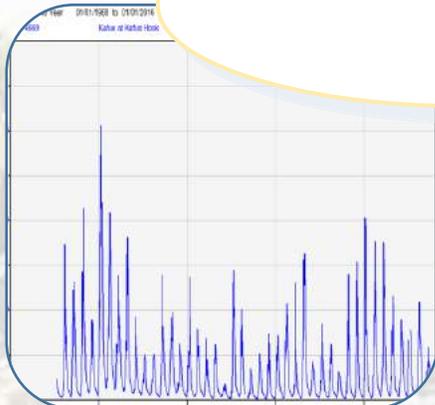




ZAMBEZI WATER
RESOURCES
INFORMATION SYSTEM -
ZAMWIS



**Assessing Transboundary Data Sharing for
Improving Water Resources Management**

Case Study: Zambezi River Basin, Southern Africa

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What is ZAMWIS?

Zambezi Water Resources Information System (ZAMWIS) is the system implemented to support the Zambezi Watercourse Commission to fulfil its obligations conferred on it under the ZAMCOM Agreement. ZAMWIS has been developed through Enhancement 2 contract with support from DANIDA.

The system will improve regional cooperation among the Riparian States of the Zambezi River Basin, as a common data and information reference point for sound decision-making with respect to the development and management of water resources of the shared Zambezi Basin.

The ZAMWIS will as such be essential for the ZAMCOM to carry out its functions (Article 5 of the ZAMCOM Agreement) in line with the agreed principles (Article 13 of the ZAMCOM Agreement) for sharing the water resources of the Basin.

The system is implemented to support the Zambezi Watercourse Commission to fulfil its obligations conferred on it under the ZAMCOM Agreement. It contains water related data and information about the Zambezi River Basin.

Two versions of the system are presently being deployed.

1. An interactive web based spatial data platform; and
2. The windows version that is installed at ZAMSEC and Zambezi Basin Riparian States.



Purpose of ZAMWIS:

The success of the regional cooperation between the Riparian States of ZAMCOM is, to a large extent, related to a well-functioning ZAMWIS. When fully operational, the ZAMWIS will be the common data and information reference point, based on which well documented decisions can be taken with respect to the development and management of water resources of the shared Zambezi Basin.

The ZAMWIS will as such be essential for the ZAMCOM Secretariat and as such also for the Commission to carry out its management functions (Article 5 of the ZAMCOM Agreement)

in line with the agreed principles (Article 13 of the ZAMCOM Agreement) for sharing the water resources of the Basin. The system is developed essentially to:



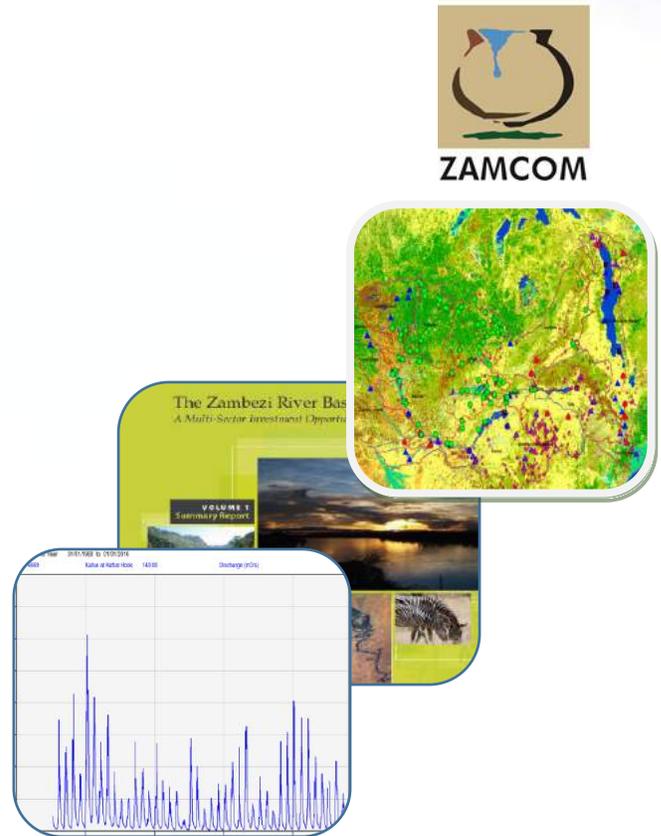
- Support water resources strategic planning in the basin for mutual benefit of all countries in the basin
- Play an essential role in providing the overarching information management system for the Zambezi River Basin
- Serve as a data and information repository for planning, sustainable utilisation and efficient use of the water resources of the Zambezi Basin
- Provide a platform for storage, visualization and presentation of GIS and earth observation data

Some features of ZAMWIS are:

- 1) **It is a very intuitive and easy to use system:** The system is simple and easy to use and has functionalities which are required to serve the purpose of the system focusing on sharing of data and information, easy to view and get an overview of the data, and able to download the data and information.
- 2) **Integration of spatial data, time series data and knowledge products into one portal:** Spatial data, time series data and knowledge products, are integrated into one platform to form a point of departure for the DSS system.
- 3) **It serves the purpose of the Rules and Procedures for data sharing:** The system is available as both a Web-version and a Windows-version, these two systems will serve the purpose of publicly shared data (Web-version) and internally shared data (the Windows-version). The Windows-version is also crucial for the exchange of data among Riparian States and ZAMSEC.
- 4) **A flexible system:** The integrated system with all three types of data makes it a very flexible system, a click on a station on the map immediately provides access to time series with associated documents and photos linked to that station. Data can be downloaded in many different formats depending on the user requirements. Furthermore, the system is integrated with other systems such as QGIS and Hydstra which are two of the most common software applications in the Riparian States. Both the Web- and the Windows-versions are available in both English and Portuguese, and so are the Online-Help and other supporting documents.
- 5) **Use of Earth Observation technology:** The use of Earth Observation technology for monitoring important components of the hydrological cycle (e.g. surface water availability and quality, floods, droughts etc.) has been demonstrated and a ZAMWIS interface to QGIS/ESA WOIS has been developed to facilitate seamless interoperability.

Content of ZAMWIS:

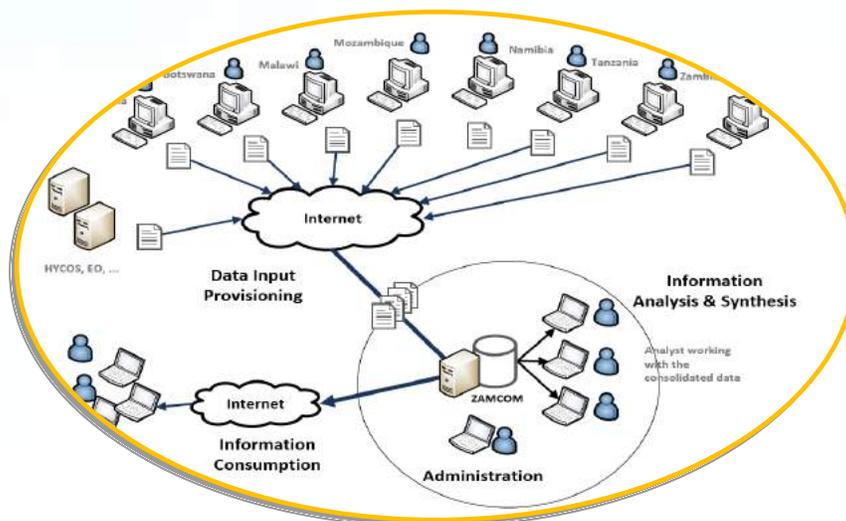
- Contemporary and historical hydro-meteorological data and information from strategic river gauging stations in the Zambezi Basin
- GIS/spatial data including remote sensing products such as land cover, rainfall, evaporation, land use, hydrological characteristics of the basin
- Knowledge products such as studies, reports, water master plans, policies and IWRM plans
- Modelling and analytical tools for planning and decision making



Benefits of ZAMWIS

- 1) Act as a repository for data and information on water resources
- 2) Tool for scenario analysis and impact evaluation of investment projects that offer mutual benefits to Riparian States
- 3) Act as a tool for baseline data for environmental management
- 4) Provide platform for informed policy and strategic analysis
- 5) Act as a tool to support decision making in water resources management and development planning
- 6) Serve as a Knowledge base

Overall ZAMWIS design and user interaction



Key Users of ZAMWIS

1. Member States, decision makers, Water resources managers/ planners, and infrastructure developers
2. The general public and stakeholders with an interest in the management of the Zambezi River Basin
3. Academicians and researchers



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