OpenET

Filling the biggest data gap in water management

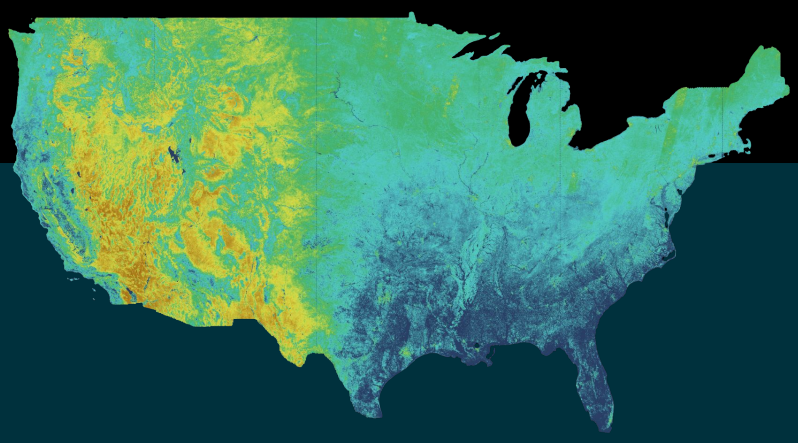
Growing pressure on water resources requires data-driven decision-making. OpenET empowers water management by delivering transparent, scientifically rigorous, satellite-based evapotranspiration (ET) data.

Evapotranspiration (ET) = Evaporation + Transpiration

ET is the transfer of water from the Earth's surface to the atmosphere

Evaporation from soil, open water, and other surfaces + ***transpiration*** from plants

Transparent | Open | Trusted | 15,000+ Users



Why ET Data Matter

1. ET represents consumptive water use: water that cannot be recaptured or reused in the local system. It is the most direct measure of how much water is being used (vaporized) across a landscape.
2. Knowing how much water is being consumed is essential for effective water budgeting, conservation, and management for communities, producers, and ecosystems.
3. Resilient water management is one of the greatest challenges of our time, due to factors including a more variable climate, drought, and growing demands on limited water resources.

How OpenET Works

1. OpenET applies the best available science and publicly available satellite observations to deliver trusted ET data at the field scale.
2. OpenET makes previously limited and expensive data publicly available and open access, putting it in the hands of all water users and decision-makers.
3. Filling the water data gap with trusted, scientifically rigorous data informs management decisions from high-level policy development to daily, on-the-ground operations.

Partnerships

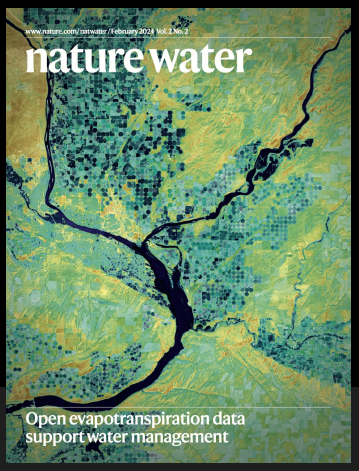
OpenET is a neutral, nonprofit-backed consortium that brings together leading experts in ET remote sensing, cloud computing, web design, and water management applications.

USGS | USDA ARS | NASA | DRI | Environmental Defense Fund | Cal State Monterey Bay | UFRGS Universidade Federal do Rio Grande do Sul | University of Nebraska Lincoln | Google Earth Engine

OpenET

Accuracy & Measurements

OpenET uses proven, science-backed methods to produce ET data at the field scale from six independent, peer-reviewed ET models, trusted by government agencies responsible for water management: ALEXI/DisALEXI, eeMETRIC, geeSEBAL, PT-JPL, SIMS, SSEBop (+ an ensemble of all OpenET models).



Access & Tools

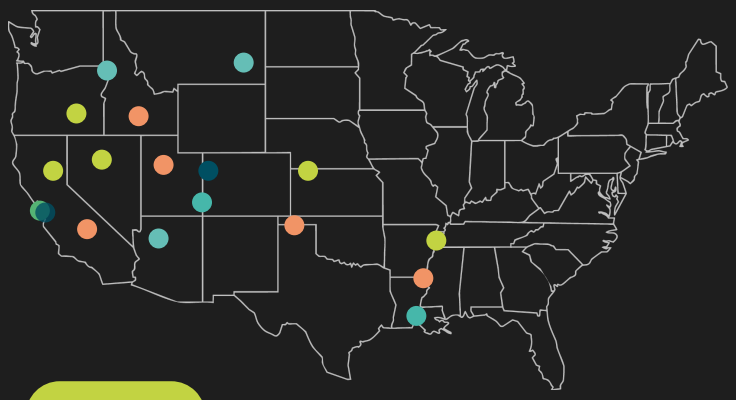
Data Explorer helps users quickly explore ET data in areas of interest, view patterns, and download results.

OpenET API automates access to ET data for large-scale or repeated use, ideal for integrating ET into analyses and third-party tools.

Farm and Ranch Management Support (FARMS) is designed for irrigators and provides detailed comparisons and automated reports of ET data for customized groups of fields.

Google Earth Engine Data Catalog provides access to a wide range of geospatial datasets for analysis and research, including OpenET.

Use Cases



OpenET data are demonstrating value in a wide variety of water resource and land management applications at local and regional scales.

- **Colorado River Basin (UT, WY, CO, NM, US Bureau of Reclamation)** improving water conservation to support basin-wide planning
- **Ogallala Aquifer Region (KS, OK, TX)** integrating on-the-ground insights to inform policy and support long-term aquifer sustainability
- **Nebraska (Twin Platte Natural Resource District)** advancing groundwater management and water accounting with data-driven decision support tools
- **Montana and Idaho** supporting water accounting and water rights analyses with reliable calculations of consumptive use
- **California** driving statewide groundwater sustainability, water use reporting, and irrigation efficiency
- **Oregon** developing groundwater basin budgets statewide and supporting incentive-based water conservation programs

OpenET is built on open data, open access, and open science. We partner across sectors to ensure data is relevant, user-friendly, and continuously improving.

Data Spatial Resolution: 30m x 30m (0.22 acres)
Data Timesteps: daily, monthly, and yearly (from 1985)
Data Availability: 48 US states & growing

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www.etdata.org
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support@openetdata.org | media@openetdata.org