Theme I:Water Availability



OBJECTIVES

- To ensure sustainable water availability across all scales and contexts; and
- To produce innovations that resolve water challenges & improve water management practices.

Water Availability = Anthropogenic demand + Environmental functioning + Unallocated water resources











Outcomes Used to guide your own proposal ideas (Open Call)

Four interlinked strategic outcomes will form the basis for the thematic area that supports the strategic outcomes of the WRC.

I. Build Climate Resilience

- Develop advanced monitoring and modelling tools to assess water availability, predict water scarcity, flooding and facilitate informed decision-making.
- Enhance water conservation practices through the development of smart technologies and devices, and sustainable water management strategies.

2. Develop New Supply Sources

- Develop comprehensive studies and tools to assess the quantity, quality, and distribution of water resources at different scales.
- Explore technologies and infrastructure to expand access to freshwater resources in water-stressed regions.



Outcomes

3. Enhance Sustainable Water Management

- Develop innovative localised and context-driven water management strategies, including demand management, water reuse, and integrated water resources management approaches.
- Conduct socioeconomic studies to understand the implications of water scarcity on communities, livelihoods, and economic development, and develop strategies for equitable water allocation.
- Enhance knowledge about the importance of water availability, conservation, and responsible water use.
- Develop platforms for water and related data to improve decision-making and planning

4. Promote Ecosystem Protection

- Enhance the protection and use of blue and green infrastructure.
- Ensure the mainstreaming of Strategic Water Source Areas in by-laws and policies.
- Promote the adoption of nature-based solutions for water availability, such as rainwater harvesting, green infrastructure, and catchment restoration.



Directed Call

Project	Outputs
Developing a water security index for South African settlements	Water Security Index. Priority area reports. Map/Atlas on
	WRO.
Disaster preparedness for local municipalities	Tools for droughts, floods and heatwaves
Refinement of Groundwater Recharge Estimation Methods and	Updated localised groundwater recharge estimation methods
Approaches	and guidelines for South Africa.
Integration of Urban Groundwater Flows into Urban Planning and	Guidelines and tools for integrating urban groundwater flows
Infrastructure Development	into urban planning processes
Streamlining green infrastructure into municipal asset	Green Infrastructure included in city asset management
management,	decisions.
Citizen science toolbox enhanced and integrated.	Integrated agricultural, domestic and biophysical tools
	produced, validated and standardized.
Uptake of river restoration tools.	Restoration tools (guidelines)



Blue sky ideas

Also use the Theme Outcomes for your own ideas

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Project/Idea	Outputs
Investigating the synergistic potential of Deep	Technical feasibility and effectiveness of coupling deep
Geothermal Energy for Groundwater Management in	geothermal systems with groundwater resources.
South Africa	Policy and regulatory frameworks recommendation to
	support the integration of deep geothermal energy as a tool
	for groundwater management in South Africa.
Prediction Research	Modelled future – new tools and approaches



Repackaging of existing knowledge

Issue	Outputs
Monitoring tools	Desk reference
Adaptation and resilience tool for local authorities	Desk reference
Groundwater Guidance Documents, Governance of urban	Comprehensive Groundwater Management Handbook
groundwater flows and the Groundwater Training manual.	
Quantifying the extent and rate of changes in wetland types	Remote sensing to enhance national wetlands monitoring programme
of the Maputaland Coastal Plain with remote sensing	
Advancing the management of wetland resources in South	Wetlands catchment level management inclusive of hydropedoloy and
Africa: Integrating hydropedology into wetlands management	linked to delineation
and development authorization at catchment and site scales.	

