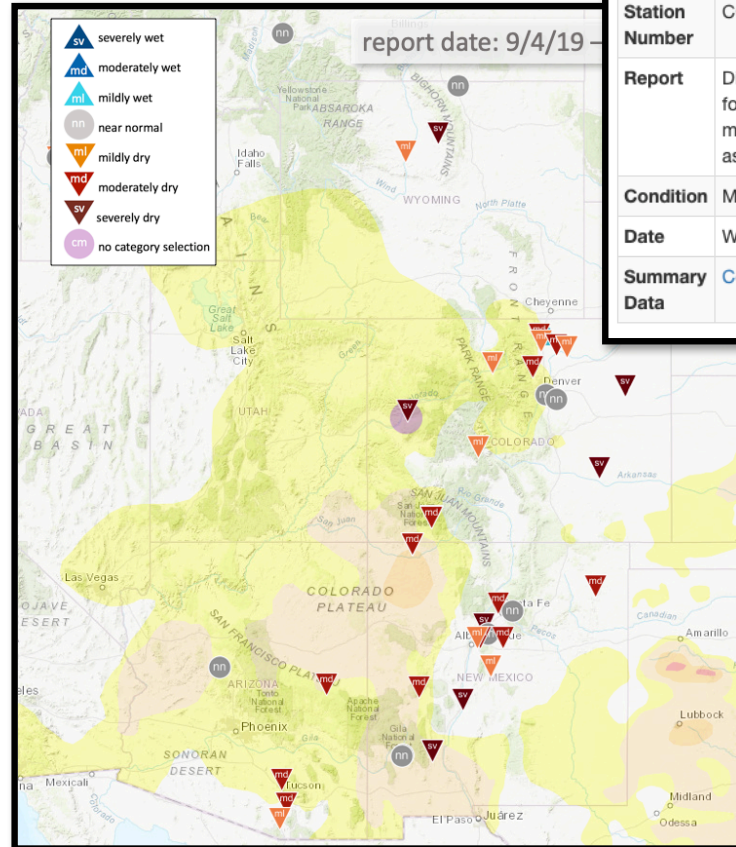
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**Redvale 22.8 SW**

<b>Station Number</b>	CO-SM-10
<b>Report</b>	Disappointment Creek stopped flowing this past weekend. It provides water for horses on our land. Rain makes the grass grow, and we haven't had much of that, either. I've spotted a couple of smoke plumes this year but not as bad as last year.
<b>Condition</b>	Moderately Dry
<b>Date</b>	Wed Aug 21 2019
<b>Summary Data</b>	<a href="#">CoCoRaHS summary data by week for this station.</a>

boots-on-the-ground reports take us one step beyond the data

easier to “assess” when things are getting bad vs. improving conditions

<https://cocorahs.org/Maps/conditionmonitoring/>



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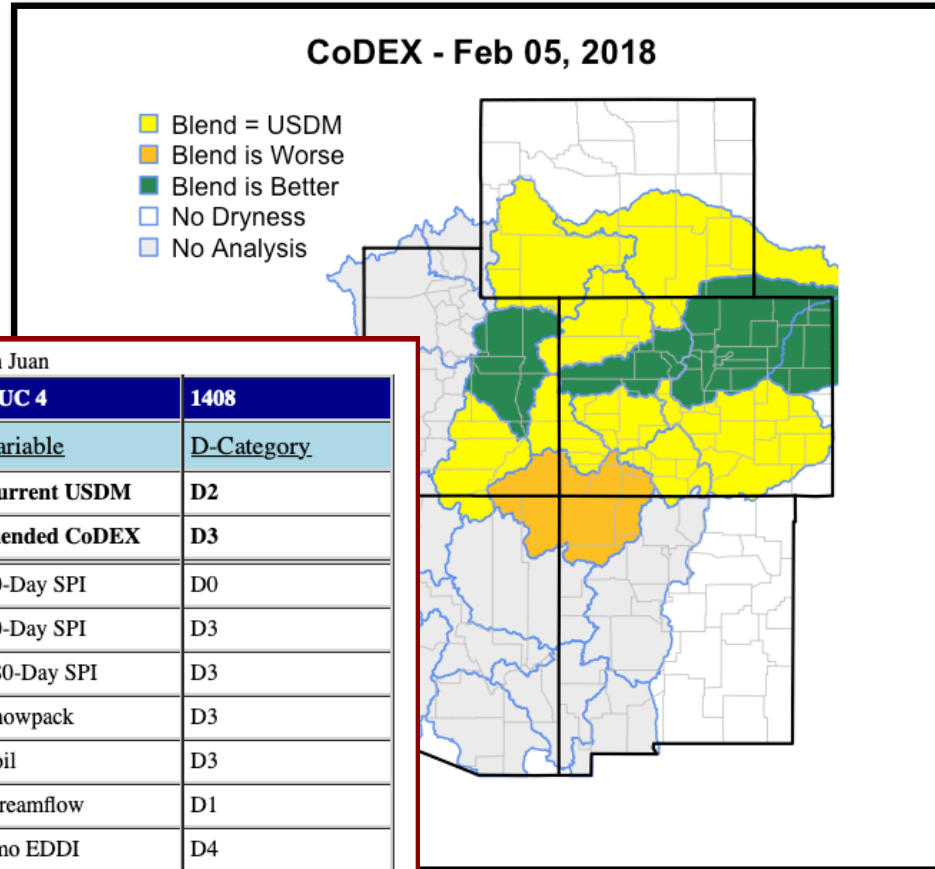
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a blended index can put all the indicators into one place

it can help with identification of areas needing deterioration or improvements

many other possible applications



# Gaps in IMW Drought Monitoring...

- ✓ Same USDM categories, regardless of onset or amelioration of drought
- ✓ Data/impacts/recovery largely geared toward agricultural sector
- ✓ Everyone has a different idea of what recovery means



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Thank you

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