



Transforming the future of water

Paul Fleming
Global Water Program Manager



Investing to build the leading platform for technology solutions to environmental challenges



Interdependent water challenges



Our water commitments

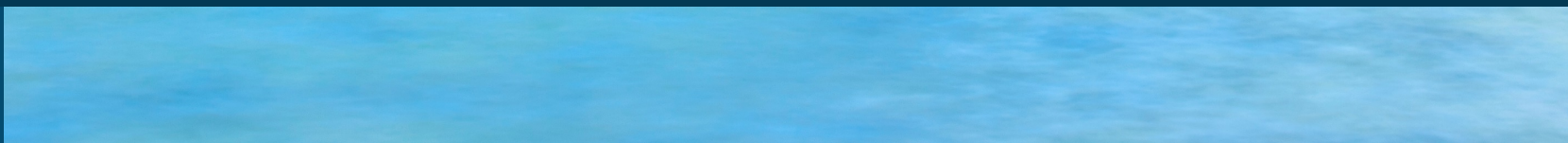


Water positive
by 2030

Digitizing
water data

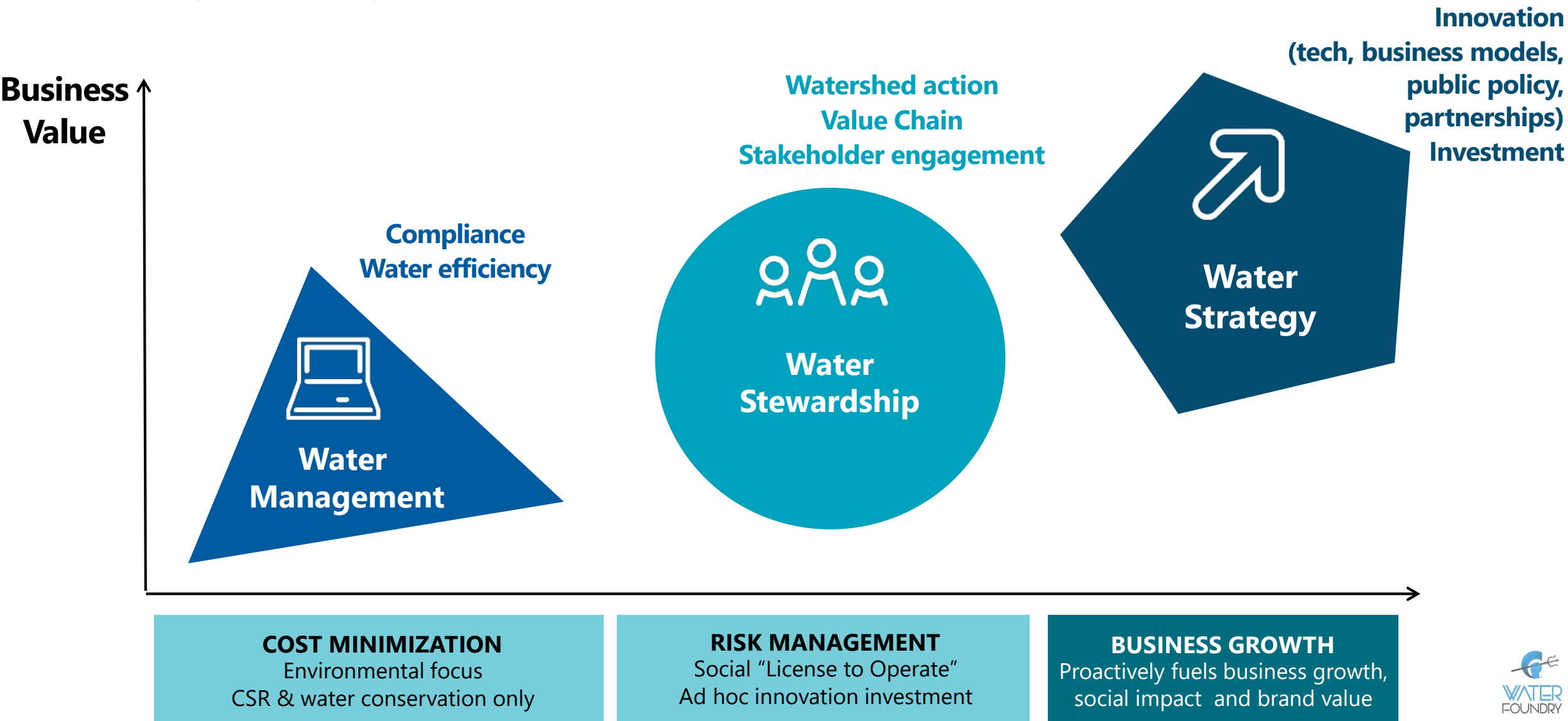
Influencing
policy

Empowering
our customers



Water Strategy Maturity Model

Creating Value Beyond Stewardship



Water Resilience Coalition

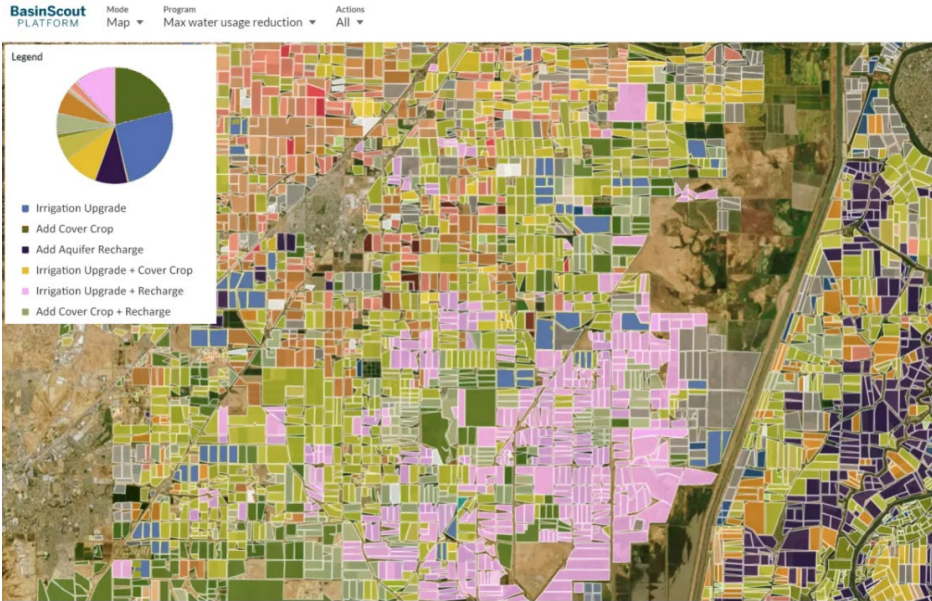


An initiative of the United Nations Global Compact CEO Water Mandate. Founded by seven companies, including Microsoft, the coalition has since grown to 19 industry-leading corporations, all of whom have pledged to work collectively on water issues.



Partnership story: Microsoft and Basin Scout Platform

Microsoft and Basin Scout Platform: Assessing agricultural practices with AI



Basin Scout pinpoints where changes in agricultural management will result in greatest benefit for surface water quality and groundwater conditions

- **Applies machine learning and water resource models to satellite/aerial data and farm management data**
- **Assesses potential for improving field level practices**
- **Quantifies impacts on water resources**

Enables the user to optimize which interventions to pursue to achieve conservation outcomes given what water outcomes they want to achieve



Enabling stewardship

Configured the tool for Sacramento Valley, CA to identify replenishment project opportunities, test viability as a tool to facilitate stewardship

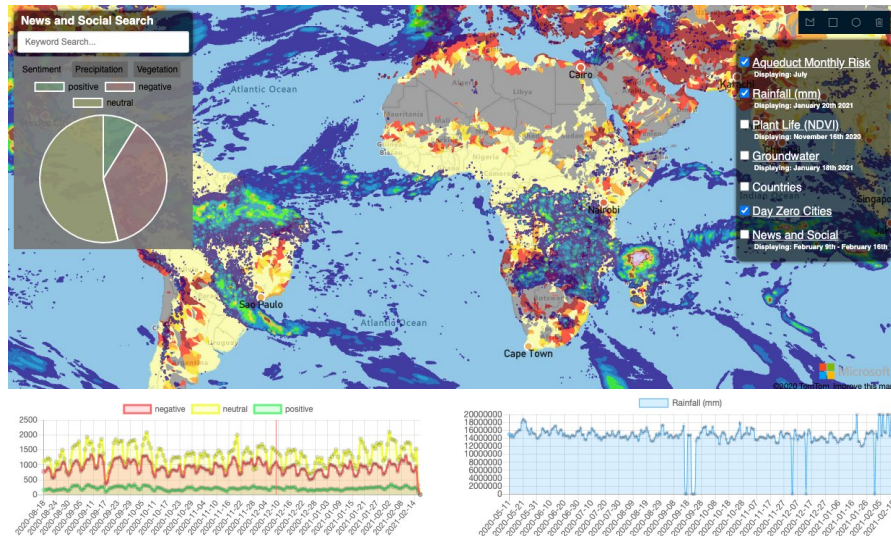
Identifying project opportunities

Identified cost effective projects to increase groundwater infiltration, minimize irrigation demand and reduce sediment and nutrient runoff

Partnership story: Microsoft and Vector Center

Microsoft and Vector Center: Perception vs. Reality

A common operating platform for water



Spotting patterns and trends faster for better decisions by combining:

- **Trusted “reality” data**
- **Social and sentiment analysis**
- **On-the-ground context**

“Perception Reality Engine” captures and analyzes data from the ground up — from social media, news coverage, and original on-the-ground reportage, to peer-reviewed research and satellite tracking and monitoring.



AI-Powered tools for insight

Realtime and near-realtime contextualized intelligence for decision-makers about water and intersecting threats around the globe.

Improving foresight

Informing operational, capital, reputational, governance, and supply chain risks; revealing CSR, thought leadership, and collaborative impact opportunities.

Aligning actions with AI

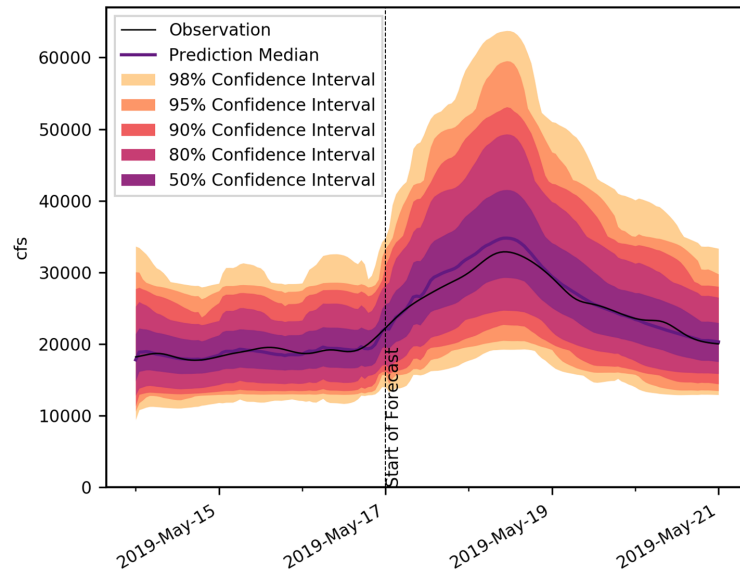
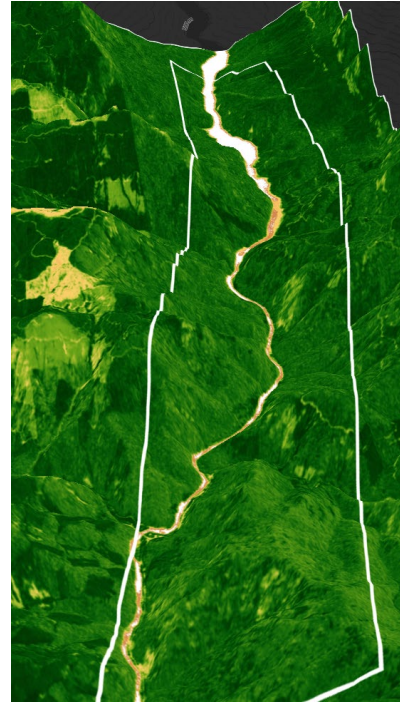
Vector Center uses Azure to help the world respond faster to complex risks and take coordinated action with relevant intelligence.

Partnership story: Microsoft and Upstream Tech

Microsoft and Upstream Tech predict river flows



Dworshak Dam (USACE-DWR)



Climate change is water change, resulting in shifts in flow regimes and an increase in extreme weather events. From hydropower operations to planning conservation for an endangered freshwater species, better information is needed.

HydroForecast predicts near-term and seasonal flows for any river with newfound accuracy, leveraging a theory-guided AI approach, satellite imagery, and Azure's cloud.



A Coordinated Hydropower
HydroForecast enables organizations like ENGIE to optimize generation, maximize safety, and move towards a 100% renewable grid.

Conservation in Ungauged Basins
Organizations like The Nature Conservancy use HydroForecast to understand flow regimes where there are no gauges.

Designed for Change
AI for climate change must be designed for climate nonstationarity. HydroForecast does so through massive cloud compute and physical theory.

Thank you

