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# SIXTH WATER INFORMATION SUMMIT: BREAKING THE BARRIERS LET WATER INFORMATION FLOW!

WATERWEB CONSORTIUM AND IRC INTERNATIONAL WATER AND SANITATION CENTRE  
SEPTEMBER 9-12 DELFT, THE NETHERLANDS

2003

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## "EAUDOC: YOUR INTERNATIONAL MEMORY FOR WATER"

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**ABSTRACT:** With more than 180,000 references, this department is one of the best specialized documentation centres over the world. Three hundred and eighty specialised international periodicals and 1,500 books are indexed each year, i.e. about 5,000 new references per year (daily updated). These references are analysed and commented by professionals. That constitutes an important capital gain for the pertinence of documents selection. The covered topics are science and technology, economy, regulation, R&D, administration and Fontaine (the documentary database of the French Water Agencies). Search is available in 3 languages: French, English and Spanish. The new means for documentary information retrieval, scanning and services (such as alert tool, press review, electronic contents journals, news and events, syntheses...) are used. This puts the centre at the leading edge of technology in this field and "on-line" access is possible by telecommunication networks (Internet, ISDN, etc.). Tailored documentary research and syntheses can be made on request to meet subscribers' requirements. EAUDOC (<http://eaudoc.oieau.fr>) aims also at disseminating the results of the French studies and research that are outside any commercial channel of publication.

International Office of Water (IOW) through IOW's Scientific and Technical Council (C.S.T.), which brings together more than 120 public and private organizations that are specialized in this sector, is an outstanding "focal point" to exchange information and perspectives between its members as well as to establish new European or international cooperation agreements.

## INTRODUCTION

The International Office of Water (IOW) is a non-profit-making Association under the French Law of July 1, 1901 and approved by state Decree on September 13, 1991. IOW continues the work of the Association Française des Etudes pour l'Eau (AFEE) (French Association for Water Studies) created in the early 1960s. IOW's Documentation and Data Department is located in Limoges.

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IOW's objective is to bring together public and private partners involved in water resources management and protection in France, Europe and in the world (bi- and multi-lateral organizations, ministries, water agencies, local communities, universities, engineering schools, research centers, land development companies, water suppliers and professionals, industrialists, professional associations, and non governmental organizations) in order to set up a real partners' network. The network presently includes 149 member organizations.

The aims of the Association is to implement activities related to the water sector, in order to:

- facilitate exchanges between the various decision-makers, designers, managers, industrialists, trainers, researchers, users concerned, to better solve together their problems, to coordinate their actions, and disseminate information.
- gather know-how and develop partnerships between public and private organizations and lead projects and programmes of common and shared interest to better meet the requirements and needs by using the numerous and more and more complex know-hows of the "International Water Community".

It shall carry out its missions:

- within a cooperation agreement with DEVELOPING COUNTRIES
- within an EUROPEAN approach on water resources and environmental management
- in FRANCE to reinforce and reduce the number of actions carried out by public and private operators of the water sector

The six main missions of the International Office of Water are:

1. To disseminate reliable information adapted to the need of its various partners,
2. To gather, analyse and give access to a scientific, technical, economic and institutional documentation on the various water fields, to ensure a technical follow up to continuously update in real-time and spread out information on European legislation and standards.
3. To train professionals in the various water techniques to adapt them to the new jobs, qualifications and functions induced by technological progress and also to the different local, regional, and national backgrounds.
4. To allow for the professional communities and users to express their priorities on the studies and research to be carried out, to participate in the study programmes launched by the Administration, to develop their knowledge and spread out the results to the users concerned, to carry out studies and experiments to complete those made by specialized research and training organizations.
5. To be involved in programmes, dealing with data management and synthesis on water quality, pollution control, water resources, water environmental protection, initiated, in particular, by the French Institute of Environment and the European Environmental

Agency,

6. To develop capacity building and assessment in these fields.

## EAUDOC : THE WATER PORTAL

International Office for Water Documentation is responsible for building, reinforcing and implementing the National Service of Information and Documentation on Water (Service National d'Information et de Documentation sur l'Eau - SNIDE). IOW developed a water portal of information and documentation called EAUDOC to carry out these responsibilities.

Available on the web at : <http://eaudoc.oieau.fr/sie>, this portal is the best specialized documentation centre over the world. The holdings contain more than 180,000 references, all on the web site.

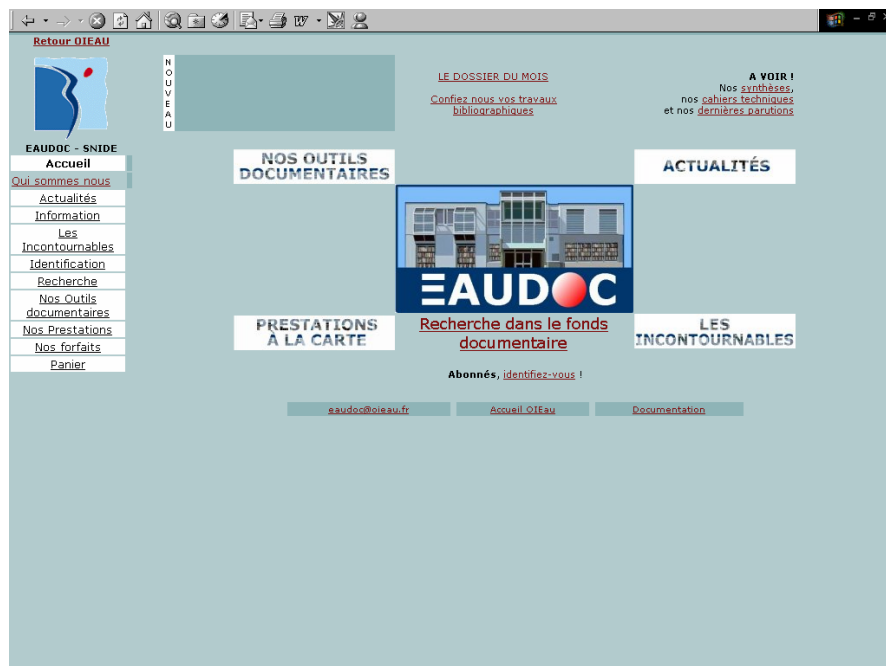


Figure 1. Eaudoc home page

### *Documentary databases*

There are 5 documentary databases according to the concerned themes:

- Techn'Eaudoc : international scientific and technical references (articles, theses, books...)
- Juri'Eaudoc : legal texts on water in France and the European Union, comments and jurisprudence
- R&D'Eaudoc : water-related studies and research in France and Europe

- Eco'Eaudoc: references on the field of water economy
- Adminstr'Eaudoc: administrative references on institutional management and organization of the water world
- Fontaine: the bibliographical base produced by the French Water Agencies and Water Directorate of the Ministry of Ecology and Sustainable Development.

*A network*

The SNIDE subscribes to 380 specialised international periodicals. These journals are examined in the SNIDE and the selected references are first introduced in the bases and digitized, if they are on paper, for an optimal availability and archiving. The electronic document is attached to the notice.

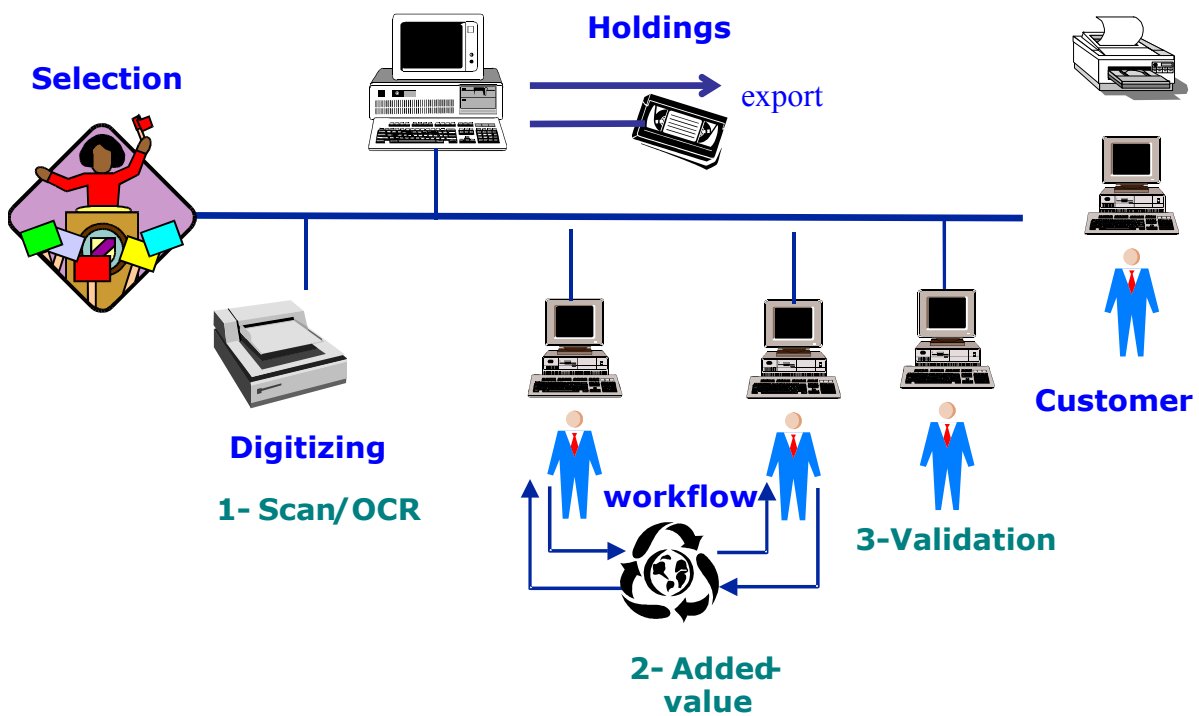


Figure 2. Workflow process.

A network of scientist correspondents, water professionals and legal experts, is part of a workflow process. They analyse the reference, write a brief about it, and add the keywords to consider for the indexing and the search.

*A guarantee of pertinence and exhaustiveness*

The references are subjected to review by the IOW before to be integrated in Eaudoc. Moreover, the analyse made by professionals is a first level comment on the reference and is essential and

represents an undeniable added value contribution to improving the relevance of the indexing and of the search for the users.

In order to help the users appreciate the content of the document, the analysis specifies the targeted public for the document (from all people to specialized). The analysis also allows the reviewers to point out, when necessary, the innovating aspect or the technical significance of this reference.

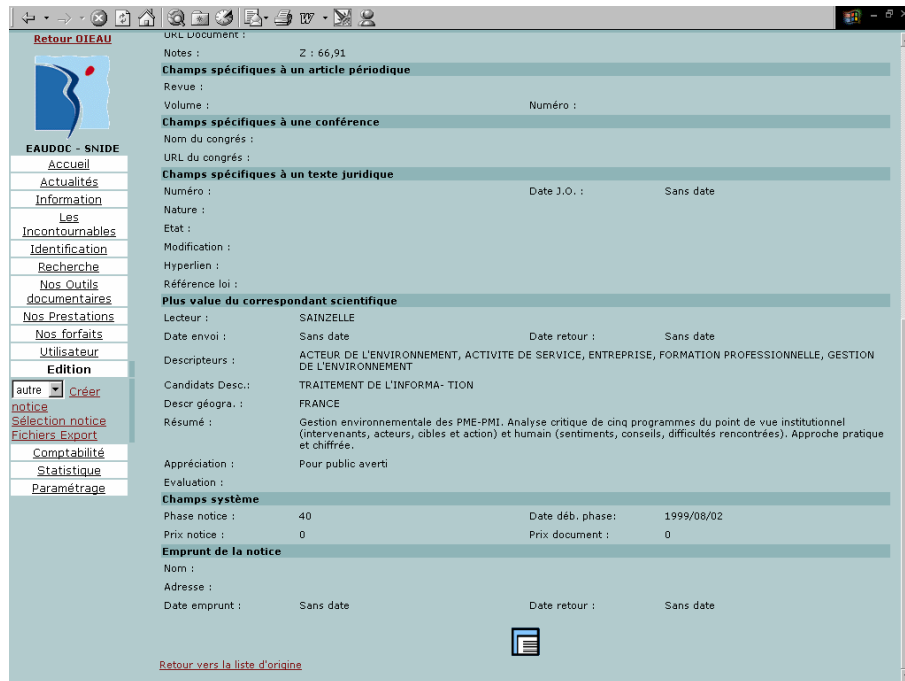


Figure 3 . a bibliographical note – added value of the expert

Nearly 4 000 articles and 1,500 books in water field are indexed each year, i.e. about 5,000 new references per year (daily updated). They are immediately available on line after an internal validation in the IOW.

The IOW is also associated with several other institutions, editing documents, such as CEMAGREF, INIST, IFEN, in order to incorporate in EAUDOC their most pertinent references in the water framework.

## The architecture

Information technology and documentation: contradiction between communication and production

The documentary data have been available in electronic form since 1970 but with the « heavy systems » outside of IOW. The logic of referencing was implemented on an external server and telematics (Prodigy). A classical documentation software was used for internal production, and early numerization with another software. In 1996, our databases first appeared on the Web using a proprietary application; the external server was conserved as internal production tools

## The computing approach

Three main axes have been considered for the definition of the architecture of the computer system:

- Rationalization
  - classical software is considered as non competitive and old-fashioned
  - an approach from external conservation to internal logics
  - all on web: a risky and audacious approach
- More professionalism
  - a project manager was chosen to build a proprietary application
  - documentation engineering or engineering in informatics?
  - to balance between respect of normalization and users willingness
- Economy
  - of time: delays in treatment cut; workflow
  - of energy: electronic deliveries, transfers, mails which avoid heavy tasks of postal mailing with a strong warranty of tracability
- Technical option

Information fast exchanges between different producers and/or partners added to the necessary visibility ensured by web involved us in a choice based on a technical solution standard, universal and open.

**SNIDE** former databases were converted into Oracle with a fusion between bibliographical reference and its attached document (pdf); Web edition is made with XML standard generated by the search engine Verity. Searches (simple or advanced) can be made in French, English or Spanish. The Verity search engine will find in the water thesaurus the corresponding words in the other languages. It also will search in the water thesaurus the other words associated with the key words entered, except when the search is a strict one (between inverted commas or single quotes). Verity also lemmatises the words. For example: for the word “consume,” VERITY also finds the notices with the words “consumer,” “consumption” and so on except when the keywords are enclosed in single quotes.

The search engine will scan all the notices and documents in order to identify these keywords and propose the available documents answering to the request with the level of relevance (a function of the occurrence of the key words).

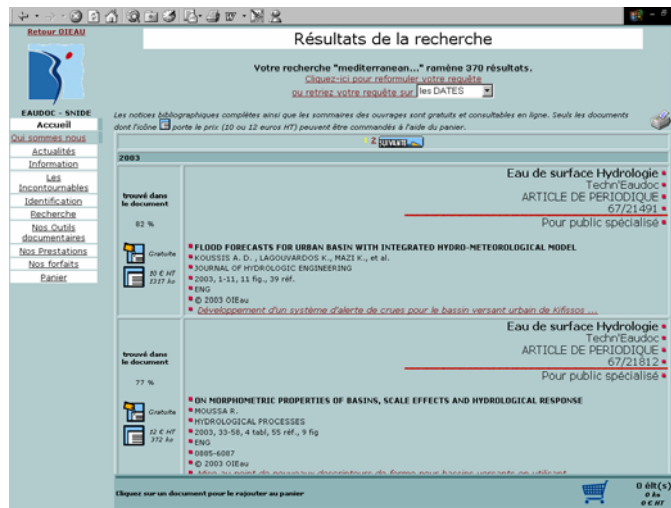


Figure 4 : search results page

Web technology ensure valorisation in real time. A multilingual water thesaurus has been implemented within the search engine to respect the water semantical environment. This thesaurus is yearly up dated in order to follow the evolution of terminology in the water sciences and related fields.

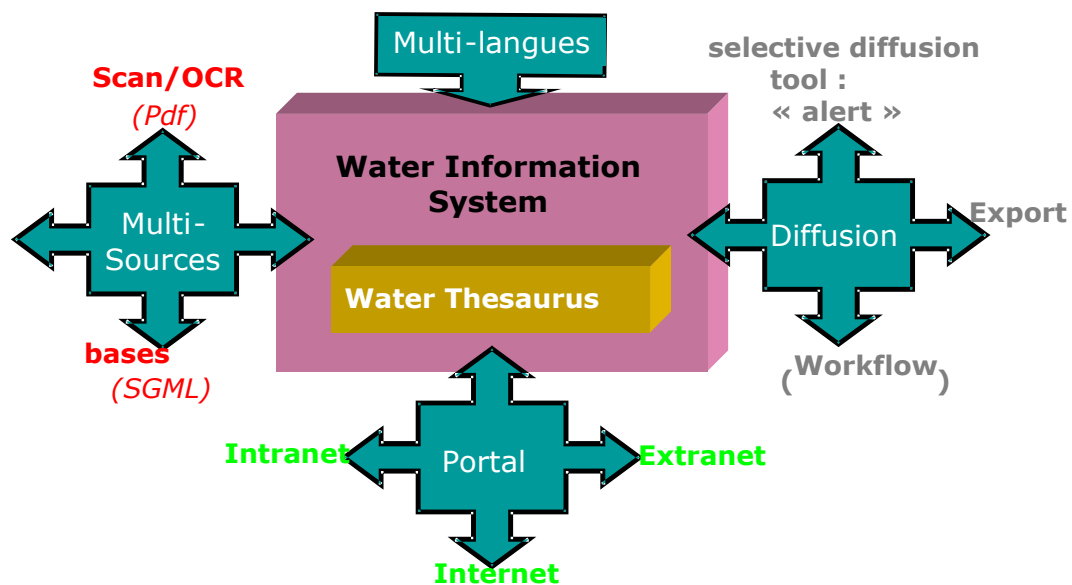


Figure 5 : organisation of the system

For the integration in Eaudoc of references from our partners who have other data bases forms, some computing developments have been necessary in order to make compatible different types of notices and automate the integration in our system.

In March 2000, EAUDOC was officially opened on the web : <http://eaudoc.oieau.fr/sie>

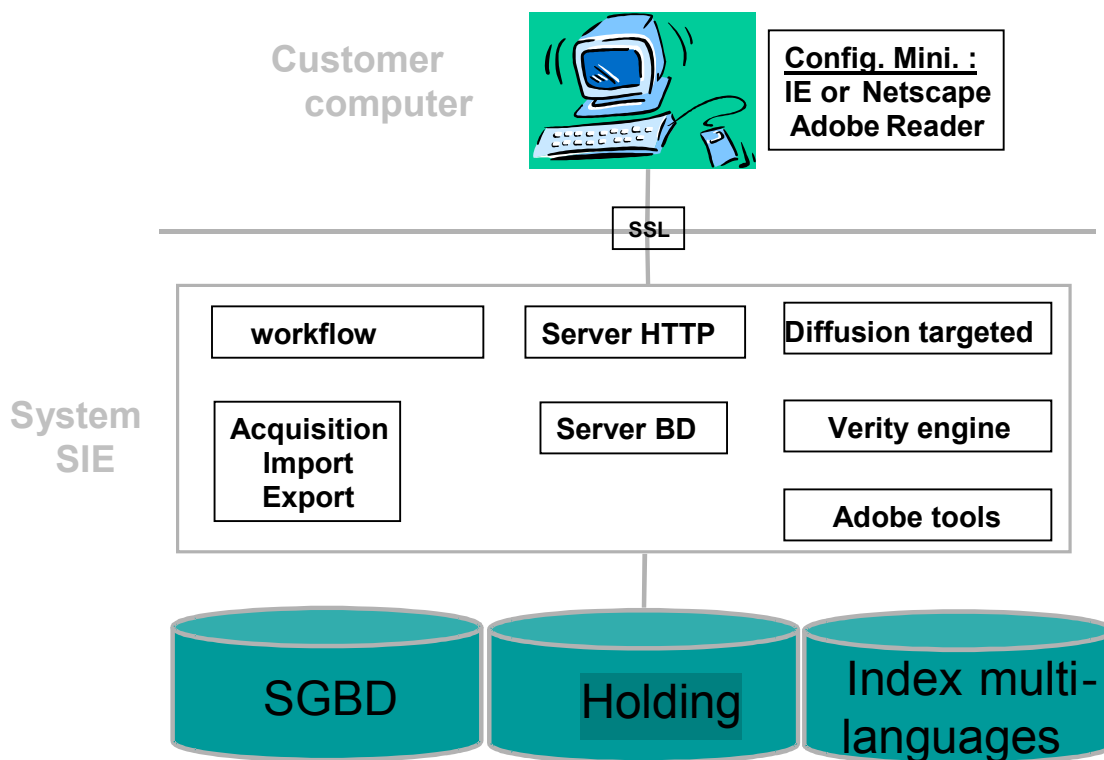


Figure 6 . Architecture of Eaudoc

An essential source of information on water

To meet the needs of users, EAUDOC is not only a bibliographical database but also a real portal of documentation and information on the water field. Actually, water professionals, the targeted public of our site, requested centralised access to all information likely to be interesting to them. So, a diary of news and events, in water field in France and abroad (seminars, exhibitions, etc.) is available in line. The dates, subject and place of the event are given with a link to the official web site, if any. The latest tables of contents of 60 international reference periodicals also are presented to our customers. This tool allows the user to consult articles even if they have not been selected to be integrated in EAUDOC.

A daily electronic press review is prepared by our department every morning on important French national and regional titles. Bibliographic syntheses and technical publications, current states of the art reviews about a particular subject, are edited by the IOW and deal with 16 different themes:

- Agriculture
- Environment examination
- Microbiology and toxicology

- Industry
- Water quality management
- Waste and sludge
- Treatment technology
- Regulation aspects
- Water utility management
- Water resources and ecosystems management
- Water systems arrangement
- Health
- Water policy , sociology and economy
- Water works management
- Pollution and pollutants
- Networks

An alert system allows surveys to be made on a precise subject: the computing system automatically produces an alert and sends it to the user's e-mail according to his keyword profile that is defined with the help of our documentalists.

The documentation department also subscribes to several important servers of bibliographical data such as Dialog. The documentary engineers' team create targeted studies and documentary works upon specific request.

Conclusion - A return of experience

EAUDOC services answer a demand of users and propose a centralised access to information dealing with water field respecting copyrights. An extract of these databases is used in the framework of the EMWIS French focal point (Euro-Mediterranean Information System on Know-How in the Water Sector) according to the specificity of EMWIS: the Euro-Mediterranean area.