



2.5 Data Handling - Data Visualisation

2.5.1 ADES: A French National Groundwater Database

A national reference for groundwater resources
A freely accessible tool for water management!

L. Chery¹⁴⁶, H. Legrand¹⁴⁷

ADES is the national French data base on groundwater resources quantity and quality with the following specific objectives:

- to provide a tool for collecting and storing information on groundwater resources,
- to be used by a large community of partner organisations,
- to allow to follow the temporal evolution of the “patrimonial state” of the resources in the aim to facilitate decision making in the field of water policies.
- to implement, at national scale, the principle of transparency and of accessibility to information on groundwater according to Aarhus Convention requirements

The use of the data base is free to all public and data consultation and extraction is available via a GIS interface on the web site <http://ades.eaufrance.fr>, since 2002. Today, ADES contains more than 8 millions of chemical analysis and nearly 4.5 millions of piezometric levels.

ADES as water management tool corresponds to the needs of water management on local scale and to the priorities specified in the European Water Framework Directive: monitoring of the water status for groundwater resources, implementation and evaluation of water management plans.

The data base provides information on the geometry and density of the groundwater monitoring network and on the measuring stations and it gives access to the quantitative (piezometric level) and qualitative (chemical parameters) status of the groundwater bodies. Regularly updated information is available on different spatial levels (on measuring point level, monitoring network level, aquifer level, river basin level) and for the administrative units "district" and "region". ADES greatly facilitates the establishment of monthly and annual statistics, of graphs and maps. It further allows to perform personalised queries and to access related data bases.

It privileges the uses of common data formats and standardised software by both data producers and end users. It allows installation of a local module ("Molosse"), a

¹⁴⁶ BRGM, Water Division, 3 av. C. Guillemin, BP 6009, 45060 Orléans Cedex 2, France ; email: l.chery@brgm.fr

¹⁴⁷ MEDD Ministry of the Environment 20 Av. de Ségur 75302 PARIS 07 SP; email: Helene.LEGRAND@ecologie.gouv.fr



reduced version of ADES, that is designed for off-line storage and treatment of individual producer's data (as well as of those produced by others) and for data update and transfer to the central ADES base. Particular problems can be solved with specific modules provided together with ADES: The "Piez'eau" software package for the processing of piezometric data, and, the "SEQ-eau" tool (groundwater quality assessment system). Training courses for the users of the modules associated with ADES are proposed to the partner organisations.

The traceability of the data from the data producer to the final user, in conformity with the guidelines of the The French Data Reference Center for Water (SANDRE), guarantees a high level of confidence for the data contained in the data base (data source, nature of the network, the level of validity of the data...).

The ADES base is part of the SIE (French Information System for Water). It is designed to evolve, thanks to an implication of a network of partners, towards a precious communication tool that facilitates the data flow and is profitable for a large public that will have free access to water related information.

ADES combines quantitative and qualitative data from numerous networks:

- The monitoring networks designed to fulfil the WFD requirements (quantitative and chemical status)
- The SISE-EAUX base of the Ministry of Health, fed by data from the sanitary control of groundwater used for drinking water supply by the Directions of Sanitary and Social Affairs on a district level.
- the networks of local or regional authorities and other public organisms
- private (industrial) networks

The ADES data base on groundwater resources is the result of common efforts between the Ministry of Ecology and Sustainable Development, the Ministry of Employment, Solidarity and Health, the six water agencies. The data base is developed and managed by the BRGM (French Geological Survey).

Exploitation of these data will provide basic input to final users for all types of hydrological investigations related to the inventory, planning, and sustainable management of French water resources.