

PUBLIC SECTOR AGENCY USE CASES



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

Challenge: Infrastructure Vulnerability

A state agency supporting communities along a major river is concerned about increased flooding causing damage to infrastructure including roads, civic structures, and power plants. City officials need to better understand how to appropriate funds to repair, redesign, or relocate infrastructure to ensure climate resiliency.

Broad Scale Insights	<ul style="list-style-type: none">• Locations for infrastructure of concern can be instantly graded against a set of water risk factors (e.g., riverine flood and precipitation risk) producing a color-coded summary of high, medium, and low risk infrastructure locations across a region• Additional risk factors can be added to the overall risk assessment to provide further context• Sites identified as high risk can be prioritized for mitigation and adaptation action
Site Specific Insights	<ul style="list-style-type: none">• For infrastructure sites identified as high risk, local level data layers (e.g., water quality, pollution sources, socio-economic factors, excessive rainfall forecasts) can be combined to create deeper understanding of specific risks• These additional insights allow development of cost benefit models to determine where adjustments to existing infrastructure is sufficient vs. where degree of risk justifies relocation• Localized insights enable feasibility assessments for potential relocation sites
Long-Term Insights	<ul style="list-style-type: none">• Forecasted changes to water quantity and riverine stress at locations of interest help decision makers understand changing risk to specific sites over time• Insights enable decision makers to identify and monitor sites at increasing risk over time, facilitating strategic planning in advance of costly water related impacts• Insights into future risk help planners identify appropriate, cost-effective measures to ensure long-term infrastructure resiliency

Challenge: Water Quality Risks

A municipality is in the lower portion of a watershed impacted by agricultural run-off. As precipitation frequency and intensity increases, local leaders are concerned about the safety of local water resources for drinking water, recreation, and ecosystem health and need to understand water quality impacts more clearly.

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 is separated into specific types including drinking, surface, waste, storm, industrial and agricultural water to help leaders better understand key factors influencing water quality• Additional data layers such as pollution sources, superfund sites, and EPA Impaired Waters can 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">• Localized data layers can be added such as discharge monitoring and chemical data reports to help leaders understand specific factors impacting water quality in their municipality• The climate and economic justice screening tool, demographic index, and other data layers can help municipal leaders consider socioeconomic factors when developing strategies for water quality improvement• Local data can be added to True Elements' Water Intelligence System to monitor changes to water quality as initiatives to protect water resources are implemented

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Long-Term Insights

- True Elements' Water Intelligence system allows local leaders to anticipate impacts to water quality up to 72 hours in advance
- Communities concerned about agricultural run-off can use the True QI Agricultural Water Forecast to understand how run-off will impact water quality in their area and create pro-active strategies with upstream farmers to address run-off issues
- Color coded water quality scores, visualizations and data sharing capabilities make it easy and efficient to communicate and work across groups when developing long-term plans to improve watershed health

Long-Term Climate Change Planning

A municipality is in a drought-prone area primarily relies on a local aquifer for its water needs. Municipal leaders need to understand current and long-term water availability for their community's future economic viability.

Broad Scale Insights

- Visualized data layers showing water resources across a geographic region including principal aquifers, rivers, lakes, streams, and outflows give municipal leaders comprehensive understanding of water resources to help them develop effective short and long-term water security plans
- Global data such as Aqueduct's Water Management can be combined with national data such as NOAA's Drought Status to provide nuanced insights

Site Specific Insights

- Adding local data layers such as domestic well locations, water quality, and drought monitoring provides further context to help ensure water security plans are fully informed and successful
- Customizable dashboards, sharable data and visualizations help leaders communicate effectively to drive collaboration and action to protect and conserve water resources

Long-Term Insights

- Water quantity forecasts at the local level give municipal leaders insights into how best to plan for a changing climate where water use may need to be restricted
- Additional data such as the Evaporative Demand Drought Index and USGS Monthly Public Water Usage provide insights into likely water resource stresses to ensure fully informed long-term planning

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