Water Resource Management

Automatically Identify Which Homes Have the Most Potential to Save Water

With lawmakers, regulators and the media focused on the effects of the drought, many states have issued mandates to reduce water consumption, with water agencies under constant pressure to meet strict conservation targets. OmniEarth's scalable, cloud-based Water Resource Management platform helps water resource managers quickly identify which consumers have the greatest potential to save water and conduct cost-effective conservation outreach campaigns to meet state-mandated water conservation targets.

TARGET INEFFICIENT USERS IN 30 DAYS OR LESS

By automatically comparing ideal water allocations with actual water usage, OmniEarth's proprietary, efficiency-based analytics platform combines physically-verifiable data, such as satellite and aerial imagery, with parcel boundaries and water usage data to provide water districts with scientific, accurate and defensible land cover classifications and water allocations parcel by parcel to target inefficient water users in 30 days or less.

PRIORITIZE CONSERVATION EFFORTS ON OVER-USERS

OmniEarth helps water agencies prioritize conservation efforts without wasting time and resources chasing consumers who are already super-savers and are less likely to reduce water consumption. OmniEarth's easy-to-use dashboards provide detailed water usage by parcel, savings across the water district and the encompassing region, as well as water allocation summaries for required monthly monitoring to manage conservation efforts.

OmniEarth's cloud-based solution combines satellite and aerial imagery, parcel boundaries and water meter data to help water resource managers maximize conservation outreach.

BENEFITS

Calculate a consistent and equitable water allocation for all consumers

Automatically identify inefficient users with the most potential to save water

Identify under-users to locate non-revenue water

Focus water conservation outreach efforts to meet conservation goals

FEATURES

Patent-pending, efficiency-based water allocation analysis

Automatic land cover classification and water budget datasets

Quantified savings potential identified in every home

Cost-effective targeted outreach for real water savings

OmniEarth
Quantify a Changing World™

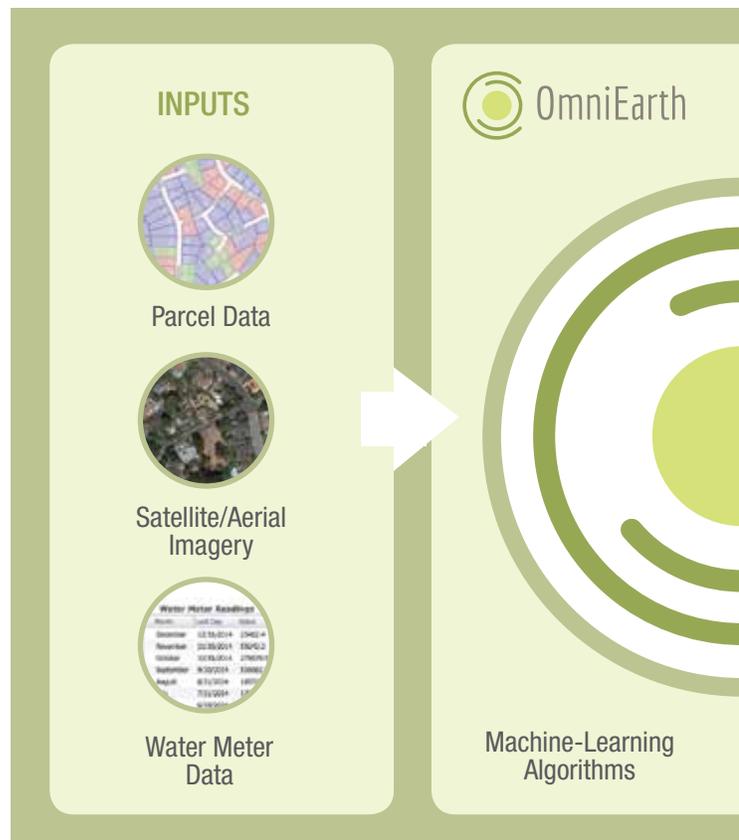# How OmniEarth Analytics Help Water Agencies Reduce Consumption

Traditional social norming-based approaches only reduce water consumption behavior by five percent on average by comparing household water usage with neighbors. OmniEarth's efficiency-based analytics platform allows water districts to automatically identify and selectively target consumers with the greatest potential to save the most water.

By comparing actual water meter usage data with scientifically-derived water allocations for each consumer, OmniEarth helps retail water agencies prioritize conservation outreach efforts on inefficient consumers. Our targeted solution allows agencies to achieve 30-60% usage reductions, typically through improvements in irrigation practices.

This approach allows water districts to focus on cost-effective outreach campaigns targeting consumers with a lower lifestye impact who can more easily reduce water consumption. These consumers (right) provide lower-cost, higher-returns than higher-cost conservation targets (left) who provide diminishing returns and require more drastic cuts to achieve savings.
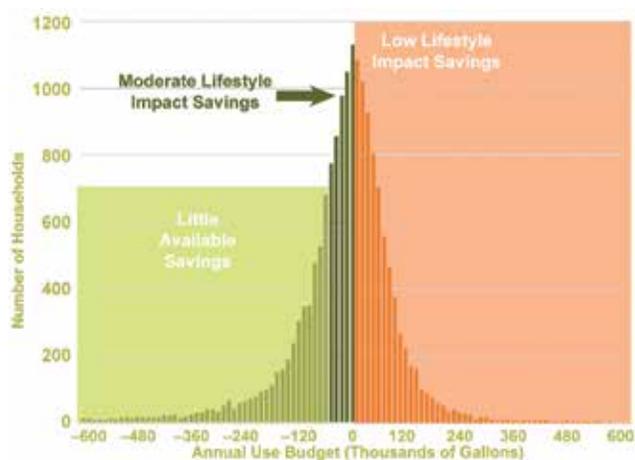
OmniEarth helps water districts target inefficient consumers to obtain higher returns and identify under-users for potential non-revenue water.

INPUTS

Parcel Data

Satellite/Aerial Imagery

Water Meter Data

OmniEarth

Machine-Learning Algorithms

EFFICIENCY-BASED METHODOLOGY

OmniEarth's efficiency-based methodology provides water agencies with a consistent, scientific, accurate and defensible method for calculating individual water allocations and efficiency ratings. OmniEarth combines parcel boundaries, satellite and aerial imagery with water meter data to generate outdoor and indoor water allocations and efficiency calculations to help optimize agency outreach.

OUTDOOR ALLOCATION

OmniEarth generates accurate outdoor water allocations by incorporating climate, parcel size and state-specific legislation metrics with proprietary, patent-pending, machine-learning algorithms. This fast, scalable process analyzes satellite and aerial imagery and automatically classifies land cover per parcel, including grass, trees and shrubs, non-irrigated, man-made surfaces, pools, natural water bodies and artificial turf.

ANALYTICS

Land Cover
Classification

OUTPUTS

Intuitive
Dashboards

Water Budget
by Parcel

Landscaped Area
Water Use

Heavy-User
Identification

Easily Manage and Monitor Ongoing Water Conservation Progress

SCALABLE, CLOUD-BASED PLATFORM

OmniEarth's scalable, cloud-based Water Resource Management platform is capable of analyzing large imagery data sets in as little as 5 days to rapidly complete water allocations and is delivered as a secure, monthly subscription service, accessible on a laptop, desktop or mobile device.

INTUITIVE ANALYTICS DASHBOARD

The OmniEarth dashboard is designed to help water managers meet all of their state reporting needs. Managers can easily filter any data to gain instant insight into trends related to water consumption and conservation, as well as view per parcel and aggregate statistics over their entire service area.

DETAILED MONTHLY REPORTING

OmniEarth's online dashboard helps ease the hassles of monthly and yearly reporting, providing water districts with aggregate production/usage totals, potential savings calculations, progress towards conservation goals, residential usage estimates and other insights.

OmniEarth analyzes satellite and aerial imagery to automatically classify land use by cover types, such as grass, trees or man-made surfaces.

INDOOR ALLOCATION

OmniEarth calculates an indoor water allocation for each account using household occupancy numbers derived from existing demographic data or the latest U.S. Census. OmniEarth combines this data with agency-specific Gallons Per Capita Daily (GPCD) values and Advanced Metering Infrastructure (AMI) data where available to determine the proportion of indoor to outdoor use, enabling precise parcel water usage estimates.

EFFICIENCY CALCULATION

OmniEarth then determines the efficiency of each consumer by comparing the total combined indoor and outdoor water allocation budget with the actual water meter data from the same billing period. This efficiency-based approach identifies the maximum potential water savings achievable for each account and illustrates how each individual potential savings contributes to the overall conservation goals of the water district.

PROVEN SOLUTION FOR CALIFORNIA WATER AGENCIES

OmniEarth has been implemented throughout California in response to the historic drought in order to meet state-mandated conservation targets of 20-36%. OmniEarth customers include the East Bay Municipal Water District, the City of Folsom, the Inland Empire Utility Agency and seven of its retail agencies. The Santa Ana Watershed Project Authority (SAWPA) also selected OmniEarth to support its digital water conservation outreach for over 75 retail water agencies through California's Emergency Drought Grant program.

CONTINUOUS COMPLIANCE WITH STATE REGULATIONS

OmniEarth tracks ongoing changes to legislative standards and state regulations to ensure retail agency customers are automatically in compliance with state legislation. OmniEarth's proprietary algorithms were developed directly from calculations defined in California SB x7-7 and AB 1881 and are continuously updated to rapidly reflect policy changes and address new standards, such as EO-B-29-15, the Model Water Efficient Landscape Ordinance (MWELO), the Emergency Drought Grant Program guidelines or Prop 84.

BUILT BY LEADERS IN EFFICIENCY-BASED ANALYTICS

OmniEarth is a leader in efficiency-based analytics comprised of a rapidly growing and agile team of doctoral-level scientists, physicists, engineers and GIS product experts with significant experience providing global-scale geospatial analytics. The team's early work on NASA missions, combined with its recent work on the California drought, makes OmniEarth uniquely capable of balancing data quality with cost – providing data-driven insights to water districts as they face challenging water resource decisions.

About OmniEarth

OmniEarth is an innovative Earth observation and change-detection analytics firm focused on turning the "big data" of global imaging into actionable intelligence for unserved and under-served markets. We improve our subscribers ability to visualize the world around them by enhancing their ability to see, analyze and react to change in near real time. Through a constant stream of geoinformatics, OmniEarth subscribers always have access to imagery and derived-information products from any location on Earth – on demand and over time.

OmniEarth provides next-generation, cloud-based geospatial intelligence and analytics for government and defense agencies and commercial enterprises in the water, agriculture, transportation and energy industries. OmniEarth leverages a variety of satellite and aerial imagery to provide subscription-based monitoring of defined areas of interest. Change-detection algorithms identify differences in the Earth's surface each day, providing customers with up-to-date information to assess, manage and predict the world around the them.

INLAND EMPIRE UTILITIES AGENCY

"OmniEarth provides a more efficient, cost-effective and accurate approach for IEUA to help our retail agencies target water conservation efforts to the right customers to meet state-mandated conservation goals. Their technology is a win-win solution for state and local water providers that wasn't possible before OmniEarth."

Tom Ash,
Senior Environmental Planner/
Water Use Efficiency
Inland Empire Utilities Agency, California

CITY OF FOLSOM

"The City of Folsom is always looking for ways to reduce water waste and OmniEarth's Analytics platform uses GIS technology and data science to determine consumption measured against an estimated water budget."

Don Smith,
Water Management Coordinator,
City of Folsom, California

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