

Climate data for agriculture and natural resources



Julian Reyes, PhD
Chief of Staff | Union of Concerned Scientists
EESI Congressional Briefing | April 23, 2026

Independent Science



- *Safeguarding data, research, and science-based tools*
 - Climate.us;
 - Climateliteracy.earth
 - Billion Dollar Disasters (Climate Central)
- *Building independent science communication hubs*
 - Data Foundation's Climate Data Collaborative
- *Providing opportunities for independent scientists to convene and publish*
 - U.S. Climate Collection (AGU and AMS)
 - The Nature Record

But this climate services ecosystem is extremely *fragile and fragmented*



WAMU 88.5 On Air Now

CLIMATE

Proposed funding cuts threaten climate hubs across the country

MARCH 5, 2026 · 4:46 AM ET

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THE HILL

SIGN UP

Trump administration holds up NOAA grant funding

3 BY RACHEL FRAZIN - 04/13/26 6:00 AM ET



From invasive species tracking to water security – what’s lost with federal funding cuts at US Climate Adaptation Science Centers

Published: November 24, 2025 8:30am EST

National Center for Atmospheric Research (NCAR)

What Americans Lose If Their National Center for Atmospheric Research Is Dismantled

Five ways dismantling NCAR will cost the American people, and two ways to save it.

By Carlos Martinez 27 January 2026



Amid Federal Moves to Dismantle Premier Atmospheric Research Center, UCS Requests Public Release of Management Agreement

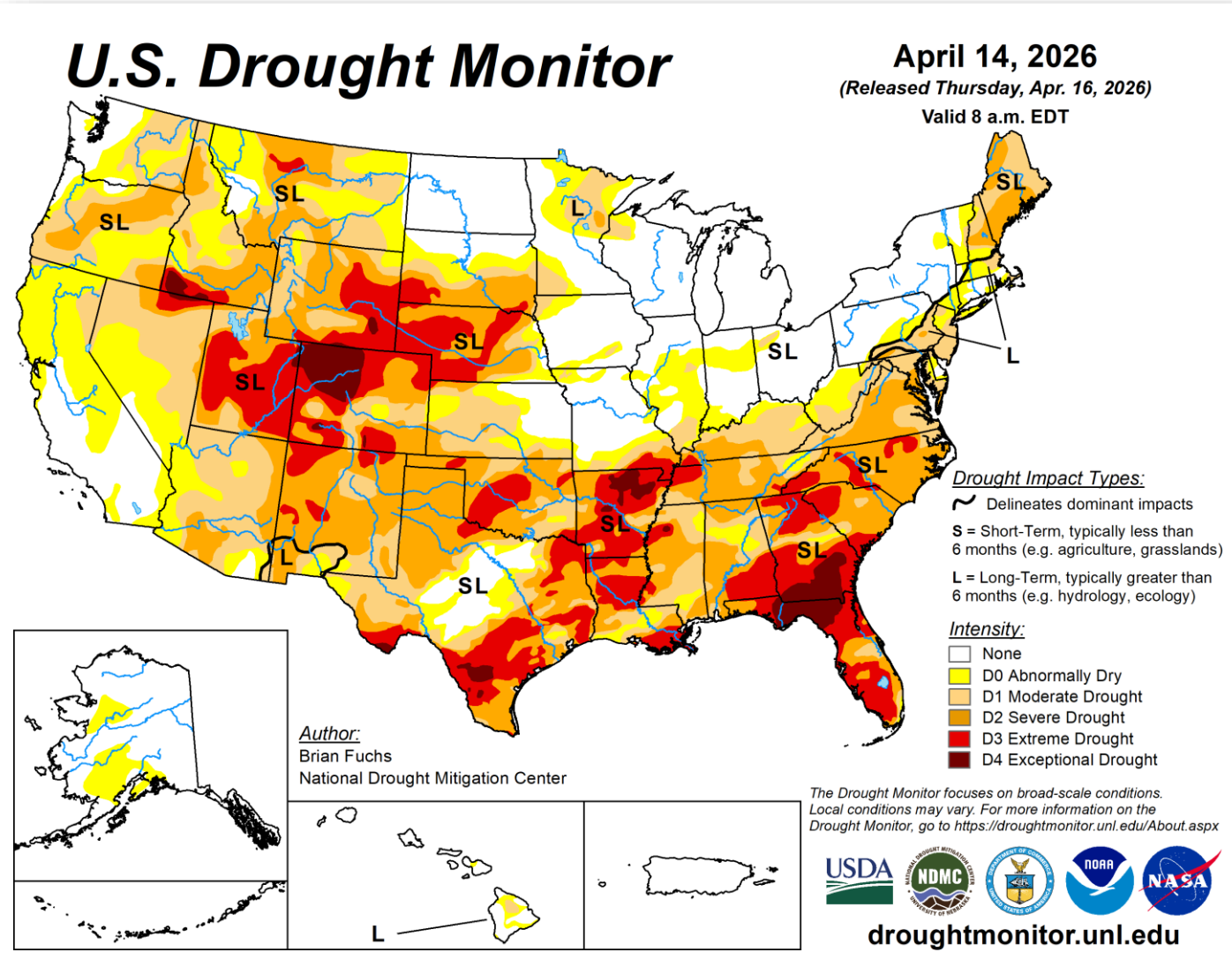
UCS Submits Comments Imploring Preservation of National Center for Atmospheric Research

Climate change affects agricultural and natural resources management

- Conservation
- Crop insurance
- Range management
- Climate-informed adaptation and resilience actions



U.S. Drought Monitor

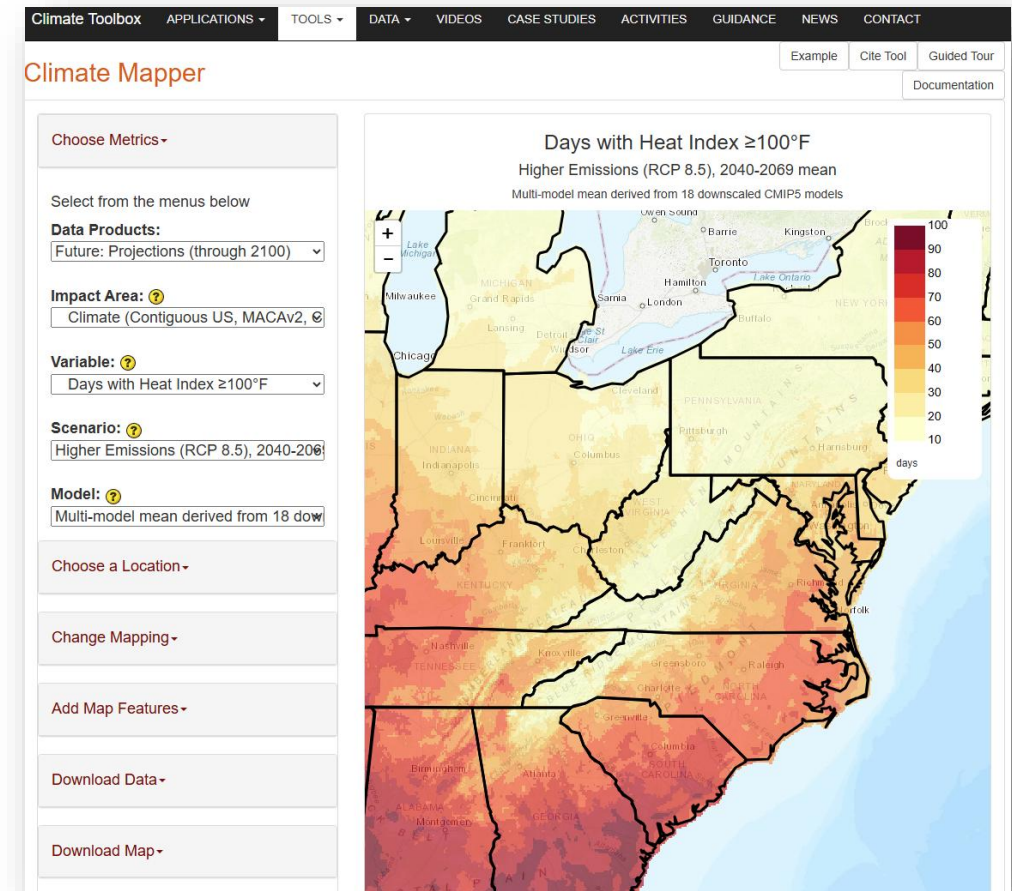


- The U.S. Drought Monitor (USDM) is a map released every Thursday, showing where drought is and how bad it is across the U.S. and its territories.
- The map uses six classifications: normal conditions, abnormally dry (D0), and four levels of drought: moderate (D1), severe (D2), extreme (D3) and exceptional (D4).
- The U.S. Drought Monitor is produced through a partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, USDA, NOAA, and NASA.

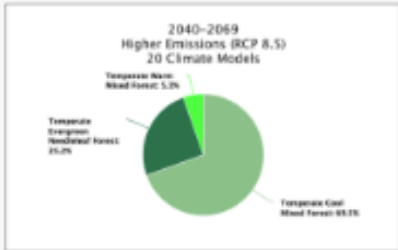
The Climate Toolbox



- A range of tools that offer climate and hydrologic data (past, present, and future) for the contiguous U.S.
- General climate tools:
 - The [Climate Mapper Tool](#) – summary maps of gridded climate and hydrology from past observations to future projections.
 - The [US Water Watcher Tool](#) – maps of drought metrics and a site-specific summary chart of drought.



The Climate Toolbox – Agriculture and Natural Resources

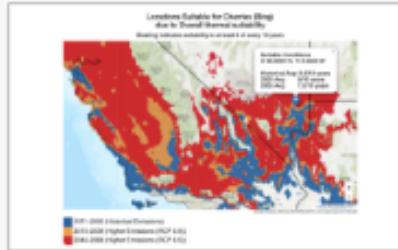


Future Vegetation

Maps and pie chart distributions of future vegetation projections



Launch Tool



Future Crop Suitability

Map of future crop suitability, phenology and irrigation projections for a location



Launch Tool



Future Streamflows

Graphs of future monthly streamflow projections for a stream location



Launch Tool

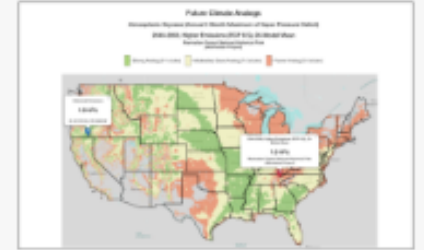


Future Cold Hardiness Zones

Maps of future projections of cold hardiness zones



Launch Tool



Future Climate Analogs

Maps of future and historical climate analogs for locations in US National Parks



Launch Tool

AgroClimate

- Provides “interactive tools and climate information to improve resource use efficiency and to reduce crop production risk associated with climate variability and change”

Climate Indicators

- Chill accumulation calculator
- Freeze risk probabilities
- Growing degree days
- Heat stress

Crop Yield and Development

- County yield statistics
- Planting date planner

Other

- Pests and Diseases
- Carbon Footprint Calculators
- Fruit and Vegetable Supply Chains

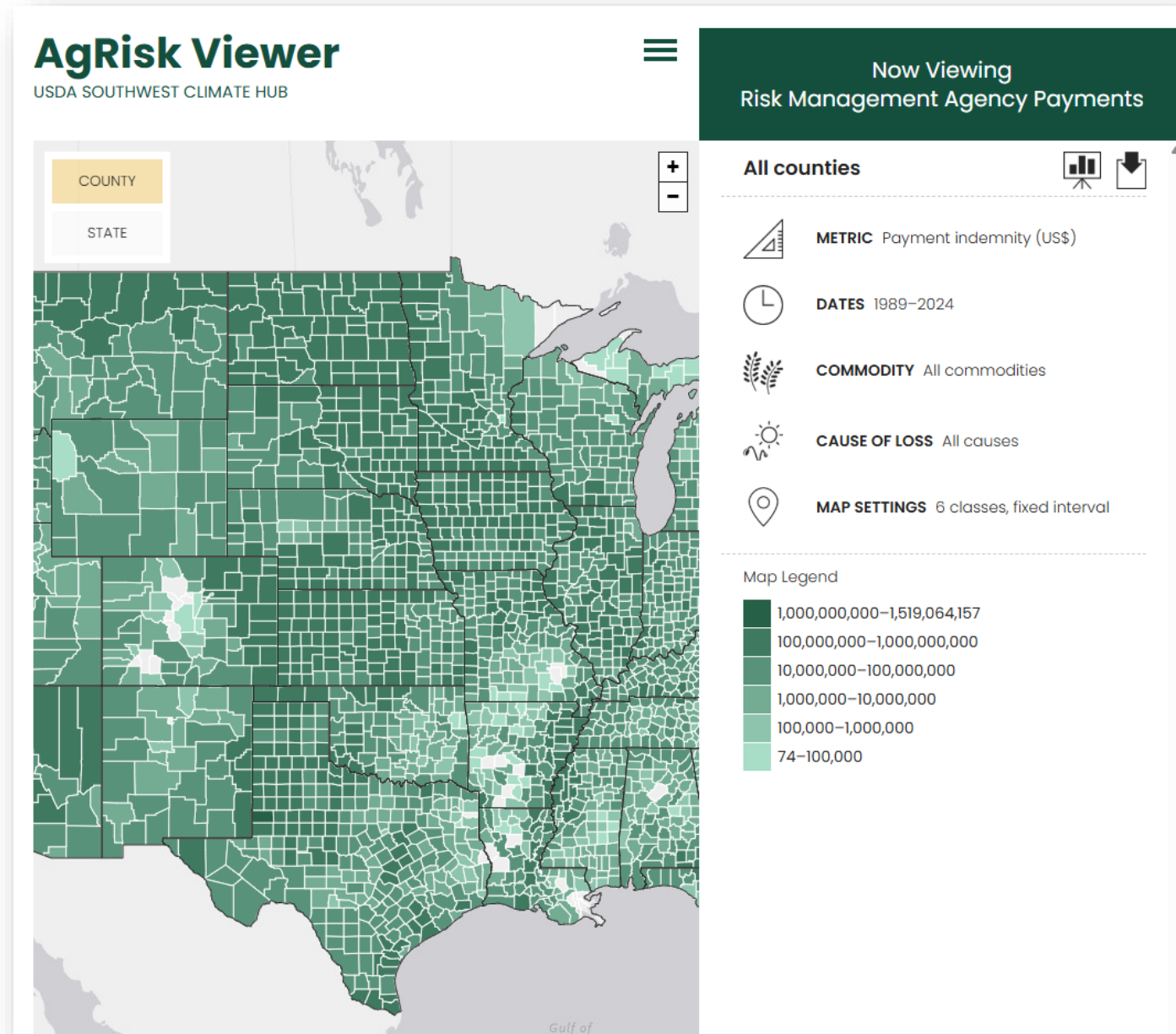
AgRisk Viewer

A geographical and historical view of crop insurance data

Over 30 years of data including:

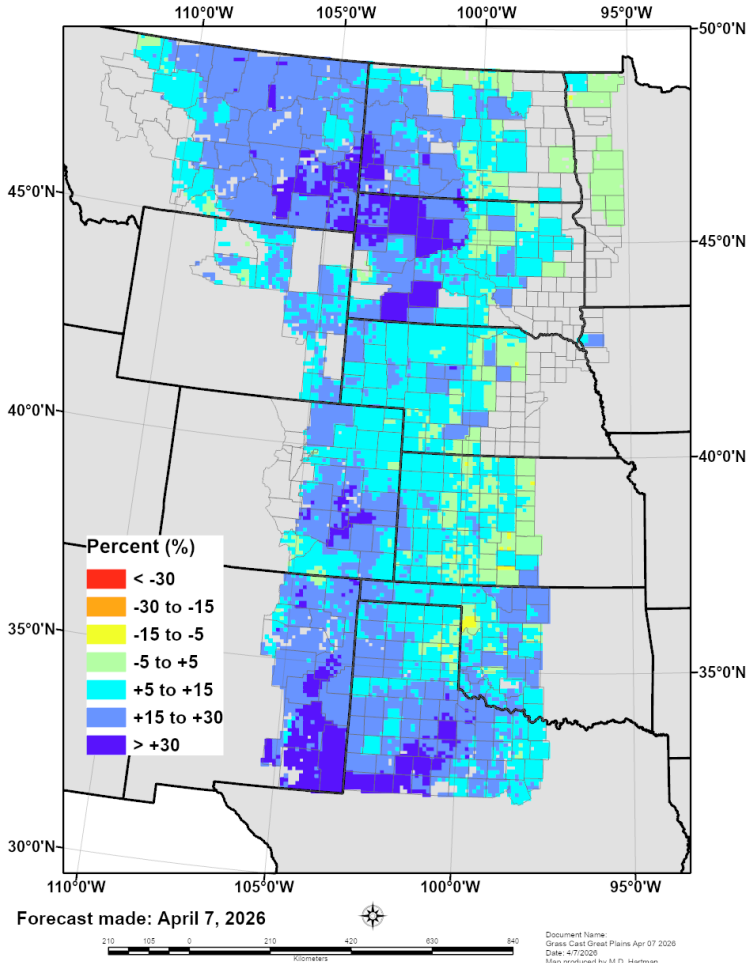
- Indemnities (compensation paid out)
- Acres affected
- Cause of loss (trigger: drought, flood, disease, etc)
- Commodity

<https://agrisk.jornada.nmsu.edu/rma/>

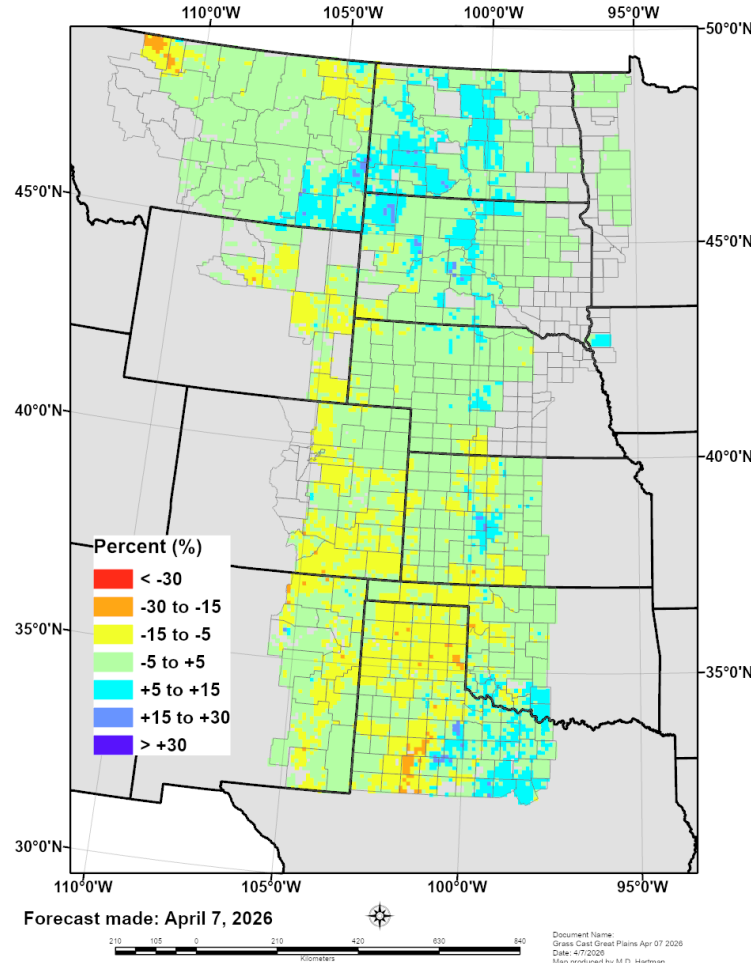


Grass-Cast (Grassland Productivity Forecast)

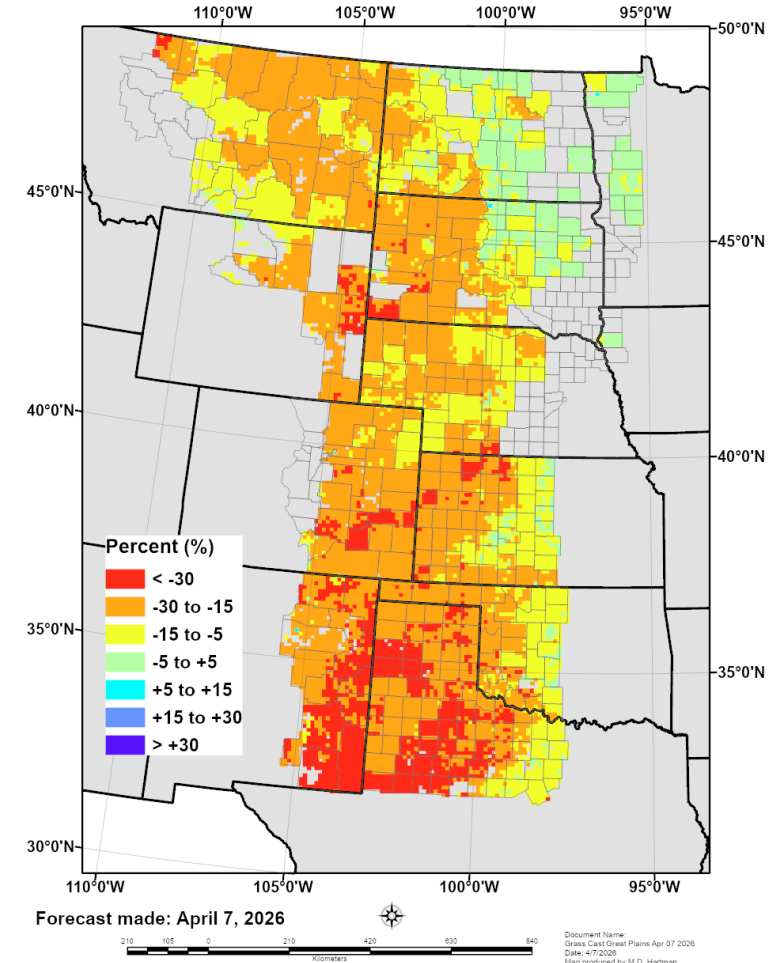
Percent Change in 2026 predicted ANPP compared to 36-year mean ANPP
Assuming ABOVE NORMAL precipitation from to April 7 to August 31



Percent Change in 2026 predicted ANPP compared to 36-year mean ANPP
Assuming NORMAL precipitation from to April 7 to August 31

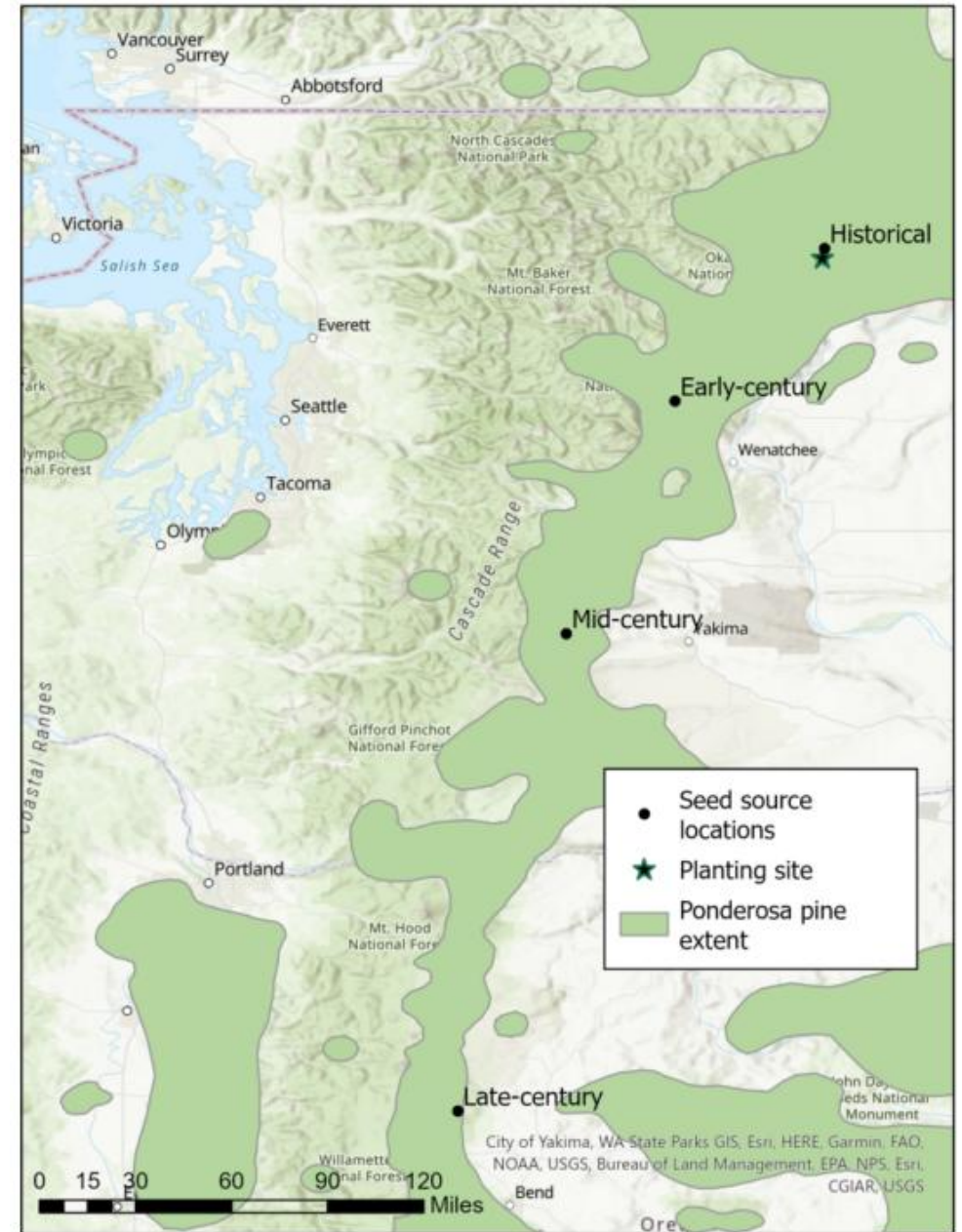


Percent Change in 2026 predicted ANPP compared to 36-year mean ANPP
Assuming BELOW NORMAL precipitation from to April 7 to August 31



Seedlot Selection Tool

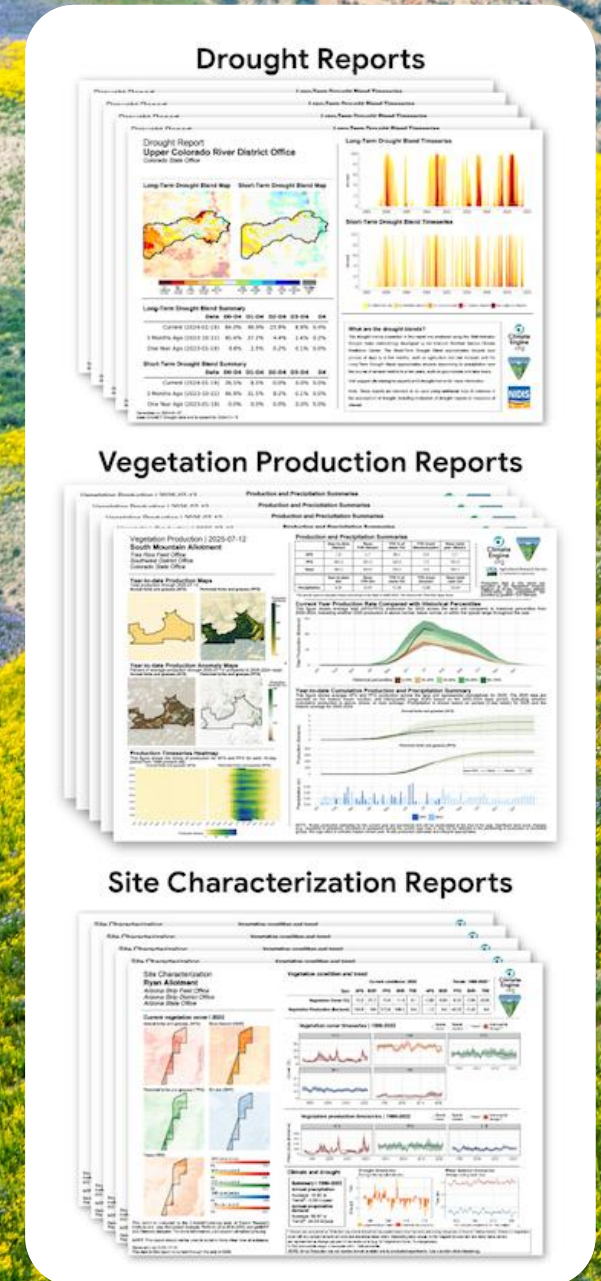
- Helps foresters, landowners, and land managers to consider climate change when planning reforestation and afforestation projects
- Matches seedlots (seedlings from a known area) and planting sites by mapping climate variables such as temperature and precipitation within a range that is suitable to the tree.



Climate Engine

- Climate Engine allows users to analyze and interact with climate and earth observations for decision support related to drought, water use, agricultural, wildfire, and ecology.
- *Drought analysis capabilities* that are place-based and near real-time.
- Partnership with the Desert Research Institute, University of Idaho, and Google.

<https://climateengine.org/>



An aerial photograph of a rural landscape. The foreground and middle ground are dominated by large, rectangular agricultural fields in various shades of brown, tan, and green. A small town or village is visible in the center-right, with several buildings and a chimney emitting a small plume of white smoke. The background shows a vast, flat expanse of land stretching towards a hazy horizon under a clear blue sky with light, wispy clouds.

{ Thank You

Want to Learn More?

Text **SCIENCE** to **67369** to receive UCS text messages directly to your phone.

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