

Advancing Water and Crop Management with OpenET

Rachel O'Connor

Environmental Defense Fund

Dwane Roth

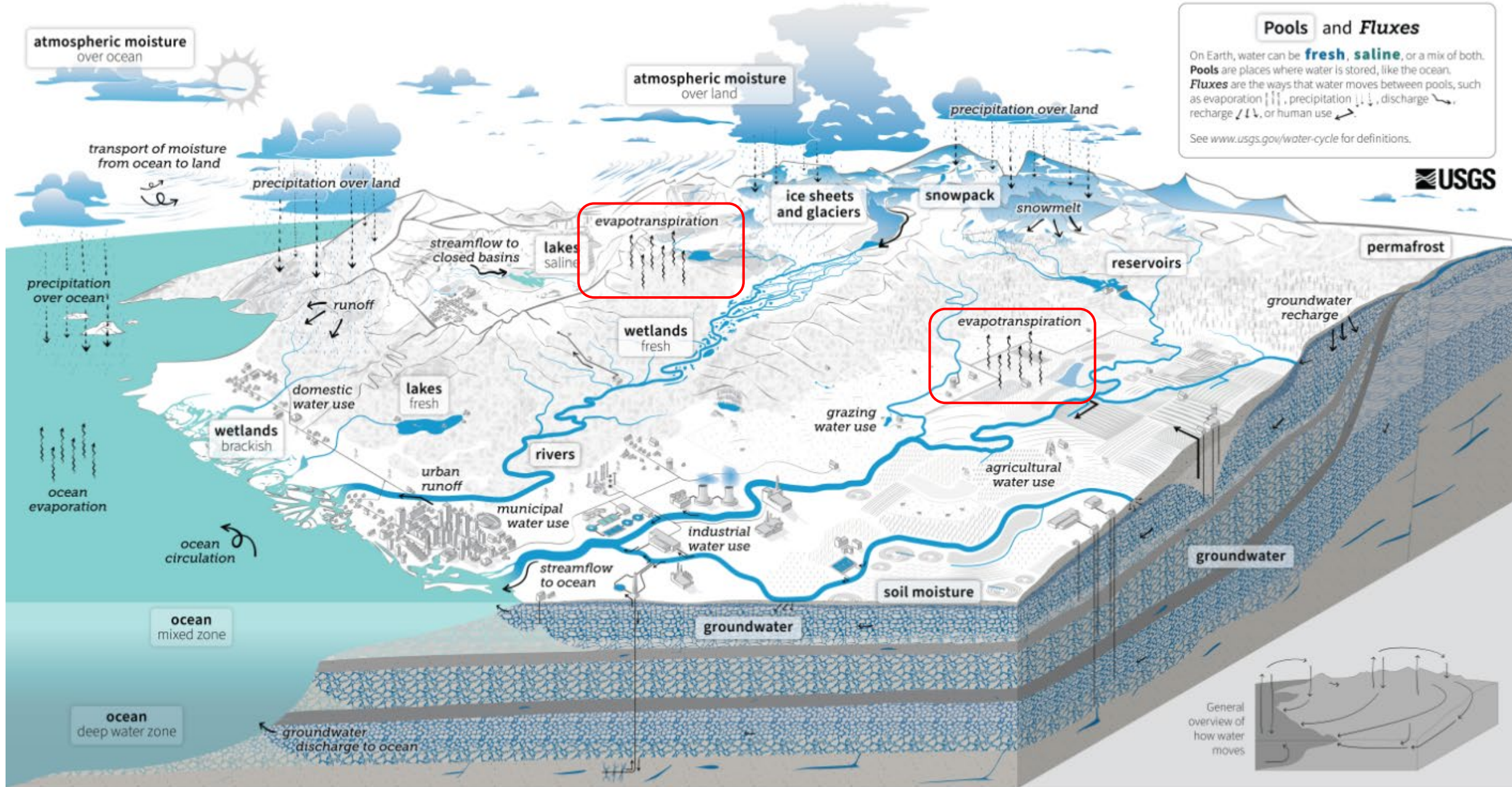
Front Porch Farms, LLC

Sarah Sexton-Bowser

Center for Sorghum Improvement

Sam Zipper

Kansas Geological Survey, Kansas University



nature water

Open evapotranspiration data
support water management



California State University
MONTEREY BAY



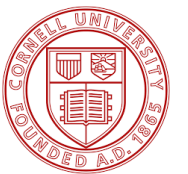
Google Earth Engine



HabitatSeven



CHAPMAN
UNIVERSITY



Search



Select Year
2022

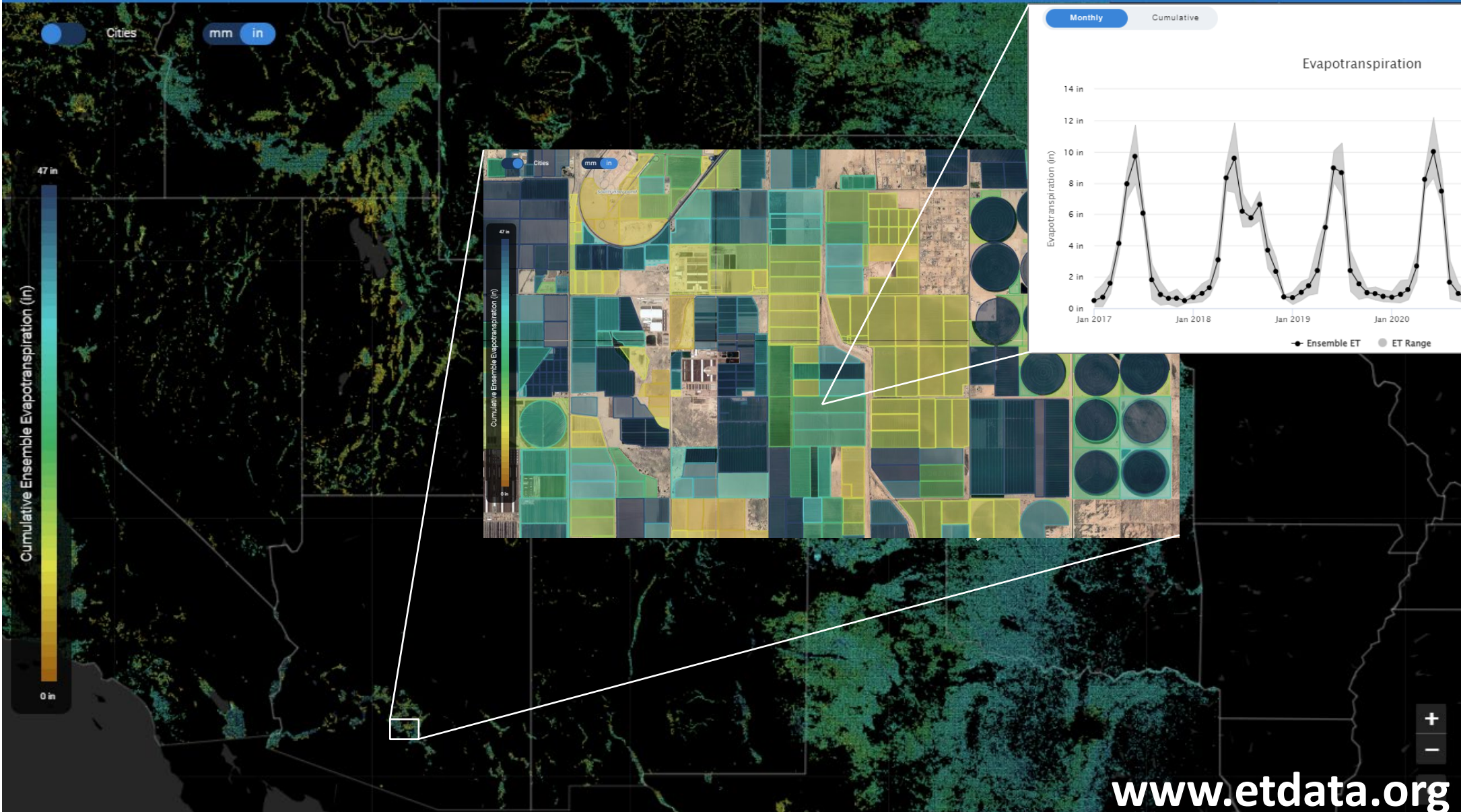
Variable
ET

Raster View



Field View

[New Here? Take a Tour!](#)



Watershed/basin-scale water budgets

- Oregon: Groundwater budgets for each basin in the state
- Upper Colorado River Basin: Annual consumptive use reporting
- Utah: Drought modelling and forecasting

Field-scale water accounting

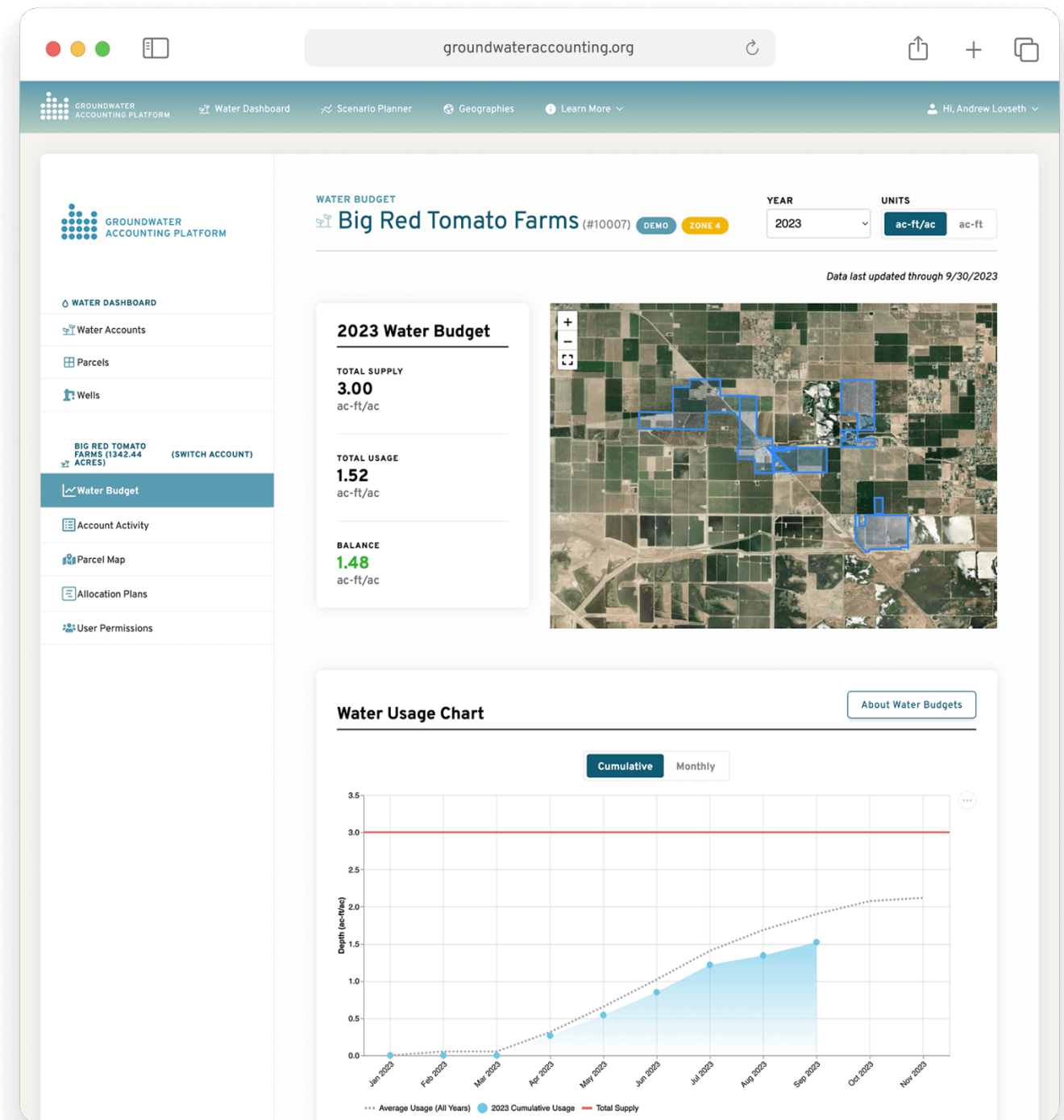
- Nebraska, California: Water Accounting Platform
- California: Irrigation scheduling and nutrient management tools
- New Mexico: deficit irrigation monitoring
- Corporate water stewardship verification

Conservation programs

- Nevada: State-led groundwater conservation
- Oregon: Implementation and monitoring of CREP
- Arizona: USDA grant for climate-smart and drought tolerant species

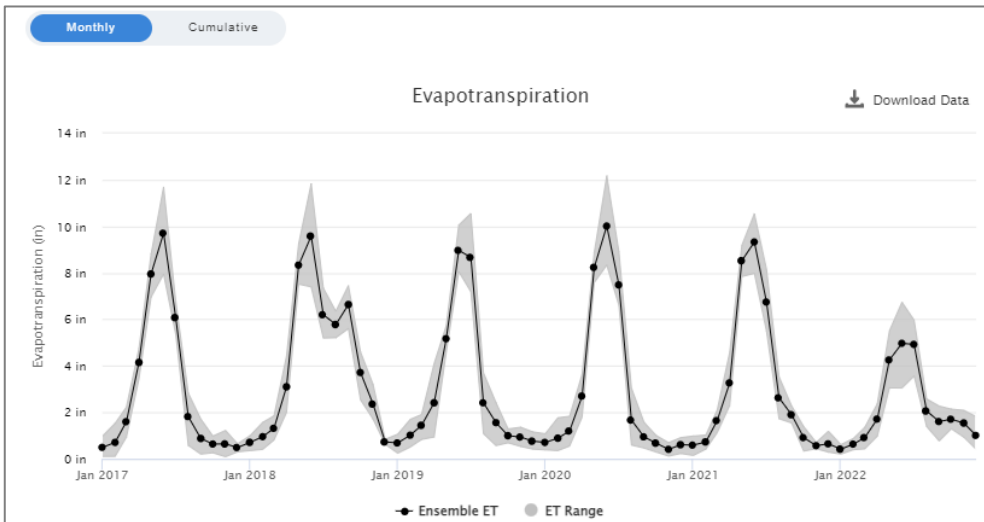
Field-scale water accounting

Water Accounting Platform in Nebraska and California



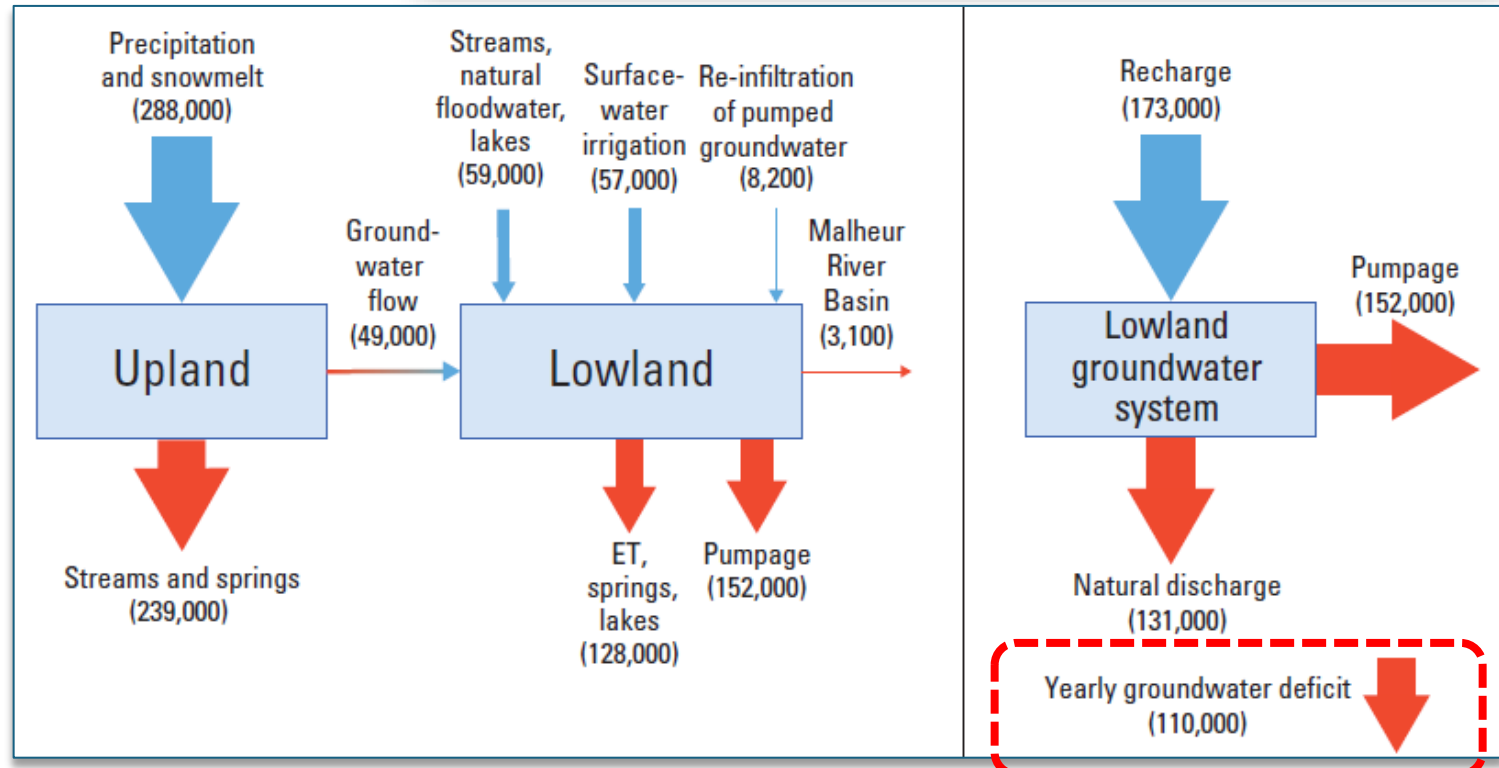
Conservation programs

Partnership for climate smart commodities in Arizona



Basin-scale water budgets

Developing water budgets for each groundwater basin in Oregon



Considerations and Limitations of OpenET

- Not a direct measurement of ET, but a computed value
- Does not measure ET of applied water; includes irrigation, precipitation, and water stored in root zone
- Additional analyses needed to understand regional accuracy and model performance
- More ground-based data needed to improve model accuracy

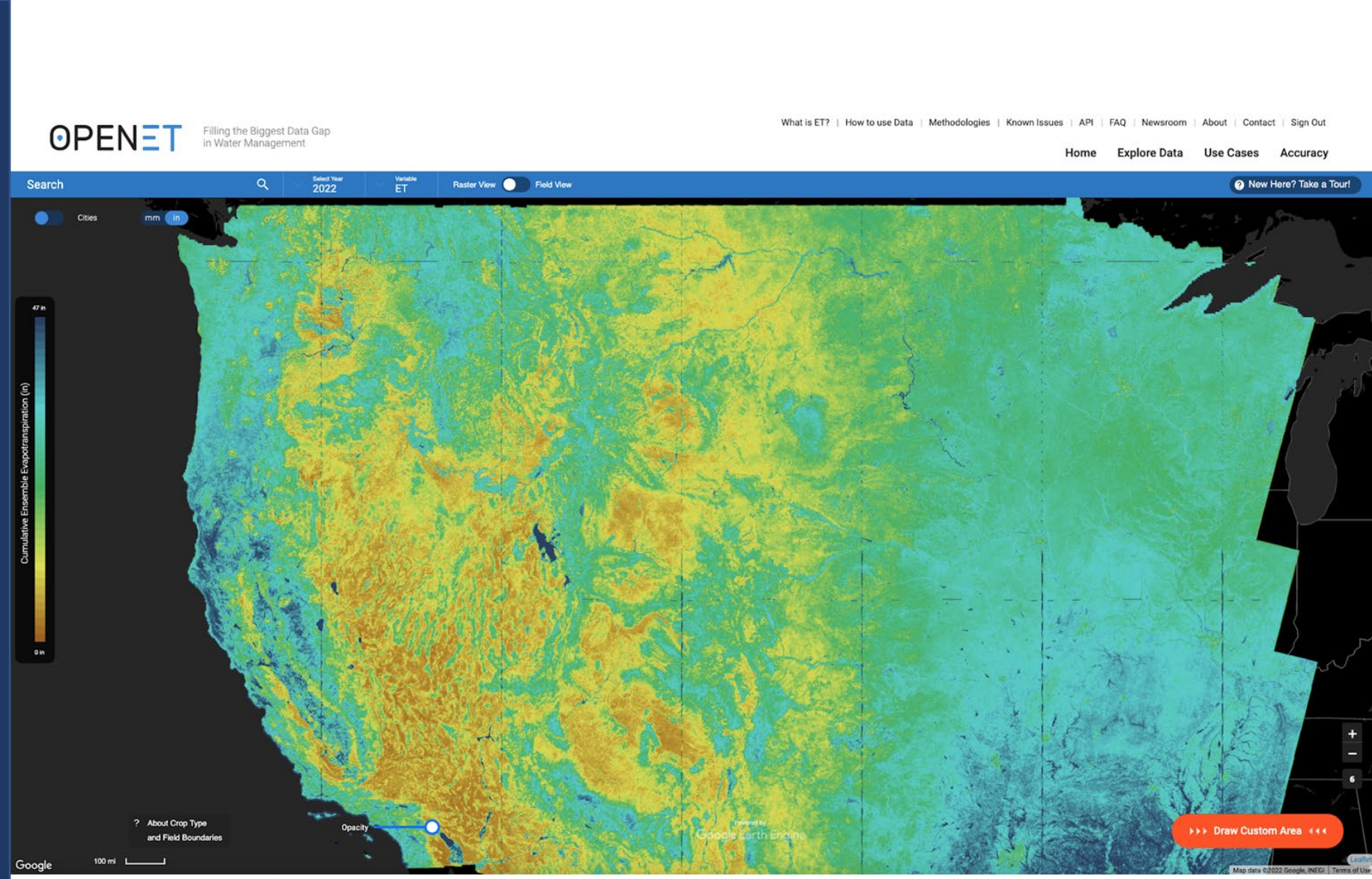


OPENET

Visit www.etdata.org to learn more and sign up for our newsletter!



Rachel O'Connor
Environmental Defense Fund
roconnor@edf.org

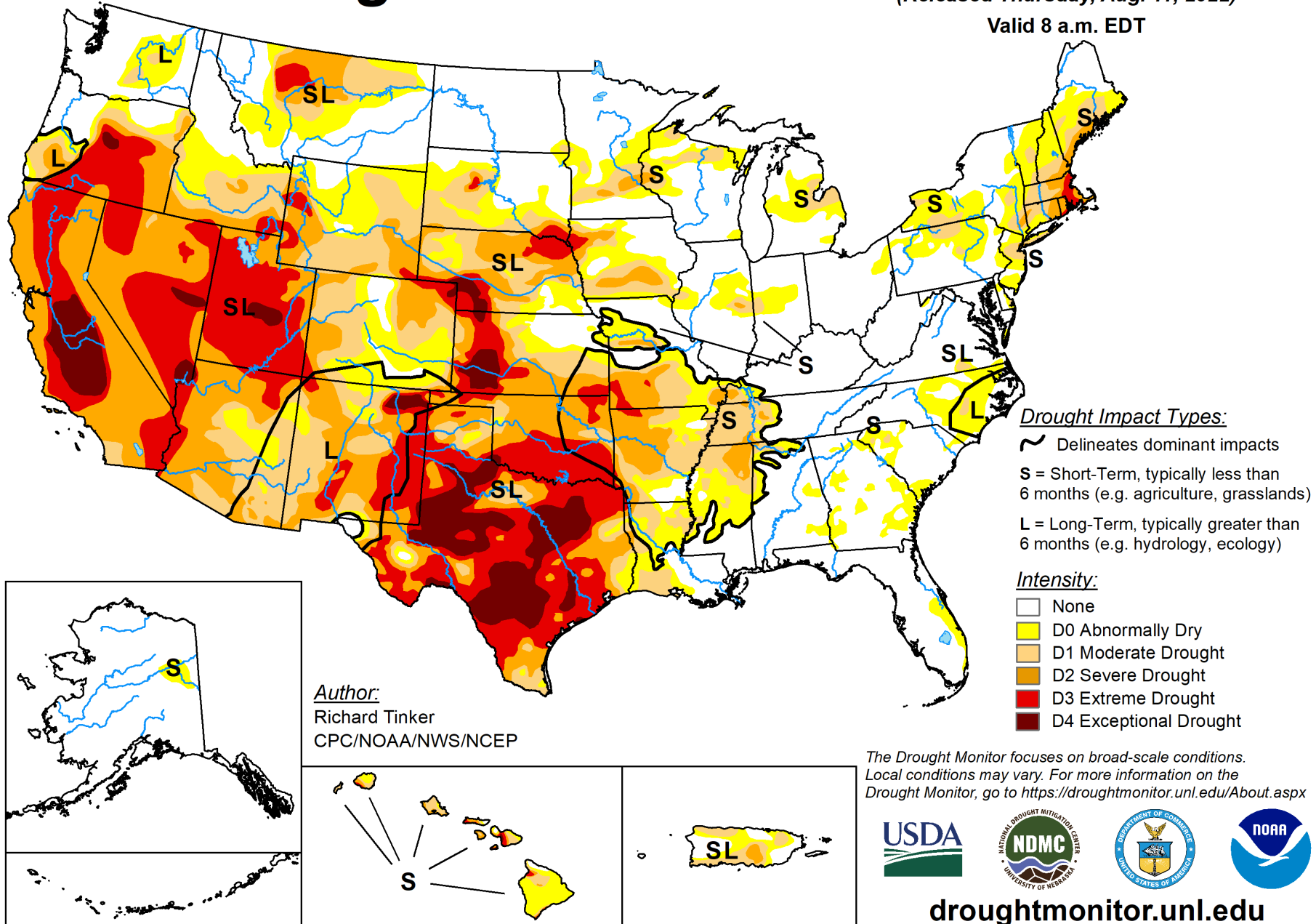


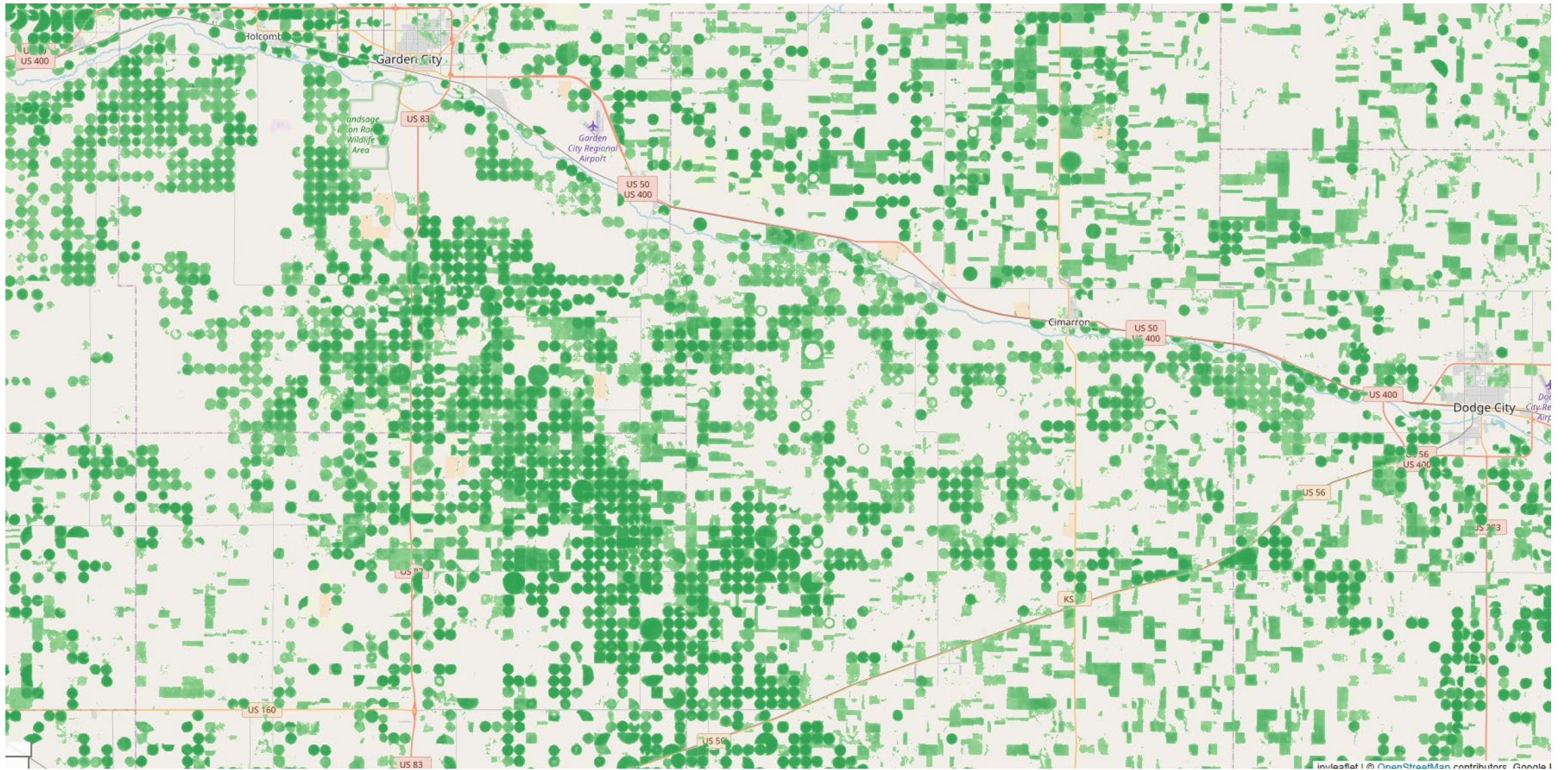
U.S. Drought Monitor

August 9, 2022

(Released Thursday, Aug. 11, 2022)

Valid 8 a.m. EDT







SW Kansas Drought (2022): Well-Irrigated Field

- 800 GPM well capacity
- 2022 yield = 247 bu/ac

OPENET

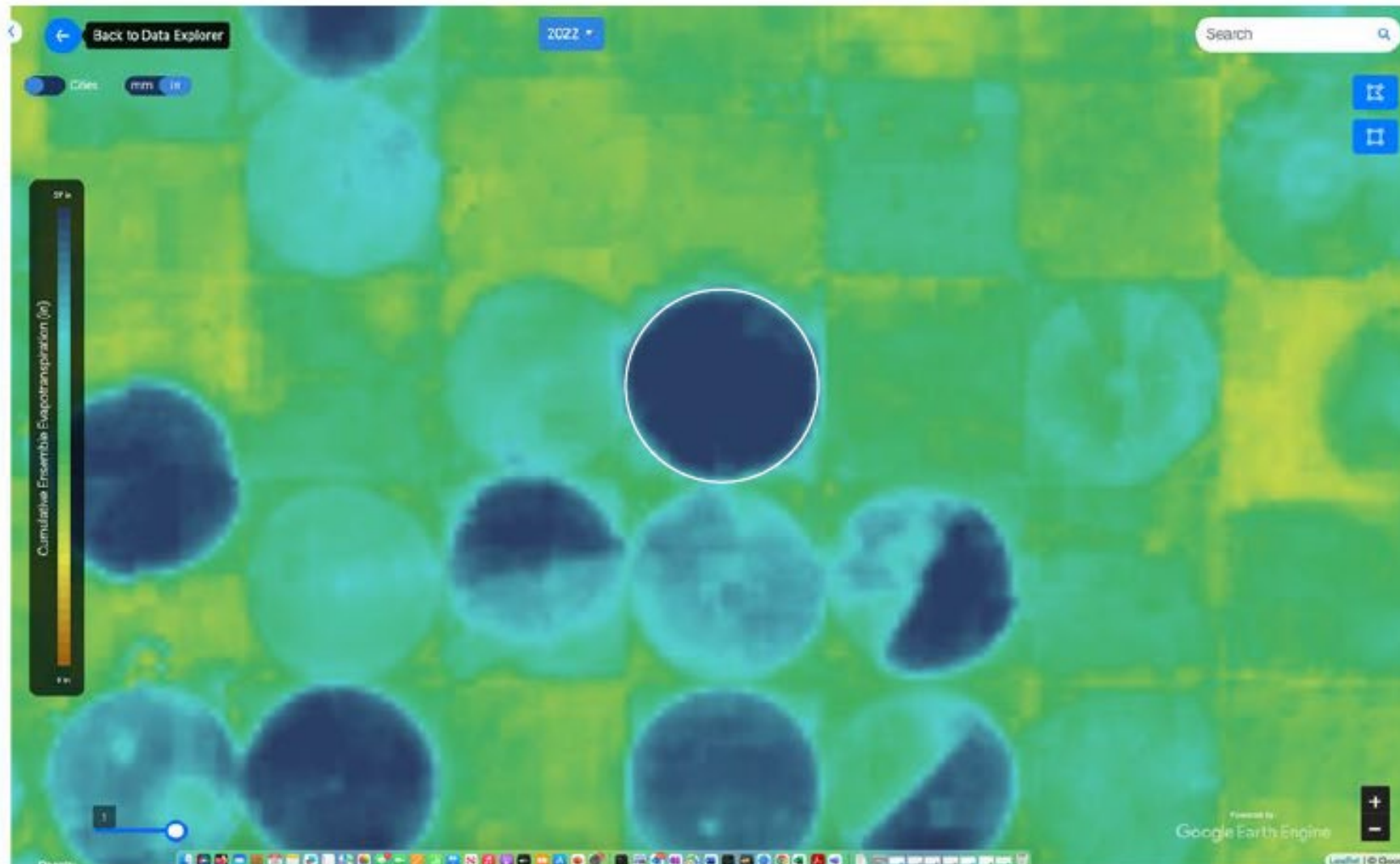
Filling the Biggest Data Gap in Water Management

Here's how it works

Generate a custom spatial summary for area up to 1000 ha.

- 1 Zoom and drag or use the search tool to find your location of interest on the map.
- 2 Use the polygon drawing tools to draw your area of interest.
- 3 Once done, click "run time series" to get data specific to the area drawn on the map.

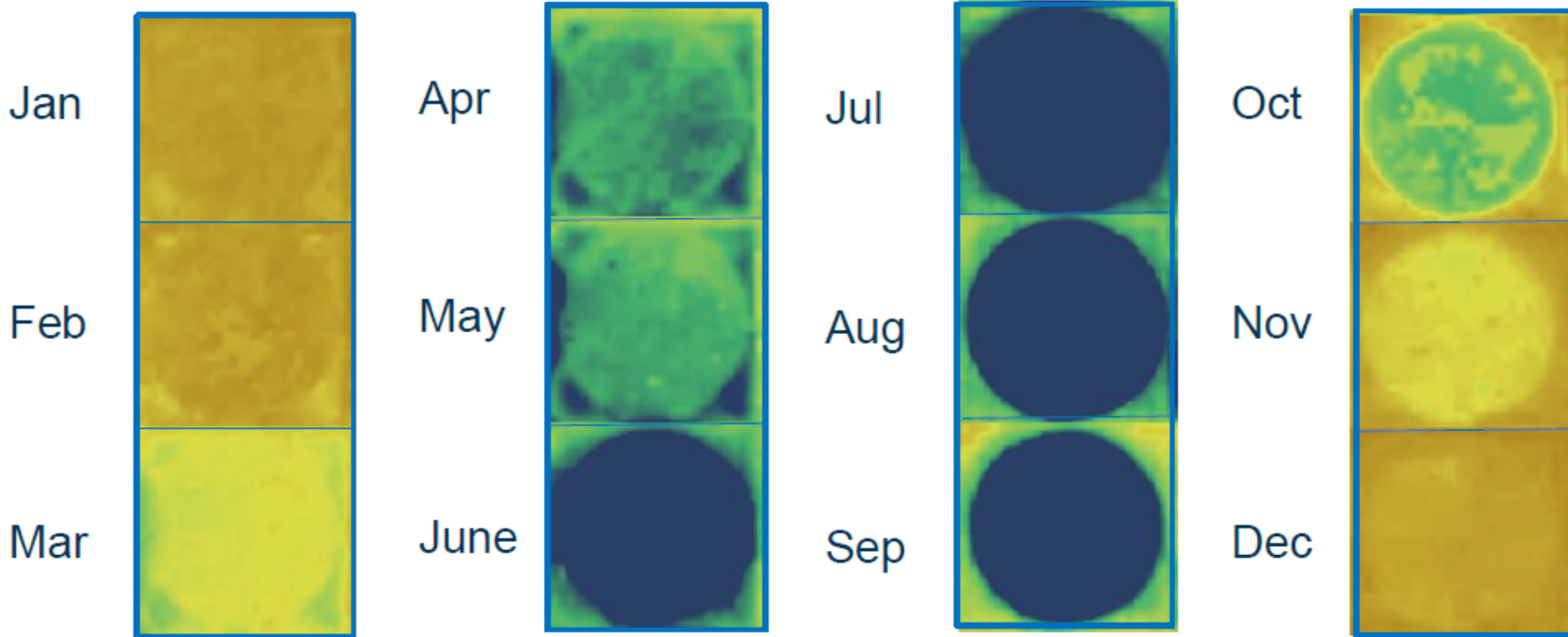
Video demo





SW Kansas Drought (2022): Well-Irrigated Field

- 800 GPM well capacity
- 2022 yield = 247 bu/ac





SW Kansas Drought (2022): Drought-Impacted Field



- 200 GPM well capacity
- 2022 yield = negligible

IPENET

Closing the Biggest Data Gap in
Water Management

Here's how it works

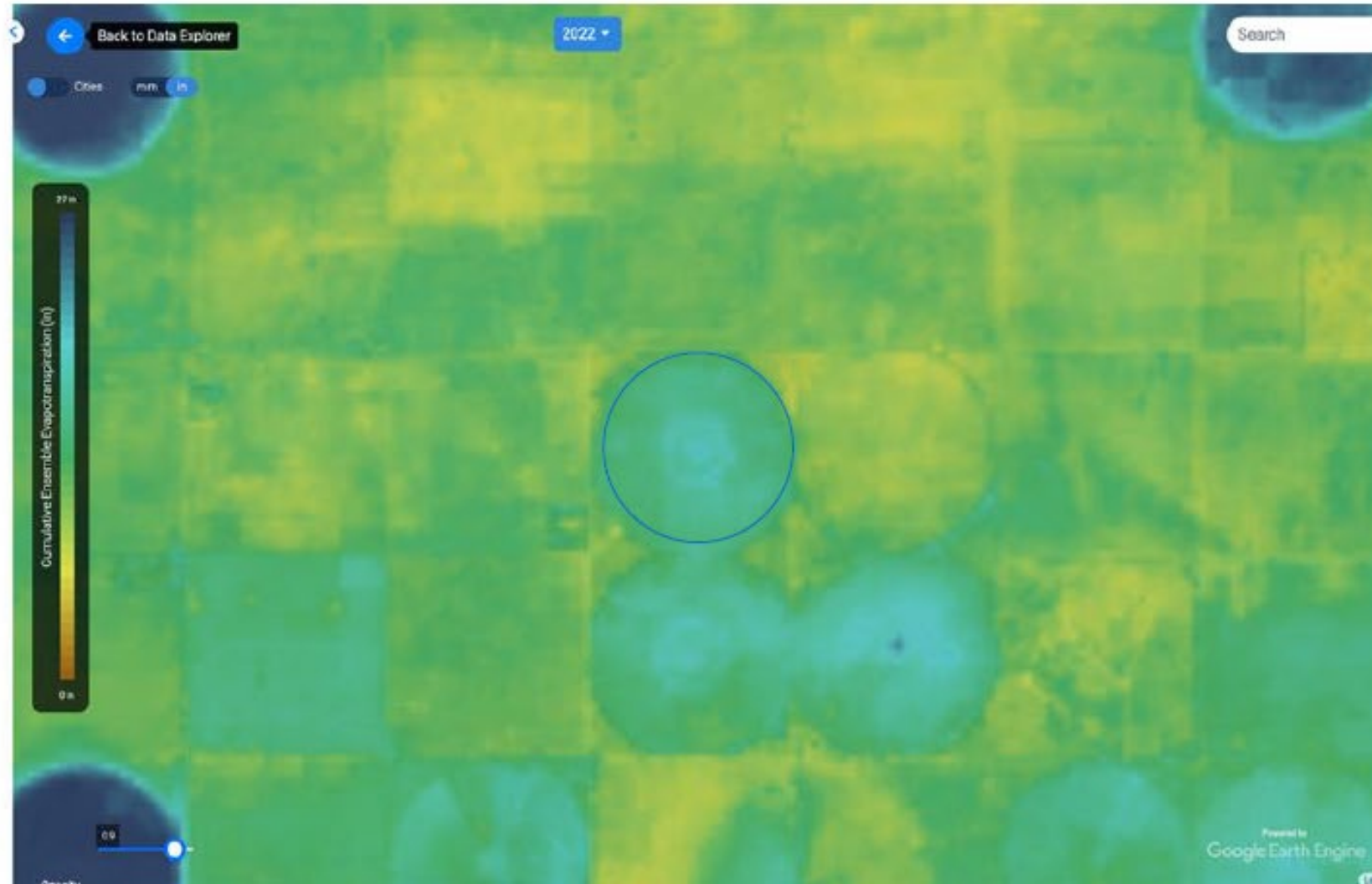
Create a custom spatial summary for
up to 1000 ha.

Zoom and drag or use the
search tool to find your location
of interest on the map.

Use the polygon drawing tools
to draw your area of interest.

Once done, click "run time
series" to get data specific to
the area drawn on the map.

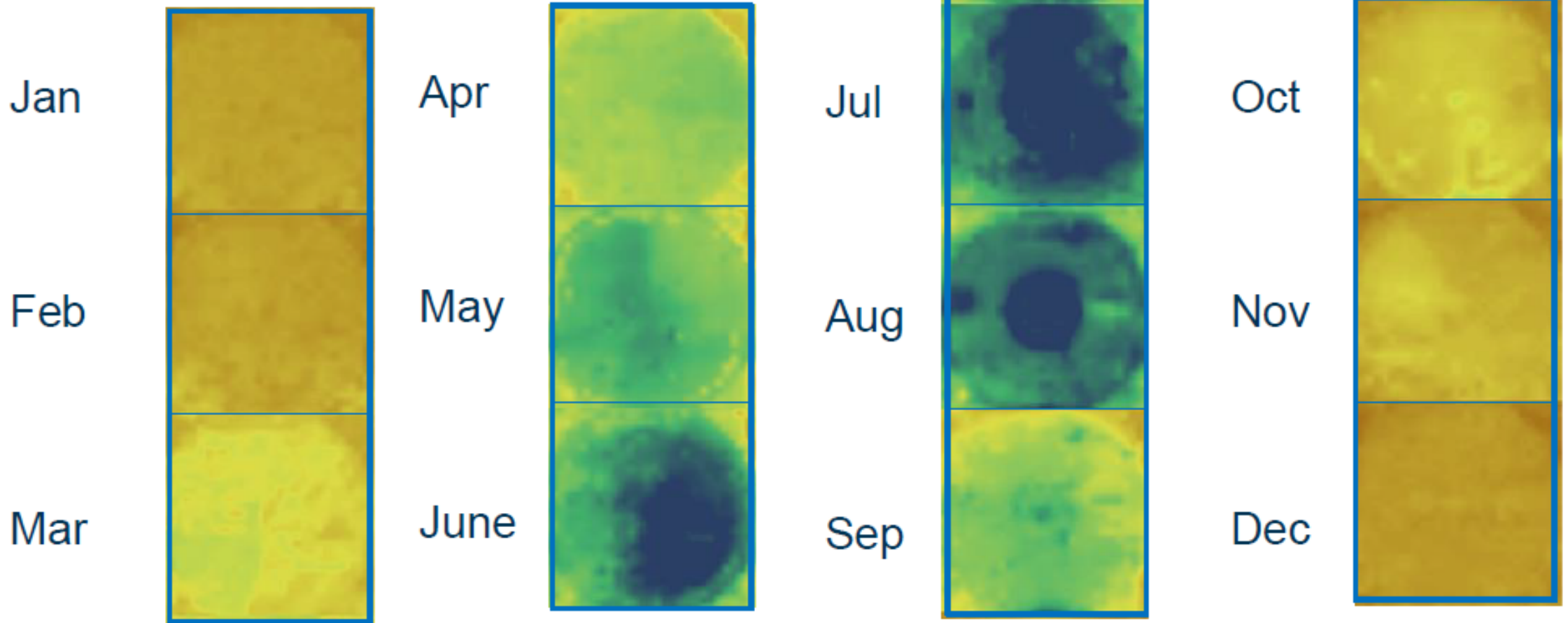
Video demo





SW Kansas Drought (2022): Drought-Impacted Field

- 200 GPM well capacity
- 2022 yield = negligible





SW Kansas Drought (2022): Drought-Impacted Field



- 18 million gallons (55 acre-feet) of water conserved



2022 Drought Effects On Corn

