





Water Security in Africa

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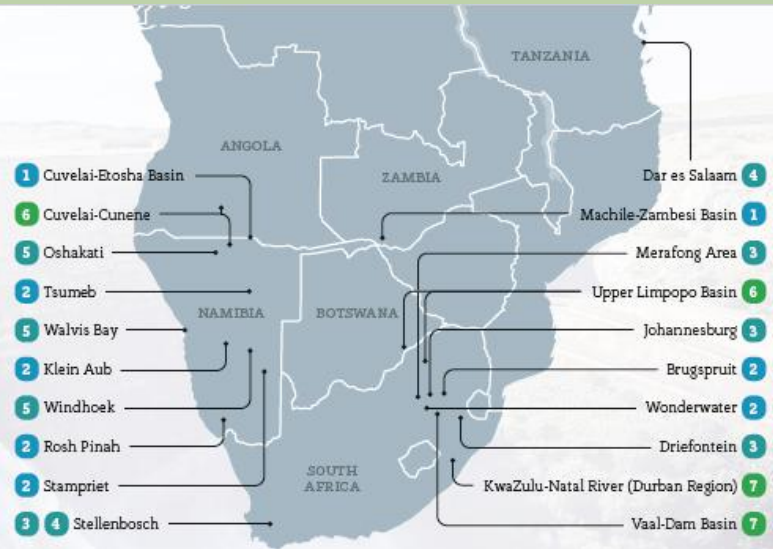
With funding from the:



Federal Ministry
of Research, Technology
and Space



Cooperation Projects





Water Security in Africa

3 Thematic Fields
7 Research Projects
91 Project Partners



SUSTAINABLE
WATER
RESOURCES
MANAGEMENT

SenKeePa
Semi-Autonomous
Electromagnetic
Exploration of Kalahari's
Aquifers, Africa

WAMISAR
Sustainable and
Climate-Adaptive Water
Management for Mining
in the Southern African
Region



WATER
INFRASTRUCTURE
AND WATER
TECHNOLOGY

MAMDIWAS
Making Mining
Influential Young
a Drive for Change
to Improve Water
Security in South Africa

NEU-Water
Novel Engineered
Urban Design for Water
Recycling and Reuse

WaterWise
Multi-Scale Urban Water
Security for Sustainable
Technology Governance
and Capacity Develop-
ment

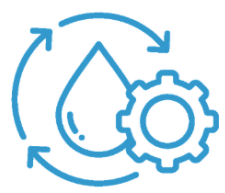


HYDROLOGICAL
FORECASTING AND
MANAGEMENT OF
HYDROLOGICAL
EXTREMES

Co-SETUPE-SA
Co-Design of a Hydro-
technological Innovation
System for Efficient Urban
Water Resource Manage-
ment in Southern Africa

WaterWise
Water Resilient and Resilient
in Urban-Rural Areas
in Southern Africa -
Characterization of Water
Distribution Services for
Adaptive and Sustainable
Decision-Making





Thematic field 1: Sustainable water resources management

SeeKaquA

Semi-Airborne Electromagnetic
Exploration of Kalahari's Aquifers,
Africa





Research focus: Exploration and interpretation of deep aquifer systems in the Cuvelai-Etoshia Basin (Namibia) and Machile-Zambesi Basin (Zambia)

Methods: UAV/ground-based electromagnetic methods , groundwater sampling, hydrogeological modeling

Goals (technical): Instrument and software development, SAEM technology transfer to commercial stakeholder in Southern Africa (terratec)

Goals (impact): Training of cooperation partners, improved understanding of hydrogeological situation in target areas, recommendations for sustainable water management

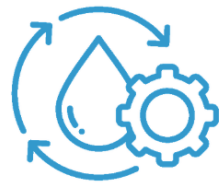


With funding from the:



Forschung und Innovation





Thematic field 1: Sustainable water resources management

WaMiSAR

Sustainable and Climate Adapted Water Management in Mining in the Southern African Region



a



WaMiSAR

b



Galaxy A53 5G
01. Oktober 2024 10:03 AM



Thematic field 2: Water infrastructure and water technology

MAMDIWAS

Making Mining-Influenced Water a Driver for Change to Improve Water Security in South Africa





MAMDIWAS

Impact for South Africa and Beyond



Local Benefits:

- Cleaner water, improved health, and economic diversification for mining-impacted communities.

Scalable Innovation:

- Technology and governance models transferable to other mining regions.

Collaboration:

- Strong German-South African partnership; real-world testing and stakeholder ownership.





Thematic field 2: Water infrastructure and water technology

NEU-Water

Nature Engineered Urban Design for Water Recycling and Reuse





WP1.2 Water Operator Partnership





WSUD: Technical Options for greywater treatment

Household level



Concept:

Infiltration and optional reuse at household or near neighbour level

Requirements:

- Space, soil infiltration capacity
- Community willingness to use and maintain it

Upstream Options

Semi-centralized at neighbourhood level



Concept:

Underground filter or NBS for decentralized treatment & infiltration

Requirements:

- Space, soil infiltration capacity
- Community acceptance
- With municipal financial & technical support community willingness to maintain it

Semi-centralized level in-stream



Concept:

With NBS for enhancing the river's treatment capacity

Requirements:

- Up stream solid waste removal
- With municipal financial & technical support community willingness to maintain it

Centralized level down stream (interception)



Concept:

Treating up to 100% of the dry weather river flow through a NBS solution

Requirements:

- Municipal responsible for O&M (could be outsourced to WaterHub with community engagement)

Downstream Option



Thematic field 2: Water infrastructure and water technology

WaReNam

Multi-Scale Water Reuse Strategy for Namibia: Technology, Governance and Capacity Development



WaReNam
Water Reuse Strategy for Namibia



WaReNam



"I believe that the WaReNam project will provide innovative and strategic solutions to Namibia's water security, by appreciating wastewater as another important water source to be developed."

Maria Amakali

"By jointly creating a national water reuse strategy, we could harness a huge untapped potential and utilise about 37% of Namibia's domestic wastewater outside of Windhoek."

Dr.-Ing. Martin Zimmermann





Thematic field 3: Hydrological forecasts and management of hydrological extremes

Co-HYDIM-SA

Co-Design of a Hydrometeorological Information System for Sustainable Water Resources Management in Southern Africa

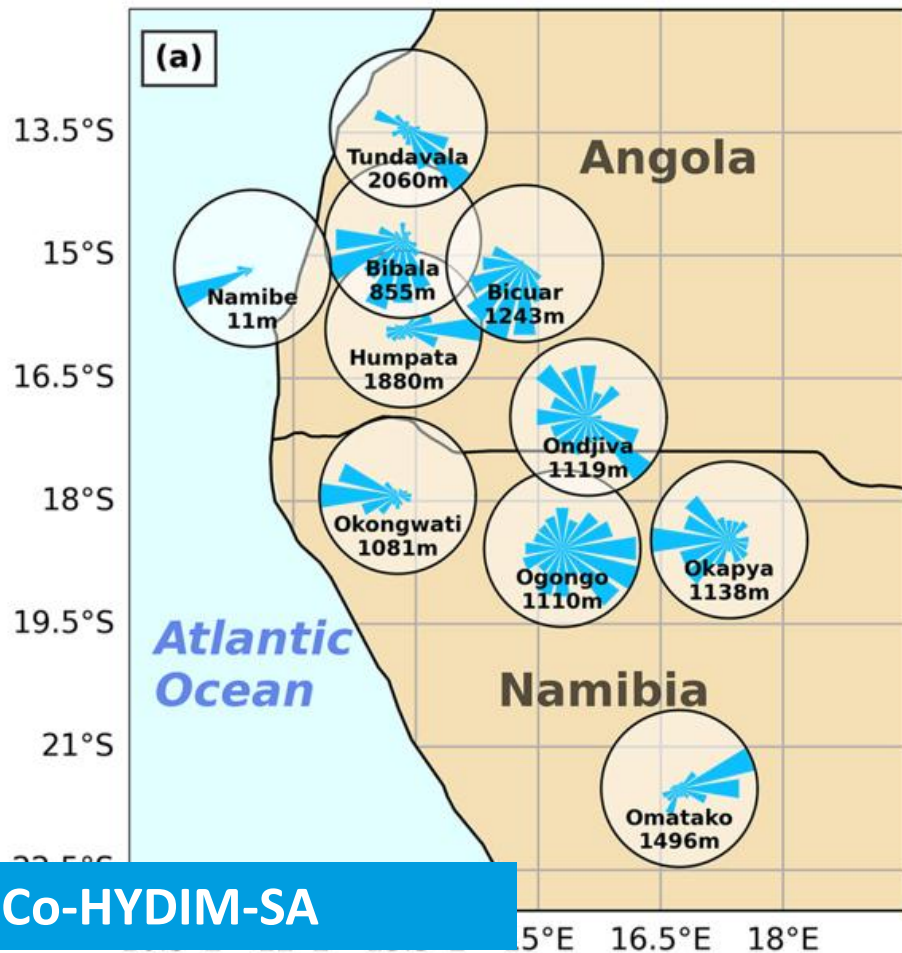




Co-HYDIM-SA

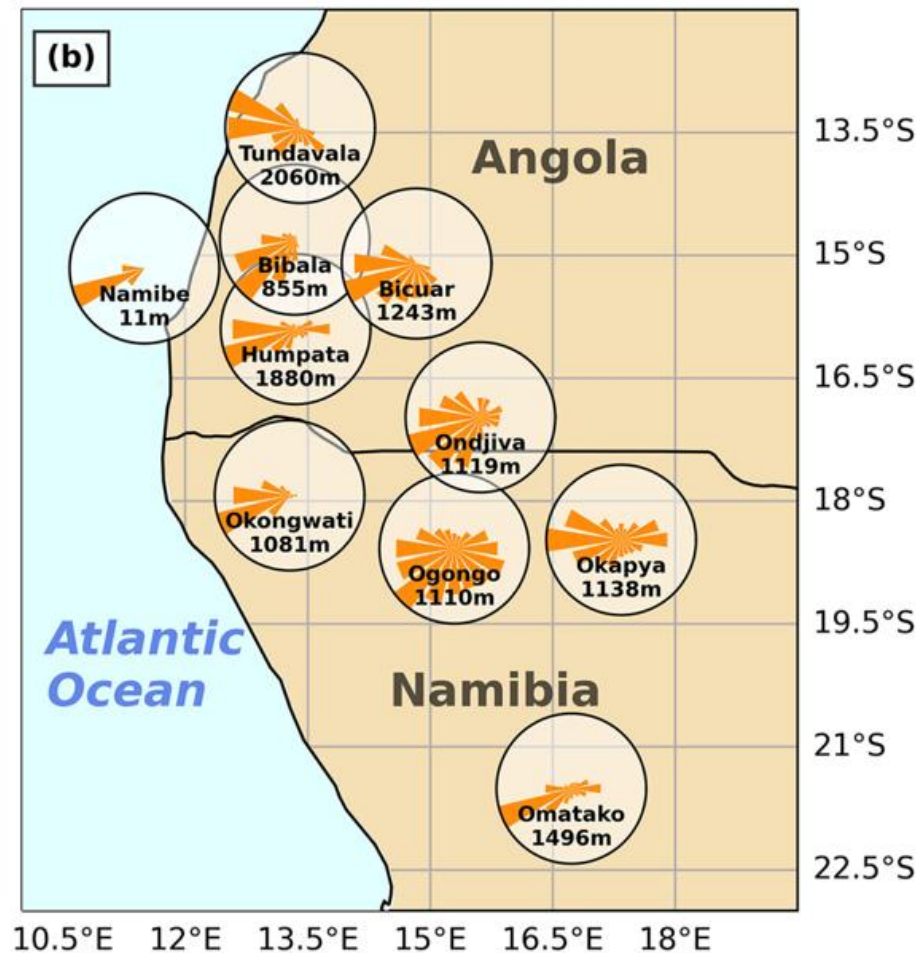
rainy days (> 1mm of rainfall)

10.5°E 12°E 13.5°E 15°E 16.5°E 18°E



dry days (< 1mm of rainfall)

10.5°E 12°E 13.5°E 15°E 16.5°E 18°E



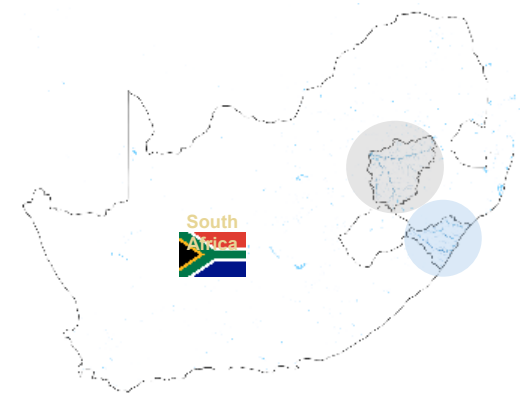


Thematic field 3: Hydrological forecasts and management of hydrological extremes



Water Risks and Resilience in Urban-Rural Areas in Southern Africa

Co-Production of Hydro-Climate Services for an Adaptive and Sustainable Disaster Risk Management



With funding from the:



German Water Partnership Annual Conference
25 June 2025, Berlin, Germany

Dr. Sophie Biskop & Prof. Francois Engelbrecht





WaRisCo

WASANet

The Networking and Transfer Project of the WASA Research Programme





IWA Water Reuse Conference 2025



AUDA-NEPAD
Southern Africa Network of
Water Centres of Excellence
(SANWATCE)

WASA
Water Security in Africa
Fields Projects

WASA Summer School 2025
Certificate of Attendance
Clifford Muboko

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WASA Special Session at WaterNet Symposium in Lusaka 2025

www.watersecurityafrica.org

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