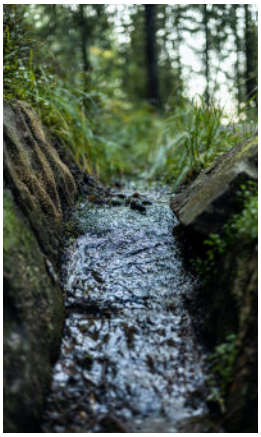
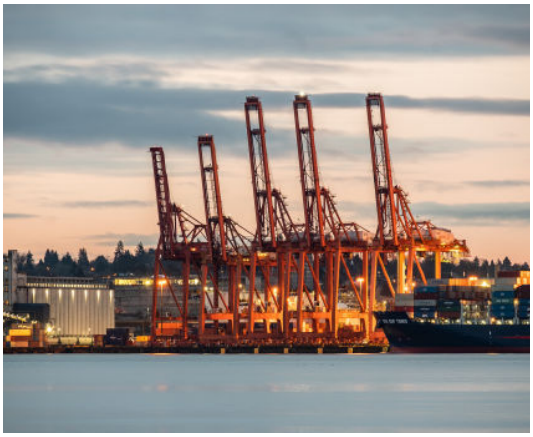
Healthy Watersheds

Healthy watersheds are critical to healthy communities and healthy economies





Everything depends on water.
The future of every business, community, government entity and industry depends on its ability to secure and maintain reliable safe water resources from our shared watersheds.

All water resources are shared.
We have a collective responsibility and opportunity to steward our precious water watersheds as the linchpin of healthy communities that they are.

The Opportunity: Healthy Watersheds = Physically and Economically Healthy Communities

Investing in watersheds is necessary to protect and maintain these shared, vital water resources. Watershed investment pays off via the significant benefits and cost savings associated with healthy watersheds. As an example, the Colorado River Basin, a shared asset providing benefits to over 40 million people, boasts an estimated economic worth between $69.2 and $496.4 billion annually based on ecosystem services including potable water, irrigation water, carbon sequestration, flood risk reduction, water filtration, wildlife habitat, soil erosion reduction, soil formation, raw materials, food, recreation, air quality, and aesthetic value, and others.

Every watershed should be stewarded for maximal health, scenic, and economic value.

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Water Resilience Starts with Water Intelligence.

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The Problem: Unhealthy Watersheds Are Costly

The cost of unhealthy watersheds is staggering:

- Watershed degradation costs global cities roughly $5.4 billion per year in water treatment
- Health costs for recreating in polluted waters is an estimated $2.9 billion per year nationally
- Since 1960, U.S. public and private entities have spent over $1.9 trillion to abate surface water pollution

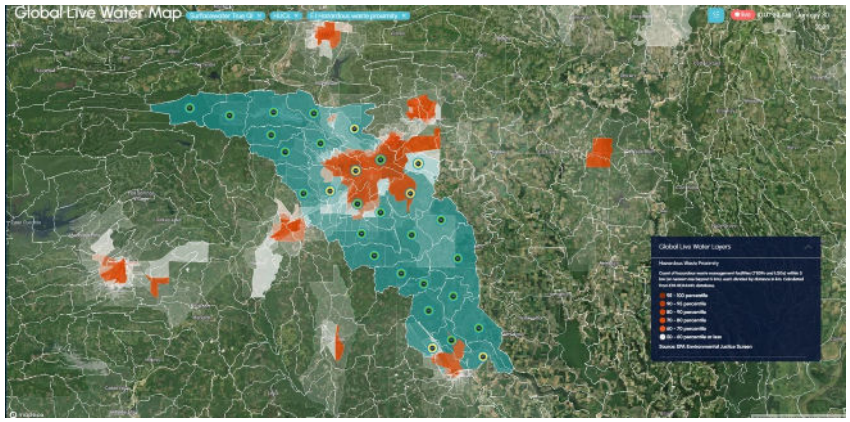
These are big numbers. Part of the reason for the high costs is that solutions to restoring watershed health have been underfunded and piecemeal. The lack of investment in these solutions is in part due to the lack of data and analysis to support solutions and initiatives. For decades, data has existed disparately, siloed in agencies or institutions, incomplete, in different forms and computations, unknown to external groups, and in some cases, unknown to those within the agencies and institutions themselves.

There has been no platform to aggregate those disparate water databases into a single access point, normalize the data, fill in missing yet urgently needed data gaps, and apply sophisticated scientific and analytic capabilities to maximize the value of the data for fully informed decision making.

Until now...

The Solution: A New Era in Water Intelligence

True Elements' pioneering approach to data analysis and predictive modeling creates a multiplier effect for the value of captured data, whether the data is public, private, or a combination of both. True Elements' unique combination of expertise and technical capabilities fuses vast data collection, automated data aggregation and normalization, and dimensionalized data layers and synergies to maximize analysis and forecasting accuracy and create decision making clarity through easy-to-understand indexing and scoring.



Sources: McDonald, R.I., Weber, K.F., Padowski, J., Boucher, T. & Shemie, D. (2016). Estimating watershed degradation over the last century and its impact on water-treatment costs for the world's large cities. PNAS; DeFlorio-Barker, S., Wing, C., Jones, R.M. et al. (2018). Estimate of incidence and cost of recreational waterborne illness on United States surface waters. Environ Health; Keiser, D. A., Kling, C. L., Shapiro, J. S. (2019). The low but uncertain measured benefits of US water quality policy. Proceedings of the National Academy of Sciences; Earth Economics (2014). Nature's Value in the Colorado River Basin.

True Elements provides the deep, clear water intelligence watershed stakeholders need for the solutions they want

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Your Challenge	How True Elements' Solutions Can Help
Lack of water quality data	• Hundreds of data sources such as discharge reports, EPA permit holders, USGS and USDA live sensors, NASA, NOAA, Microsoft Planetary Computer, Google Earth Engine, and others in one easily accessible platform ensure True Elements platform users have access to the most comprehensive water quality data available. • True QI scores for Surface, Industrial, Agricultural, Waste, Storm and Drinking* water quality provide easy to understand, clear visualizations for water quality risks in watersheds at the HUC 12 level. • Dynamic, continuously updated data layers including water flow, regulated and unregulated contaminants, pollution sources, hazardous waste proximity, aquifers, and others that can be applied as needed for deep understanding and up to date analysis of watershed quality impacts. • Ability to forecast water quality to 48 hours or up to 21 days as needed.
Aggregation and integration of disparate data	• Ability to add private data to existing public data sets allows localized, customer data uploads for data blending and customer specific True QI scoring to the Hydrologic Unit Code (HUC) 8 level. This creates deeper collective understanding of watershed dynamics and helps prioritize action. • Sophisticated scientific and AI capabilities aggregate, process, and normalize public, private, or blended data sets, creating a multi-layer digital twin that reflects water data as well as hydrologic, weather, topographical and other factors that impact water, quality, and quantity. These capabilities allow accurate assessment of current water conditions and forecasts of water quality and quantity risk. • Easy to use customizable dashboard with workflow templates, such as “What’s in My Watershed” allows customized digital layers and provides easy to interpret True QI scores, mapping to the zip code level, plus visualizations for clear analysis and forecasting.

***Available at the zip code level**

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Your Challenge	How True Elements' Solutions Can Help
Constantly shifting pollutants as economies grow and diversify	• Standardized data on all water system discharges. • Access to online probes that are either riverkeeper owned or owned by chemical companies in charge of National Pollutant Discharge Elimination Systems (NPDES).
Outdated Source Water Protection practices and plans	• A living, breathing Source Water Protection Plan (SWPP), replacing the need to update or add onto the old, fragmented plans • Dynamic and consistent technical approach • Consistently updated and actualized to save you the time and money of adding updates to the original SWPP

True Elements is your dedicated partner providing the deep, clear water intelligence you need for the solutions you want.

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