

WATER INFORMATION SOLUTIONS

Integrated services for informed decision making,
policy evaluation and planning support



WATER – THE MILLENIUM CHALLENGE

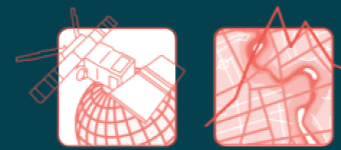
Water represents one of the world's major renewable resources, offers critical ecosystem services and is a major development driver for humankind. Many nations face significant challenges and risks to ensure an effective use and efficient management of its water resources.



POOR AND CRUMBLING INFRASTRUCTURES lead to **SPARSE AND UNRELIABLE INFORMATION**, posing a major limitation for development.



GEOVILLE'S WATER INFORMATION SOLUTIONS (GEO-WIS) bridge information capacities and gaps, **SAFEGUARDING DEVELOPMENTS.**



Observation | Identification | Monitoring | Reporting



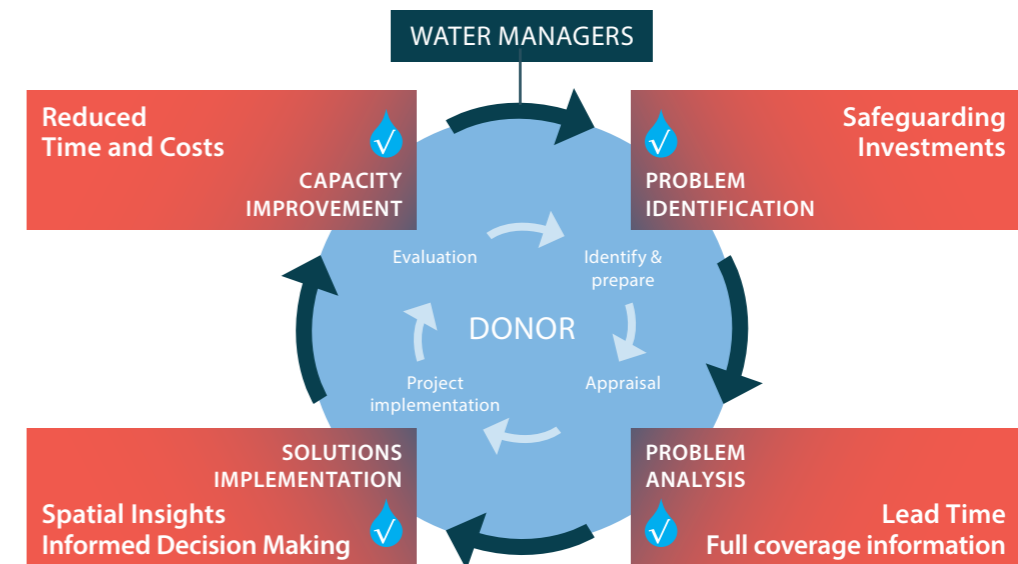
DECISION



ACTION

GEO-WIS GEOVILLE'S WATER INFORMATION SOLUTIONS

GeoVille's fit-for-purpose services provide the right support for any project phase.



ENGAGEMENT OF GEO-WIS SOLUTIONS

All geared to helping reducing poverty, improving health and education, as well as strengthening institutional development through appropriate training. GEO-WIS supports water managers and development professionals with their information, analysis, tools and capacity building needs, enabling:

- ◆ **GAP ANALYSIS**, determining goals of managers and existing capacities
- ◆ **LEAP-FROGGING GEO-INFORMATION**, engaging Earth Observation capacity
- ◆ **REVEALING ISSUES**, to identify shortcomings and quantify degree of impacts
- ◆ **EVIDENCE BASED DECISION MAKING**, integrating fit-for-purpose tools into management processes
- ◆ **ADAPTION OF PROCEDURES**, for capacity building and training of staff
- ◆ **GENERATION OF FACTS**, socializing results and building support
- ◆ **IMPROVEMENT OF PRACTICES**, through comprehensive information solutions

Geo-WIS tools to be used to:

- ◆ measure environmental and land degradation
- ◆ soil moisture and hence propose best crops and yields
- ◆ damage assessments from natural and manmade disasters
- ◆ monitoring of IFC/WB Safeguards – Environmental, Social and Health
- ◆ monitoring and evaluation and impact evaluations: Baseline and End Line surveys real time geospatial analysis

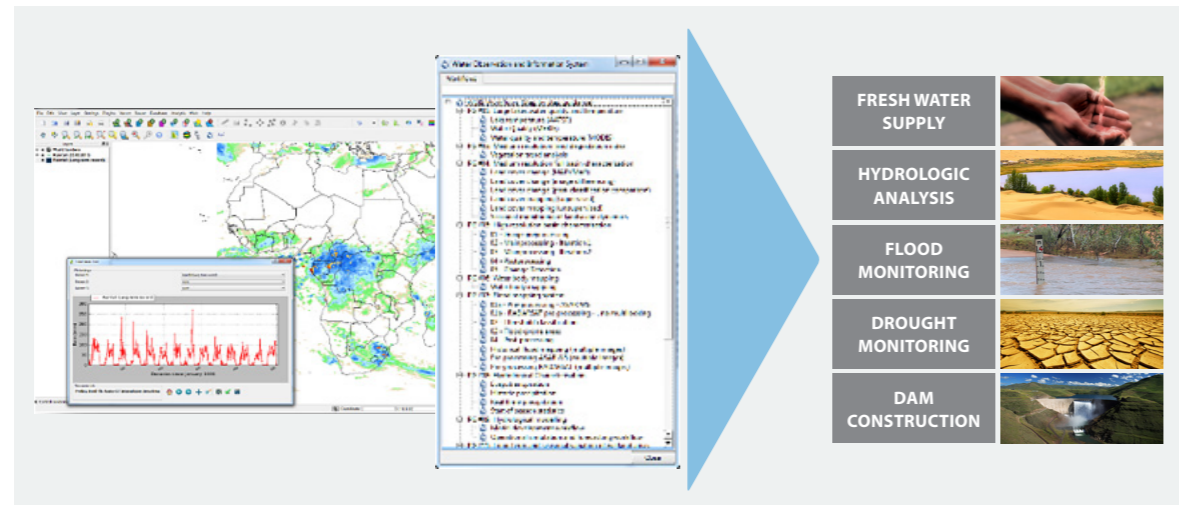
All this research, development of tools and applications by GeoVille would not have been possible without the initial investment by the European Space Agency.

SERVICES

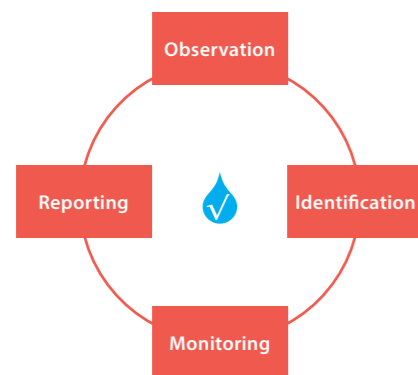
DATA | ANALYSIS | TOOLS | CAPACITY

GeoVille has been assisting water managers to safeguard water supply, reduce poverty and expand economies with improved water management.

GEO-WIS clients have easy access to more accurate information, allowing them to make evidence based decisions and reduce risk exposure.




WATER OBSERVATION AND INFORMATION SYSTEM



GeoVille lead development of the open source software platform WIS for monitoring, assessing and inventorying water resources in a cost-effective manner through satellite data.

- >28 WATER INFORMATION PRODUCTS
- ACCESS TO SATELLITE DATA STREAMS
- EASILY INTEGRATES INTO EXISTING IT
- EASY TO OPERATE - NOVICE TO EXPERT
- ADAPTION CAPACITY

for integrating multiple water resource monitoring technologies



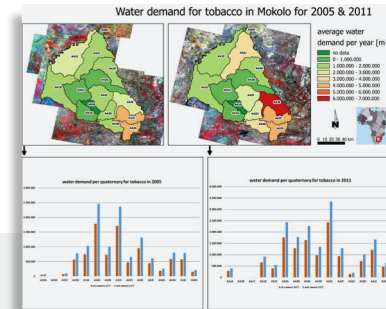
*"The WIS is essentially helping water managers in Africa to integrate and transition their existing in-situ monitoring systems to a **more cost-effective satellite based monitoring system**".*

Mohammed Bila, Remote Sensing and GIS Expert, Lake Chad Basin Observatory

APPLICATIONS

WATER BASIN MANAGEMENT

- **South Africa determining water demand, allowing safeguard their water provision**
- **Chad understand effects of land use, leading to political awareness and policy adaption**
- **Namibia incorporate flood information for early warning and mitigation planning efforts**
- **Philippines develop Natural Capital Accounts for assessing runoff changes**



"GeoVille's work complemented, improved and filled data gaps needed in critical programmes such as integrated planning, the National Integrated Water Information System and water use authorisation, monitoring and regulation."

Carey Rajah, Director of Spatial and Land Information Management of DWS South Africa

GEO-WIS CAN ADDRESS CHALLENGES SUCH AS:

Flood	Drought	Water quality	Monitoring systems
Water balance management	Sanitation	Natural Capital Accounting	Climate change
Irrigation	Green and grey infrastructure	Water markets and funds	Ecosystem restoration & conservation

ECOSYSTEM CHANGE & FORESTRY

Alterations to lands use and water use impact one another, often in unexpected ways.

GEO-WIS helped:

- **Ethiopia to clarify how historic and current land use impact soil and related water flows**
- **Volta Basin to identify and track forest ecosystem changes for improved management**
- **Chad identify ecosystems alterations, leading to improvements in restoration efforts**
- **Liberia enable stocktaking of their forest resources and protect related watersheds**



GEO-WIS CAN ADDRESS THESE AND OTHER CHALLENGES

Land cover and use mapping	Land use impact analysis, including IFC performance standards and the mitigation hierarchy	Landscape scale management	Prioritization of ecosystem & water restoration opportunities
Monitoring and management systems	Poverty impact analysis	Natural Capital Accounting	Climate change analysis



AGRICULTURE & LIVESTOCK

Agriculture and livestock development depend on water availability.

GEO-WIS helped:

- ◆ **Ghana and Burkina Faso to monitor water bodies and improve smallholder livestock management**
- ◆ **Zambia to identify locations suitable for smallholder farming and livestock dams**
- ◆ **Peru develop Natural Capital Accounts for their rice production and related water use**



"The GeoVille-WIS improved and the enabled small water body mapping capacity provides crucial information for livestock watering in the Volta basin. It will be therefore critically important that operational Sentinel-1 and 2 data becomes available to the VBA [Volta Basin Authority] in order to continue to turn out such information products to be shared with the general public and livestock managers in particular."

Dr. Jacob Tumbulto, Director Volta Basin Authority

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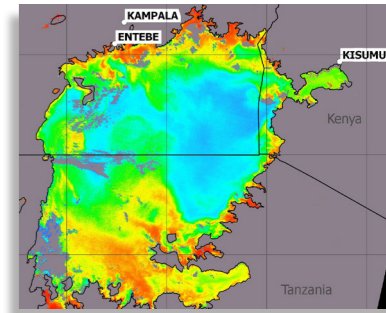
Flood	Drought	Landscape scale management	Intelligence based planning support	Monitoring systems
Ecosystem change analysis	Ecosystem restoration	Risk assessment	Impact analysis, IFC Performance Standards and the mitigation hierarchy	Climate smart agriculture

WATER QUALITY

Water, fisheries and urban managers are more effective with accurate information on the causes and potential solutions for water quality impairments.

Geo-WIS helped:

- ◆ **Africa's Lake Victoria region identify, monitor and address eutrophication issues**
- ◆ **Health leaders develop a Cholera early warning system**
- ◆ **Identify water demand areas, so that infrastructure development is targeted to the right areas**
- ◆ **Identify watershed degradation leading to increase in sedimentation of streams and rivers.**



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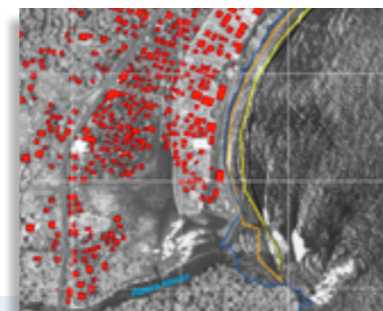
Sources of impairments	Impact of water quality on health, poverty, etc	Monitoring and management systems	Health warning systems
Water markets and funds	Green and grey infrastructure	Ecosystem restoration & conservation	Exposure mapping and hotspot identification, Climate change vulnerability analysis

CLIMATE CHANGE IMPACTS AND ADAPTATION

Climate change and weather patterns are often underrepresented.

GEO-WIS helped:

- ◆ **Afghanistan integrate climate change information for to prioritise disaster risk reduction projects**
- ◆ **West African countries to identify coastal inundation hotspots and quantify urban coastal vulnerability**
- ◆ **Sub-Saharan countries to improve smallholder**



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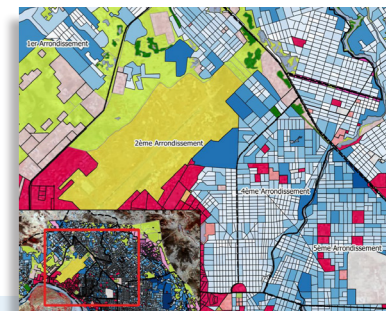
Flood and storm damage	Drought and stress	Water quality impacts	Quality	Monitoring systems
Supply & demand analysis	Ecosystem restoration	Investment risk assessment	Impact analysis, IFC performance standards and the mitigation hierarchy	Climate smart agriculture

URBAN WATER AND SANITATION

Urbanization creates unique supply, demand and water quality challenges from stormwater runoff to infrastructure planning.

Geo-WIS helped:

- ◆ **City Planning Department of N'Djamena Chad analyse water demand, sanitation and water infrastructure needs for improved investment impact**
- ◆ **Mekong River Basin Commission to identify and quantify the exposure of urban infrastructures to manage the sustainable basin development**



GEO-WIS CAN ADDRESS CHALLENGES SUCH AS:

Flood and storms	Drought and shortages	Quality	Monitoring and management systems
Water markets and funds	Prioritizing upstream improvements	Green and grey infrastructure	Water demand mapping, Planning support databases

COMPANY PROFILE

GeoVille enables geographic accounting of human and natural dynamics through a satellite's eye, adding the spatial dimension to information gathering, analysis and monitoring. GeoVille provides earth observation information services and systems for comprehensive, real-world applications. GeoVille is official reseller for all US, European and Asian commercial satellites as well as associated geodata products.

EUROPEAN EARTH OBSERVATION COMPANY 2014

**17 years of experience. More than 400 projects.
Successfully implemented in > 120 countries**



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