



# AQUIFER - AFRICAN TRANSBOUNDARY WATER

## THE ESA-FUNDED TIGER DEMONSTRATION PROJECT AQUIFER DEPENDS ON EARTH OBSERVATION DATA FOR TRANSBOUNDARY AFRICAN WATER MANAGEMENT

AQUIFER is one of the demonstrator projects of ESA's "Earth observation for Integrated Water Resources Management in Africa" initiative, known as TIGER and funded by ESA's Data User Element (DUE) programme. The AQUIFER project has brought together more than 20 partners from Africa, the Maghreb and Europe, including national and international water management entities, remote sensing companies, GIS service providers and researchers. GAF AG, an internationally active geo-information technology company located in Munich, Germany, is the prime contractor in the industrial team while OSS (Sahara and Sahel Observatory, Tunis) is responsible for user coordination. AQUIFER has been instrumental in establishing a continuation project, "Geo-Aquifer", co-funded by the African Water Facility (AWF) and OSS. Capitalising on the encouraging results of the AQUIFER project, Geo-Aquifer will provide an extension and expansion of services, offering increased geographic coverage and user specific refinements.

AQUIFER focuses on the development and demonstration of Earth observation based products and services for supporting national authorities and international institu-

tions in the transboundary management of ground water resources. The project deals with two prominent, internationally shared aquifers - the SASS basin in the Sahara (covering parts of Algeria, Libya and Tunisia) and the lullemeden basin in the Sahel (stretching over parts of Nigeria, Niger and Mali). Although the ground water resources are hidden up to more than a kilometre below the surface, AQUIFER has demonstrated that observations from space of the Earth's surface can provide useful information to decision makers and strengthen integrated water management practices. AQUIFER has implemented products and services based on satellite data, such as land-use and land-cover maps, change maps, surface water extent and dynamics, digital terrain models, and derived information relating to water consumption for irrigation, subsidence, basin wide water and vegetation monitoring, and water balance. Commenting on the project, Mr. Espen Volden, Technical Officer, ESA, said: "Cooperative management of internationally shared aquifers aims at ensuring the sustainable provision of water to the population and avoiding international conflicts. The AQUIFER project has taken a large step towards making

Earth observation from space an effective support tool for such cooperative management. We see the launch of the follow-up project, Geo-Aquifer, as a measure of success of the work of the AQUIFER project consortium. It also demonstrates the effective partnership established with OSS and the national agencies in charge of water resources management."

Mr. Yvan Kedaj, Monitoring and Evaluation Specialist, AWF, added: "I really appreciate the appropriation by the countries of the tools and methodologies demonstrated by the ESA AQUIFER project. Countries asked AWF through the OSS, initially as coordinating and executing agency, and now as secretariat of the consultation mechanism, for a continuation of national capacity building using the tools and methodologies developed through AQUIFER".

AQUIFER will finish its work with a final workshop in Tunis at the beginning of September 2007. To obtain more information, please contact: Dr. Stefan Saradeth, GAF AG, Tel. +49 (0) 89 12 15 28 0, e-mail: [Aquifer@gaf.de](mailto:Aquifer@gaf.de) or visit <http://www2.gaf.de/aquifer>.