

**Jefferson County Agriculture Drought Resiliency Group (“Ag Drought Group”)**

Meeting #4 = Continuation of Vision, Solutions

Monday, February 6, 2023; 1-3pm

**I. Participants**

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|---|--|
| Albert Sikkens (Pratum)                 | Lisa Windom (JCSWCD)                       |
| Ally Steinmetz (MDWC)                   | Lisa Seales (DRC)                          |
| Bailey Jenks (OSU Ext)                  | Lloyd Forman (producer)                    |
| Becky Anthony (ODFW)                    | Maria Ramora Re (OSU Ext)                  |
| Bill Atherton (producer)                | Mark Wunsch (producer & County Commission) |
| Brad Klann (JCSWCD Board & producer)    | Mike Britton (NUID)                        |
| Brent Fessler (rancher)                 | Rob Galyen (JCSWCD Board & producer)       |
| Craig Weigand (JCSWCD Board & producer) | Scott Duggan (OSU Ext)                     |
| Elaine Cornick (Culver citizen)         | Scott Klopp (Helena)                       |
| Ellen Hammond (JCSWCD)                  | Scotty Samsel (JCSWCD Board & producer)    |
| Jay McCabe (Willbur-Ellis)              | Staci Merkt (JCSWCD)                       |
| Jeremiah Dung (COAREC)                  | Tom Osborne (BPA)                          |
| Jim McNamee (producer)                  | Trevor Derstine (producer)                 |
| John Spring (OSU Ext)                   |  |

New members! Scott Duggan (Crook Co Extension Livestock Specialist), Trevor Derstine (hay grower, Culver), Jeremiah Dung (COAREC), Scott Klopp (Helena)

If you want to discuss concerns about local planning and development, contact Bill Atherton at 541-777-7444 or redbandranch@yahoo.com.

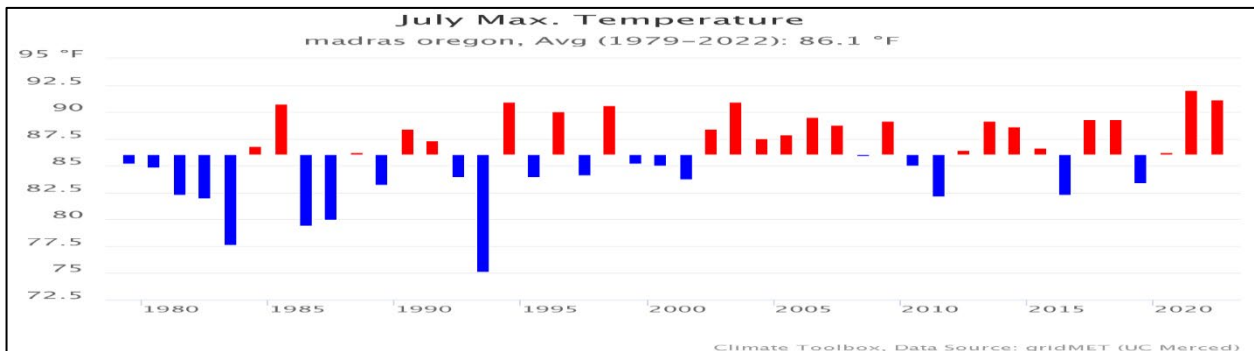
**II. Announcements**

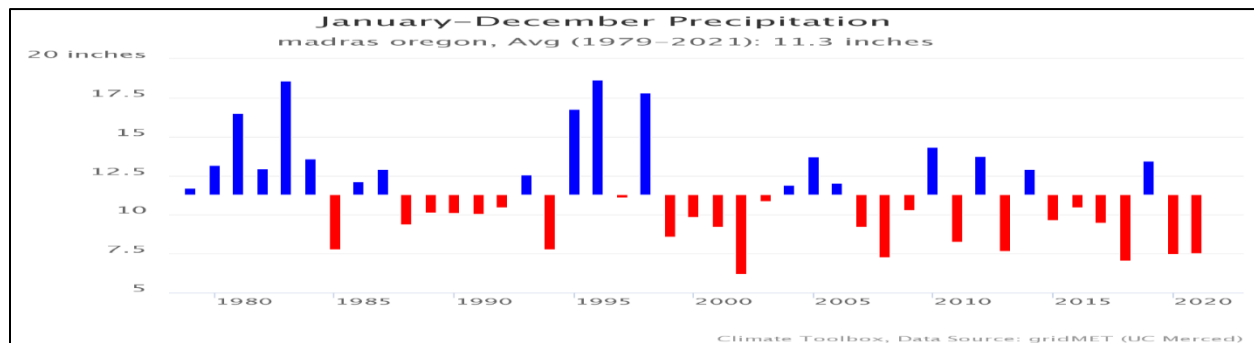
May 3: Northwest Energy Efficiency Alliance presentation

Upcoming Oregon legislation

- HB 2998: Soil Health = basically supports voluntary actions that improve soil health.
  - JCSWCD supports it, **so does the Drought Group. Ellen will testify in favor next week.**
- SB 530: Natural Climate Solutions = basically provides funding for voluntary actions that capture carbon.
  - JCSWCD supports, **so does Drought Group.**
- SB 58: tells OWRD to investigate cloud seeding for Oregon
  - NUID supports it, **so does Drought Group.** Not brought before JCSWCD Board yet.
- HB3142: supports juniper eradication in central/southern Oregon
  - Supported by JCSWCD. Adam is going to testify in favor.

**III. More data (from Climate Toolbox: UC Merced and WSU)**





**III. Vision and Mission (result at end of today’s wordsmithing)**

*“Vision: Jefferson County agriculture will thrive **by adapting successfully to climate variability, and supports its people, animals, economy, environment, and culture.**”*

*Group Mission: to help **agriculture/agricultural businesses** create a sustainable, livable future for Jefferson County by adapting successfully to **environmental challenges** with support from Deschutes Basin stakeholders. We promote innovative solutions to proactively improve watershed health and increase the effective use of water.*

*Discuss at next meeting: should we just go back to ‘drought’?*

**IV. Continue identifying solutions: focus on “effective capture and use of water by agriculture”**

**A. Potential landowner actions**

**a. Irrigation**

- i. Mobile drip irrigation = drip tubes on a pivot. There are 20-30 such pivots in southeastern Oregon and Northern Nevada.
- ii. LESA/LEPA pivots. Being used in southeastern Oregon. Research has shown uneven growth of corn plants but OK yields)
- iii. Zonal variable rate irrigation on center pivot (prescription for individual sprinkler controllers to turn off and on based on terrain to reduce ponding in low spots); costs about 40K to retrofit a pivot. Talk to your utility person to talk with Tom Osborne.
- iv. Variable Frequency Drives (VFDs) for pumps. Rebates available.
- v. Fix leaks in pipelines, etc. (rebates maybe available)
- vi. Subsurface drip system. It works well here, but the gophers ate it up. If you put some kind of gopher bait in the plastic, you need to keep water in it all year to keep bait alive. Probably need to use sprinkler to start the crop growing.
- vii. Surface drip used on carrots here. Might there be a negative perception if all landowners are using drip tape (use of fossil fuels to create all that tape and it ends up in a landfill)?
- viii. Ponds capture delivered water that landowner can’t use at the time, and also hold back sediment in winter and provide wildlife habitat capture.
- ix. Lining ponds to prevent seepage to groundwater. Challenge is getting sediment cleaned out. However, with new practices there should be less sediment entering the irrigation system from field runoff.
- x. Soil surfactants to hold soil in place. There are newer formulations since PAM (polyacrylamide).

- xi. Reduced tillage or direct seed. It is pretty common in Jefferson County, but may not work well with all crops? Reducing tillage can increase weeds.
- xii. Irrigate according to weather and plant needs. Sometimes hard to have enough labor to turn systems off and on. Newer pivots have anemometers. Hard to predict weather in Central Oregon.
- xiii. Grow crops that might use less water, like camelina
- xiv. Technology
  - 1. remote monitoring of water pressures in irrigation infrastructure
  - 2. soil moisture monitoring to help with irrigation scheduling
  - 3. OpenET = public website that shows field-specific evapotranspiration rates for the last 5 years for most Western states. <https://openetdata.org>.
  - 4. NDVI (Normalized Difference Vegetation Index) to determine vegetation health/density of crops. <https://gisgeography.com>
  - 5. Agrivoltaics = solar panels operating in conjunction with an ag crop. Rob Galyen and Chris Tolman did a study (Ellen get details). Chad Higgins (OSU) is also starting a new agrivoltaic research at NWREC - the OSU facility in Aurora
- xv. Increase organic matter in soil to take advantage of the soil sponge. No-till increases organic matter, but landowner may need to rip every 5+ years to eliminate the plow pan left from previous tillage.
- xvi. Improve soil biome with use of biostimulants like compost, manure and others. Group estimates that at least 50% of NUID acreage receives compost or manure, some of which is coming out of Boardman. There is not enough manure/compost available around Madras to meet the need.
- xvii. Control invasive annuals (they use up soil moisture).
- xviii. Improve plant health with products that increases phosphorus, which works on the stoma to help moderate respiration during hot and dry days (Dicap for example)
- b. Rangelands
  - i. Eradicate juniper, reseed with native grasses/forbs, and spray invasive weeds.
  - ii. Chip junipers and spread as a mulch. Are they doing this in Crook County?
  - iii. Bring water table up by encouraging beaver or simulating beaver dams (BDAs)
  - iv. Reconnect creek to floodplain to store water in soil sponge.
  - v. Allow some livestock access to well vegetated streambanks to help compact soil and keep it from eroding.
  - vi. Protect seeps and springs with fencing (protect the water source).
  - vii. Capture water in ephemeral gullies with structures such as rock check dams
- c. Dryland fields
  - i. No till seeding (but requires herbicides to eliminate the green bridge).
  - ii. Cover crops
- B. Challenges
  - a. Weeds: in ideal world, soil health would help with weeds. However, short of that, landowners need to either till or spray chemicals.
  - b. Wind skips are big problem in irrigated croplands when using sprinklers/pivots.
  - c. Rodent damage to drip systems.
  - d. How to get farmers to adopt new technology?
  - e. How to get enough manure/compost/other biostimulants on croplands?
  - f. Need markets and processing facilities to sustain addition of new drought-tolerant crops.
- C. Helpful Things
  - a. Data to show how efficient each type of irrigation system is in Jefferson County

- b. Economic and yield data to who if there is a benefit to investing in changing irrigation infrastructure
- c. Economic study of ag's importance to Jefferson County (NUID commissioned one that will be available by the end of 2023)
- d. Detailed feasibility study on barriers, solutions, and incentives for land managers
- e. Support and follow up on legislation
- f. Ellen get alternative crops list created by Clint Jacks and Mylen Bohle
- g. Develop outreach plan for non-ag stakeholders so they are already somewhat informed when JeffCo ag needs their support. Need to showcase farming and NUID management and how on-farm water is delivered.
  - i. Plan should include a video. Look at the 2 JeffCo Seed Growers Association videos for ideas: [www.jeffcoseed.com](http://www.jeffcoseed.com) (click on the arrows on the striped squares on the right side of home page).
- h. Develop a networking infrastructure to share information in JeffCo and learn from nearby areas.

**Next Meeting = March 6, 1-3pm at the Public Health Community Room (same place as today)**