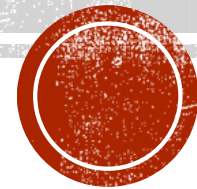


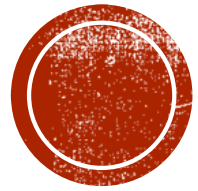
DROUGHT MONITORING EFFORTS AS PART OF THE NIDIS INTERMOUNTAIN WEST DEWS

By Dr. Becky Bolinger

Colorado Climate Center, Colorado State University

April 4, 2017





THE FUTURE FOR DROUGHT EARLY WARNING IN THE INTERMOUNTAIN WEST

- ✓ *Improving effective communication with our user community*
- ✓ Enhancing delivery and dissemination of drought information
- ✓ Developing products to improve drought early warning



NIDIS Intermountain West
Regional Drought Early Warning System
March 28, 2017



NIDIS Weekly Summary

Precipitation

Snow

Streamflow

Surface Water

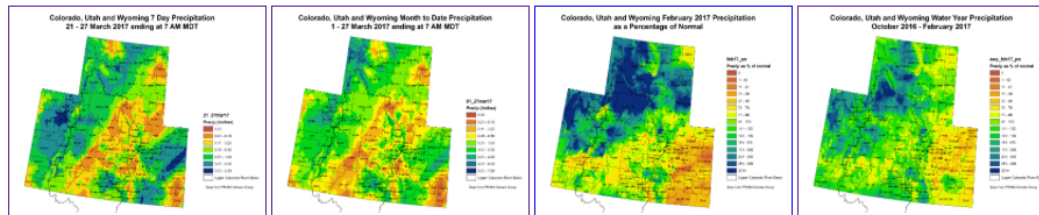
Evaporative Demand

Outlook

Composite Drought
Evaluator eXperiment
(CoDEX)

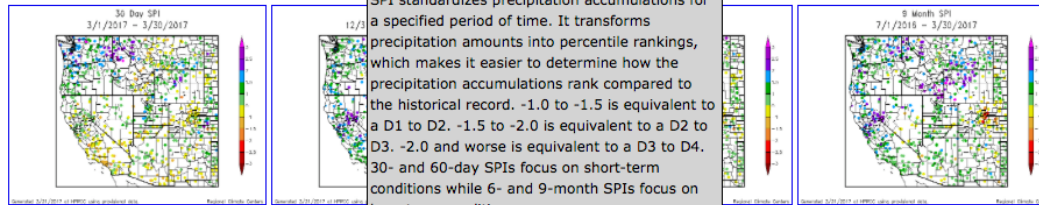
Experimental HiRes
Gridded Tool

Precipitation ⓘ



These images are produced by the Colorado Climate Center and use precipitation data from NWS COOP, NRCS SNOTEL, CoCoRaHS, and CoAgMet stations to generate the gridded products. Images are generally updated every Tuesday. When maps are unable to be updated, AHPS precipitation is shown, courtesy of the [National Weather Service](#).

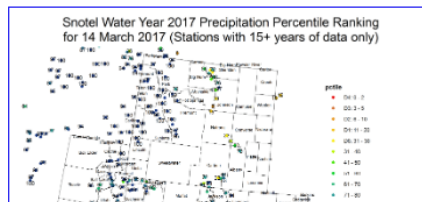
Standardized Precipitation Index ⓘ



SPI standardizes precipitation accumulations for a specified period of time. It transforms precipitation amounts into percentile rankings, which makes it easier to determine how the precipitation accumulations rank compared to the historical record. -1.0 to -1.5 is equivalent to a D1 to D2. -1.5 to -2.0 is equivalent to a D2 to D3. -2.0 and worse is equivalent to a D3 to D4. 30- and 60-day SPIs focus on short-term conditions while 6- and 9-month SPIs focus on long-term conditions.

SPI maps are updated daily and are provided by [High Plains Regional Climate Center](#).

SNOTEL Precipitation Percentile ⓘ



updated
website!

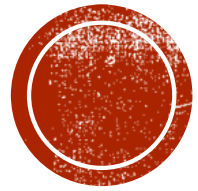


OUR ESTABLISHED PROCEDURES...

The screenshot shows an email newsletter header with the title "INTERMOUNTAIN WEST DROUGHT EARLY WARNING SYSTEM" and logos for NIDIS and the Colorado Climate Center. The main content area includes a "WEBINAR SPONSORS" section with logos for the Colorado Climate Center and NIDIS. Below this, there are social media links for Facebook and Twitter, and a "Join Our Mailing List" section with a link to the US Drought Monitor. The main body of the email contains a greeting, information about a "Weekly Climate, Water and Drought Assessment for the Intermountain West" (March 28, 2017) with a link to the assessment, a request for feedback via email, information about weekly summaries provided by the Colorado Climate Center, a link to current and past assessments, and details about the next webinar on April 11, 2017, with a link to register.

- Weekly assessments with recommendations
- Webinars brief audience on current conditions and discuss recommendations
- Short-list email seeks feedback about possible recommendations
- Webinars and short-list email encourage impact reports from those “on the ground”
- Large email blast announcing weekly assessment and webinars





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- ✓ ***Enhancing delivery and dissemination of drought information***
- ✓ Developing products to improve drought early warning

DROUGHT INDICATOR EDUCATION WEBINARS

- Periodic live and archived recordings
- What do certain drought indicators mean specifically for the IMW?
- Why do we look at these variables, and what do they tell us?
- A casual course on a variety of our important indicators:
 - Standardized Precipitation Index
 - Reference Evapotranspiration
 - Snow Water Equivalent (aka Snowpack)
 - Evaporative Demand Drought Index, EDDI
 - Agricultural vs. Hydrologic, Short-term vs. Long-term
 - Return frequencies, drought categories, and analog years

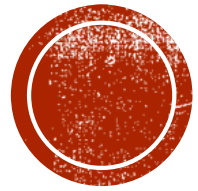


DIGITAL DROUGHT SUMMARY SERIES

- Very brief summary of current conditions
- Approximately 2 to 5 minutes in length
- Casual, conversational, more “big picture” instead of describing specific details
- Perhaps test as a “live feed” on social media

- People are demanding information in efficient ways
- Do we limit widespread interest with our current format, providing all the technical details?
- It's our responsibility to consider additional communication avenues that seek participation from a more representative audience.

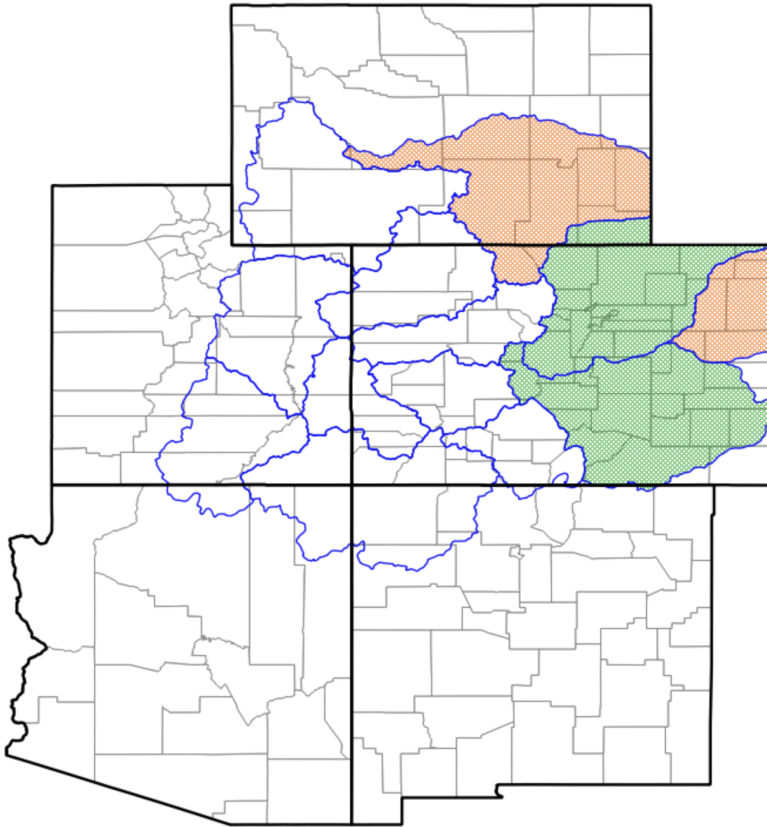




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CODEX – COMPOSITE DROUGHT EVALUATOR EXPERIMENT

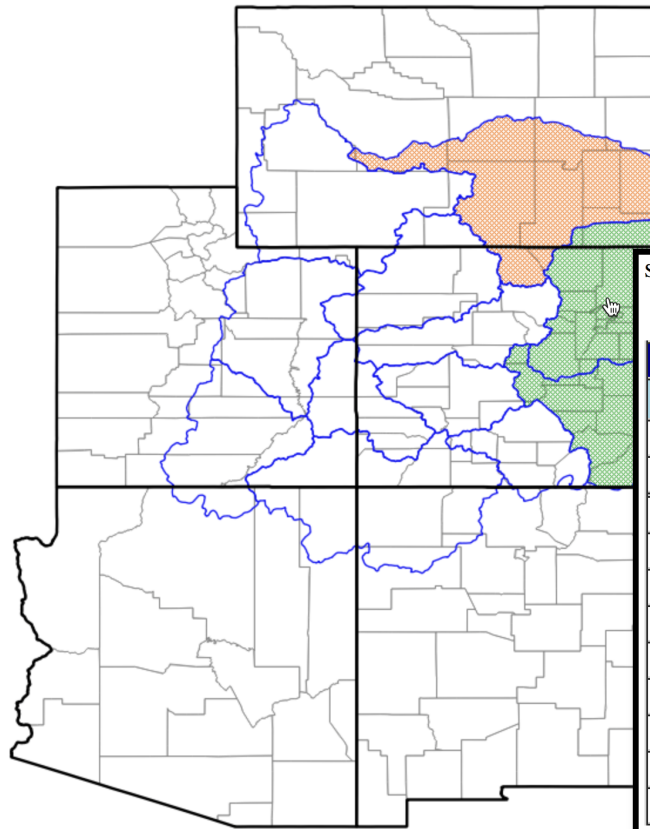
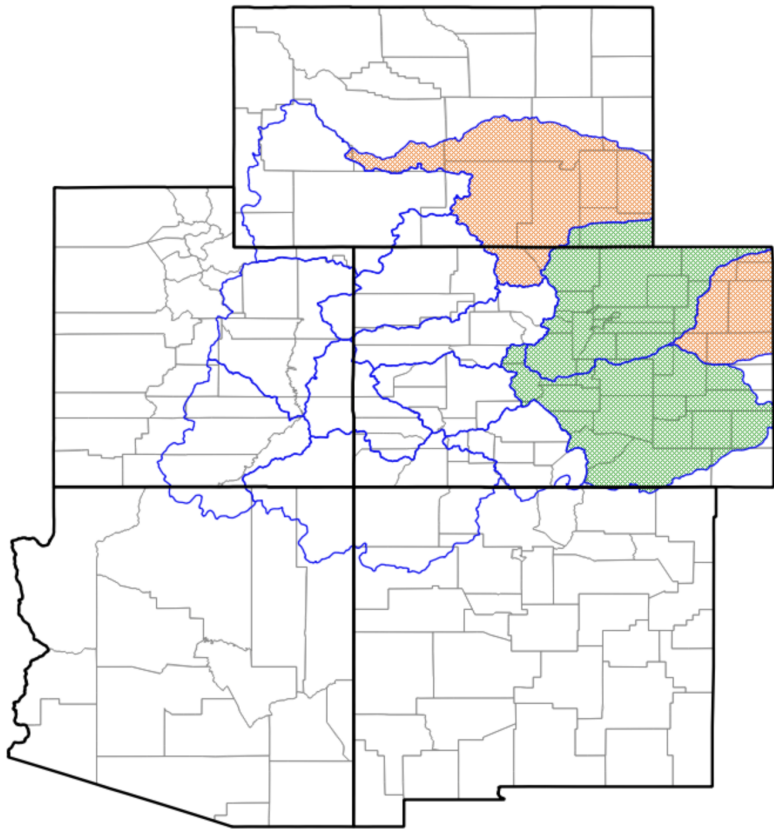


- A “composite” method of monitoring drought
- currently a manual, experimental process
- consideration of automation if successful

- Eliminates need for going back and forth between multiple products
- Helps identify areas that could be overlooked
- Points to areas that may need degradations or improvements



CODEX – COMPOSITE DROUGHT EVALUATOR EXPERIMENT



South Platte

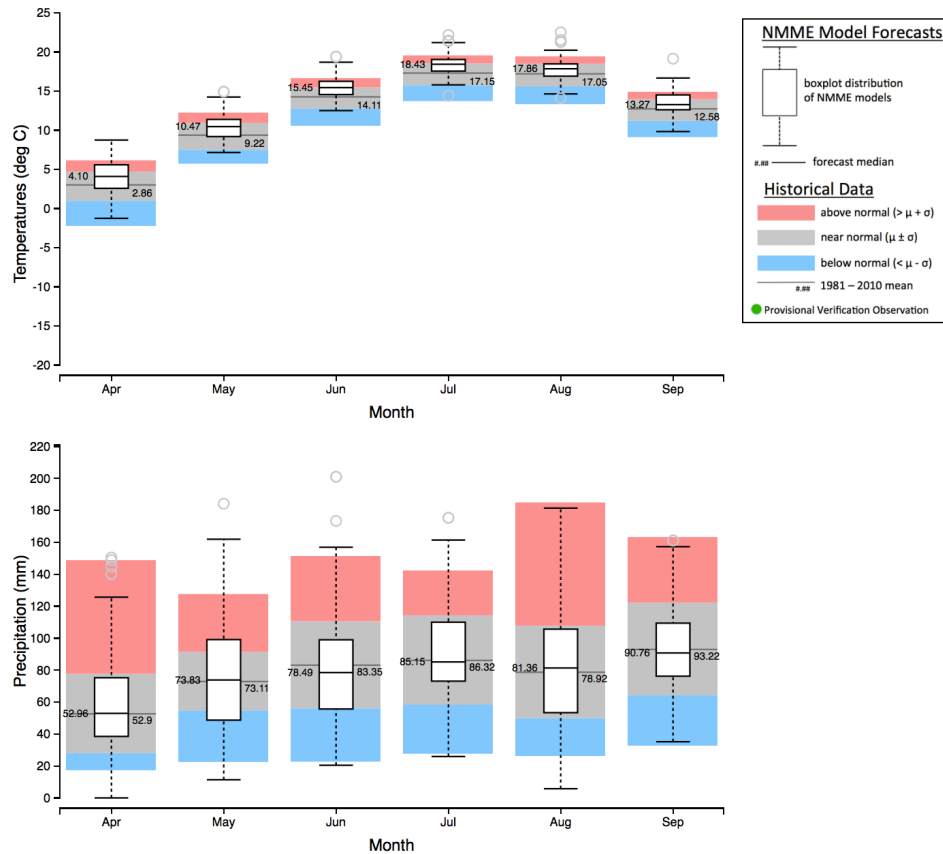
HUC 4	1019
Variable	D-Category
Current USDM	D1
Blended CoDEX	D0
30-Day SPI	-
90-Day SPI	D0
180-Day SPI	D1
Snowpack	-
Soil	D0
Streamflow	-
1mo EDDI	D3
3mo EDDI	D3
Impacts	D0



Great Lakes Seasonal Climate Forecast Tool (Version 2)

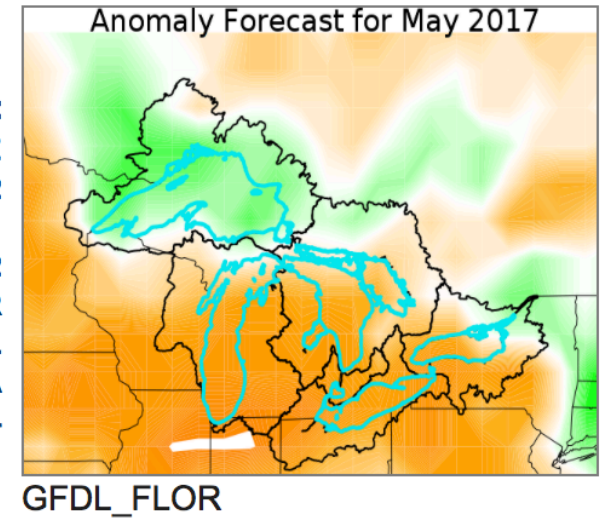
Target Basin: Forecast Initiation Year: Month:

CFSv2 (32) CMC1 (10) CMC2 (10) GFDL (10) GFDL_FLOR (24) NASA (11) NCAR_CCISM4 (10)



SEASONAL OUTLOOKS USING NMME

Month 2:
 NMME
 CFSv2
 CMC1
 CMC2
 GFDL_FLOR
 GFDL
 NASA
 NCAR_CCISM4



THANK YOU!!

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<http://climate.colostate.edu/>

Questions?

