EXAMPLE 1 Filling the Biggest Data Gap in Water Management





≈USGS





Managing water in the West



Dinosaur tracks from **11**3 million years ago uncovered due to severe drought conditions at Dinosaur Valley State Park

By Claudia Dominguez and Raja Razek, CNN

Continental U.S. (CONUS) Percent Area in U.S. Drought Monitor Categories



NOAA National Centers for Environmental Information, Percent area of the CONUS in moderate to exceptional drought, January 4, 2000 to present, based on the U.S. Drought Monitor, https://www.ncei.noaa.gov/access/monitoring/monthly-report/drought/202207

What is evapotranspiration (ET)?

Water applied to a field ultimately:

Evaporates

Transpires (after being used by plants to grow)

Recharges underlying groundwater

Runs off and returns to a local canal or river

OpenET uses data from a constellation of satellites





Image credit: NASA/Goddard Space Flight Center Conceptual Image Lab

OpenET: Reliable, accurate water data









OpenET can help:

- **Rural communities** to design locally driven water conservation and trading programs.
- **Local Groundwater managers** to develop more accurate water budgets, incentive programs and other innovative strategies.
- **Policymakers** to more accurately track water supplies and co-develop solutions with local communities.
- **Farmers** to improve irrigation practices for maximized "crop per drop" and reduce costs for fertilizer, water and energy



OpenET Uptake

California

Making ET data available to GSAs; using in water accounting platforms

• Oregon

Creating water budgets for groundwater basins; supporting conservation programs

Nebraska

Integration of OpenET alongside Groundwater Evaluation Toolbox into Twin Platte NRD's Water Data Program



Water accounting and trading



Eric Averett Former General Manager Rosedale-Rio Bravo Water Storage District



Advancing groundwater management in Oregon

Statewide

- Groundwater basin budgets
- API access, outreach and training support, model refinement

Harney Basin

- Conservation program implementation
- Water use measurement





Irrigation Management



Mark Owens Alfalfa Farmer Harney County, Oregon

Rangeland Management

- Identify ET signal from various rangeland practices
- Develop basin-wide water budgets in rangeland watersheds
- Integrate ET estimates with other high resolution drone and field data to expedite labor intensive evaluations



Irrigation and Rangeland Management



Paul Bruchez Rancher Kremmling, CO

How OpenET works



Dedicated to Transparency and Equal Data Access

Available on www.openetdata.org:





How to Use Data from OpenET Data from OpenFT can be applied in a society of anys at different scales – from inigation management to: individual fields to water accounting and conversation programs at the regional performable (or bosin scales

(and more)



OpenET Launch: October 2021



NASA launches tool that measures Western water loss

By BRITTANY PETERSON and SUMAN NAISHADHAM October 21, 2021

Solution OpenET Project Seeks to Transform Water Management in the West

RADIO NETWORK BEPTEMBER 30, 2020 / AGRI-BUSINESS, WATER

The NEVADA INDEPENDENT

Nevada researchers, NASA launch online data platform to help Western water users manage limited supplies

How much groundwater is rural Arizona using? NASA satellites could give us a better answer

Opinion: OpenET is not a silver bullet. But it could help farmers and rural communities more proactively manage what, for many, is their singular water source.



RIO GRANDE DO SUL 🤶

UFRGS participa de projeto com Google e Nasa para monitorar o uso da água na agricultura



Colaboración y satélites contra la sequía en EEUU

What's next?

- Public launch of API
- Effective precipitation
- Custom reporting
- Daily data
- Forecasting
- Geographic expansion





