



Global Institute for
Water Security
USASK



UNIVERSITY OF
SASKATCHEWAN

JUNE 2025

STRATEGIC PLAN 2025-2028





Strategic Plan 2025-2028

Last updated: June 23, 2025

In 2024, the GIWS Executive developed a comprehensive strategic plan for the next three years. The vision, mission and strategic priorities have been informed by consultations with a wide variety of internal and external stakeholders. Consultations began in November of 2023 with a series of workshops with faculty followed by one with staff and students. These consultations included a SWOT analysis and interactive discussions that resulted in a refined vision and mission statement as well as core research themes for the Institute. In the summer of 2024, a survey was sent out to partners and select other organizations in the water space in Saskatchewan and across Canada. The final plan reflects feedback from academic units and GIWS members at USask.

As the world's population continues to grow, water becomes an increasing topic of political and social importance. We are conducting research that addresses land-water management, builds climate and water resilient communities and sectors, and explores the relationships between water and food, water and critical minerals, and water and energy.

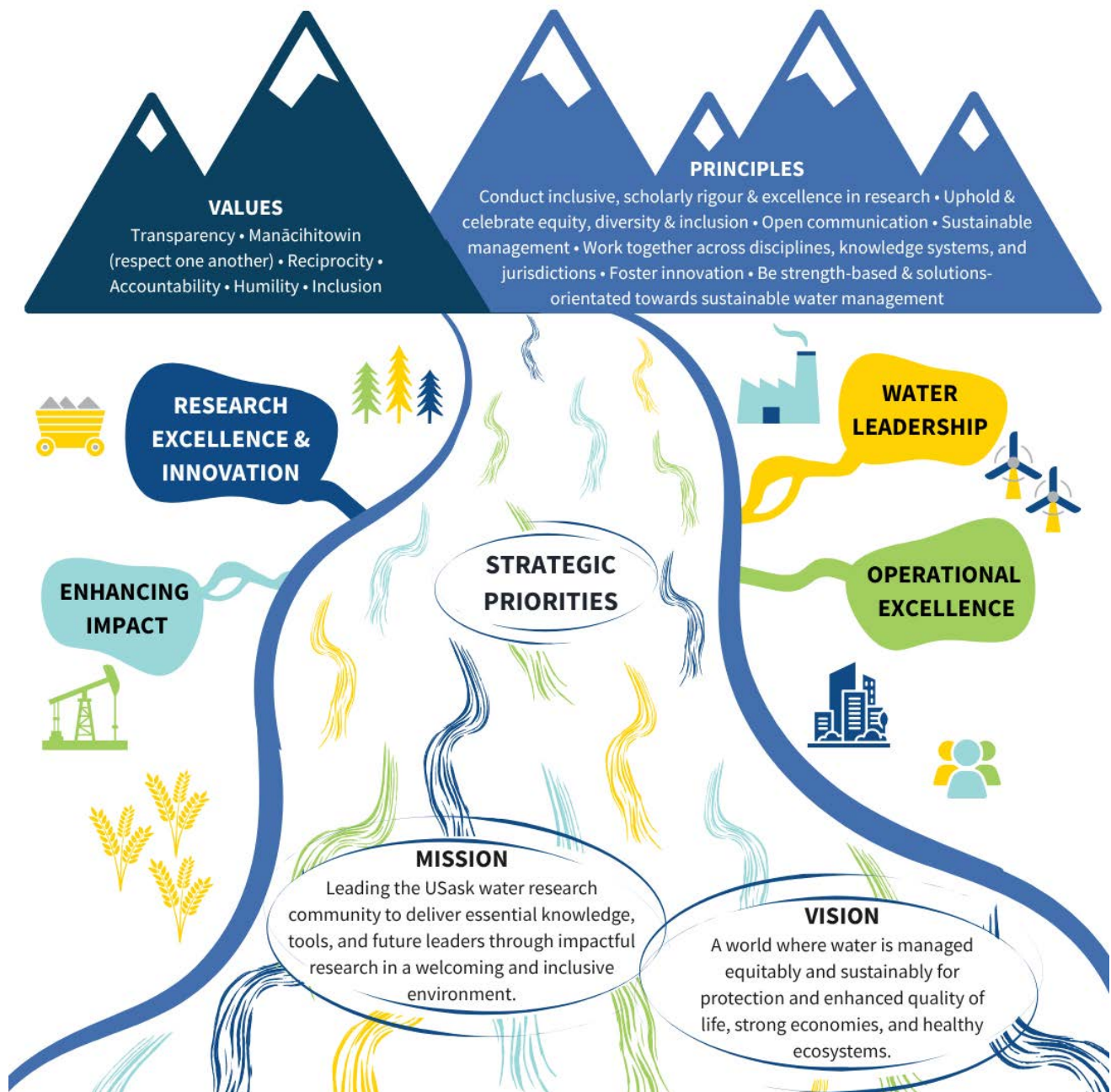
Moving forward, GIWS will continue to strive towards being the water institute that the world needs, executing research excellence, demonstrating water leadership, and translating our research into practice and impact.

Thank you for being part of our history, our successes, and our future!



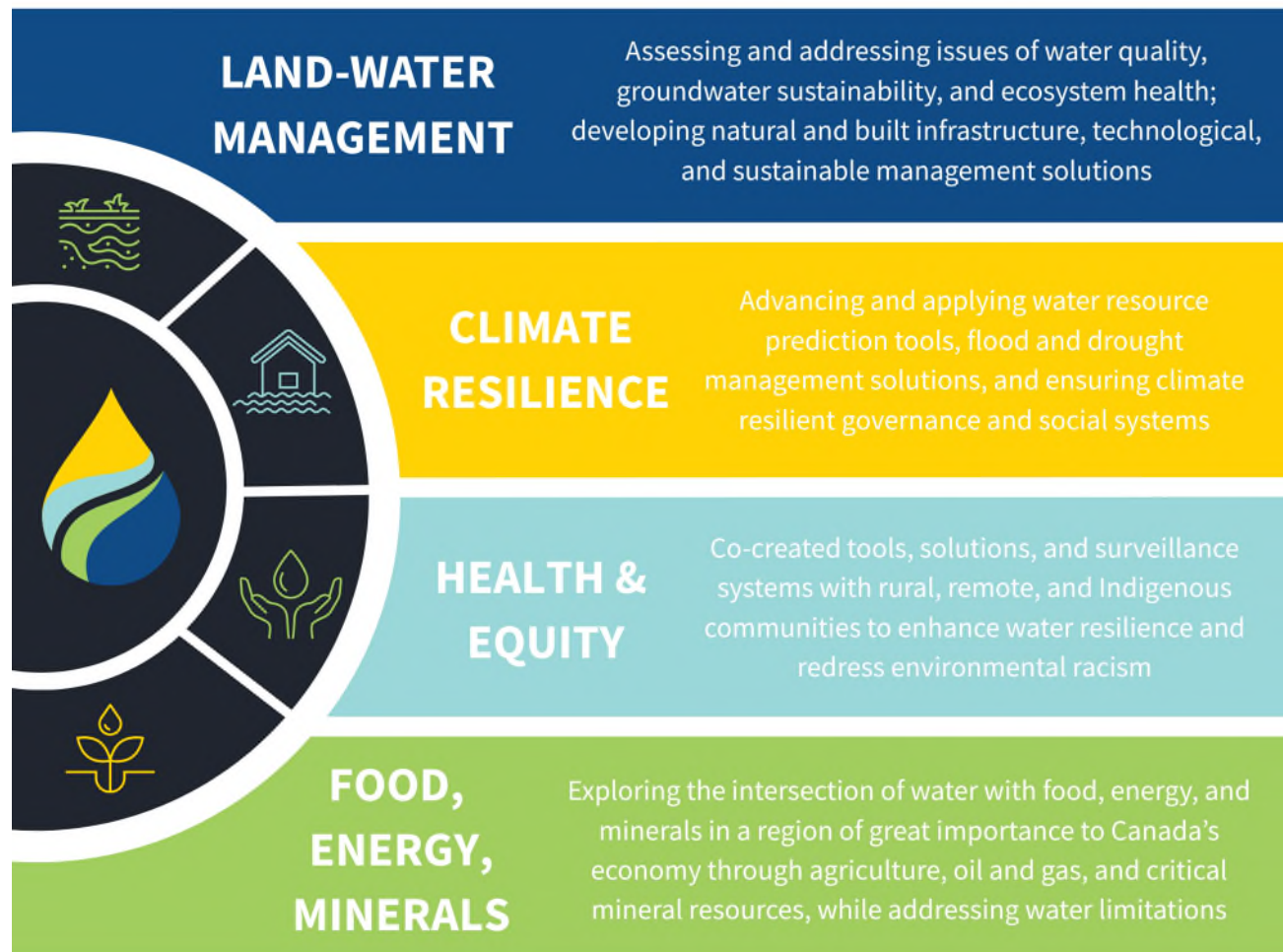
Our Strategic Plan

Operational as well as aspirational, our initial strategic plan recognizes the deep history of water at USask as well as the pressing societal need for sustainable water solutions that underpin strong economies, resilient communities, and environmental integrity.



Our Strategic Research Strengths

GIWS represents a strong community of faculty, students, staff, technicians, and researchers with transdisciplinary expertise across four core domains.



1. Land-Water Management

- **Water quality:** developing tools, technologies, locally-informed mitigation and adaptation science, ecosystem services valuation, as the evidence-base for policies, regulations, and water quality management.
- **Groundwater sustainability:** understanding changing ground water quality and quantity, linkages to surface water, and assessing threats and management strategies.

- **Agriculture and forest hydrology:** models, in situ monitoring, and process understanding at different scales for better management and investment.
- **Natural and built infrastructure and technologies:** developing innovative climate-resilient designs, treatment technologies, and nature-based solutions for water-related challenges.
- **Water resources, source water protection, and watershed planning:** conservation and restoration of aquatic habitats and wetlands, ecohydrology, governance and management across knowledge systems.

2. Climate Resilience: Climate and Water Resilient Communities, Sectors, and Ecosystems

- **Water resources prediction and forecasting:** leveraging cutting-edge remote sensing and modeling techniques for predicting extremes of global change and emerging threats to human health, critical infrastructure, and ecosystem health.
- **Environmental, ecosystem, and human health assessments:** eDNA, hi-tech analytics, field observatories, community participatory research, and advances in interdisciplinary and transdisciplinary assessments to support adaptation design and dismantling of systemic inequities.
- **Flood and drought management:** developing tools and assessing alternate management and adaptation strategies to better cope with uncertainties and extremes.
- **Adaptive water governance and social systems, towards resilient communities and sectors:** conducting economic analyses, assessing insurance and other risk reduction strategies, harnessing and advancing coupled human-water system approaches.

3. Water, Health, and Equity

- **Vulnerability and resilience tools and assessments:** quantification of direct and indirect health threats as a result of changing climate and understanding of differential vulnerabilities between and within population groups.

- **Co-governance approaches:** bridging Indigenous and non-Indigenous legal and knowledge systems for sustainable and equitable access to and management of water resources across political, spatial, and temporal scales.
- **Local water security:** comprehensive understanding of water demand drivers and patterns, future resource constraints and threats, and differential impacts and vulnerabilities, as well as existing social and ecosystem-driven resilience.

4. Water Interactions: Food, Energy, Minerals

- **Soil, water, plant continuum:** developing models of water and nutrient uptake and exports by different crops, root zone moisture processes, and agricultural water management.
- **Chemical and nutrient use and runoff and infiltration for water quality:** understanding social and environmental drivers of land applications, barriers and facilitators to improved chemical and nutrient application and management, and chemical and nutrient uptake and storage under current and future climates.
- **Water infrastructure management:** innovative design and adaptive management of built and natural infrastructure used for supply augmentation (food and drinking water security), flood and drought mitigation, energy generation, and water quality.
- **Managing mineral extraction for water quality for ecosystem and human health:** integrating geochemistry, advanced imaging, and novel sensor development with advanced modeling, ecosystem toxicology, and societal impacts, to assess and predict risk.

Measuring Progress

Our strategic plan is underpinned by strategic initiatives and activities coupled to specific, measurable, achievable, relevant, and timebound (SMART), that will enable us to track our progress, successes, and failures. In this way, GIWS remains committed to its membership, its mission, and its partners while enabling iterative assessment and improvements in a timely manner.

KEY PERFORMANCE INDICATORS	STRATEGIC PILLAR(S)
Number of peer-reviewed publications & science/policy briefs	RESEARCH EXCELLENCE & INNOVATION
Number of visiting professors / researchers / scholars	RESEARCH EXCELLENCE & INNOVATION WATER LEADERSHIP
Research dollars from successfully funded research proposals by members	RESEARCH EXCELLENCE & INNOVATION OPERATIONAL EXCELLENCE
Training Participation Rate	RESEARCH EXCELLENCE & INNOVATION OPERATIONAL EXCELLENCE
Partner & Community Impact Score	WATER LEADERSHIP ENHANCING IMPACT
Expanded Services to Partners and Members	WATER LEADERSHIP OPERATIONAL EXCELLENCE
Employee/Member Engagement Survey Score	WATER LEADERSHIP OPERATIONAL EXCELLENCE
Increased Operational Processes Efficiencies	WATER LEADERSHIP OPERATIONAL EXCELLENCE
Partner Participation Rate	RESEARCH EXCELLENCE & INNOVATION ENHANCING IMPACT
Number of New Memberships	RESEARCH EXCELLENCE & INNOVATION ENHANCING IMPACT
Partner Satisfaction Survey Score	ENHANCING IMPACT OPERATIONAL EXCELLENCE
Number of new institutional strategic partnerships	ENHANCING IMPACT OPERATIONAL EXCELLENCE
Return on Investment (ROI) (social, environmental, economic returns)	ENHANCING IMPACT OPERATIONAL EXCELLENCE
Positive Cash Flow	OPERATIONAL EXCELLENCE
Number of New Funding Sources Secured	OPERATIONAL EXCELLENCE
Percentage of Funding by Source	OPERATIONAL EXCELLENCE
Professional Development Plan Completion Rate	OPERATIONAL EXCELLENCE



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