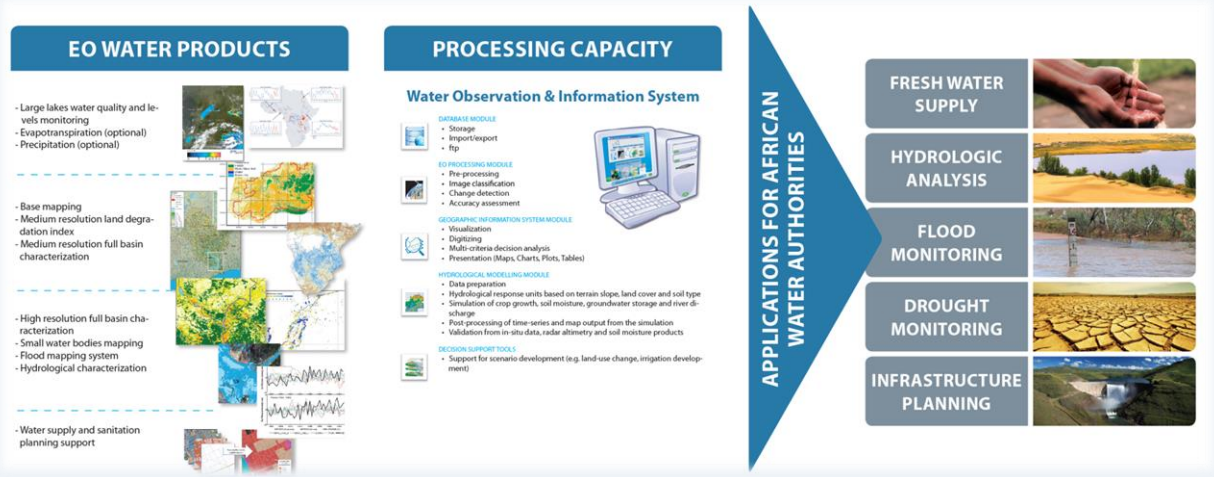
TIGER-NET - development and implementation of a user-driven Water Observation and Information System

As part of the TIGER initiative, the TIGER-NET project aims to support the assessment and monitoring of water resources from watershed to cross-border basin level delivering indispensable information for Integrated Water Resource Management in Africa through:

1. Development of an open-source Water Observation and Information Systems (WOIS) for monitoring, assessing and inventorying water resources in a cost-effective manner;
2. Capacity building and training of African water authorities and technical centers to fully exploit the increasing observation capacity offered by current and upcoming generations of satellites, including the Sentinel missions.



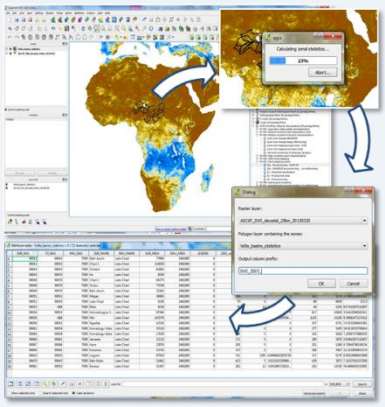
The project was officially kicked off at the World Water Forum in Marseilles in March 2012 and achieved development, instalment, data access, full demonstration and training of the first WOIS version to the involved users in the first project cycle.

The second project cycle will see continuation of the development and training efforts and an expansion of the user base through uptake of 3 more water authorities.

For more information please log on to www.tiger-net.org or contact the project manager, Andreas Walli walli@geoville.com or the ESA technical officer, Benjamin Koetz benjamin.koetz@esa.int.

TIGER-NET Water Observation and Information System

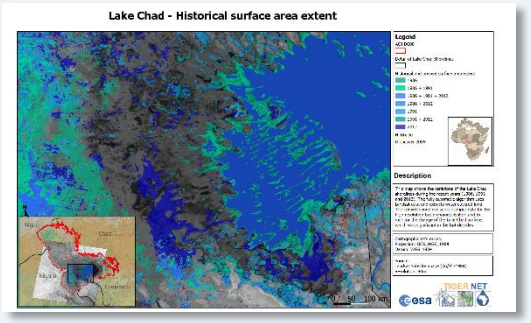
System specifications



- **Cost and license free** – Open Source
- **Easily transferable** – Easy to operate
- **Capable of**
  - retrieving, storing and processing EO satellite data as well as integrating in-situ data
  - producing EO-based water related information products
  - integrating hydrological modeling functions
  - supporting decisions based on full GIS framework
  - mapping and reporting functionality
  - integrating and linking to existing user systems
  - scaling up for future applications and demands
  - supporting the full observational capacity of the upcoming Sentinels

EO product capacity

- **High to medium land cover, change and degradation** mapping (incl. vegetation indices)
- **Water body mapping** (small/large, shoreline changes, wetlands)
- **Water quality monitoring** (lake surface temperature, chlorophyll and sediment load)
- **Hydrological monitoring** (precipitation, evapotranspiration, soil moisture, water level)
- **Hydrological modelling** (scenario analysis and operational forecasting)
- **Flood forecasting, monitoring, historical and vulnerability assessment**
- **Erosion potential mapping**
- **Urban sanitation planning support**



Host Institutions

Nile Basin Initiative

Department of Water Affairs, Namibia

Lake Chad Basin Commission

Department of Water Affairs, South Africa

Volta Basin Authority

Department of Water Affairs, Zambia