

WELCOME TO EVALUATING PROFITABLE AGRICULTURAL ENTERPRISES

A PROFESSIONAL DEVELOPMENT WEBINAR SERIES



1

WEBINAR SCHEDULE

| Date | Session Title |
|-----------------------|---|
| Wednesday December 1 | Introduction to Economic Feasibility Assessment |
| Wednesday December 15 | Market Feasibility Assessment |
| Wednesday January 12 | Financial Feasibility Assessment – Budget and Profit Basics |
| Wednesday January 26 | Financial Feasibility Assessment – Budgets and Financial Statements |
| Wednesday February 9 | Financial Feasibility Assessment – Financial Analysis |
| Wednesday February 23 | Enterprise Financing: Federal Grant and Loan Programs |
| Wednesday March 30 | Enterprise Assessment Example – Analyzing Drought Management Strategies |
| Wednesday April 13 | Conducting Client Needs Assessments |
| Wednesday April 27 | Evaluating Client Programming |
| Wednesday May 11 | Q&A Session |



2

TODAY

- Enterprise Assessment Example – Analyzing Drought Management Strategies
- Resources
- Guest speaker
- Thanks to WSARE for funding this webinar series - Western Sustainable Agriculture Research and Education



3

ENTERPRISE ASSESSMENT EXAMPLE – ANALYZING DROUGHT MANAGEMENT STRATEGIES

DRS. ANA THAYER AND RYAN LARSEN



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Extension
UtahStateUniversity



4

DROUGHT TOOLS (15 MIN)

- 1) US Drought Monitor
- 2) NOAA Weather Forecasts
- 3) USDA Ag in Drought
- 4) Extension Drought Pages
- 5) Water/Climate Supply Outlook Report
- 6) University of Arizona DroughtView



5

1) US DROUGHT MONITOR

Current U.S. Drought Monitor Conditions for Utah Get Alerts When Local Conditions Change

Current Last Week Last Month

The U.S. Drought Monitor (USDM) is updated each Thursday to show the location and intensity of drought across the country. This map shows drought conditions across Utah using a five-category system, from Abnormally Dry (D0) conditions to Exceptional Drought (D4). The USDM is a joint effort of the National Drought Mitigation Center, USDA, and NOAA. Learn more.

The following state-specific drought impacts were compiled by the National Drought Mitigation Center. While these impacts are not exhaustive, they can help provide a clearer picture of drought in Utah.

| | | |
|--|---|----------------|
| | D0 - Abnormally Dry | 100.0% |
| | <ul style="list-style-type: none"> • Dryland crops are struggling • Water for cattle is limited | of UT (D0- D4) |
| | D1 - Moderate Drought | 100.0% |
| | <ul style="list-style-type: none"> • Soil moisture is low; winter wheat germination is poor • Feed for cattle is limited • Springs are drying | of UT (D1- D4) |
| | D2 - Severe Drought | 96.9% |
| | <ul style="list-style-type: none"> • Pasture and water is inadequate for cattle; ranching management practices change • Air quality is poor; dust is a problem • Streams and ponds are dry | of UT (D2- D4) |
| | D3 - Extreme Drought | 33.3% |
| | <ul style="list-style-type: none"> • Fire danger increases; fire bans on public land are implemented • Native vegetation is stressed • Streamflow is low | of UT (D3- D4) |
| | D4 - Exceptional Drought | 0.0% |
| | <ul style="list-style-type: none"> • Fire restrictions increase • Irrigation water allotments are cut | of UT (D4) |

Source(s): NDMC, NOAA, USDA Updates Weekly - 03/22/22

<https://www.drought.gov/states/utah>

6

1) US DROUGHT MONITOR

Drought Classification

[Home](#) > [About](#) > [About the Data](#) > Drought Classification

| Category | Description | Possible Impacts | Ranges | | | | |
|----------|---------------------|---|--------------------------------------|---------------------------------------|--------------------------------------|--|--|
| | | | Palmer Drought Severity Index (PDSI) | CPC Soil Moisture Model (Percentiles) | USGS Weekly Streamflow (Percentiles) | Standardized Precipitation Index (SPI) | Objective Drought Indicator Blends (Percentiles) |
| D0 | Abnormally Dry | <ul style="list-style-type: none"> Going into drought: <ul style="list-style-type: none"> short-term dryness slowing planting, growth of crops or pastures Coming out of drought: <ul style="list-style-type: none"> some lingering water deficits pastures or crops not fully recovered | -1.0 to -1.9 | 21 to 30 | 21 to 30 | -0.5 to -0.7 | 21 to 30 |
| D1 | Moderate Drought | <ul style="list-style-type: none"> Some damage to crops, pastures Streams, reservoirs, or wells low, some water shortages developing or imminent Voluntary water-use restrictions requested | -2.0 to -2.9 | 11 to 20 | 11 to 20 | -0.8 to -1.2 | 11 to 20 |
| D2 | Severe Drought | <ul style="list-style-type: none"> Crop or pasture losses likely Water shortages common Water restrictions imposed | -3.0 to -3.9 | 6 to 10 | 6 to 10 | -1.3 to -1.5 | 6 to 10 |
| D3 | Extreme Drought | <ul style="list-style-type: none"> Major crop/pasture losses Widespread water shortages or restrictions | -4.0 to -4.9 | 3 to 5 | 3 to 5 | -1.6 to -1.9 | 3 to 5 |
| D4 | Exceptional Drought | <ul style="list-style-type: none"> Exceptional and widespread crop/pasture losses Shortages of water in reservoirs, streams, and wells creating water emergencies | -5.0 or less | 0 to 2 | 0 to 2 | -2.0 or less | 0 to 2 |

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7

1) US DROUGHT MONITOR

Drought in Utah from 2000–Present

The U.S. Drought Monitor started in 2000. Since 2000, the longest duration of drought (D1–D4) in Utah lasted 288 weeks beginning on April 3, 2001, and ending on October 3, 2006. The most intense period of drought occurred the week of January 19, 2021, where D4 affected 69.99% of Utah land.

[2000 - Present \(Weekly\)](#)
 [1895 - Present \(Monthly\)](#)
 [0 - 2017 \(Yearly\)](#)
 [Explore Historical Maps](#)

The U.S. Drought Monitor (USDM) is a national map released every Thursday, showing parts of the U.S. that are in drought. The USDM relies on drought experts to synthesize the best available data and work with local observers to interpret the information. The USDM also incorporates ground truthing and information about how drought is affecting people, via a network of more than 450 observers across the country, including state climatologists, National Weather Service staff, Extension agents, and hydrologists. [Learn more.](#)

Time Period (Years): to [Update Graph](#) [Reset Graph](#)

Latest Available Data: 2022-03-22

■ D0
 ■ D1
 ■ D2
 ■ D3
 ■ D4

[Image](#) [JSON](#) [XML](#) [CSV](#)

<https://www.drought.gov/states/utah>

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8

1) US DROUGHT MONITOR

Short-Term Drought Indicator Blend EXPERIMENTAL
Short Term

Long-Term Drought Indicator Blend EXPERIMENTAL
Long Term

These experimental drought blends integrate several key drought monitoring products and indices into a single short-term or long-term product, based on the methodology developed at the NOAA Climate Prediction Center. The blends are created using the Climate Engine tool, and apply the CPC weighting ratios to the high-resolution gridMET gridded research dataset.

The short-term blend combines PDSI, Z-Index, 1-month SPI, and 3-month SPI to estimate the overall short-term drought. This product is an example of current NIDIS-funded research.

The data are updated every 5 days, with a delay of 4 to 5 days to allow for data collection and quality control. [Learn more.](#)

[Click here for more information about this legend](#)

Dry Conditions (Percentile Categories)

D4 (0-2) D3 (2-5) D2 (5-10) D1 (10-20) D0 (20-30) (30-70)

Wet Conditions (Percentile Categories)

W0 (70-80) W1 (80-90) W2 (90-95) W3 (95-98) W4 (98-100)

<https://www.drought.gov/states/utah>

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9

1) US DROUGHT MONITOR

Future Conditions for Cache County

Evaporative Demand (EDDI) Forecast EXPERIMENTAL
Week Four Week

U.S. Drought Outlooks
Monthly Season

The Evaporative Demand Drought Index (EDDI) is an experimental drought monitoring and early warning guidance tool. It examines how anomalous the atmospheric evaporative demand (E0; also known as "the thirst of the atmosphere") is for a given location and across a time period of interest. This experimental subseasonal EDDI forecast shows projected evaporative demand for the next 2 weeks and 4 weeks from the CFS-gridMET dataset at 4-km gridded resolution. [Learn more.](#)

The National Weather Service Climate Prediction Center's Monthly Drought Outlook is issued at the end of each calendar month and is valid for the upcoming month.

The Outlook predicts whether drought will persist, develop, improve, or be removed over the next month. [Learn more.](#)

■ Drought persists
 ■ Drought remains but improves
 ■ Drought removal likely
 ■ Drought development likely
 ■ No drought present

Dry Conditions

D4 D3 D2 D1 D0

Wet Conditions

Near Normal W0 W1 W2 W3 W4

<https://www.drought.gov/states/utah>

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10

2) NOAA WEATHER FORECASTS

Three-Month Outlooks OFFICIAL Forecasts

[EXPERIMENTAL TWO-CLASS SEASONAL FORECASTS]
Click below for archives of past outlooks (data & graphics) verifications of past outlooks, and GIS data for current outlooks

[Archives Verifications GIS Data](#)

Text-Format Discussions

[Prognostic Discussion](#)

[Tools Discussion](#)

[30- & 90-Day Discussion](#)

[Hawaiian Discussion](#)

[Briefing Materials](#)

(updated as new information arrives)

Official 90-day Outlooks are issued once each month near mid-month at 8:30am Eastern Time. Please consult the schedule of 30 & 90-day outlooks for exact release dates.

| OUTLOOKS (click title for maps) | Norm | Prob of Exceed (interactive) | |
|---|------|---------------------------------|---|
| | | T | P |
| 9.5 Month Outlook for Apr-May-Jun 2022 | N | T | P |
| 1.5 Month Outlook for May-Jun-Jul 2022 | N | T | P |
| 2.5 Month Outlook for Jun-Jul-Aug 2022 | N | T | P |
| 3.5 Month Outlook for Jul-Aug-Sep 2022 | N | T | P |
| 4.5 Month Outlook for Aug-Sep-Oct 2022 | N | T | P |
| 5.5 Month Outlook for Sep-Oct-Nov 2022 | N | T | P |
| 6.5 Month Outlook for Oct-Nov-Dec 2022 | N | T | P |
| 7.5 Month Outlook for Nov-Dec-Jan 2022-23 | N | T | P |
| 8.5 Month Outlook for Dec-Jan-Feb 2022-23 | N | T | P |
| 9.5 Month Outlook for Jan-Feb-Mar 2023 | N | T | P |
| 10.5 Month Outlook for Feb-Mar-Apr 2023 | N | T | P |
| 11.5 Month Outlook for Mar-Apr-May 2023 | N | T | P |
| 12.5 Month Outlook for Apr-May-Jun 2023 | N | T | P |

| Color Maps (click title for maps) |
|--|
| Outlooks for April 2022 & Apr-May-Jun 2022 |
| All Temperature Outlooks |
| All Precipitation Outlooks |

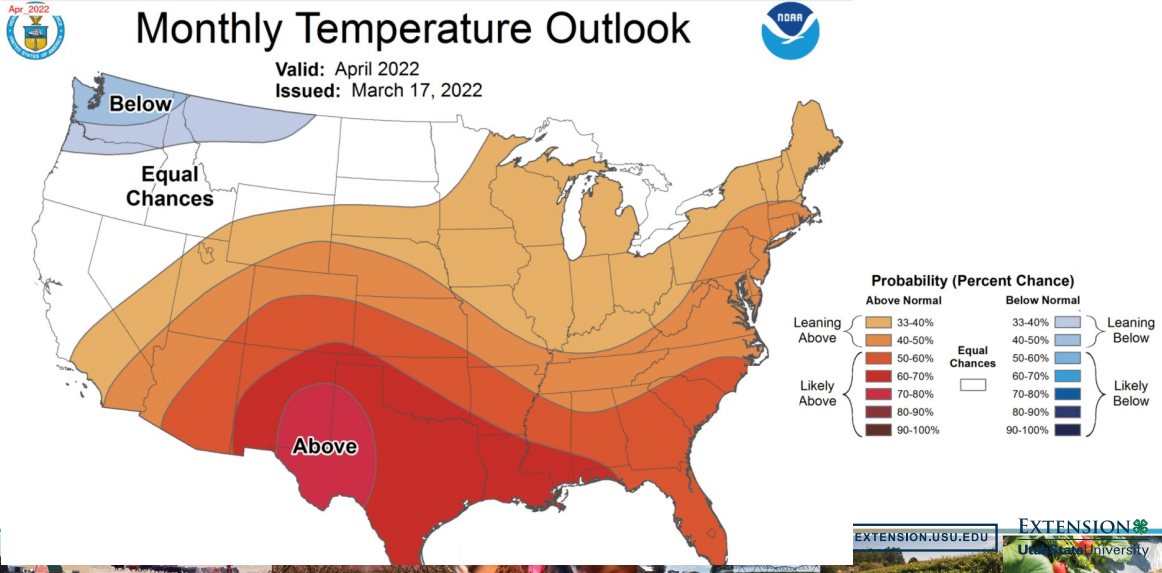
<https://www.cpc.ncep.noaa.gov/products/predictions/90day/>

11

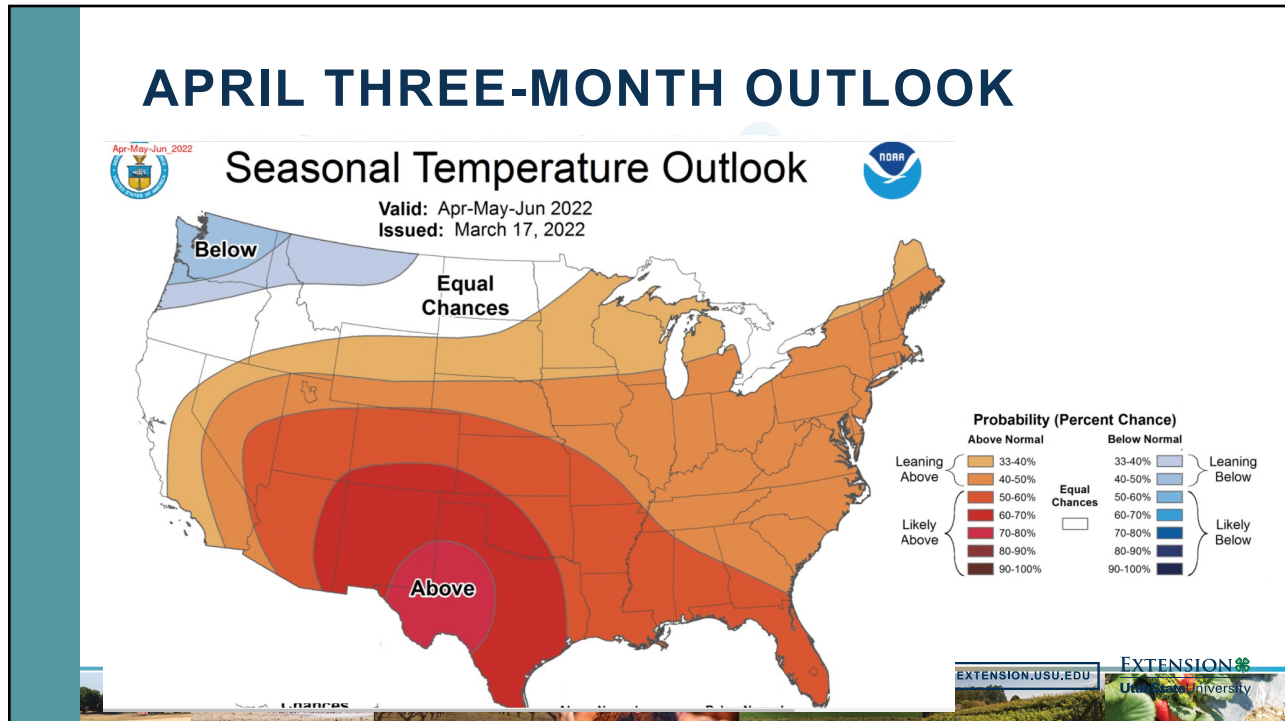
APRIL ONE-MONTH OUTLOOK

Monthly Temperature Outlook

Valid: April 2022
Issued: March 17, 2022




12



13

3) USDA AG IN DROUGHT REPORT



OFFICE OF THE CHIEF ECONOMIST

- About Us
- Newsroom
- Agricultural Outlook Forum
- Commodity Markets
- Economic Analysis
- Energy and Environmental Policy
- Food Loss and Waste
- Labor Affairs
- Pest Management Policy

Meteorologists in USDA's World Agricultural Outlook Board (WAOB) provide weather assessments and real-time yield intelligence for global crop conditions in support of the monthly World Agricultural Supply and Demands Estimates (WASDE) report. WAOB's meteorologists are also responsible for the publication of the Weekly Weather and Crop Bulletin and are contributing authors to the U.S. Drought Monitor.


Featured


Daily U.S. Weather Highlights

Weekly Weather and Crop Bulletin

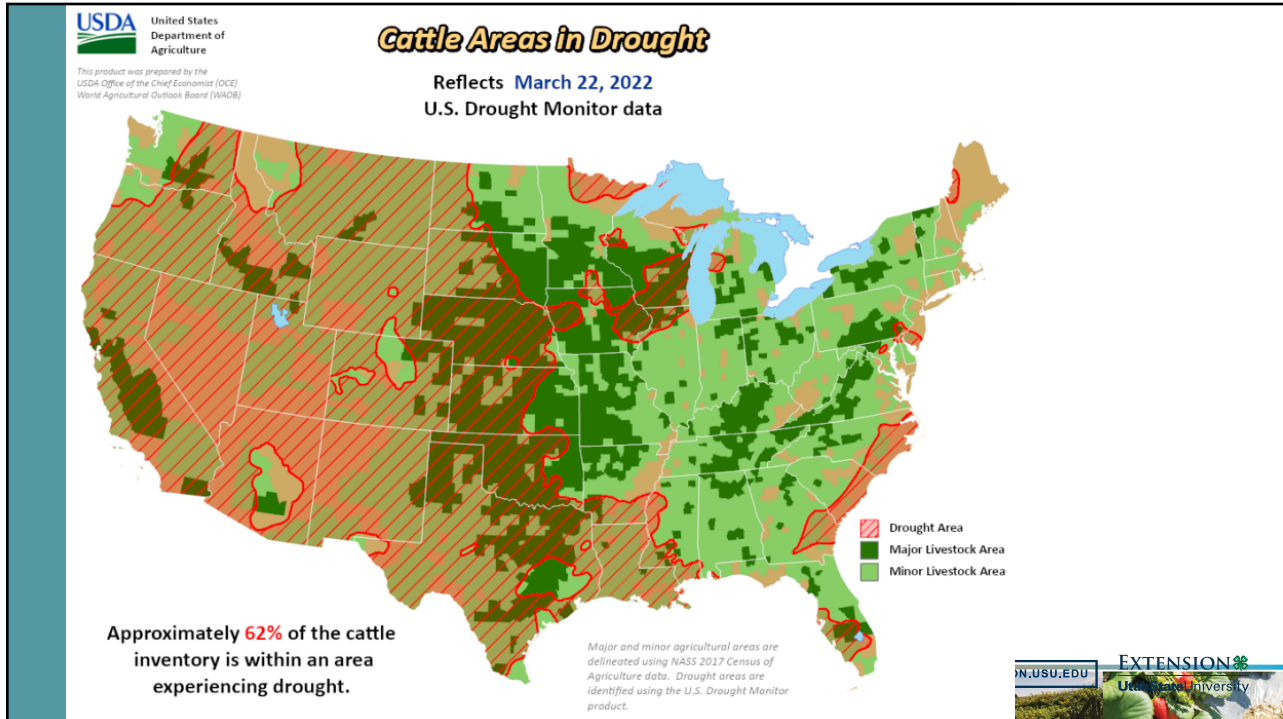
U.S. Agriculture Drought Monitor

<https://www.usda.gov/oce/weather-drought-monitor>

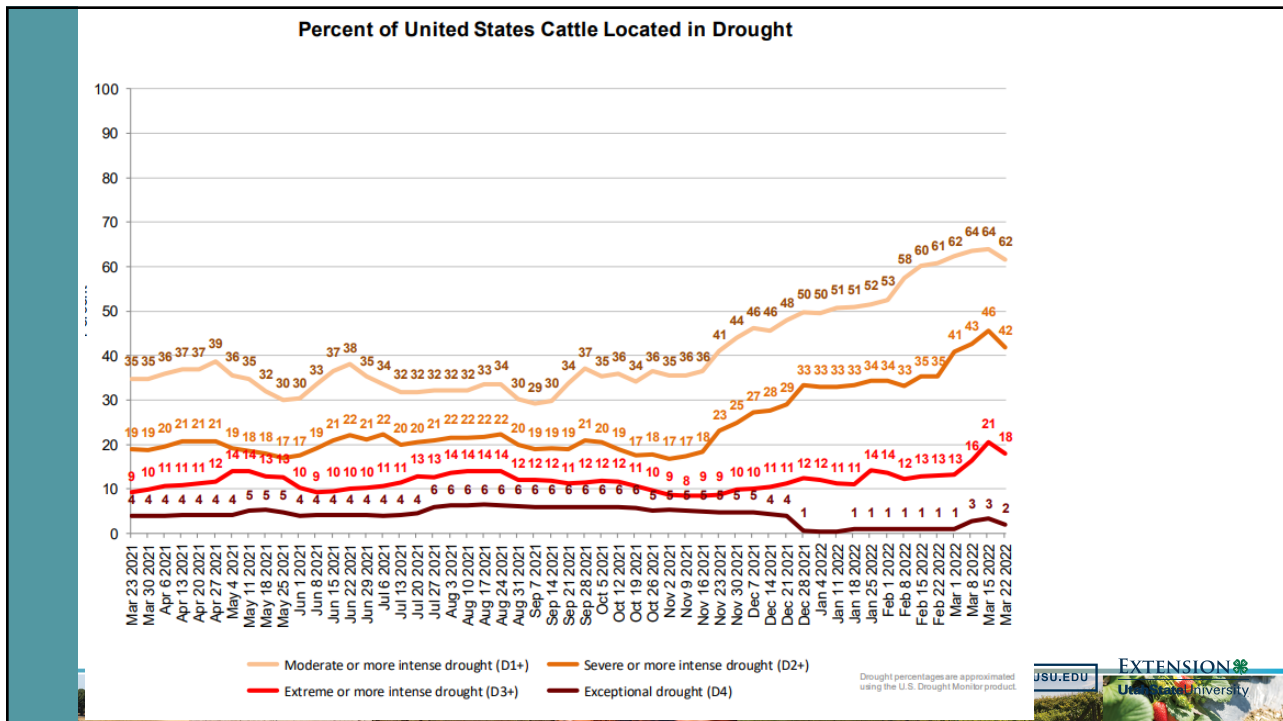




14



15



16

4) USU DROUGHT PAGE

The screenshot shows the top portion of the Utah State University Drought Extension website. The header includes the Utah State University logo and 'Drought Extension' text. A navigation menu contains links for County Locations, Programs, Calendar, Research, News & Impacts, Online Courses, Online Store, and Directory, along with an Email Sign Up button. The main content area features a large image of a small green plant growing from a crack in dry, cracked earth. Below the image is the heading 'Utah Drought' and a sub-heading 'Utah is in a drought. Look here for some ways you can do your part to conserve water.' Further down, there is a section titled 'USU Extension Resources You Can Use Today' with a paragraph of text and a URL <https://extension.usu.edu/drought/> highlighted in a red box.

17

This screenshot shows a grid of resource cards on the Utah State University Drought Extension website. The grid includes six cards: 'In Home Water Conservation' (with a faucet image), 'Landscape & Garden Water Conservation' (with a sprinkler image), 'Range & Livestock Drought Resources' (with a pivot irrigation image), 'Crops Resources' (with a dirt road image), 'Drought Economic Resources' (with a field of wheat and money bills image, circled in red), and 'Other Resources' (with a chalkboard image). A URL <https://extension.usu.edu/drought/> is highlighted in a red box at the bottom right of the grid.

18

5) WATER AND CLIMATE REPORTS FROM NCRS

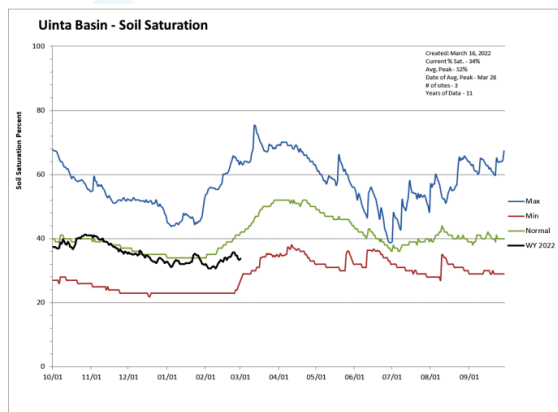
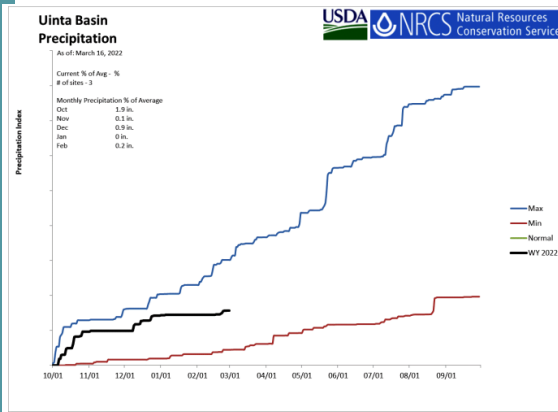
1) Climate and Water Report: the purpose of the Climate and Water Report is to provide a snapshot of current and immediate past climatic conditions and other information useful to agricultural and water user interests in Utah.

2) Water Supply Outlook Report: purpose is to report snowpack and estimate future streamflows and report other relevant on-the-ground conditions (winter season only)



19

CLIMATE AND WATER REPORT

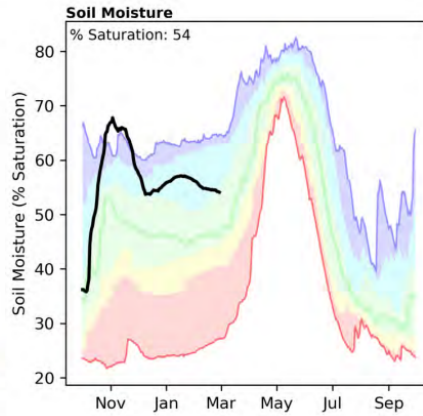
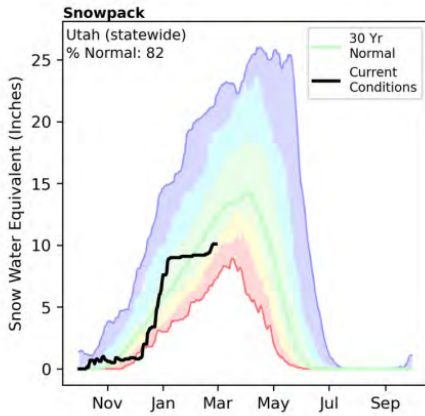


- Utilizes monitors in valleys and mountains to report separate indicators but joint summary
- Soil moisture, precipitation, temperature, water availability, etc.



20

WATER SUPPLY OUTLOOK REPORT



- Monthly
- Reports on snowpack, soil moisture, reservoir storage, precipitation
- Estimates future runoff and streamflow
- State and basin-level estimates



21

5) WATER AND CLIMATE REPORTS FROM NRCS

How to sign up?

In Utah? email Jordan Clayton at jordan.clayton@usda.gov

Visit your state's NRCS Snow Survey page:

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/ut/snow/> and

Visit your state's NRCS Climate and Water page:

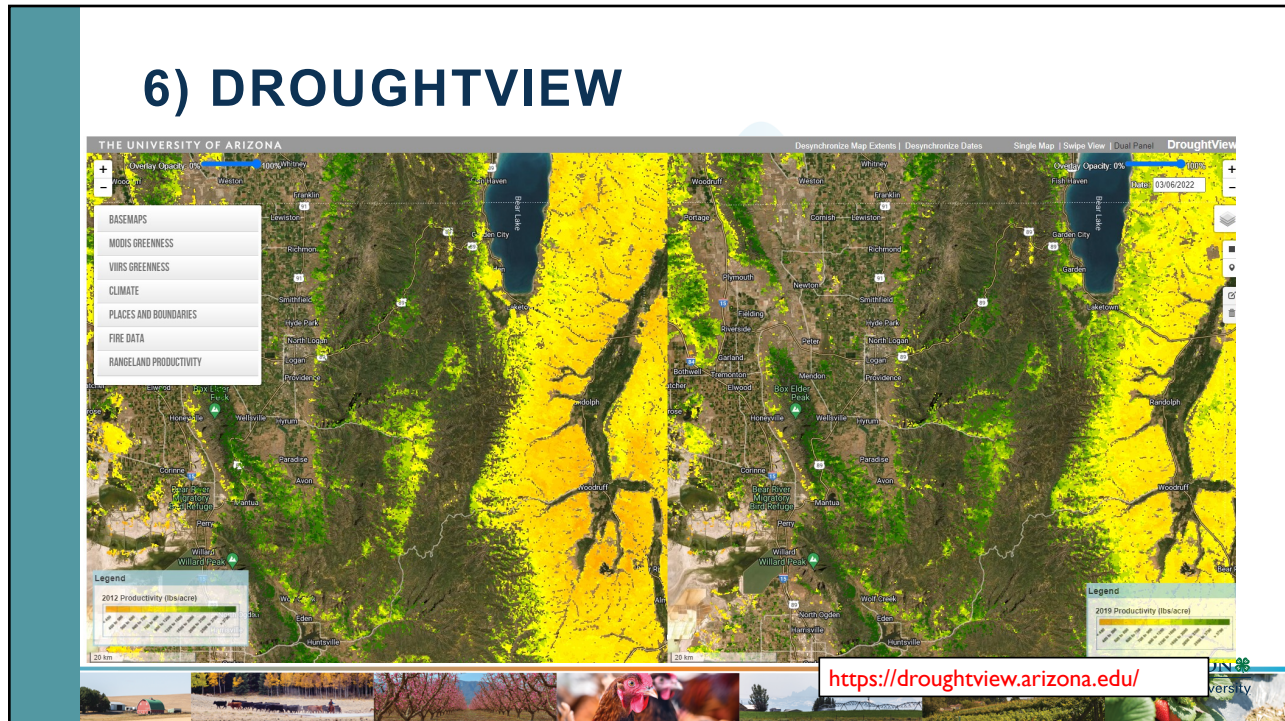
https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ut/snow/waterproducts/?cid=nrcs141p2_03424

7



22

6) DROUGHTVIEW



23

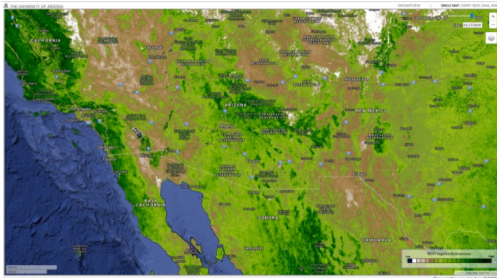
6) DROUGHTVIEW

- How to Use DroughtView
- What is Drought?
- Understand the Data behind DroughtView
- Who Made DroughtView Possible?

How to Use DroughtView

Layouts

Single Map When DroughtView initially loads, the default Single Map view displays. You can display one product layer for one date using this layout.



Swipe View You can access a swipe tool by clicking the Swipe View option. You can swipe back and forth between two product layers using the Swipe Tool. You can load different products into each panel by using the Layer Button located in that panel. You can also desynchronize the two panels by clicking the Synchronize Dates button in order to display different dates of products in the two panels. You can resynchronize the panels by clicking the Synchronize Dates button again.

- Satellite data based mapping tool
- Data
 - MODIS Greenness
 - VIRS Greenness
 - US Drought Monitor
 - Precipitation
 - Rangeland Productivity (1984-2019)

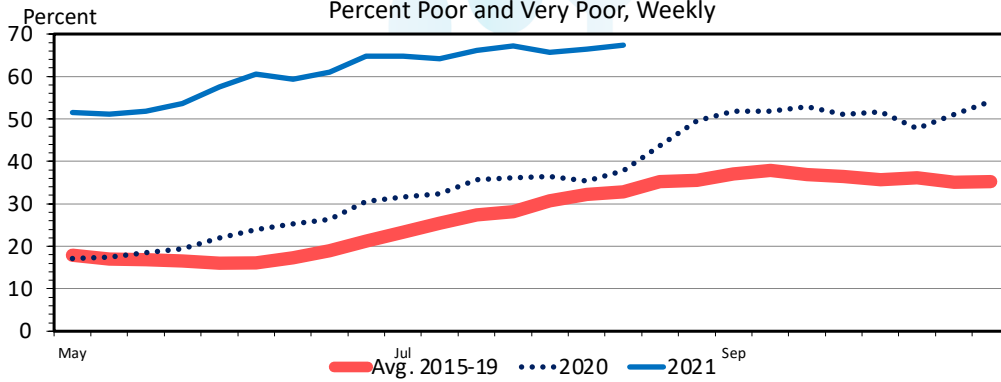
<https://droughtview.arizona.edu/>

24

INSURANCE (10 MIN)

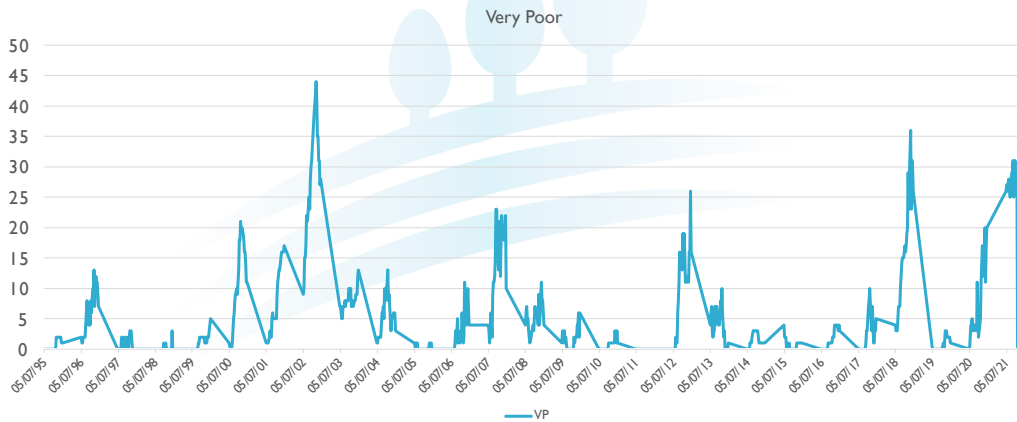
WESTERN REGION AND PASTURE CONDITION

Percent Poor and Very Poor, Weekly



25

HISTORICAL RANGE CONDITIONS



26

PASTURE, RANGE, AND FORAGE INSURANCE

- Decision analysis tool
 - farmanalysis.usu.edu



27

RANGE MANAGEMENT (10 MIN)

- <https://rangelands.app/production-explorer/>



28

QUESTIONS SO FAR?



29

DROUGHT MANAGEMENT EXAMPLE (45 MIN)

- Introduction (2-4 min)
- Drought develops (Fall 2020) (6-8 min)
- Pre-season (Jan, Mar 2021) (12-14 min)
- Growing season (Summer 2021) (12-14 min)
- Recovery (Fall 2021 and beyond) (8-10 min)



30

INTRODUCTION

Sevier County, Utah

- 1,918 square miles or 1,227,520 acres
 - 8.9% of land area in farming or ranching
- Most of the land is federal land (76.8%), with 19.3% private land
- 4 month growing season
- Annual precipitation varies widely with about 5-inch annual precipitation difference between monitor in northwest corner versus a monitor in the western border



https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=3054&context=extension_curall



31

INTRODUCTION

Sevier County, Utah

- Major crops: hay (3,379 acres), corn silage (5,247 acres), corn grain (2,249 acres), barley (114 acres)
- Livestock: cattle (47,169 head), beef cattle (13,210 head), milk cows (2,671 head), sheep and lambs (7,486 head)
- 2017 annual cash receipts: \$21,528,000 (crops) and \$67,017,000 (livestock)

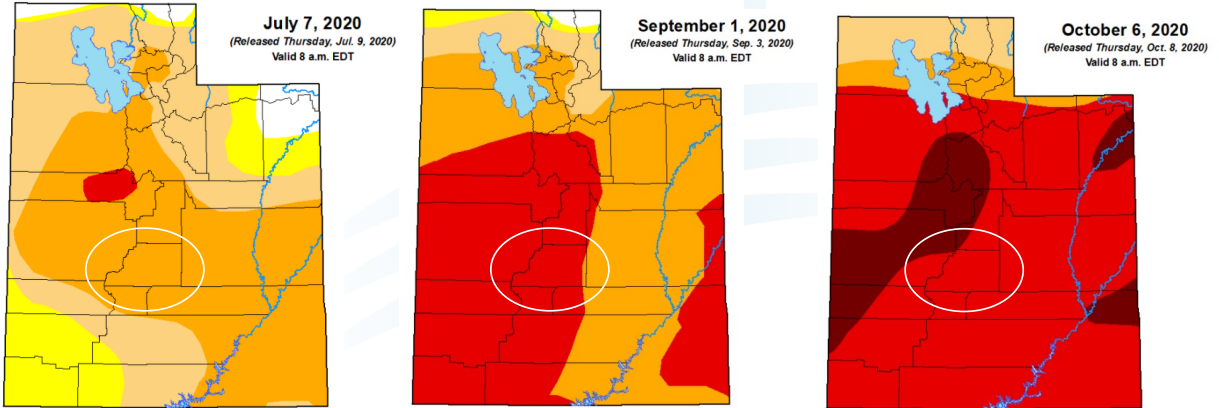


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32

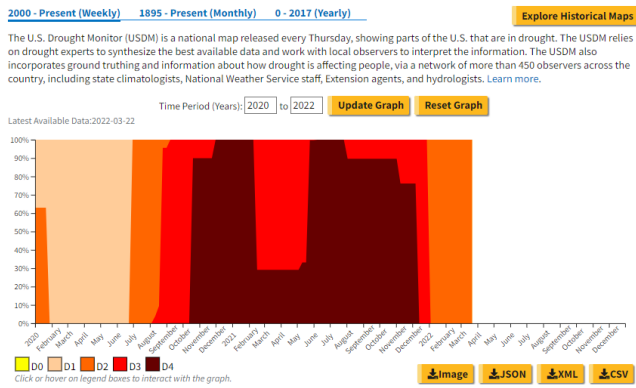
DROUGHT DEVELOPS (8-10 MIN)



33

DROUGHT DEVELOPS (8-10 MIN)

Historical Conditions for Sevier County



October 6, 2020 (Released Thursday, Oct. 8, 2020) Valid 8 a.m. EDT

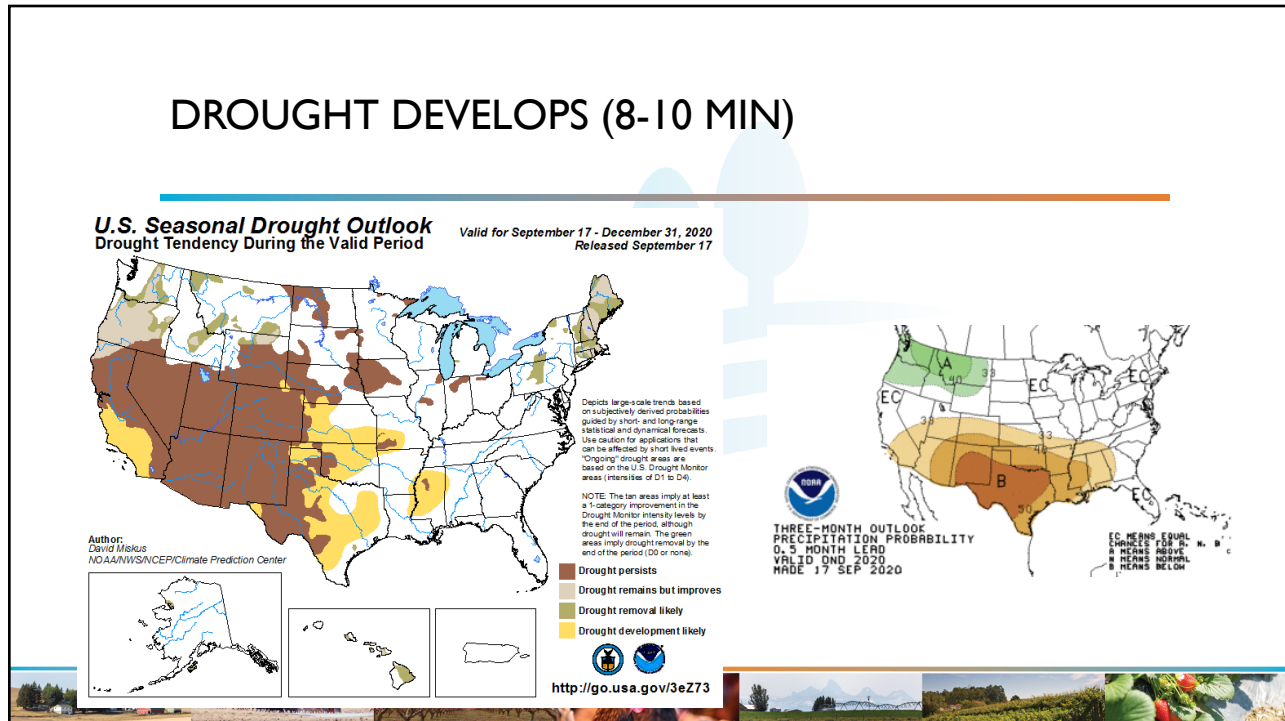
Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|-------|--------|--------|-------|-------|-------|
| Current | 0.00 | 100.00 | 100.00 | 93.20 | 87.26 | 15.85 |
| Last Week 10-01-2020 | 0.00 | 100.00 | 99.62 | 93.20 | 87.26 | 12.80 |
| 3 Months Ago 07-09-2020 | 3.96 | 96.04 | 81.88 | 47.99 | 1.21 | 0.00 |
| Start of Calendar Year 01-02-2020 | 17.19 | 82.81 | 55.72 | 30.47 | 0.00 | 0.00 |



34

DROUGHT DEVELOPS (8-10 MIN)



35

DROUGHT DEVELOPS (8-10 MIN)

Early Drought Monitoring Recommendations:

- US Drought Monitor
- NOAA Monthly and Seasonal Forecasts
- NOAA Drought Forecast

36

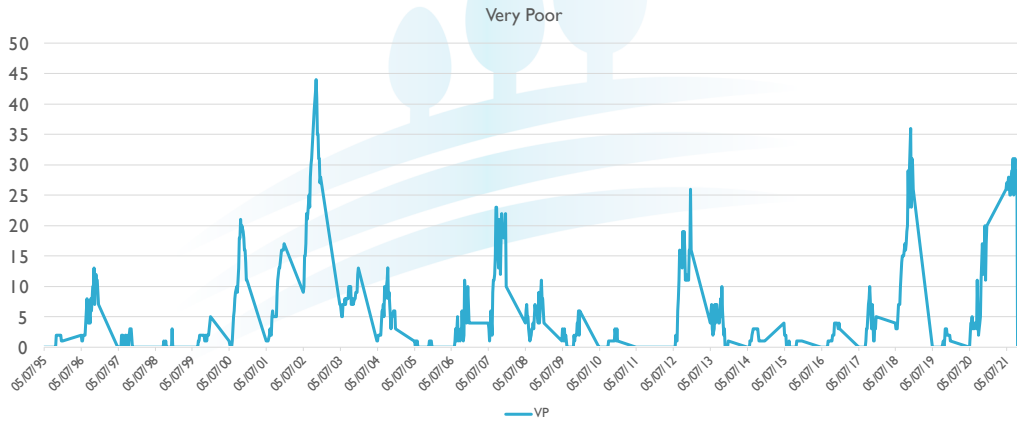
DROUGHT DEVELOPS (8-10 MIN)

- SWOT Analysis of forage resources
 - Strengths
 - Weaknesses
 - Opportunities
 - Threats
- Drought Mitigation Plan



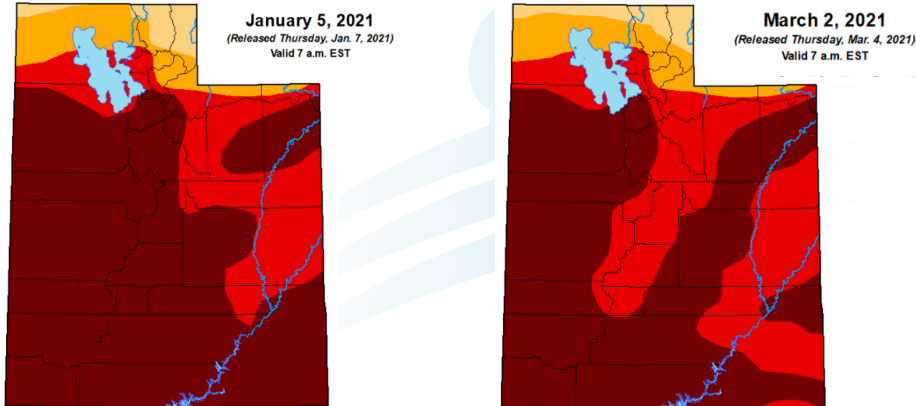
37

HISTORICAL RANGE CONDITIONS



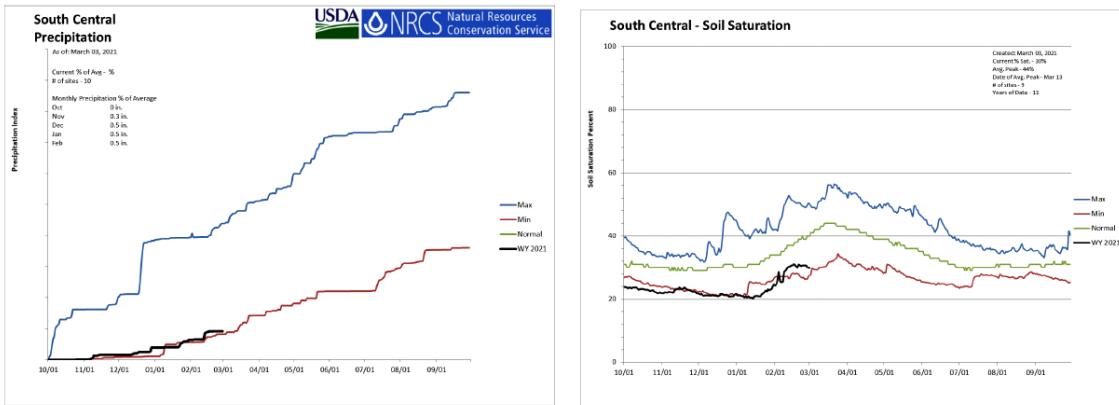
38

PRE-SEASON PLANNING (10-12 MIN)



39

PRE-SEASON PLANNING (10-12 MIN)



March 1, 2021 Climate and Water Report for valley sites



40

PRE-SEASON PLANNING (10-12 MIN)

| March 1, 2021 | | | | | | |
|----------------------------|------------------------------|------------------|--------------------|------------|-------------------|-------------------------|
| Surface Water Supply Index | | | | | | |
| Basin or Region | Feb EOM ^a Storage | APR-JUL Forecast | Storage + Forecast | Percentile | SWSI ^b | Years with similar SWSI |
| | KAF ^c | KAF ^c | KAF ^c | % | | |
| Bear River | 807.7 | 49.0 | 856.7 | 55 | 0.4 | 01, 13, 88, 81 |
| Woodruff Narrows | 25.4 | 66.0 | 91.4 | 14 | -2.98 | 13, 03, 90, 89 |
| Little Bear | 12.1 | 13.0 | 25.1 | 20 | -2.5 | 01, 00, 14, 03 |
| Ogden River | 60.1 | 67.0 | 127.1 | 43 | -0.6 | 91, 89, 20, 10 |
| Weber River | 252.2 | 72.0 | 324.2 | 5 | -3.77 | 04, 13, 15, 03 |
| Provo River | 991.7 | 63.0 | 1054.7 | 39 | -0.89 | 02, 14, 18, 13 |
| Western Uinta | 163.8 | 66.0 | 229.8 | 26 | -1.98 | 07, 12, 08, 94 |
| Eastern Uinta | 23.9 | 37.5 | 61.4 | 7 | -3.57 | 14, 02, 18, 13 |
| Blacks Fork | 5.0 | 62.0 | 67.0 | 15 | -2.88 | 04, 01, 00, 12 |
| Smiths Fork | 3.8 | 19.0 | 22.8 | 21 | -2.46 | 12, 89, 18, 03 |
| Price River | 34.4 | 18.0 | 52.4 | 33 | -1.39 | 94, 01, 07, 10 |
| Joe's Valley | 38.2 | 27.0 | 65.2 | 12 | -3.17 | 90, 91, 03, 89 |
| Ferron Creek | 4.3 | 19.0 | 23.3 | 7 | -3.57 | 18, 13, 02, 90 |
| Moab | 0.6 | 2.3 | 2.9 | 14 | -2.98 | 18, 90, 89, 12 |
| Upper Sevier | 61.9 | 44.0 | 105.9 | 21 | -2.38 | 18, 15, 09, 08 |
| San Pitch | 0.0 | 11.3 | 11.3 | 12 | -3.17 | 15, 16, 13, 90 |
| Lower Sevier | 93.5 | 71.0 | 164.5 | 33 | -1.39 | 14, 20, 90, 94 |
| Beaver River | 8.1 | 16.4 | 24.5 | 17 | -2.78 | 03, 07, 00, 08 |
| Virgin River | 32.0 | 26.9 | 58.8 | 17 | -2.78 | 15, 96, 13, 02 |

^aEOM, end of month; ^bSWSI, surface water supply index; ^cKAF, thousand acre-feet.

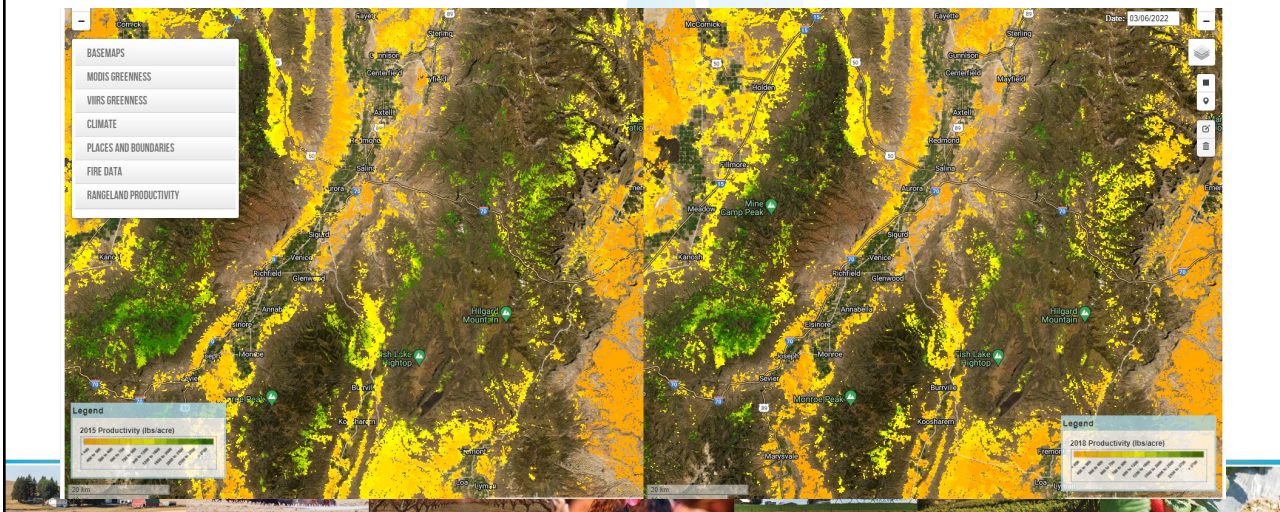
What is a Surface Water Supply Index?

March 1, 2021 Water Supply Outlook Report



41

PRE-SEASON PLANNING (10-12 MIN)



42

PRE-SEASON PLANNING (10-12 MIN)

- Pre-season planning recommendations:
 - Keep an eye on national forecasts and conditions (maybe with the help of USU Extension)
 - Ag in Drought
 - NOAA Seasonal and Drought Forecasts
 - Tailor expectations and forecasts based on state specific sources with emphasis to particular county/basin
 - Extension forecasts and products
 - Climate and Water Reports and Water Supply Outlook



43

PRE-SEASON PLANNING (10-12 MIN)

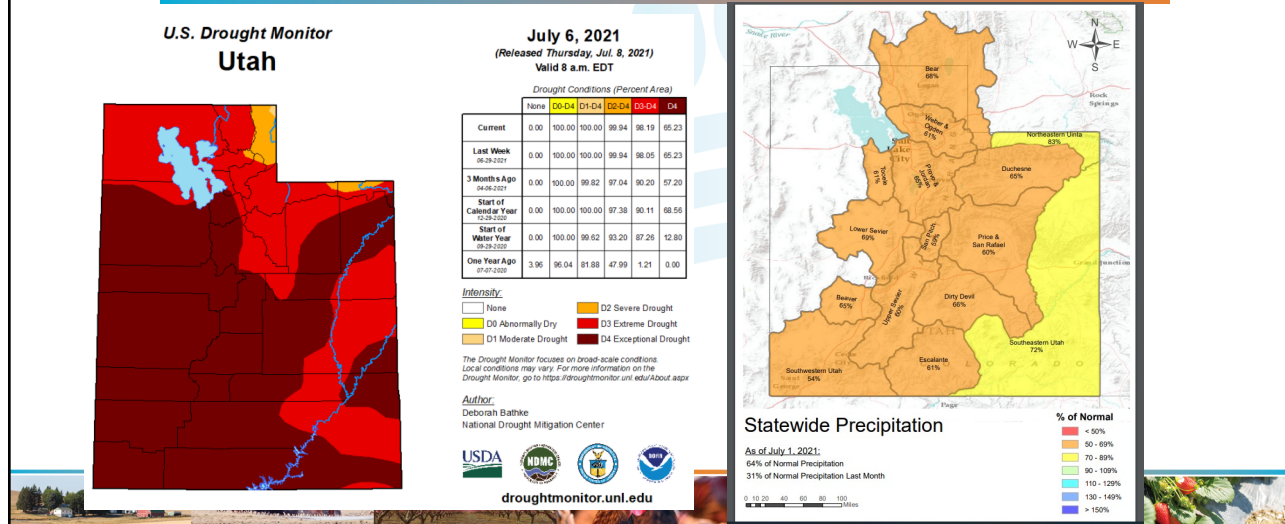
- Understanding costs of production.

March 1, 2021 Climate and Water Report for valley sites



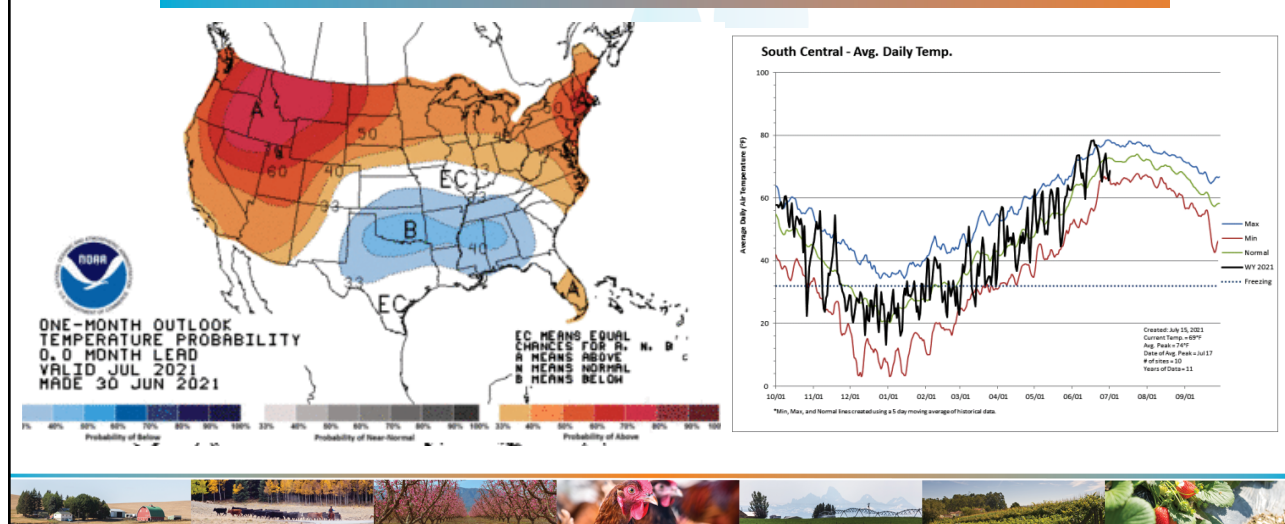
44

GROWING WITH DROUGHT (10-12 MIN)



45

GROWING WITH DROUGHT (10-12 MIN)



46

GROWING WITH DROUGHT (10-12 MIN)

- Growing season recommendations:
 - Look at **regional** drought forecasts
 - Monthly and seasonal temperature and precipitation forecasts
 - Understand yearly weather patterns and how they impact your area
 - US Drought Monitor page for specific region



47

GROWING WITH DROUGHT (10-12 MIN)

- Key management decisions-multi-year decisions
 - Culling decisions
 - Managing your range resources
 - Cost of hauling water



48

GROWING WITH DROUGHT

| Income Statement | Balance Sheet |
|---|---|
| Reduced Profit-lower revenue and higher costs. Tight profit margins. This will potentially continue for multiple years. | Liabilities may increase to cover losses or if restructuring of debt occurs. |
| Tight cash flows-reduced debt carrying capacity. Will impact ability to rebuild herd in the future. | Assets will decrease due to potential liquidation of herd. Equity will decrease if refinancing of real estate is necessary. |

Producers must understand the short and long term implications.



49

RECOVERY AND PREPARATION (8-10 MIN)

Short-Term Drought Indicator Blend EXPERIMENTAL

[Short Term](#)

These experimental drought blends integrate several key drought monitoring products and indices into a single short-term or long-term product, based on the methodology developed at the NOAA Climate Prediction Center. The blends are created using the Climate Engine tool, and apply the CPC weighting ratios to the high-resolution gridMET gridded research dataset.

The short-term blend combines PDSI, Z-Index, 1-month SPI, and 3-month SPI to estimate the overall short-term drought. This product is an example of current NIDIS-funded research.

The data are updated every 5 days, with a delay of 4 to 5 days to allow for data collection and quality control. [Learn more.](#)

[Click here for more information about this legend](#)

Long-Term Drought Indicator Blend EXPERIMENTAL

[Long Term](#)

These experimental drought blends integrate several key drought monitoring products and indices into a single short-term or long-term product, based on the methodology developed at the NOAA Climate Prediction Center. The blends are created using the Climate Engine tool, and apply the CPC weighting ratios to the high-resolution gridMET gridded research dataset.

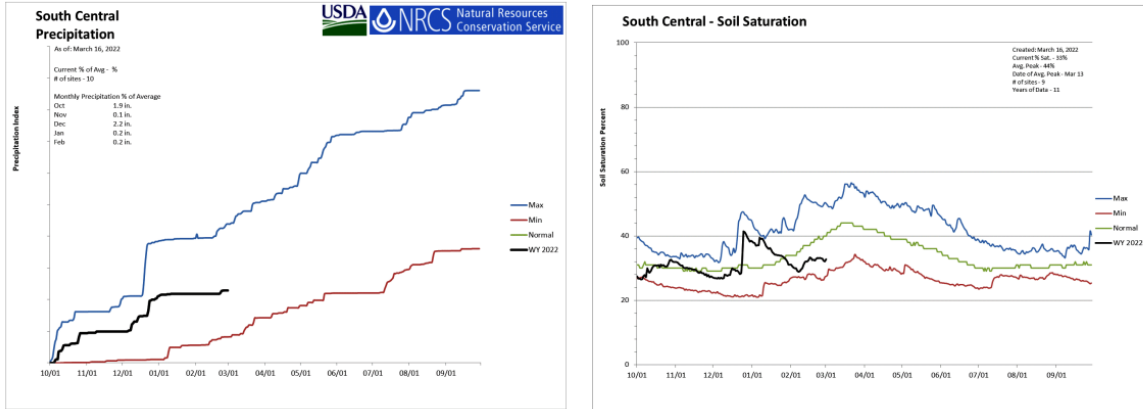
The long-term blend combines PDSI, Z-Index, and 6-month, 1-year, 2-year, and 5-year SPI to estimate the overall long-term drought. This product is an example of current NIDIS-funded research.

The data are updated every 5 days, with a delay of 4 to 5 days to allow for data collection and quality control. [Learn more.](#)

[Click here for more information about this legend](#)

50

RECOVERY AND PREPARATION (8-10 MIN)



51

RECOVERY AND PREPARATION (8-10 MIN)

- Recovery recommendations:
 - Understand recovery, especially after prolonged and severe drought, is a multi-year process
 - NOAA drought forecasts can be helpful, especially regionally
 - State-specific information can be more helpful, especially at the county-basin level
 - US Drought Monitor page for specific region can be helpful



52

RECOVERY AND PREPARATION (8-10 MIN)

- Not if but when
- Prepare a drought mitigation plan
- Must utilize a systems approach
 - Economics/finance
 - Herd health
 - Range resources



53

QUESTIONS SO FAR?



54

RESOURCES

- USU Extension Enterprise Budgets: <https://extension.usu.edu/apec/agribusiness-food/enterprise-budgets>
- USU Extension Farm Analysis: <https://farmanalysis.usu.edu/>
- RMA Pasture and Rangeland Insurance: <https://www.rma.usda.gov/en/Policy-and-Procedure/Insurance-Plans/Pasture-Rangeland-Forage>
- Rangeland Analysis Platform: <https://rangelands.app>



55

RESOURCES FOR DROUGHT MONITORING

- 1) <https://www.drought.gov/states/utah>
- 2) <https://www.cpc.ncep.noaa.gov/products/predictions/90day/>
- 3) <https://www.usda.gov/oce/weather-drought-monitor>
- 4) <https://extension.usu.edu/drought/>
- 5) <http://www.nrcs.usda.gov/wps/portal/nrcs/main/ut/snow/>
https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ut/snow/waterproducts/?cid=nrcs141p2_034247
- 6) <https://droughtview.arizona.edu/>



56

QUESTIONS SO FAR?



57

GUEST SPEAKER – JOHN HALL, UNIVERSITY OF IDAHO

- John Hall is Professor and Extension Beef Cattle Specialist at the University of Idaho Nancy Cummings Research, Extension and Education Center where he also served as the station Superintendent. He is the Cattle Management Lead for the Rinker Rock Creek Ranch – a 20,000 acre working ranch in south-central Idaho that the University of Idaho uses to work on multiple land use topics including rangeland, plants, wildlife, stream restoration and cattle management.
- John has been with the University of Idaho for 14 years. Prior to coming to Idaho, he worked at Fort Keogh Livestock and Range Research Laboratory, and was on faculty at the University of Minnesota and Virginia Tech. His current role is to conduct research and extension programs on beef reproduction and beef cow-calf systems. John is a seventh-generation agriculturalist.
- His interests are estrus synchronization systems, use of gender selected semen, nutrition reproduction interactions, and utilization of forages.



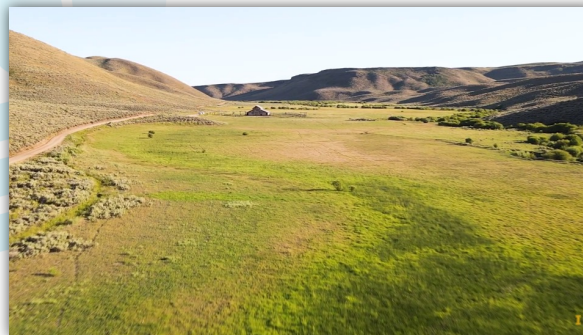
58

JOHN HALL, UNIVERSITY OF IDAHO

- Professor & Beef Extension Specialist
- Cattle Management Lead, Rinker Rock Creek Ranch



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www.uidaho.edu/research/entities/rock-creek



59



University of Idaho

College of Agricultural
and Life Sciences

A RESEARCH CENTER RESPONSE TO DROUGHT

- JOHN B. HALL
- PROFESSOR & EXTENSION BEEF SPECIALIST
- UNIVERSITY OF IDAHO
- NANCY M. CUMMINGS REEC

60

BACKGROUND

- Primary Cow-Calf and Forage Research Center
- 1100 acres (840 irrigated) + 21,000-acre range unit
- 380 cows, 160 heifers, 12 bulls
- GrowSafe Nutrition unit – feed efficiency testing
 - Requires additional feed
- Income from animal sales = operating funds



61

RESPONSE TO DROUGHT

- Goals, What do we do best, Impact on research, Impact on teaching, Impact on Income
- Decrease or eliminate purchased feeds
- Reduce cow and heifer numbers
 - Maintain only animals necessary to maintain research
 - Keep options open
 - Permanently reduce numbers and add yearlings?



62

RESPONSE TO DROUGHT

- GrowSafe Nutrition unit – feed efficiency testing
 - Idle for 2022
 - Require or obtain funding to use
- Examine other revenue streams
- Consider changing calving season



63

NEXT WEBINAR: WEDNESDAY APRIL 13

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- Conducting Client Needs Assessment
 - Program website: <https://extension.usu.edu/apec/extensionagentproject>
 - Recordings and materials for all webinars



64

THANK YOU!

QUESTIONS?



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