

WATERSHED MANAGEMENT SECTOR USE CASES



True Elements' Comprehensive Water Intelligence System Helps Decision Makers Turn Water Risk into Resiliency

Challenge: Water Quality Concerns

Rural communities downstream from large industrial and agricultural operations are concerned about contamination of groundwater on which many residents rely for their drinking water. An NGO and its academic partners seek to better understand factors affecting groundwater quality to propose improvement measures and protect public health.

Broad Scale Insights	<ul style="list-style-type: none">• A comprehensive water quality assessment across the watershed is delivered instantly through easy-to-understand color-coded scores and visualizations• Water quality scores are categorized into drinking, waste, storm, industrial, agricultural, and surface water to help partners better understand key factors influencing water quality across the watershed• System users can add data layers such as pollution sources, Superfund sites, and EPA Impaired Waters to provide context for water quality scores and help create a strategy to address water quality concerns across the watershed
Site Specific Insights	<ul style="list-style-type: none">• In locations of concern, data layers such as well locations, water levels, and groundwater nitrate assessments showing the probability of nitrate contamination above federal limits can be applied to increase understanding of contamination levels• Sensor or sample data provided by the NGO, academic partners, or community leaders can be added to existing data to further understand potential variation in levels of contamination and help prioritize mitigation measures
Long-Term Insights	<ul style="list-style-type: none">• Based on estimated precipitation levels, evapotranspiration, soil type, percent of pervious vs. impervious surfaces, and other factors impacting the ability of local catchment areas to absorb precipitation and infiltrate aquifers, the groundwater recharge level can be forecasted to give partners an understanding of contamination, duration, and inform mitigation strategies

Challenge: Water Quantity Concerns

Climate change is causing repeated flooding in communities along a major tributary. A national NGO seeks to assist those communities in identifying where and what Nature Based Solutions (NBS) are most appropriate to address flooding challenges and maximize NBS benefits for human and ecosystem health.

Broad Scale Insights	<ul style="list-style-type: none">• Clear visualization of factors influencing overall watershed response to climate change including data such as outflows, lakes, rivers, streams, USGS WaterWatch sites, and the Climate Vulnerability Index can be combined to help NGOs and communities understand their watershed as a whole and provide context for problem flooding areas
Site Specific Insights	<ul style="list-style-type: none">• For specific problem flooding areas, additional data layers such as FEMA Flood Zones, QPE Quantitative Precipitation Estimates, and NOAA Excessive Rainfall Potential Forecast can be applied to deepen understanding of factors contributing to flooding challenges and inform which NBS solutions may be most appropriate

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Long-Term Insights

- User driven scenario analyses considering year of interest and [Shared Socioeconomic Pathways \(SSP\) values](#) help the NGO understand precipitation change over time, streambank erosion potential, changing seasonal impact on peak run off, and flow duration to identify which NBS solutions will be most effective now and, in the future

Challenge: Collective Action to Safeguard Watershed Health

NGOs, communities, academic institutions, and companies across a watershed are concerned about quality and quantity of the water resources they all depend on. Collectively, they seek tools to create unified understanding of watershed challenges and the ability to communicate and share data across organizations to drive support for joint initiatives.

Broad Scale Insights

- Watershed boundaries, outflows, aquifers, drought monitoring, biodiversity richness, water quality scores, and other factors can be combined and visualized in an easy-to-understand format stakeholders can use as a starting point to gain unified agreement on baseline water quality and quantity in the watershed
- Data visualizations, including maps, graphs, and charts, can be easily shared across stakeholder groups to support effective communication and collaboration

Site Specific Insights

- Enhanced data layers, including pollution sources, socio-economic factors, EPA Superfund sites, National 303D Impaired Waters, and other layers, empower each stakeholder group to address unique challenges in their respective locations within the broader watershed framework
- Individual stakeholder groups can upload their own private data to supplement existing data and enhance insight into specific issues. Private data is kept private unless directed otherwise by the customer.

Long-Term Insights

- Forecasts for changes to water quantity to the year 2100 and water quality up to 72 hours gives all stakeholders better understanding of how water resources will change over time to help them collectively prioritize, develop, and pursue efforts to address water quality or quantity issues
- Ability to upload and share sensor or other data allows stakeholder groups to monitor progress on joint projects and drive resources toward project success

The Complete, Easy to Use Solution for All Your Water Insight Needs

- ✓ All-in-one Water Intelligence decision support system
- ✓ World's largest aggregation of water data transformed into clear insights
- ✓ Delivers clear global, regional, and localized insights to help decision makers understand water risk and opportunity
- ✓ Data layering capabilities maximize the power of water data
- ✓ Streamlines an antiquated, complex, time-consuming process
- ✓ Saves significant time, resources, and money

True Elements is the Definitive Source for Water Intelligence