

ADES : A French national groundwater database

A national reference for groundwater resources

A freely accessible tool for water management

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Abstract: ADES is the French national groundwater database which provides on a web site all of the quantitative and qualitative public data on groundwaters.

The main objectives are to set up a public data storage tool, to gather all of the available data on groundwater and to make statistical proceedings and mapping easy to produce. Today, ADES contains more than 5 millions of chemical analysis and nearly 4 millions of piezometric levels.

These data are expected to provide information and basic input to hydrological relating to resources inventory, management and planning of the water resource.

ADES is a chartered tool for the implementation of the Water Framework Directive.

Key words: groundwater – database – France – Water Framework Directive.

ADES is the national databank, which collates quantitative and qualitative groundwater data on a public web site. These information cover water networks, measurement points, results of quantitative (piezométric levels) and qualitative measurements (concentrations in waters with different parameters). It is designed to become a communication tool that will facilitate data interchange and generalized availability of information.

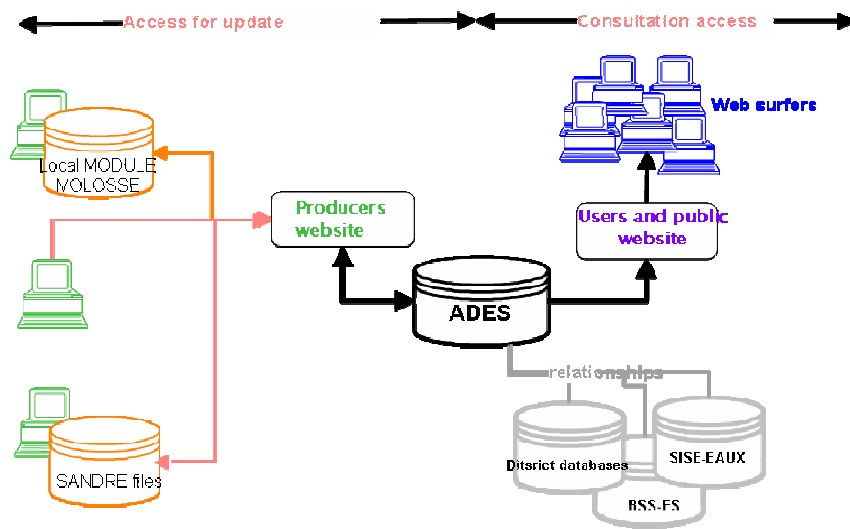


Figure 1. General conception of the system

The two-fold purpose of this databank is to be used as a tool for gathering and storing information on groundwater, , as well as a national one-stop shop to access to information on groundwater.

It can be used to assess chemical and quantitative status of aquifers under the groundwater policy and to adopt a principle of transparency and accessibility to groundwater data at national level. It is thus a key instrument for addressing the implications of local groundwater management and those of the European Water Framework Directive. It also follows the Aarhus Convention requirements on access to environmental information.

The data bank is designed to meet data acquisition, control, management and dissemination requirements. It collates and stores a large amount of quantitative and qualitative data on groundwater and can be used to provide periodical statistics, geographic and mapping

representations and is linked to other data dissemination sites. By using generic software, it facilitates data interchange between partners. The data thus made available are guaranteed through monitoring of their traceability from producers to end users. From the data producer to the final user, the data traceability is thus guaranteed.

The data traceability follows the guidelines of the National Secretariat of Water related Data (SANDRE), guarantees a high level of confidence for the data contained in the data base : Information is given on the data source, the nature of the network, the level of validity of the data...

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 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, in a near future, the "SEQ-eau" tool (system of evaluation of groundwater quality). Training courses for the users of the modules associated with ADES are proposed to the partner organisations.

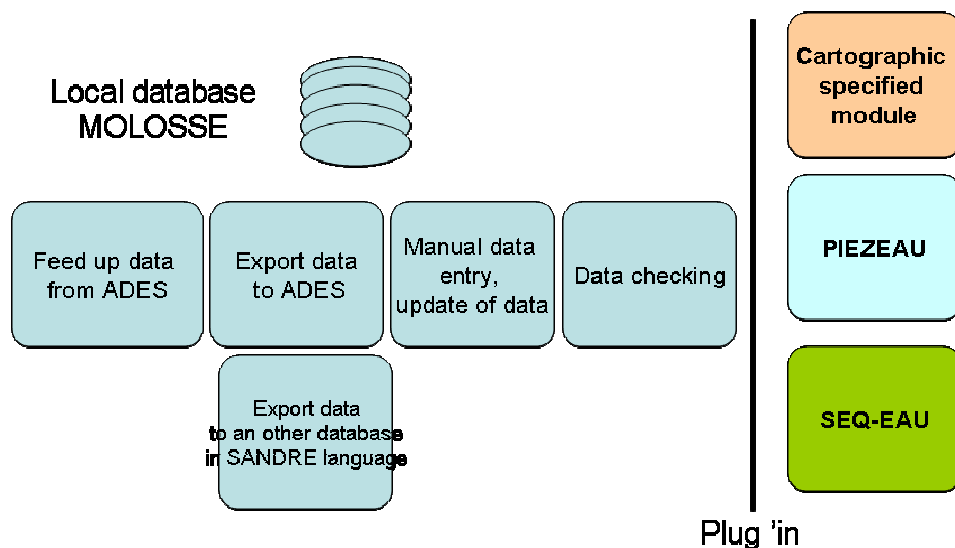


Figure 2. Main ADES's tools.

Following figures presents example of Molosse's interface.

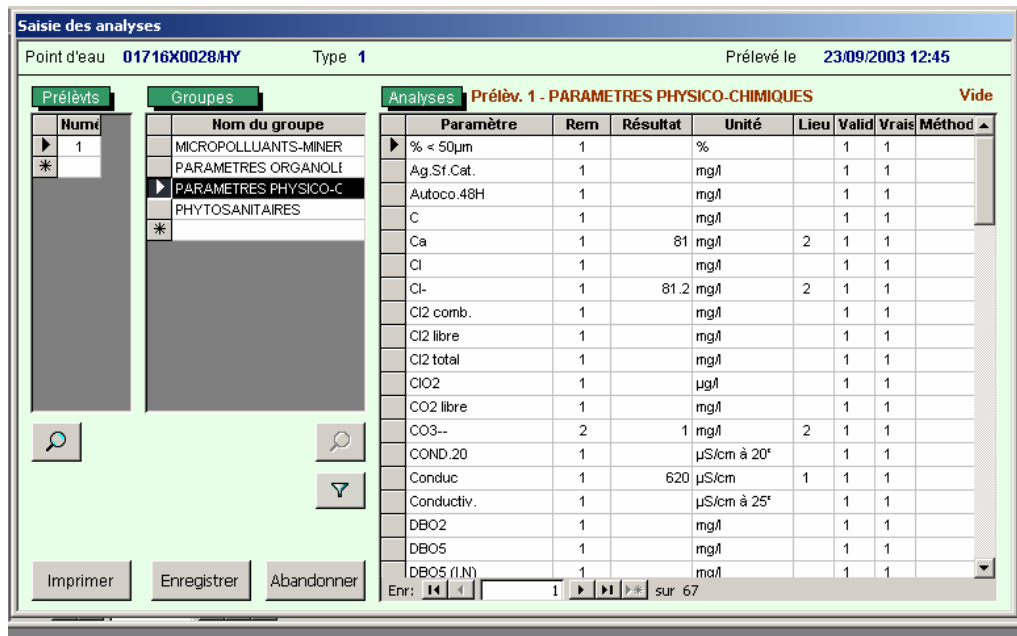
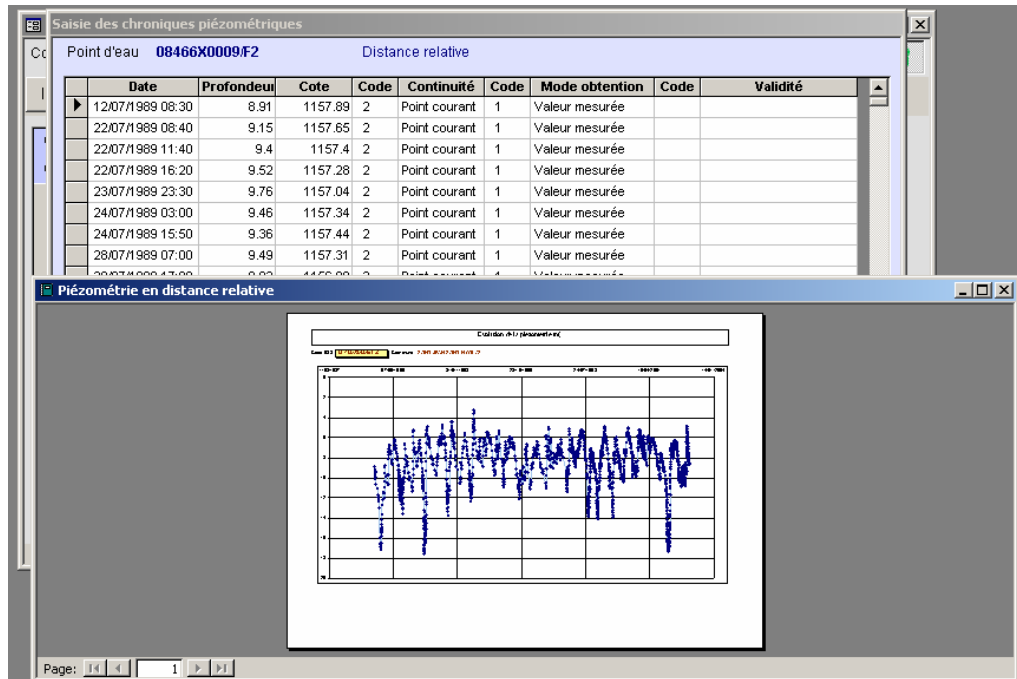


Figure 3. Example of data entry forms in Molosse.

This open access tool (since 2003) will be available free of charge via the Internet from : <http://ades.rnde.tm.fr>

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 ADES data base on groundwater resources is the result of common efforts of the Ministry of Ecology and Sustainable Development, the Ministry of Employment, Solidarity and Health, the Water Agencies, the DIREN, the local authorities. The data base is developed and maintained by the BRGM.

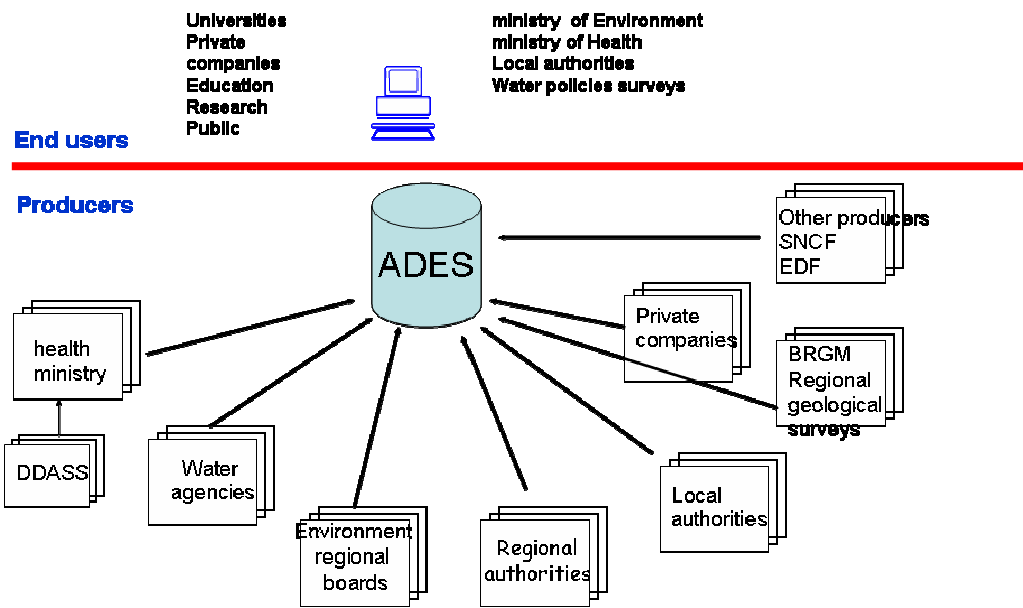


Figure 4. Short presentation of the ADES's partners.

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

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