



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

### Challenge: Water Quality Concerns

An A&E firm's municipal clients across a region are tasked by federal agencies to improve watershed health including reduction of nitrogen, phosphorous, and sediment.

<p><b>Broad Scale Insights</b></p>	<ul style="list-style-type: none"> <li>• Color-coded water quality scores for surface, waste, storm, industrial, and agricultural water are instantly calculated and visualized to provide broad scale understanding of factors impacting water quality across a region</li> <li>• Data layers such as outflows, geographic boundaries and watersheds put water quality in context and help A&amp;E firms visualize a strategic approach for clients</li> <li>• Understanding where and which type of water quality is lowest helps A&amp;E firms focus efforts and direct client attention to areas of greatest concern</li> </ul>
<p><b>Site Specific Insights</b></p>	<ul style="list-style-type: none"> <li>• Additional data layers such as pollution sources, algae bloom predictor, permit discharge reports, and "What's in My Watershed" help A&amp;E firms better understand specific factors impacting water quality in areas of concern and develop informed, successful strategies to improve water quality</li> <li>• Project dashboards allow A&amp;E firms to save key data and reports and effectively manage multiple aspects of complex projects</li> <li>• Data sharing capabilities and easy to understand visualizations facilitate communication and education across groups to accelerate action and ensure successful strategy implementation</li> </ul>
<p><b>Long-Term Insights</b></p>	<ul style="list-style-type: none"> <li>• Extensive forecasting capabilities provide detailed insights into how streambanks may change over time, impacting runoff, sediment load, and water quality</li> <li>• Customizable analyzes allow A&amp;E firms to run a series of riverine stress scenarios based on temperature and year of interest, thus providing deeper insight into how riverine systems will change over time</li> <li>• Deeper insights allow A&amp;E firms to recommend more informed strategies to improve watershed health to their clients</li> </ul>

### Challenge: Water Quantity Concerns

A national A&E firm client is concerned about increasing frequency and severity of flooding in areas where physical assets may be at risk. Client seeks to understand how to ensure long-term sustainability of those assets.

<p><b>Broad Scale Insights</b></p>	<ul style="list-style-type: none"> <li>• Physical asset locations can be instantly graded against a set of risk factors (e.g., precipitation risk, flood zone rating, riverine or coastal flood risk), to produce a color-coded summary of high, medium, and low flood risk across a region, state, or country</li> <li>• Additional risk factors may be added to provide further context for risk in a geographic region</li> <li>• Sites identified as high risk can be prioritized for mitigation and adaptation action</li> </ul>
<p><b>Site Specific Insights</b></p>	<ul style="list-style-type: none"> <li>• For sites identified as high flood risk, local level data layers (e.g., FEMA Flood Hazard Zone, Climate Vulnerability Index, socio-economic factors, excessive rainfall forecasts) can be applied to create deeper understanding of specific risks and better informed sustainability planning</li> <li>• These additional insights allow development of cost benefit models to determine where adjustments to physical assets is sufficient vs. where degree of risk may justify relocation</li> <li>• Localized insights enable feasibility assessments for potential relocation sites</li> </ul>



<b>Long-Term Insights</b>	<ul style="list-style-type: none"> <li>• Changes to water quantity and riverine stress can be forecasted for any location to provide understanding of how risk to specific physical assets may change over time</li> <li>• Insights enable A&amp;E firms to identify and monitor sites at increasing risk over time, facilitating asset adaptation measures in advance of costly flood impacts</li> <li>• Insights into future risk help A&amp;E firms identify appropriate, cost-effective measures to ensure long-term resiliency of physical assets for their clients</li> </ul>
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## Challenge: Infrastructure Vulnerability to Climate Change

*An A&E firm's state and local agency clients across a region are concerned about climate change impacts affecting the safety of transportation infrastructure such as roads and bridges. Clients seek to develop a long-term resiliency plan to ensure public safety.*

<b>Broad Scale Insights</b>	<ul style="list-style-type: none"> <li>• Transportation infrastructure locations can be instantly graded against a set of climate risk factors (e.g., site water security distress, riverine and coastal flood risk) producing a color-coded summary of high, medium, and low risk locations across a region</li> <li>• Additional risk factors may be added to provide further context for risk in a geographic region</li> <li>• Infrastructure locations identified as high risk can be prioritized for mitigation and adaptation action</li> </ul>
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<b>Site Specific Insights</b>	<ul style="list-style-type: none"> <li>• For infrastructure sites identified as high risk, local level data layers (e.g., quantitative precipitation forecasts, socio-economic factors, excessive rainfall forecasts) can be combined to create deeper understanding of specific risks</li> <li>• These additional insights allow development of cost benefit models to determine where minor adjustments to existing infrastructure is sufficient vs. where degree of risk justifies more significant adaptation measures or relocation</li> <li>• Localized insights enable assessment of other locations where infrastructure could be moved to ensure public safety</li> </ul>
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<b>Long-Term Insights</b>	<ul style="list-style-type: none"> <li>• Forecasted changes to water quantity and riverine stress for locations of concern help A&amp;E firms understand how risk to specific sites may change over time</li> <li>• Insights enable A&amp;E firms to identify and monitor sites at increasing risk over time, informing strategic planning in advance of costly water related impacts</li> <li>• Insights into future risk helps planners identify appropriate, cost-effective measures to ensure long-term infrastructure resilience</li> </ul>
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## 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**