INTERNATIONAL NEWS

Capacity building for better water management

International Office for Water

N° 25 - English version - February 2015

7th World Water Forum

7th World Water Forum
(12-17 April 2015)

Let's get mobilized!

The next World Water Forum will take place in Daegu and Gyeongju, from 13 to 17 April 2015.

We hope that you are planning to participate in this major event for the entire world water community. If it is the case, thank you for letting us know and tell us if you wish to take part and present your experience in many sessions, the list of which you will find on the Web.

Thematic and regional sessions on basin management

These sessions will be held in English and Korean.

The International Network of Basin Organizations (INBO) and **the International Office for Water** in charge of its secretariat, jointly with **OECD, UNESCO, UNECE,** and the other interested partner organizations, is particularly involved in the Forum themes dealing with:

- **Adaptation to the effects of climate change in basins,**
- **Integrated basin management,**
- **Basin governance,**
- **Cooperation to reduce conflicts and improve transboundary water management,**
- **Training the staffs of basin organizations and their partners, as well as in several regional processes.**

The International Office for Water will also very actively participate in various Forum Processes dealing with vocational training on water.

The Thematic Process Commission of the Forum has selected **INWTC (International Network of Water Training Centers) and INBO (International Network of Basin Organizations),** of which **IOWater** takes care of the World Secretariats, to respectively coordinate the preparation of themes 4.3 on transboundary cooperation and 4.5 on capacity building and training.

IOWater will also intervene with **UNESCO** and **INBO** on theme 4.2 on Water Governance, directed by **OECD.**

2nd Stakeholders' meeting
27 and 28 February 2014 - Gyeongju - South Korea

The French Water Partnership (FWP) is coordinating the European Regional Process of the Forum, together with the "Danish Water Forum", IOWater and DHI.

On the occasion of a preparatory meeting organized on 19 May in Brussels, the European partners chose the six priority themes:

1. **The European Directives and the "Blue Print";**
2. **The management of European transboundary rivers;**
3. **European tools for adaptation to climate change;**
4. **Urban water management;**
5. **Water efficiency;**
6. **European science and technology**

Coordination meetings between the major contributors, such as the one organized on 24 October in Marseilles, help to ensure the smooth running of the entire preparatory process of the Forum.

They also help to provide the important preparation steps such as the Political Process Committee meeting which took place on 17 and 18 December in Paris.

The thematic process addresses sixteen priority issues shared by the whole world.

There is, of course, adaptation to climate change, the central concern in line with the Paris Climate Conference 2015 (COP21).

It also includes the persistent problems of access to water and sanitation for all, as well as the principles and tools of water governance: joint management in basins, including the transboundary ones, Integrated Water Resources Management, water-energy-food nexus, green growth and capacity building regarding the funding and strengthening of Water Training Centers.

www.worldwaterforum7.org
www.inbo-news.org
www.inwtc.org

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Coordination meeting
24 October 2014 - Marseilles - France

OECD

Water Governance Initiative

The Water Governance Initiative (WGI), coordinated by OECD, follows the commitments made during the 6th World Water Forum held in Marseilles in 2012.

The goal of the initiative is to firmly establish good water governance principles, based on the experience gained by institutions and countries worldwide and proposals from four working groups established in March 2013.

INBO, IOWater and UNESCO facilitate Working Group 3 on water governance in basins of national and transboundary rivers, lakes and aquifers.

This work in the basins will lead to the proposal for rules of good water governance along the following lines:

- **Legislative and institutional frameworks,** such as treaties, regional agreements, regulations, management plans and any other legal provision for a balanced use of resources and soils;

3rd Plenary Meeting of the Initiative - 28-29 April 2014 - Madrid - Spain

- **Strengthening and establishment of national or transboundary river, lake and aquifer basin organizations,** capable of achieving sustainable water resources management;
- **Development of analyses or assessments,** allowing the orientation of decision making;
- **Establishment of a set of governance indicators at the level of basins.**

This work will be presented at the next World Water Forum during the sessions planned on the theme "Effective Governance (4.2.)", and more particularly during the session 4.2.3 on **"strengthening basin governance to manage water resources on different scales".**

www.oecd.org

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UNECE

Adaptation to climate change in basins

UNECE meetings - 9-10 April 2014
Geneva - Switzerland

UNECE and INBO have joined forces to materialize one of the commitments made during the last World Water Forum in Marseilles on adaptation to climate change on the basin scale.

For over two years, they have worked on the subject with a score of basin organizations worldwide and a dozen international partners.

A network of basin organizations working on adaptation to climate change was established both to exchange good practices, collect the first lessons learned from undertaken actions and disseminate them.

This group is also developing a **"Collection of good practices** and lessons learned on water and adaptation to climate change in transboundary basins of rivers, lakes and aquifers".

As for the two previous handbooks edited by INBO and its partners in 2009 and 2012, this publication will be based on practical experience and know-how acquired in basins worldwide.

This publication will complete the "Guidance on water and adaptation to climate change" drafted by UNECE in 2009.

Initially prepared in English and French, this publication will be presented at the 7th World Water Forum in Daegu in April 2015.

www.unece.org

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3rd International Water Forum of Istanbul

Water security and regulatory frameworks

This third International Water Forum of Istanbul, which was held from 27 to 29 May 2014, contributed to the next 7th World Forum of Daegu by focusing its discussions on two main themes: water security and regulatory frameworks for water management.

During thematic sessions, water/food security/energy/environment nexus, adaptation to climate change, development of international cooperation in transboundary basins, right of access to water and sanitation, improved regulations to ensure effective protection of resources, were extensively discussed.

Mr. Jean-François Donzier, **INBO** Permanent Technical Secretary and **IOWater** General Manager, took an active part in the discussions on water security and sustainable development objectives and chaired a session on the legal frameworks for water resources management.

INBO also participated in the presentation of the OECD Water Governance Initiative.

The International Office for Water, meanwhile, participated in two side events:

- **"AquaForMed": the Mediterranean Network of Water Training Centers;**
- **The Regional Preparatory Process for Europe of the World Water Forum 2015 in Daegu,** co-organized by the Danish Water Forum and the French Water Partnership, with the support of **IOWater** and DHI.

www.iusf.org.tr

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ISTANBUL INTERNATIONAL WATER FORUM

International River Symposium: 17th Edition

For better management of great rivers

The 17th River Symposium was held in Canberra, Australia, from 15 to 18 September 2014 in the Murray-Darling River Basin.

This basin, which received a large part of the 13 billion dollars committed since 2007 by the Australian Government to the water reform, served as a background to the discussions under the general theme of "Large River Basins".

The International River Symposium is supported by **the Global Partnership for the Promotion of Integrated River Basin Management,** which includes the International River Foundation, the Nature Conservancy, the World Wide Fund for Nature (WWF), **the International Network of Basin Organizations,** the Global Environment Fund, the International Union for Conservation of Nature, the International Commission for the Protection of the Danube and the Great Rivers Partnership.

The symposium is a true international platform for sharing knowledge and innovative ideas on all aspects of river management around the world. It intends to be a "think-tank" bringing out the best practices.

Mr. Jean-François Donzier, General Manager of **the International Office for Water** and Secretary of **the International Network of Basin Organizations,** was invited to present the final conclusions of the Symposium.

The 2014 "International River Prize" was awarded to the Commission for the Protection of the Rhine.

INTERNATIONAL RIVERSYMPOSIUM www.riversymposium.com

INTERNATIONAL RiverFoundation

www.riversymposium.com

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First International Environment Forum for Basin Organizations

26 - 28 November 2014 - Nairobi - Kenya


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Key stakeholders in the management of basins from all around the globe gathered in Nairobi, Kenya from 26 to 28 November 2014, for **the 1st International Environment Forum for Basin Organizations.**

This 1st International Forum was co-convened by the United Nations Environment Program (UNEP) and the International Network of Basin Organizations (INBO).

The primary objective was to strengthen basin organizations as key building blocks for effective water environmental governance.

During a Technical Segment, on 26 and 27 November, participants shared their perspectives and presented their experience related to four main themes:

- Water Quality and Ecosystem Health;
- Water-Energy-Food Nexus and Adaptation to Climate Change;
- Environmental Laws and Regulations;
- Institutional Challenges.

A High-Level Segment took place on 28 November 2014, during which representatives of the countries and basin organizations deliberated on the way forward based on the conclusions of the Technical Segment.

Participants underscored the importance of sustainable freshwater governance under **the UN post-2015 Sustainable Development Goals,** in light of the current worrying state of the global resources.

They highlighted that basin management has taken a positive development in many countries and that there are many experiences worldwide which show that integrated and sound water resources management organized at the basin level is essential today.

They stressed that sustainable basin management needs ambitious and long-term commitments from Governments, regional, national and local stakeholders, as well as the international community, to deal with the great many environmental economic and social challenges ahead:

- Basin organizations are custodians of vital resources for humanity.
- The protection and the restoration of freshwater ecosystems for security should be prioritized.
- Establishing or strengthening capacities to assess and monitor freshwater resources and related ecosystems is essential.
- Cooperation between all relevant stakeholders, at the international, regional, national and local levels, and riparian countries needs to be reinforced.

Strengthening Basin Organizations

Basin organizations are in a unique position to coordinate the work of riparian countries, international development partners, local authorities, private companies and other stakeholders at the basin level to develop coherent actions for the achievement of shared environmental targets and to promote sustainable use of the world's freshwater.

www.unep.org

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The Handbook on Integrated Management of Transboundary Basins is now available in several languages

This Handbook was published during the World Water Forum in Marseilles in March 2012 by the International Network of Basin Organizations (INBO) and its partners.

It addresses representatives of the Governments of riparian countries of transboundary basins and managers who must make decisions related to the resource sharing and management, and more generally to all water users in the particular context of transboundary waters.

Originally published in French and English, this handbook has been translated into several new languages since its release: Spanish, Russian, Chinese and Arabic, thus contributing to disseminate good practices over the world.

The different versions can be downloaded from INBO website:

www.inbo-news.org

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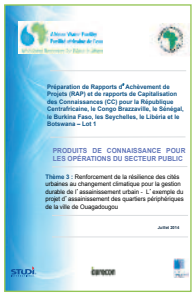
African Development Bank

Project assessment and development of a guide on good practices

Failure of the drainage system during the floods of September 2009 in Ouagadougou

IOWater, Studi International and Aurecon have assessed seven projects funded by the African Water Facility (AWF).



IOWater assessed three projects funded by AWF in Congo, Burkina Faso and Liberia.

In cooperation with AWF, it prepared **a guide of good practices,** based on the example of the sanitation project for the suburbs of Ouagadougou.

This guide shows how the improvement of urban sanitation and its sustainable management help **build its resilience to climate change.**

www.afdb.org

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AWIS

African Water Information System

The information-sharing workshop

The African Water Information and Documentation System (AWIS) regroups partner organizations that gather or produce information on water and its management in the whole of Africa.

It is referencing this information and proposes free access via its web portal.

The dynamics around **AWIS** was revived in March 2014 by **the Organization for the Development of the Senegal River (OMVS),** in partnership with the European Union.

IOWater participated in the workshop on information sharing, which was held in Mbour (Senegal).

IOWater underlined the high added value of **AWIS** based on networking African information producers, on multilingual work in French, English and Portuguese and on the unique portal shared by thousands of users.

For 2 days, **IOWater trained AWIS Focal Points to independently enrich the portal.**

A new workshop in videoconferencing, held on 30 October 2014, helped to consolidate knowledge and methodology.

www.african-wis.org

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SITWA

Collaboration between ANBO, GWP and INBO

The European Commission is funding the project of the African Network of Basin Organizations (ANBO) for "Strengthening Institutions for Transboundary Water resources management in Africa (SITWA)".

Implemented by **the Global Water Partnership (GWP),** the project benefited from a close cooperation from **the International Network of Basin Organizations (INBO)** and **the International Office for Water (IOWater)** for strengthening Water Information Systems in River Basin Organizations, and for supporting **the African Water Information System (AWIS)** managed by **ANBO.**

The Kampala workshop

Two workshops, held in Kigali and Kampala in 2014, saw the participation of basin organizations from all over Africa for the validation of two documents prepared within the new **ANBO Action Plan** and dealing with:

- Planning and IWRM;
- Development of structures by African Basin Organizations.

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AFRICA

Africa Water Forum 2014

Preparation of the 7th World Water Forum

Prior to the 7th World Water Forum, April 2015 in South Korea, **the Africa Water Forum 2014** was held in Ouagadougou from 12 to 14 June 2014, gathering over 650 participants around the question: "**how to facilitate access to water and sanitation services for everyone in Africa?"**

Faced with quick population growth and urbanization (the continent will have nearly 3 billion people by 2050, including 60% of urban people), with the effects of increasing climate disturbance, access to safe drinking water and improved sanitation for everyone in Africa, as well as availability for other water uses, such as irrigation and energy production, are becoming, more than ever, major challenges.

In this event, jointly organized by the Government of Burkina Faso and 2IE in partnership with the African Ministerial Council on Water (AMCOW) and the World Water Council, **IOWater intervened as facilitator on the two following sessions:**

- **Cooperation and development of large hydraulic structures in transboundary basins in Africa;**
- **Pedagogical Innovation for increasing capacity building in the water and sanitation sector?**

www.2ie-edu.org

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Niger Basin Authority (NBA)

Improving flood forecasting and early warning systems

The German International Cooperation Agency for Development (GIZ) is funding the project for supporting the **NBA** in the improvement of flood forecasting and early warning systems.

The Deltares-IOWater-UNESCO IHE Group is responsible for implementing the project, whose overall aim is to reduce the vulnerability to flooding for the people living along the Niger River.

Activities, that are part of this project implementation, are:

- Mapping hazards and flood risks in the areas concerned;
- Developing a flood forecasting model that takes into account the meteorological and hydrological aspects;
- Improving the management of the Niger HYCOS project;
- Supporting the **NBA** in the improvement and development of an early warning system.

Several joint missions were thus carried out at **NBA** head office in Niamey, in order to study the **NBA** current **flood forecasting system** (Forecasting Computer System - SIP) and identify opportunities for development. The first maps and forecasting tests will be made in 2015.

www.abn.ne

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Lake Chad Basin Commission (LCBC)

Water Charter of the Basin

The Lake Chad Basin Commission (LCBC), established in 1964, is mandated to carry out sustainable and fair management of the lake, its tributaries and other shared resources in the basin. It is also in charge of the conservation of ecosystems, of peacekeeping and cross-border security.

The "Lake Chad Conservation project - Contribution to the Lake Development Strategy", funded by the French Global Environment Facility (FFEM) has two components: one related to joint expertise and modeling, implemented by the Institute of Research for Development (IRD), and the other related to the entry into force of the Water Charter and the strengthening of relationships with other **LCBC** Basin Organizations, implemented by **the International Office for Water (IOWater).**

The activities carried out by **IOWater** focus on the preparation of the Annexes to the Charter, the stakeholders' awareness raising for its ratification, but also of the UN Convention of 1997, and the establishment of strategies on the relationships between LCBC and its partners.

Four workshops were organized to inform about the Water Charter and the 1997 Convention, as well as a study tour to Paris of LCBC experts. On this occasion, they attended a debriefing meeting organized by the FFEM.

A workshop will be organized in early 2015 to share experiences and the strengthening of **LCBC** relations with other transboundary basin organizations. **A communication brochure for parliamentarians is being developed to support the ratification of the Water Charter.**

The achievement of this project will allow strengthening the legal and institutional framework of the **LCBC,** to ensure better management of water resources in the basin, and thus improve the well-being of people.

www.cblt.org

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French Development Agency (AFD)

A new partnership with IOWater

The final version of **the "Report on the experience of Transboundary River Basin Organizations - Good Practices and Recommendations",** produced by **IOWater** with **AFD** support, was released in April 2014. It is available **on the IOWater website** in French and English versions.

In the following of this collaboration, a partnership agreement was signed by **AFD** and **IOWater** about various topics of collaboration.

The activities carried out in 2014 as part of this partnership are:

- **Support to the river basin organizations** of the Senegal (OMVS), Niger (NBA), Congo (CICOS), Volta (VBA), Chad (LCBC) and Mekong (MRC), to the Water Resources Coordination Center (WRCC) of the Economic Community of West African States (ECOWAS) and to the African Network of Basin Organizations (ANBO);
- **Facilitation of a working group for the hydrological monitoring of major transboundary basins;** capitalization of training materials and prefiguration of a sustainable funding model for WHYCOS projects;
- **Establishment of a working group on satellite altimetry applied to hydrology.**

As part of this activity, a first meeting of the Working Group was held at the IRD Montpellier in November 2014 at the invitation of **IOWater** and under the aegis of AFD, with CNES, IRD, IRSTEA, BRL and CNR.

This is a first meeting bringing together the worlds of space, hydrology and water resources management. ✔

Burkina Faso

Mouhoun Water Agency


The Mouhoun River

The Mouhoun Basin was selected to be the pilot basin for the establishment of a new Water Policy in Burkina Faso

IOWater is implementing a program which started in 2013 for a 2-year duration. It aims to support the Burkinabe Authorities in their approach to IWRM, through the development of methodologies and tools for knowledge and good water resources management in the Mouhoun Basin, **under the partnership between the Mouhoun Water Agency (AEM) and the French Adour-Garonne and Seine-Normandy Water Agencies.**

A first mission on the topics of planning and governance took place in Burkina Faso in March 2014.

It was the opportunity to help in **the drafting of the Master Plan for Water Development and Management (SDAGE) of the Mouhoun,** which was finally adopted in July 2014.

The French partners received a high-level delegation of AEM and the Ministry of Water and Hydraulic Structures to show concretely and through case studies the French "Water Police" practices.

Finally, in the context of **the gradual establishment of the "Financial Contribution to Water" adopted in Burkina Faso in 2009**, a fact-finding mission took place early 2015 in Dédougou, AEM home office, to work on the recovery of this tax on water withdrawals in the basin.

Knowledge and characterization of users being a prerequisite, capacity building in data management has also been proposed.

The Mouhoun Water Agency has now a "SDAGE" (Basin Management Plan), the first one in Burkina.

Cooperation efforts are now focusing on the implementation of **a Program of Measures to achieve the selected objectives.** ✔

Integrated management of the Nakanbé in Burkina and the White Volta in Ghana

IOWater is coordinating the project for support to the Nakanbé Water Agency (AEN), initiated in 2011 with the help of the French Loire-Brittany Water Agency (AELB).

As a first phase of this partnership had been successful, the second phase was launched in 2014 and started with the reception of a delegation of three **"AEN"** members in France.

For 10 days, these experts in planning, funding and water quality monitoring have been able to "immerse themselves" in the **"AELB",** with regard to the implementation of the "SDAGE" (Basin Management Plan), water treatment and protection of the resource.

A documentary film about the role of elected officials in resources management in the Nakanbé Basin was also made in Burkina Faso and will be screened at the 7th World Water Forum in Korea.

The process of establishing the Nakanbé Basin Management Plan is underway: one of the challenges for 2015 is to support **"AEN"** in this process and help it to prepare its implementation.

As the **"White Volta"** is a transboundary river, **a link was established with the Water Resources Commission in Ghana and more specifically with the White Volta Basin Board,** which covers the lower Nakanbé River Basin. A mission of **"AELB"** and **IOWater** took place in Accra in May 2014 to share planning and financing issues with the Ghanaian partners, in partnership with the **Volta Basin Authority.** ✔

AFRICA

Water Facility of the European Union

The project for support to CICOS is ending

Started in early 2012, the project for support to water resources management in the Congo River Basin, which receives funding from the European Union and the Rhine-Meuse Water Agency (AERM) is ending this year.

For three years, **training courses on operational hydrology** have been organized for the National Hydrological Services of the countries of **the International Congo-Ubangi-Sangha Basin Commission (CICOS),** and support given for the establishment of **a Masterplan for Water Development and Management (SDAGE)** through a participatory approach.

Several activities were organized in 2014, especially exchanges about the "SDAGE's" objectives and their appropriation by Non-State stakeholders, with the support of Solidarity-Water Europe and "Eau Vive".

The **CICOS** representatives were also invited by AERM to take part in the Rhine-Meuse Basin Committee.

The project-closing workshop, co-funded by German Cooperation, which took place in November 2014, was indeed the first meeting of **the Regional Consultative Hub** established by **CICOS** for the "SDAGE" implementation. ✔

Participation in the AERM Basin Committee

Capacity building of VBA Executive Branch

INBO and IOWater have been helping the Volta Basin Authority since 2012 through a capacity building project for the implementation of its 2010-2014 Strategic Plan, with support from the European Union, the French Development Agency, the French Seine-Normandy and Adour-Garonne Water Agencies.

The **VBA** Council of Ministers was held in Lome, Togo, in March 2014, before the Committee of Experts. During this statutory meeting, the Ministers of the six Member Countries could adopt resolutions, including hiring experts to strengthen the team of the **VBA** Executive Branch, and provide more resources to fulfill its mission.

A mid-term review was conducted in August 2014, which validated the orientations of the project.

The next steps include a support to the Strategic Plan and to the decision-making support tool that accompanies it, as well as to the Water Charter of the Volta Basin.

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Benin - Togo: Mono River Basin

The International Office for Water and **the Water-Solidarity Program** are implementing a project that aims to help **the new Mono Basin Authority,** to build experts' capacity and support planning for water resources management in this transboundary basin, under the partnership started by **the Rhone-Mediterranean-Corsica Water Agency** with Benin and Togo.

The priority goal of this project is also to facilitate the implementation of solidarity projects under the French Law of 2005 on decentralized cooperation in the field of water and sanitation.

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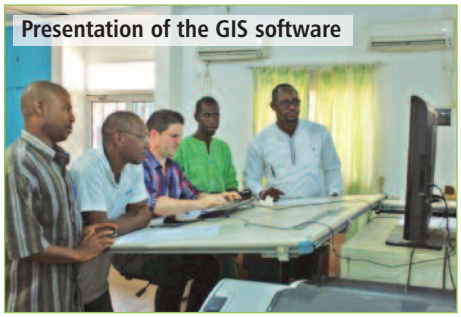
Guinea

Water Company of Guinea (SEG): development of a new GIS


Presentation of the GIS software

As part of the support provided by the Water Syndicate of Ile-de-France (SEDIF) to the Water Company of Guinea (SEG) under Decentralized Cooperation, "SEDIF" entrusted IOWater with a mission to support the establishment of a Geographic Information System (GIS) to improve the management of structures.

"SEG" had a map of its networks, but it was not complete and did not offer the functionality of a GIS.

IOWater carried out a mission to develop a GIS on a QGIS base for the Conakry and Kindia area.

The mission allowed georeferencing plans, preparing the background of quality plans and converting existing data files and integrating them into the database of the new GIS.

Most part of the assignment was used for the training of the GIS cell staff and the development of new working procedures.

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www.sedif.com

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AFRICA

South Africa

New collaboration phase between IOWater and Rand Water

Handing of training certificates to South African trainees

A new phase of the collaboration started in 2012 between **IOWater** and **Rand Water** began in 2014: **Rand Water is now a member of IOWater's Board of Directors.**

Rand Water supplies drinking water to 12 million customers, including the inhabitants of Johannesburg. The company has around 3,500 employees.

Capacity building is critical to Rand Water. In this regard, the Rand Water Academy (RWA) was created with the goal of becoming a training center for water professionals.

The partnership was launched at the end of the visit in 2012 of senior officers of Rand Water to IOWater's Training Center in France (NWTC).

Very quickly, under the project of creating the RWA in Johannesburg, it was decided to annually send engineers and technicians to be trained at **the NWTC** in Limoges.

A training of trainers took place during the summers of 2012 and 2013 on various topics. These courses were designed to increase the knowledge of South African engineers on chosen topics, but also to familiarize these trainers to the use of educational units for practical work.

In 2013, **IOWater** organized a one-week study tour in France on the management of changes occurring in water and sanitation services.

That same year, IOWater provided support to the definition, design and startup of the RWA.

Finally, on 25 July 2013, **Rand Water** and **IOWater** signed their Memorandum of Understanding (MoU), which confirmed the partnership already started.

In 2014, collaboration increased: 8 training courses took place on the premises of the RWA. A training of trainers was also held in France. **RWA** executives visited the Training Center of **the Gdansk Water Foundation in Poland,** which was initiated in the 1990s in partnership with **IOWater.**

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Benin

New mechanics in hydraulics at "SONEB"

The National Water Company of Benin (SONEB) is managing drinking water supply and sanitation in urban areas all over Benin. For many years, it has had its own training center: **the WTC.**

Workshop for "mechanics in hydraulics"

All **"SONEB"** employees undergo training there, especially mechanics in hydraulics, who are somehow the kingpins of the company operation: highly versatile, they may even be required to manage a treatment facility, or to talk to the customers.

However, there is an urgent need to strengthen the existing teams of mechanics in hydraulics, as many retirements are planned in the coming years.

In this context, "SONEB" decided, under a program of support to the sector of drinking water supply and sanitation funded by German Cooperation - GIZ, to ask IOWater to update the training curriculum to help train these new teams of mechanics in hydraulics. The same work was requested for water supervisors.

A mission to Benin helped describing the frames of reference of the jobs and skills of mechanics in hydraulics and supervisors to effectively integrate the Benin context of these professions.

Workshop for "water supervisors"

IOWater experts could draft training reference frames, listing the theoretical and practical contents to be transmitted to trainees: two one-year training curricula, including basic technical skills identified in the field, but also capacities to build, such as computing, communication or even the English language.

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AFRICA

Burkina Faso

Accompanying Measures to the DWSS Sectoral Budgetary Support

The Burkinabe Authorities have established the main regulations for the development and modernization of the drinking water supply and sanitation sector:

- 1998: Guidance material on decentralization;
- 2004: General Code of Local Authorities;
- 2009: Transfer of responsibilities and resources from the Government to Municipalities in the DWSS sector.

Under the DWSS Sectoral Support, financed by German Cooperation, KfW provides funds to Burkina Faso for:

- The implementation of water supply and sanitation structures and support to stakeholders in the handling of new installations;
- The capacity building of the stakeholders in sustainable management of the structures and in the quality insurance system, in connection with the planning and implementation of investments.

In this context, **the RODECO-IOWater Group was selected for a project of technical assistance to the National Office for Water Supply and Sanitation (ONEA).** The activities undertaken in November 2014 were organized for a fifteen-month period with two main components:

- **Building of capacities and skills** through the vocational training of 550 employees;
- **Establishment of a quality system** in connection with the planning and implementation of investments.

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Capacity Building of CEMEAU

Strengthening of CEMEAU training facilities

As part of the Project for Capacity Building of the Water Training Center (CEMEAU) of the National Office for Water Supply and Sanitation (ONEA), funded by German Cooperation GIZ (GIZ-PEA program), the experts of the GFA-International Office for Water Group carried out various activities from September 2013 to September 2014, including:

- Analysis of the training needs of **"ONEA"** operational departments;
- Drafting of descriptive sheets for training courses;
- Operational definition of the steps relating to the building of practical workshops, new training units and for the rehabilitation of existing units;
- Spatial organization of the training facilities of the Center;
- Procedures and tools for financial management of the Center;
- A handbook for the Management of the Center;
- Implementation of a new computer system for the Center's information and data management (GED);
- Development of new tools for the trade promotion of the Center's activities and services;
- Specific study on HRM data of the **"ONEA's"** 960 employees and their statistical processing;
- Analysis prior to specific training for improving the methods and tools for **"ONEA's"** payroll management;
- Establishment of protocols for opinion surveys and for measuring indicators related to the satisfaction of users of the training center.

This support program should be completed in 2015.

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Mali

Training at SOMAGEP

Training session on "Pipe Laying out" in Bamako

The Malian Drinking Water Supply Management Company (SOMAGEP) is a new company established by the sectoral reform in the field of water and electricity in Mali. It is responsible for operating and managing the DWS facilities and has 18 centers in the country. Its missions focus on urban areas of more than 10,000 inhabitants.

"SOMAGEP" has launched an ambitious program to strengthen its employees' skills on water issues.

For such a purpose, "SOMAGEP" requested IOWater to carry out training sessions on the issues of pipe laying out in Bamako in 2014.

Several **"SOMAGEP"** engineers also plan to attend training courses in Limoges; including on water meter management and on improving the performance of drinking water supply systems.

Messrs. Abdul Aziz Traore, Director of the support center, and Boubacar Idrissa Maiga, Director of water supply at "SOMAGEP", visited IOWater's National Water Training Center (NWTC) in August 2014.

This visit helped to define areas for future collaboration that will focus on the following training topics: wiring and programming of micro automatons, cleaning of reservoirs and waterworks, soldering of Polyethylene pipes, metrology, counting, follow-up of a contract of public service delegation, organization of the service, mechanical maintenance (pump, booster,...) and water treatment in a plant.

✔

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NORTH AMERICA

Third International Forum on Integrated Water Management

3rd edition International Forum on Integrated Water Management Tools for ACTION

The third International Forum on Integrated Water Management took place at the University Laval (Quebec City, Canada) on May 7-9, 2014.

It addressed the issues of transboundary water management in a context of climate change.

The event was organized by the North American Network of Basin Organizations (NANBO), the Regrouping of the River Basin Organizations of Quebec (ROBVQ) and the St-François River Basin Organization (COGESAF), in collaboration with the Quebec Metropolitan Community, the University Laval Environment, Development and Society Institute and the research consortium on climatology and adaptation to climate change OURANOS.

The 500 participants addressed the following themes:

- **Governance and Strengthening of Institutional Capacities;**
- **Water Resources and its uses management;**
- **Risks Management and Adaptation to Climate Change.**

Three case-studies, including the Great Lakes / St-Lawrence and Rio Grande or Rio Bravo systems and the Rhine Basin, were presented.

Two roundtables answered the following questions:

- In a context of climate change how can we promote transboundary water management on the watershed scale and for what benefits?
- What integrated water management for the Great Lakes and St-Lawrence System?

Mr. Jean-François Donzier, INBO Secretary and IOWater General Manager, presented an introductory note on the best practices in transboundary basin management over the World.

✔

NANBO ROBAN ROCAN

ROBVQ Regroupement des Organismes de Bassins Versants du Québec

ogesaf

"QUEBEC'EAU" TRAINING

Québec

The International Office for Water and "Network Environment" are creating "QUEBEC'EAU", a Non-Profit Organization (NPO), whose home office is located in Montreal and whose purpose is the organization and dissemination of modules for continuing professional training on water in Quebec.

"Environment Network" gathers over 2,700 members, 350 companies, 250 municipalities, and a score of governmental and parapublic organizations. Its mission is to promote good practice and innovation on environmental issues. With a perspective of sustainable development, the Association ensures progress in technology and science, promotion of expertise and support to environmental activities, by enabling technical and commercial exchanges, the dissemination of technical knowledge, the follow-up of regulations, the representation with decision-makers and assistance to internal and external markets.

"QUEBEC'EAU" will allow water stakeholders in Quebec (elected officials, governmental officers, chief executives of water utilities, engineers, technicians and operators) to find the answer to their training needs in this new cooperative training.

The "QUEBEC'EAU" official establishment will be made at the AMERICANA Show to be held from 17 to 19 March 2015 in Montreal.

✔

Réseau Environnement

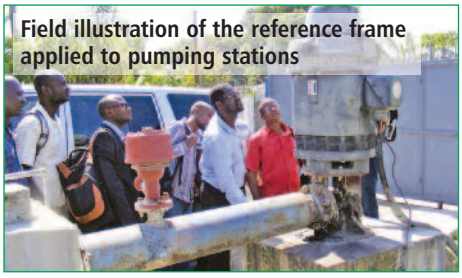
LATIN AMERICA AND THE CARRIBEAN

Haiti

"DINEPA" appropriates the National Technical Reference Frame for DWSS

One year ago, the National Directorate of Drinking Water Supply and Sanitation in Haiti (DINEPA) launched the National Technical Reference Frame for Drinking Water Supply and Sanitation (RTN).

This important document was written by **IOWater** in cooperation with stakeholders in the water sector in Haiti.



Field illustration of the reference frame applied to pumping stations

It is a powerful tool for **"DINEPA"** to fulfill the basic tasks of sector regulation. Everyone knows now where to find the minimum requirements to be met in Haiti for each water and sanitation technique and facility.

But for such a document - of nearly 3,000 pages! - a mere "launching" is not enough: professionals have wished to be trained to learn how to use the Reference Frame, have a thorough view of its contents and know how to explain it concretely to their professional networks in the field.

In March and June 2014, **IOWater organized this "RTN dissemination"** to about a hundred professionals, under the supervision of an independent consultant commissioned by **"DINEPA".** The **"DINEPA"** teams in Port au Prince were directly concerned by this release, but also its "field" services and the Haitian sector of higher education and vocational training.

This assignment ended with a series of IOWater-facilitated webseminars to open knowledge of RTN to a wider audience.

The writing of the RTN was funded by UNICEF, but its "dissemination" was supported by Swiss Cooperation and the Inter-American Development Bank.

The dissemination of RTN remains today to be done for audiences who do not know it enough yet, but also for public works companies, suppliers, service providers, municipalities, donors, NGOs,... The steering committee of the project will identify priority target groups and define a strategy for training Haitian trainers on RTN.

✔

Colombia

Support to the development of Water Information Systems

A reform process is underway in Colombia to improve water resources management.

This process includes, among other things, the short-term development of strategic plans for 5 major hydrographic regions of the country: Magdalena-Cauca, Caribbean, Pacific, Orinoco, Amazon.

To support this reform, **IOWater is implementing an institutional cooperation project, funded by the French Adour Garonne Water Agency,** which includes:

1. An institutional and methodological assistance to the preparation of the Rio Magdalena- Cauca Strategic Plan;
2. A support to the improvement of the needed data management;
3. A more local component seeking to improve industrial pollution control in the Bogota River.

Year 2014 mainly focused on the "data management" component.

After a step of exchange of experience on water information systems and of assessment of the Colombian partners' needs, a series of recommendations was presented, in particular to improve interoperability between the various national and regional information systems.

The French experience in terms of creating language/common reference frames and **improving interoperability between existing water information systems,** seems quite suitable for the integration of the regional data required by **the Regional Water Resources Assessment Program (ERA).**

The broad lines for action have thus been identified to develop products of common interest for improving data interoperability in the context of the Cundinamarca ERA.

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The Magdalena River

LATIN AMERICA

Brazil

A pilot project for training the staffs of the water sector: Towards the establishment of a PWTC in the State of São Paulo

Among the 26 States that make up the Federation of Brazil, the State of São Paulo (248,808 km², 41 million inhabitants) is concentrating over a third of the national wealth. Its capital, São Paulo, has more than 11 million inhabitants.

The "SERT" (Secretariat in charge of Labor and Employment) has for primary role the professional integration of unemployed people into the economy, and the development of growth sectors, including the water and sanitation sector featuring prominently.

Brazil makes huge investments for the development of the water and sanitation sector; according to data from PLANSAB, nearly € 100 billion (R$ 304 billion) of investment are planned over the period 2014-2033, especially in urban sewerage.

According to official statistics (SNIS 2012), the total number of jobs in this sector is 726,586 employees, including nearly 238,000 in the State of São Paulo alone.

In this very moving context, the "SERT" decided to implement a large pilot project for staff training, based on the results of **the feasibility study made for the establishment of a Professional Water Training Center (PWTC) in Brazil, in which the International Office for Water contributed in late 2013 and early 2014.**

Thus, this pilot project is an introduction to the establishment of a PWTC in the State of São Paulo, in line with the vision of the 8th World Water Forum to be held in Brasilia in 2018.

✔

Triangular cooperation in Brazil


Pig breeding in the Rio Taquari-Antas Basin

Through **the "Gaucho Forum of Committees",** the 26 Basin Committees of the State of Rio Grande do Sul have participated in a Triangular Cooperation Program since September 2014. It allows them to benefit from the experience of **the Loire-Brittany Water Agency and the International Office for Water, in France, and the Intermunicipal Consortium of Piracicaba, Capivari and Jundiaí River Basins (PCJ), located in the Brazilian State of São Paulo, which has been one of the pilot river basins for applying the Brazilian Law on Water Resources.**

A seminar addressing members of these "Gaucho" Basin Committees was organized in December 2014 in the city of Caxias do Sul, on the occasion of the 50th anniversary of the French Water Law (1964) and the 20th anniversary of the Water Law of Rio Grande do Sul (1994).

It allowed focusing on the progress made in the implementation of a decentralized and participatory model of water management in river basins in the State of Rio Grande do Sul, and estimating its prospects.

The city of Caxias do Sul, for instance, is located upstream of the Taquari-Antas and Caí basins, today characterized by a strong pollution coming from industrial production and intensive stock breeding. However, these two rivers have their mouths in the Guaiba Lake near the State capital, Porto Alegre, which suffers from the consequences of these activities.

In this case, the lack of Water Agencies, yet planned in the Law of 1994, makes it difficult to achieve results, in spite of the dynamism of the "Gaucho" Committees.

The State Law plans these agencies to be public institutions, while those established in the rest of Brazil have been Associations, more flexible and easy to create.

The experiences of partners in the cooperation project have enlightened the water stakeholders of Rio Grande do Sul in the search for solutions suited to their particular legal and institutional context.

Instruments for integrated water resources management, whether financial, or for planning and information purpose, are indeed fundamental for the Basin Committees to take appropriate measures.

The Triangular Cooperation Program will continue in 2015 with a study tour of the "Gaucho" Committees in the PCJ river basins, a second seminar in the State of Rio Grande do Sul (this time in the Rio Uruguai Basin), and technical missions on several priority topics, including pollution by nitrates.

✔

agence de l'eau Loire-Bretagne — International Office for Water — CONSÓRCIO PCJ

LATIN AMERICA

Ecuador

Consolidation of the information system on water resources

With the adoption of a new Water Law in August 2014, the Republic of Ecuador established **a new Agency for the Regulation and Control of the Water Sector (ARCA),** supervised by the Secretariat of Water Resources **(SENAGUA)** and the Ministry of Coordination of Strategic Sectors **(MICSE).**

A study of the roadmap of this new agency is being made by the Aigos Consulting Firm on behalf of the Ministry of Coordination of Strategic Sectors.

In this context, the International Office for Water was entrusted with a specific analysis of the potential consolidation of the Information System on Water Resources in Ecuador (SIRH).

The mission on this topic, carried out in September 2014, was the occasion of meeting with the representatives of organizations involved in the production, management and enhancement of water data (ARCA, SENAGUA, SENPLADES, INHAMI, MAE, IGM, etc.).

Meeting with representatives of the Military Geographical Institute

These exchanges allowed specifying a series of recommendations aiming firstly to organize the establishment of **"ARCA" Information System** and secondly to enhance the sharing and integrated management of water data between institutions at the national, regional and local level.

The main findings of this study were presented to H.E. the Minister, Mr. Rafael Poveda (MICSE) at the end of the mission, as well as to Mrs. Claudia Otero (ARCA Director) and Mr. Christobal Punina Lazano (Assistant Secretary General for Water) during their visit to **IOWater,** in Paris on 12 September 2014.

✔

"EcoCuencas"

The **"EcoCuencas"** project was designed during 2014 by **IOWater,** in partnership with Ecologic (Germany), Asconit (France), the Piracicaba Capivari Jundiai Agency (Brazil), the Water Department (Secretaria del Agua -SENAGUA/Ecuador), the National Water Authority (ANA) and IRAGER (Peru), the Verde Basin Authority (Corporación Cuenca Verde - Colombia) and the Brazilian Network of Basin Organizations (REBOB).

It was selected by **the European Union** within the regional program for the management of basins and coastal zones in the context of climate change **"WATERCLIMA"** for Latin America and the Caribbean and started at the beginning of 2015.

✔

European Commission

EcoCuencas

El Salvador

Assistance to Project Management: Jucuaran wastewater treatment plant

The Interdepartmental Syndicate for Sanitation of Greater Paris (SIAAP) sought IOWater in project management assistance for checking the sizing and design of the future wastewater treatment plant of the Jucuaran municipality in El Salvador.

Jucuaran is a town of about 13,000 people located south-east of El Salvador.

The project was developed by a local Salvadoran consulting firm.

It plans for a rustic wastewater treatment system adapted to local conditions and based on the following treatment processes: manual pretreatment, primary clarifier, trickling filter and clarifier, filtration with sand filter, chlorination.

The sludge treatment is based on anaerobic digestion followed by the drying of sludge on drying beds.

Trickling filter
Photo Cléo Lossouarn (SIAAP)

The analysis of this project made by IOWater identified areas for improvement, both regarding the selected sizing bases and the design of the treatment plant.

These recommendations were presented in a workshop gathering representatives of **SIAAP,** of the Salvadoran consulting firm and of **the Jucuaran municipality** and **IOWater** experts.

✔

SIAAP
Service public de l'assainissement francilien

Peru - National Water Authority

The World Bank supports "ANA"

The National Water Authority (ANA), established in 2008 and attached to the Ministry of Agriculture, has for mission to develop policies and strategies for integrated water resources management in Peru.

The field implementation of **"ANA's"** missions is relayed by three levels of decentralized organizations, according to a geographic distribution by major river basins:

- 14 Administrative Water Authorities (AAA);
- 72 Local Water Authorities (ALA);
- 17 Water Resources Basin Councils (CRHC).

"AAAs" and "ALAs" have more than 900 staff members.

The main objective of the World Bank study, in which the International Office for Water contributed, was to identify a set of recommendations for "ANA" to better fulfill its missions.

The study was made up of two components:

- An analysis of the possible restructuring of **"ANA";**
- An assessment to improve the management and skills of its human resources.

Among the key conclusions of this study, an update of the functional organization of **"ANA"** was recommended, with the creation of a General Technical Secretariat in charge of supersizing and coordinating "AAA" and "ALA" activities.

The multiplication of tasks and the operational implementation of "AAAs" in 2014, require a staff increase in order to have a proper implementation of the activities.

Another challenge is the modernization of the different types of personnel contracts.

In addition, **"ANA"** needs to have adequate financial resources, based, in particular, on the new system of economic fees, such as those already used.

✔

WORLD BANK

In Peru, there are now economic fees for water use!

Under the institutional cooperation agreement signed in September 2013 with the National Water Authority of Peru, the French Artois-Picardy Water Agency is providing support to an IOWater project aiming to:

- **Implement an ecological tax system** (economic fees for water abstraction and wastewater discharges);
- **Develop Water Resources Basin Councils (CRHC) and Management Plans.**

The Chili River Basin was selected as pilot area for this project.

A delegation, led by Jean Schepman (President of the International Action Commission of the Artois-Picardy Basin Committee), went to Lima and Arequipa in May 2014.

Today, the implementation of economic fees in Peru is effective, based on the calculation method recommended by **IOWater** under the World Bank study.

The amounts collected are growing, from 50 Million Sols (1 € = 3.5 sols) in 2012 to more than 100 million in 2013.

The "Cuenca del Chili" Basin Council is operational and a first Management Plan is developed.

The mission of experts who went there could identify the priorities of our Peruvian colleagues:

- Better structuring of their Basin Council (method for appointing members, internal rules...);
- Development of a Technical Secretariat (embryo of a Water Agency);
- Limitation of informal activities without a land license or without any authorization for water abstraction / pollution;
- Public consultation and involvement of stakeholders.


The Chili River

The new 2015 cooperation phase plans to develop:

- A paper in Spanish on the Basin Committee: statute, role, method for appointing members, operation, thematic and geographical working groups;
- A paper and a poster on the economic fee system and river basin management in Peru;
- A study tour of a Peruvian delegation in France.

✔

AGENCE DE L'EAU ARTOIS PICARDIE

ASIA

Mekong River Basin

Regional seminar for exchange of experiences on Integrated Water Resources Management

15, 16 and 17 October - Vientiane - Laos

Organized under the auspices of the Lao Ministry of Natural Resources and Environment, with the support of the French Embassy and financial support of the Loire-Brittany Water Agency, the seminar gathered over **100 experts from the Mekong River Basin,** representatives of local and national authorities, donors and the civil society.

The Lao Vice-Minister of Natural Resources and Environment, Mr. Sisavath Vithaxay, the French Ambassador to Laos, Mr. Yves Carmona, and the Chairman of the Loire-Brittany Basin Committee, Mr. Joel Pélicot, opened the seminar.

Three thematic sessions allowed the Cambodian, Vietnamese, Burmese, Chinese, Lao, Thai and French delegations to exchange the experiences and good practices in integrated water resources management, developed by the countries of the Mekong River Basin.

The first two days of the seminar were an opportunity to discuss recent progresses made in some countries, at the national level and in pilot river basins, to strengthen synergies with the Mekong River Commission (MRC), especially regarding **institutional organization, data management and funding.**

A delegation of young representatives of the countries of the Mekong River Basin also participated in the seminar and presented the Declaration hereafter.

During the third day, the participants made a field visit to the Nam Ngum River Basin.

INBO, IOWater and the International Secretariat for Water (ISW) provided technical support for the success of this event.

All the participants received their **"Blue Passport of Basin Citizen".**

✔

Mekong Youth Declaration

We, as Mekong youth, strongly believe:

- **In the power of communication to catalyze change in our society and promote our Mekong Identity.** Through our creativity, we will use communication to educate citizens on the water issues in our region.
- **That increased cooperation will lead to reach sustainable development.** We agree to strengthen cooperation among the public and private sector and civil society to ensure the inclusion of all needs and opinions.
- In sharing our knowledge and experiences about the Mekong. We will establish **the Mekong Youth Environment Network (MekongYEN)** that will serve as a platform for cooperation, capacity-building and intergenerational dialogues.
- **That participation will improve water resources management.** We will identify key water messages from the region and ensure that they are heard in policy discussions and national, regional, and global platforms such as the 7th World Water Forum.
- **In the ability of young people to achieve concrete and positive change on the ground.** We will support youth by facilitating access to small grants and mentorship to accelerate implementation of community-based projects in the Mekong River Basin.
- **That education and raising public awareness are ones of the most efficient ways to change behaviors** of children, youth, and local communities in both rural and urban areas on water conservation and waste reduction. We will organize creative competitions for producing awareness materials.

Our passion and commitments for our basin will last long. We invite you to work with us, the Mekong Youth. With your support, our vision of the Mekong will come true.

✔

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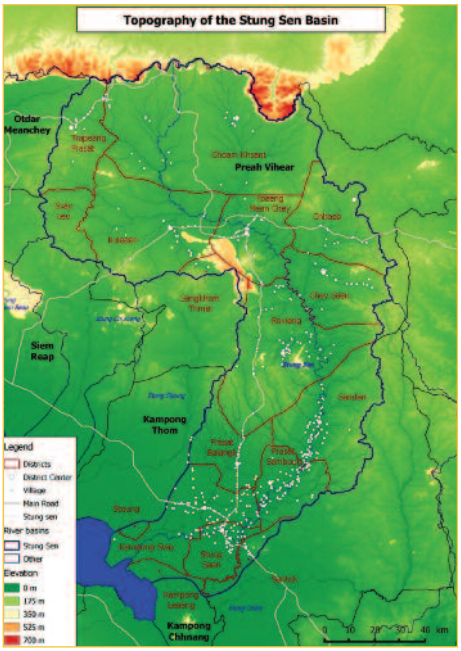
Cambodia

Pilot Project for Stung Sen River Basin



This project, coordinated by IOWater and funded by the Loire-Brittany and Rhine-Meuse Water Agencies, aims to improve water governance through the promotion of Integrated Water Resources Management (IWRM) in the Stung Sen River Basin, main tributary of the Tonle Sap Lake.

The first 2-year implementation phase gave encouraging results and enabled the Cambodian Administration, including **the Tonle Sap Authority (TSA)** and **the Ministry of Water Resources and Meteorology (MOWRAM),** to make great progress in the implementation of river basin management.

Stung Sen Basin

The work done during the first two years has indeed focused on the initial stages of **the planning process** (assessment, characterization of the basin, definition of the challenges and objectives for the basin) and on the elements necessary for the initiation of **a participatory process** (study of the framework for the establishment of a sub-basin committee for the Stung Sen, the first meetings of this Committee and the training of its members).

Many field missions have also been made to move forward on the step of basin characterization, although a lot of data were non-existent, especially regarding the use of water resources and their quality.

Late 2014, **the Stung Sen sub-basin committee** met for the second time to validate the characterization of the pilot basin and the launching of a new phase of the project for another two years.

The work will focus on the following steps of the planning process, including the establishment of the Program of Measures and Management Plan for the Stung Sen River Basin, as well as their estimated costs.


The Stung Sen River

As the first step allowed collecting a large number of data sets and identifying the data sources regularly updated by the partners services, the TSA now whishes to develop its internal capacity to manage and make the best use of these data to produce summary information needed for decision-making and public information through **a true Water Information System.** The **MOWRAM** has an ambitious investment policy for the installation of new monitoring stations.

A study tour was also organized in France in September with the Loire-Brittany Water Agency (AELB) for three TSA executives in order to present to the Cambodian the functioning of the French Water Agencies and the role of the Basin users.

✔

Laos

Integrated Basin Management for the Nam Ngum

In the second phase of the pilot project for Integrated Water Resources Management in Laos, carried out with the support of the Loire-Brittany Water Agency, **IOWater** helped build the capacities of local and national teams by:

- Disseminating the experience acquired on the Nam Ngum through the development of **a methodological guide** to help teams in the preparation of River Basin Management Plans and develop tools for IWRM (catalogue of measures, cost estimate model, etc).
- Development of a shared management model for data on quantitative water management with application to the Nam Ngum Basin prefiguring the development of **a National Water Information System.**

In February 2014, a delegation of representatives of the Loire-Brittany and Rhine-Meuse Water Agencies and IOWater, met with the Vice-Minister of Natural Resources and Environment, Mr. Sisavath Vithaxay, and key stakeholders in IWRM implementation at national and local levels.


Meeting with the Vice-Minister of Natural Resources and Environment

It was decided to organize, from 15 to 17 October 2014, in Vientiane, which hosts the home office of the Mekong River Commission, a workshop for exchanging the experiments of 6 countries of the Mekong River Basin. ✔

China

French-Chinese cooperation in the Hai Pilot River Basin and Zhou Sub-Basin

The French-Chinese cooperation project for Integrated Water Resources Management (IWRM) in the Hai River Basin is part of the cooperation agreement signed in 2009 by the Chinese Ministry of Water Resources (MWR) and the French Ministry of Ecology and Sustainable Development.

Its first phase (2011-2012) had allowed the development of mutual understanding by both countries on their respective institutions, procedures and means for managing water.

Since the World Water Forum in Marseilles (2012) and the signing of a Memorandum of Understanding for a second 3-year phase, in the presence of Mr. Chen Lei, Chinese Minister of Water Resources, the project aimed to test the French tools and methods allowing to bring solutions to the problems related to anthropogenic pressures (untreated wastewater, non-point source agricultural pollution) exerted on the Zhou pilot River Sub-Basin and that affect the water quality of the Yuqiao reservoir for the supply of the City of Tianjin and cause eutrophication and growth of blue-green algae and macrophytes.

To improve the situation, **three main objectives are pursued across the basin:**

- **Implementation of the basin's resources assessment,**
- **Establishment of a coordination group for water management,**
- **Drafting of a Basin Management Plan.**

As part of this second phase, eight technical assistance missions have already been carried out by the French partners and coordinated by **the International Office for Water:** the Ministry of Ecology, the Seine Normandy Water Agency, the Interdepartmental Syndicate for Sanitation of Greater Paris and the Interdepartmental Institution of the Seine Great Lakes.

Treatment pond with "floating planted filters"

Their Chinese counterparts (MWR, the Hai River Conservancy Commission and the Water Boards of the Municipality of Tianjin and Hebei Province) participated in two study visits organized in France.

These activities covered a wide range of tools: planning methods, Water Development and Management Plans, involvement of institutional stakeholders, the Water Interservices Mission (MISE), etc.

Training sessions organized in China on specific technical issues (ecological engineering, calculation of concentrations and water body balances, monitoring strategies and equipment) were greatly appreciated.

They motivated the establishment of **a specific project on predictive modeling of cyanobacterial proliferation,** supported by the Center for Environmental Monitoring of the Hai River and implemented by the "Ecole des Ponts et Chaussées".

A technical diagnosis report was finalized by the Chinese part in October 2014 and presented to a panel of local authorities, invited to comment it.

The success achieved in the drafting of this diagnosis through dialogue allowed addressing, in the best conditions, the goal of the fourth year of the project (2015): structuring of a Management Plan for the Zhou River sub-basin.

✔

Meeting of the Hai Project Steering Committee (Tianjin - September 2014)

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ASIA – CENTRAL ASIA

Vietnam

A new institutional organization is gradually established

The first phase of the Dong Nai River pilot project (2009-2012) has raised awareness of the key Vietnamese stakeholders regarding techniques for joint basin management.

As part of the ongoing cooperation with Vietnam through a second project phase, the formalization of an institutional organization for Integrated Water Resources Management (IWRM) is a crucial step for the sustainability of the results of the pilot project in the Dong Nai River Basin.

A new Water Law was adopted in June 2012 and the decree specifying its implementation method in November 2013.

The building of a Vietnamese team, trained in the different techniques for developing a Basin Management Plan and Program of Measures, is at the core of Phase 2 of the project for the effective implementation of the new legislative framework.

The Department of Water Resources Planning and Investigation for the South (DWRPIS) was already introduced to these techniques during Phase 1.

The Directorate of Water Resources Management will develop three Regional Boards for Northern, Central and Southern Vietnam. These will orchestrate collaboration in the Basin Committees of these regions with the technical support of DWRPIS involved in the preparation of technical support documents.

The Dong Nai River

These training sessions will be carried out in 2015.

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CENTRAL ASIA

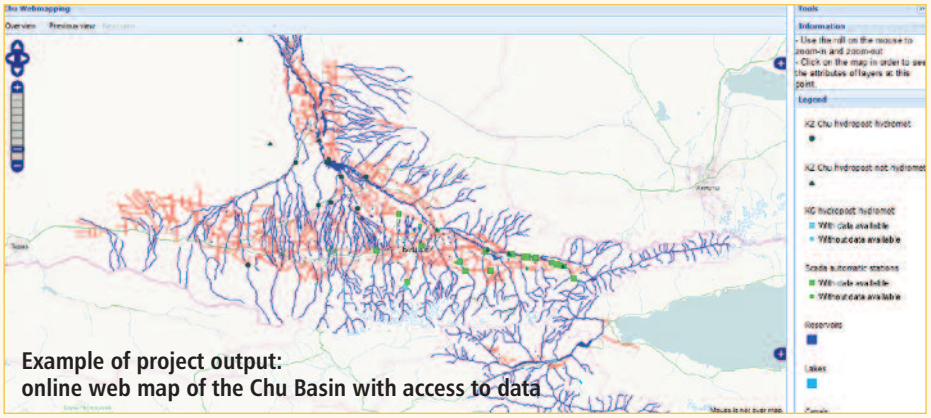
iMoMo: inovative Monitoring and Modeling of water

Since the beginning of 2014, IOWater has been collaborating in Central Asia to the iMoMo project, financed by the Swiss Agency for Development and Cooperation (SDC).

Quick advancements in low-cost sensor and communication technology, hardware and software integration, open up new perspectives for water data collection and exchange, analysis and knowledge dissemination.

The activities, launched in Central Asia in **the pilot Chu River Basin,** transboundary between Kirghizstan and Kazakhstan, have 3 components:

1. **Improvement of water and financial accountability of Water User Associations (WUAs),** with the installation of low-cost monitoring devices at the level of 2 pilot WUAs;
2. **Establishment of a Water Information System (WIS) in the Chu River Basin,** connected to existing databases and using technologies for sharing data/information to meet the need of better knowledge of water balances of the river and irrigation canals;
3. **Modeling of an operational, web-deployed water balance** for forecasting vegetation season flows, based on remotely-sensed snow cover analysis.



Example of project output:
online web map of the Chu Basin with access to data

Considering the significant results obtained on each of these 3 components via interoperability development and modeling, it is already planned to expand this project in 2015 to other basins in Kyrgyzstan and at transboundary level in Central Asia.

✔

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Direction du Développement et de la Coopération DDC

EUROPE

Etats généraux L'EAU EN MONTAGNE
MEGÈVE (FRANCE) - 8, 9, 10, OCTOBRE 2014

4th International Conference "Water in Mountains"

The mountain people are getting mobilized to anticipate the effects of climate change on water resources

The "4th International Conference on Water in Mountains", organized by Asters (Upper-Savoy Natural Space Conservancy), the Endowment Fund "Living Mountain" and the International Office for Water (IOWater), took place on 8, 9 and 10 October 2014, in Megeve (Upper Savoy - France).

Following previous meetings in 2002, 2006 and 2010, this conference issued an alert to the need to quickly adopt strategies to adapt to the impacts of global warming on water resources in the mountains, which are areas where the main large European rivers Ebro, Danube, Po, Rhine, Rhone, and Vistula ... and their major tributaries, originate.

Global warming now seems to be unavoidable and the European mountains are already among the first victims!

With the decrease in snow cover and glacier melt, the water regimes of all major European rivers coming from mountains are now changing.

However, the flow regularity of these rivers is crucial for the supply of drinking water to populations, and for the economic development at the foothills and in the plains (hydropower, inland navigation, irrigation, tourism or still the cooling of thermal or nuclear power plants...).

Meeting water needs in the future and for all purposes is thus everybody's business.

Water management in the upper river basins is a strategic issue for the mountain people, but also for the populations and economies ... in the plains!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It is thus necessary to act quickly if we want our mountains to remain "Europe's Water Towers".

Flood frequency and intensity will greatly increase in autumn, winter and spring, as well as summer droughts.

Climate change in mountains will also generate severe erosion, landslides, degradation in river quality and an increase in water temperature. Hydropower production could be reduced by 15%; cooling of thermal and nuclear power plants will be more difficult; river navigation will have to adapt; competition between water uses will become fiercer.

Time is running out: we must now identify and model these changes at local level in order to undertake the field actions that are urgently needed!

Field experiments were presented at the "Conference on Water in Mountains". They work and produce results that can be replicated; we must disseminate them:

- First, **saving water and facilitating recycling:** leak detection in drinking water supply systems, the reuse of treated wastewater, groundwater recharge, promoting the efficient use of water must become a priority.
- Next, **rethinking the management of water, lakes, wetlands and mountain soils,** taking into account the strategic constraints of the supply of water to the population and agricultural, industrial and tourist economies at the foothills and in plains downstream. We must develop "a new culture of risk".
- Finally, **better recognizing the role of mountains for the community as a whole from upstream to downstream areas, under integrated basin policies.**

This will require **strengthening the institutional and financial mechanisms** and refocusing them towards these new priorities, as in the case of **the new French Law "GEMAPI" (Management of Aquatic Ecosystems and Flood Prevention).** Planning must be made in the basins of large rivers and based on strong intersectoral and international cooperation when river basins are transboundary as in the case of the Rhone, with French-Swiss cooperation.

With the Water Framework Directive of 2000 and its related Directives, the European Union has an effective tool to truly apply these adaptation strategies. Moreover, it requires from the Member States that they incorporate appropriate measures in the coming Basin Management Plans and Programs of Measures 2016 - 2021, then 2021-2027.

Let's quickly implement them!

The participants also decided to establish a **"Network of Water Stakeholders in Mountains"** to sustain their work between two "Megeve" conferences, to exchange and promote these good practices.

www.egem2014.org

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12th International "EUROPE-INBO 2014" Conference

Declaration of Bucharest

The 12th conference of the "EUROPE-INBO" group took place in Bucharest, Romania, from 12 to 15 November 2014, at the invitation of the Romanian Ministry of Environment and Climate Change, the National Agency "APELE ROMANE" and the National Institute of Hydrology and Water Management.

It gathered 134 participants, representatives of national administrations and basin organizations as well as of NGOs, companies, international and regional organizations, coming from 33 countries.

The work of the conference was organized around four roundtables addressing the following issues:

- **Preparation of the 2nd Basin Management Plans of the European Water Framework Directive (2016 - 2021);**
- **Natural Water Retention Measures and River Restoration;**
- **Implementation and funding of Programs of Measures;**
- **Water governance in Transboundary Basins.**

Prior to the **"EUROPE-INBO"** conference, two workshops were organized:

- **A technical workshop on river restoration and Natural Water Retention Measures;**
- **A workshop on the European regional process of the 7th World Water Forum.**

The conference allowed reminding that the preparation of the next Basin Management Plans required integrating water quantity issues, adaptation to climate change and better coordinating the directives between themselves and ensure a link with sectoral policies (agriculture, energy, navigation…).

134 participants coming from 33 Countries - © IOWater - C.Runel

Just before implementing the second Management Plans, coordination with the Marine Strategy Framework Directive and the Flood Directive appears essential.

The participants were pleased with the holding of joint meetings between the Water, Marine Environment and Nature Managers at European level and with the organization by the European Commission of a joint workshop on water, nature and marine strategy in December 2014 to think about coordinating the directives implementation in these three sectors.

Since the release of the **"Blueprint",** there has been a better consideration of the quantitative issues in WFD management plans and tools. This is particularly the case through the production of guidance documents on water accounts. The development of scarcity and drought management plans in many countries are going in the good direction.

Communication with populations about progress made in the status of Water Bodies in 2015 is to be increased insofar as that recovering good status will take time.

Non-point source pollution and hydromorphology are the most significant pressures affecting rivers.

To move forward, **it is necessary to progress towards better integration among the European Directives** (Flood Directive, Habitats Directive, Birds Directive and the Renewable Energy Directive) and improve the coordination and complete it with sectoral policies of the Union (CAP, energy, transports, etc.). **Better integrated basin management is necessary to ensure the restoration and protection of water ecosystems or apply Natural Water Retention Measures.**

It is necessary to better integrate the various policies, communicate on the benefits of river restoration and Natural Water Retention Measures, mobilize the partners from the different sectors concerned.

In addition, better commitment of local communities in ecosystem restoration projects is needed with a greater mobilization of the elected representatives for these projects.

The lack of knowledge of the multiple benefits of **"green infrastructure"** is an obstacle to its implementation on a large scale, especially in the Basin Management Plans, Flood Risk Prevention, Natura 2000 actions and Rural Development Plans.

EUROPE

12 - 15 November 2014 - Bucharest - Romania

The participants underlined the importance of consistency between the measures taken to achieve environmental objectives and the policies and practices of the agricultural sector.

The ongoing preparation of the Rural Development Plans is an opportunity for **taking river hydromorphology into account.** The participants asked the water managers to be closer to their colleagues of the agricultural sector to **include measures for reducing agricultural pressures and pollution and to limit financing for practices having strong negative effects on the quality of Water Bodies.**

The next Basin Management Plans should be based on **a more exhaustive economic analysis of pressures and on quantification of costs and impacts of the measures needed** to comply with the objectives of the WFD.

For this purpose, it is necessary to establish clear and transparent methodologies, improve common knowledge, but also, if needed, to agree on a practical guide under the CIS to complete and update the WATECO guidance document.

The participants took note of the entry into force on 17 August 2014 of the UN Convention of 1997 on the law relating to the use of international watercourses for purposes other than navigation.

This convention as well as t**he UNECE Water Convention of 1992** are a solid basis for international cooperation in transboundary basins.

Whatever the scale, good knowledge and easy access to data and information on the status and evolution of water resources and of their use is a key to a successful water policy.

For better communicating with the decision makers and the general public, the members of **"EUROPE-INBO"** group insisted on the need for developing tools for data interpretation.

The participants recommended increasing the exchange of experience on the ways of producing and sharing comparable data among stakeholders, as well as on the tools and methods used for the analysis and interpretation of data and the dissemination of knowledge to decision makers and the general public.

With regard to the Flood Directive, it was reminded that Flood Risk Management Plans should be developed in each basin.

The participants also reminded the importance of involving field stakeholders and the public. Appropriation by all users of water policies and of the resulting measures is essential to advance and increase efficiency.

The Monitoring Program could be a good communication tool if based on standardized methods improving the understanding, comparison and use of information.

The participants also stressed that the indicators used to characterize the status of water bodies are too general. They do not reflect the effectiveness of the actions undertaken during the program cycle. Less aggregated indicators, used at local and national level, would allow a better understanding of the results of the efforts made.

The **"EUROPE-INBO 2014"** conference is a new important step for assessing implementation and for formulating sound proposals to improve WFD implementation in the next cycles, especially for the 2016-2021 period.

Ms. Daniela RADULESCU (Romania), was elected President of the EUROPE-INBO Group for the year to come, until the next conference in 2015.

The delegates decided to hold next **"EUROPE-INBO"** conferences in 2015, in Thessaloniki, Greece, in 2016 in Lourdes, France and in 2017 in Dublin, Ireland.

www.inbo-news.org

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EURO-RIOB
EUROPE-INBO

Closing ceremony - © IOWater - C.Runel

"For facilitating the implementation of the European Water Framework Directive"

Information: Fax: +33 1 40 08 01 45 - E-mail: secretariat@inbo-news.org

European River Restoration Conference

Linking restoration and innovative river management

The 6th "European River Restoration" Conference was held from 27 to 29 October in Vienna. Its topic was: "Establishing relationships between restoration projects and innovative river management".

An issue was at the core of the debate: how to innovate in integrated river basin management by using, in particular, Green Infrastructure, Natural Water Retention Measures and Contemporary River Corridor Management?

- **A Green Infrastructure** is a semi-natural space, designed and managed to provide a wide range of ecosystem services.
- **Natural Water Retention Measures (NWRM)** aim to reduce vulnerability to floods and droughts.
- **"Contemporary River Corridor Management" (CRCM)** requires a cross-sectoral commitment and cooperation among stakeholders at local, regional, national and international levels. The results of CRCM practices conducted on six Central European rivers were presented and are available on: www.see-river.net.

Jean-François Donzier, **IOWater** General Manager, presented the events on Basin Management in the next World Water Forum.

www.errc2014.eu

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Ecological engineering applied to water

Natural Water Retention Measures - "NWRM"

NWRM
Natural Water Retention Measures

Ecological engineering is becoming a key area for action and a green infrastructure policy is gradually taking up in the water sector.

The increased use of such techniques is justified more and more by the recent progress they have made: we know today how to design green roofs, infiltration trenches and ponds that fit perfectly into the urban landscape, floodplains that protect cities, grass strips that limit erosion, etc.

However, the multiplicity of people using these techniques, the variety of possible actions and associated joint benefits as well as services provided to the environment, make it now very difficult to aggregate and capitalize the acquired knowledge.

In 2013, the DG Environment launched an invitation to tender for structuring knowledge to enable the use of these techniques.

Commonly known by the name of ecological engineering, these measures are gathered under the name of **"Natural Water Retention Measures (NWRM)".**

IOWater, coordinator of this project, developed, with 10 other European partners, a platform (www.nwrm.eu) whose catalogue currently includes 53 measures, regrouped into four sectors: Forestry, Urban area, Agriculture and Nature / Hydromorphology.

Case studies are also presented and a database is accessible via the platform.

To facilitate access to information for water managers and decision makers, **a practical guide has been developed and translated into the 25 languages of the European Union.**

The project results were presented in the fall of 2014 to the various WFD Common Implementation Strategy (CIS) working groups, but also at the EUROPE-INBO 2014 General Assembly and at the Conference on Water in Mountain in Megeve.

http://nwrm.eu

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European Commission
DG Environment

"NWRM" partners:

- International Office for Water
- ACTeon Environment
- Baltic Environment Forum
- I.A.CO Environmental & Water Consultants
- Instituto Madrileno De Estudios Avanzados
- Regional Environmental Center
- Regionális Energiagazdasági Kutatóközpont
- Scotland's Rural College
- Swedish University of Agricultural Sciences
- ENV'ECO (environmental economics consultancy)
- AMEC Environment & Infrastructure UK

Final Conference of the "IWRM-net SCP" project

The six research projects on integrated water resources management funded in 2009 by the European IWRM-Net consortium are now complete!

The final conference was held on 21 - 22 October in Brussels at the Delegation of the High Council of Scientific Research (CSIC) and was attended by about sixty participants.

ClimAware	**Impacts of climate change on water resources management: regional strategies and European view** **DE** (Department of Hydraulic Engineering and Water Resources Management & CESR: Center for Environmental Systems Research, Univ. of Kassel) - **FR** (IRSTEA, EPTB Seine Grands Lacs) - **IT** (Mediterranean Agronomic Institute of Bari)
IMPACT	**Developing an integrated model to predict abiotic habitat conditions and biota of rivers for application in climate change research and water management** **DE** (IGB: Leibniz-Institute of Freshwater Ecology and Inland Fisheries, UDE: Univ. of Duisburg-Essen - Dep't of Aquatic Ecology, CAU: Christian-Albrechts Univ. - Dep't of Hydrology and Water Resources Management) - **PT** (CCMar: Centre of Marine Sciences - Univ. of Algarve) - **FR** (Univ. Paul Sabatier – ECOLAB)
ICARUS	**IWRM for Climate Change Adaptation in Rural Social Ecosystems in Southern Europe** **IT** (CMCC: Euro-Med. Centre of Climate Change) - **PT** (EIA: Ensino, Investigação e Administração S.A., Atlântica Univ.) - **SP** (Univ. Politécnica de Valencia)
ESAWADI	**Utilizing the Ecosyst. Services Approach for Water Framework Directive Implementation** **FR** (Asconit Consultants, Credoc: Centre de Recherche pour l'Etude et l'Observation des Conditions de vie) - **PT** (IMAR: Instituto do Mar) - **DE** (Seeconsult, InterSus Sustainability Services)
W2A	**WATER-2-ADAPT: Resilience enhancement and water demand management for climate change adaptation** **IT** (FEEM: Fondazione Eni Enrico Mattei) – SP (BC3: Basque Centre for Climate Change) - **DE** (Seeconsult: Society-Economy-Ecology-Consulting, CALS: Chamber of Agriculture of Lower Saxony)
Water Cap & Trade	**Water markets scenarios for southern Europe: New solutions for coping with water scarcity and drought risk** **FR** (BRGM, ACTéon, IRSTEA) - **IT** (DipSA: Depmt of Agricultural Sciences, Univ. of Bologna) - **SP** (UPM: Univ. Politécnica de Madrid, UCO: Univ. de Cordoba)

Water scarcity management, adaptation to climate change, valuation of ecosystem services, water markets ... Researchers, policy-makers and managers of water resources and aquatic environments were invited to discuss the main results of the projects and their implications for public action around two thematic sessions:

- **Management of water resources and aquatic environments: innovative solutions for adapting to climate change,**
- **Socioeconomic aspects of the management of water resources and aquatic environments.**

The summary of this conference is available online at:

www.iwrm-net.eu

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SIIF: Structured Implementation and Information Framework

Easier access to sanitation data

The European Commission entrusted IOWater with the application of SIIF (Structured Implementation and Information Framework) to the Urban Waste Water Directive, in some pilot countries, to demonstrate its feasibility and added value.

This 15-month project aims to set up a website presenting, in a homogeneous manner, the sanitation situation in 3 countries of the European Union (Cyprus, Latvia and Slovenia).

Based on a user-friendly interface including maps and graphs, this website should allow people easy retrieval of information on the treatment plant or agglomeration of their choice and authorize the export of all or some data for further work.

It should also enable the European Commission to access the latest information in a format that meets the standards set for Europe and thus provide the latest data when available.

Once the system is fully operational, the platform, including the database and the website with maps, graphs and statistics, will be made available to other Member States for their use.

✔

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EUROPE - REGIONAL

Sciences-Policy Interface (SPI)

From theory to practice...


Preparatory meeting for SPI activities
Plovdiv - November 2013
© IOWater - C.Runel

IOWater is involved in raising awareness of issues on the transfer of research results by coordinating or participating in many **Science-Policy Interface (SPI) demonstration projects:** IWRM-net, IWRM-net SCP, Water Diss, Water RtoM...

IOWater also facilitates the European Water Community (EWC) virtual platform.

A dedicated CIS-SPI action was conducted as part of the WFD Common Implementation Strategy (CIS) and coordinated by ONEMA and the DG Environment between 2010 and 2012.

As part of this activity, IOWater is field testing the recommended SPI methods, taking into account the needs of water managers in an Irish pilot basin.

This pilot basin is located in the Eastern River Basin District (ERBD). Three sites around Dublin were pre-identified as having challenges related to the implementation of the WFD and Flood Directive, especially for assessing Natural Water Retention Measures with an ecosystem approach.

The "Community of Practitioners" met in October 2014 in Ireland.

The testing of the method for scientific knowledge transfer took place between October and December to prepare a final report on the implementation of the recommendations in January 2015.

More information:
www.europeanwatercommunity.eu
✔

Water PiPP

Facilitating innovation in public procurement

Project duration: 3 years (2014-2016)
Donor: European Commission
Coordinateur :
International Office for Water
Partners: Central Agency for Public Procurement of the Lombardy Region (ARCA), University of Zaragoza, ICLEI, the Region of Puglia, VTT, Deltares, The European House - Ambrosetti, WssTP, Aqua Publica Europea, KTN and the City of Rotterdam.

In the European Union, public procurement is an important booster for companies that innovate in the areas of water and climate change.

Since the publication of the new Directive 2014/25/EU on procurement by entities operating in the sectors of water, energy, transport and postal services, "innovation partnerships" are future solutions for the promotion of Research, Development and Innovation (R&DI).

The International Office for Water is coordinating the European Water PIPP (Public Innovation Procurement Policies) Project and actively participates in the European Water Innovation Policy (EIP Water).

The **Water PIPP** project aims to explore new methods for awarding public procurement in Europe, focusing on innovation in the field of water, and test the identified best practices to overcome barriers to the commercialization of R&DI.

According to this objective, the **Water PIPP** project achieved an assessment and developed a preliminary strategy to promote public procurement, focusing on innovation, and transfer the best practices observed.

With these preliminary results, some recommendations will be submitted to the European Commission.

Five thematic working groups, involving cities, public operators, regions, industrialists, water authorities, were gathered to share their experiences and validate the recommendations issued after the assessment was completed.

The next step of the project is to contribute to pilot public procurements in order to test the new methods, identified and validated in the previous phases.

All project activities will be promoted by the development of a collaborative platform to impulse meetings between buyers, providers of innovative solutions and stakeholders.


Yearly EIP Water Conference
Barcelona - 6 November 2014

The **Water PIPP** project will propose virtual training sessions on public procurement applied to innovation.

More information:
www.waterpipp.eu
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Water Framework Directive

New Peer-Review Mechanism

The consortium, formed by International Office for Water (France-leader partner), the National Institute of Hydrology and Water Management (Romania) and the Mediterranean Network of Basin Organizations Secretariat (Spain), was selected by the DG Environment of the European Commission in September 2014 for setting up the Peer-Review Mechanism, and taking care of its secretariat for the next 2 years.

The objective is to set up a simple, voluntary and targeted system to allow mutual learning between peers about WFD implementation and participative river basin management planning.

The main people involved will be practitioners from River Basin District Authorities responsible for the implementation of the WFD, which will voluntarily submit issues related to River Basin Management Plans to the review performed by experts from other Member States.

The final output of this new mechanism is the improvement of the WFD implementation in River Basin Districts (RBD) by sharing experience involving various European Member States.

It responds to the assessment of River Basin Management Plans made by the European Commission across Europe that has shown significant differences in implementation among countries.

The impact assessment, accompanying the Blueprint, states that Peer Review (…) has proven to be an effective process in other areas of EU law.

The sharing of experience between colleagues allows for a problem-solving approach to be taken.

Under the Common Implementation Strategy (CIS), the peer review mechanism allows disseminating the experience of the best performing countries to help improving implementation in Member States or Basin Authorities willing to be reviewed.

The steps of the setting up of **a Peer-Review Mechanism** are as follows:

Step 1: **Launching of the call for expression of interest from early 2015** for, on the one side, the identification of the Basin District Authorities willing to have their tools reviewed and, on the other side, voluntary practitioners willing to contribute to the peer review based on their Europass Curriculum Vitae and competence field.

Step 2: **Development of terms of references** for the proposed actions in the selected voluntary Districts.

Step 3: **First peer-reviews performed** and organization of a practical workshop on specific topics in spring 2015.

Step 4: **Continuation of Peer-Reviews until 2016** and elaboration of lessons learnt documents

All materials related to the Peer Review Mechanism can be found on the project website:

www.aquacoope.org/peer.review

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European Commission
DG Environment

Eurostat

Improving European water statistics!

In the European Union, the collection of data on water abstractions and uses, wastewater discharges and treatment goes through the national statistical institutes of the Member States that provide such information to **Eurostat,** the statistical service of the European Commission.

To provide figures aggregated at the national level, these statistical institutes collect the necessary information from different services and economic stakeholders and process these data.

Most often responsible for a variety of topics, ranging from demographic or expenditure statistics to accounts of the nation; these institutes are confronted with rather detailed technical and thematic information, new for them in the water sector.

To help their statisticians to better understand the key concepts and rules of data aggregation and thereby improve the quality of these data, **Eurostat** proposes dedicated training by sectoral specialists.

In this context, IOWater received 14 statisticians from 8 nationalities for three days, from 4 to 6 June 2014.

On this occasion, in Paris area, the group was received by the director of the SIAAP Downstream Seine Treatment Plant for a 3-hour field visit that impressed all the participants.

✔

eurostat EUROPEAN COMMISSION

The French National Water Training Center: Capacity building for better water management

In 2014, the French National Water Training Center (FNWTC) of the International Office for Water trained more than 6,000 trainees from the water, waste and environment sectors.

In its two centers, in Limoges and La Souterraine, **IOWater-FNWTC** thus trains every year professionals, anxious to perfect their knowledge and technical skills **on the unique IOWater educational units.**

Every year, it also trains some 2,000 professionals directly on their workplace and in their own facilities. In this context, **training may be complemented by an audit of the installations and technical support.**

The FNWTC training offer is designed, organized and delivered to answer the questions of professionals related to technical and regulatory changes, but also to meet the needs linked to ongoing reorganizations and to the development of new activities.

Thus, field practitioners, technicians and engineers of drinking water supply, sanitation and waste utilities find at **FNWTC** all the training courses essential for good control and evolution of their work or position.

In addition to its usual training offer, proposed in the "Water" catalogue, FNWTC has developed three other specific catalogues for several years:

- **"Waste - Environment - Sustainable Development";**
- **"Water in the industry";**
- **"Water – Irrigation - Agriculture".**

"IOWater Days" have also been recurring meetings for several years, designed for elected officials and technicians of municipalities and utilities.

They give the opportunity to learn from leading experts on current topics related to water, sanitation, waste, sustainable development.

The IOWater-FNWTC's professional trainers, supplemented by the best experts as lecturers, design and deliver training programs based on existing case studies and putting the students in real working situation **on educational facilities, reproducing working conditions, which are unique in France and Europe.**


The NWTC at La Souterraine

To support the development of vocational training in France and in the World, **the FNWTC has developed training certification and "professional" curricula.** The different modules, independently or in combination, provide a knowledge base and essential skills needed in a specific profession.

Evaluated by a jury of professionals, the participants in some of these courses obtain the "International Office for Water qualification".

Our training approach allows the participants to fully benefit from their training, their skills can be measured with tools proposed by **IOWater** to assess the knowledge acquired.

IOWater-FNWTC is certified ISO 9001, Version 2008, and has been certified to many French Quality labels.

✔

IOWater and Public Works Companies

For several years, IOWater has helped public works companies by training their staff.

The first training sessions, realized during inter-company courses in Limoges and La Souterraine centers, focused on drinking water supply systems.

The needs were initialy centered on the hydraulics of drinking water supply systems, pipe laying and construction of drinking water supply systems, or electro-welding of polyethylene pipes.

More specialized companies also requested training on drinking water production, wastewater treatment, the sizing and maintenance of pumping facilities, operation and maintenance of sewerage systems or self-monitoring.

Today, in view of technical, regulatory and market developments, **Public Works Companies are moving towards the safety of their staff and stormwater management.**

Safety: companies are interested in the safety of their employees working in confined spaces.

Stormwater: trainees mainly participated in intra-company training sessions on urban hydrology, integrated stormwater management and the sizing of water storage structures and systems (dry or water-filled basins, open or underground tanks, with light cellular structures ... flashings, infiltration wells, green roofs...), in new development projects and new legislative and regulatory context.

✔

EUROPE - FRANCE

The French National Water Training Center

The "Water" catalogue for 2015...

The "Water" catalogue for 2015 regroups 311 training programs divided into 445 training courses and 8 main topics:

- **Discovery of trades.**
- **Management of water supply and sanitation utilities, staff safety.**
- **Water in the city:** analysis and water quality, sensors and flowmeters, drilling, pumping, drinking water production, process water, drinking water supply, community sewerage, storm water, sewerage networks, urban wastewater treatment, treatment of sludge, odor and waste, self-monitoring and quality control, maintenance, energy, automation and remote management.
- **Water for recreational activities.**
- **Water in nature.**
- **Water in agriculture.**
- **Water in industry.**
- **Decentralized cooperation.**

In 2015, the IOWater-FNWTC has designed and proposes 23 new courses in its catalogue.

As part of a training curriculum, the sessions can be selected to achieve, over several months or even a year or two, a customized training program according to the needs.

In the catalogue, you can also find qualifying training programs, proposed to meet regulatory requirements and needs for professional skill validation: handling of chlorine in bottles, "Certificate of Competence for Working in Confined Spaces" (CATEC ®), determining of taste and odor of drinking water, water sampling, sampling of hazardous substances in the environment, welding of polyethylene tubes and butt welding, maintenance of backflow preventers, control of facilities supplied by another water resource, control of connections to the sewerage system, treatment and control of water in swimming pools, river hydrometry: the job of gauger. ✔

2015 Training program "Waste, Environment, Sustainable Development"

In its catalogue "Waste, Environment and Sustainable Development" 2015, the IOWater-FNWTC proposes 54 training programs organized in 60 training courses on the topics:

- **Waste:** regulation, service management, hygiene and safety, communication, collection and selective sorting, maintenance of facilities, treatment and reuse of waste and wastewater treatment sludge, leachate, biogas, odor treatment, etc.
- **Air:** measurement of pollution in open air.
- **Noise:** noise at work in water and sanitation utilities.
- **Sites and soils:** pollution appraisal and removal from polluted sites and soils.
- **Energy:** electric energy savings, strategy for the use of renewable energy.
- **Sustainable development:** carbon footprint, sustainable development approach, sustainable purchase, landscape integration into hydraulic structures, storm water recovery.

In 2015, the IOWater-FNWTC is proposing 8 new sessions especially focusing on safety:
first-aid Officer, maintaining and upgrading first-aid skills, Personal Protective Equipment (PPE), prevention of risks related to manual handling, transportation of dangerous goods, awareness to Explosive Atmospheres (EA), crewmember for first fire response, welding and butt welding of high density polyethylene (HDPE) tubes for a biogas system.

In 2015, FNWTC is also proposing 2 new training programs:

- One for operators of a Waste Storage Facility (WSF);
- A new one for operators of biowaste treatment facilities.

As part of these programs, sessions can be selected to complete a training path according to the needs and availability over one or two years or more. ✔

Upon request, all these training courses may be carried out in English for groups of trainees.

IOWater-FNWTC's complete training offer can be consulted on the website:
www.iowater.org/nwtc

Information: Fax: +33 5 55 11 47 01 - E-mail: nwtc@iowater.org

EUROPE – FRANCE

The French National Water Training Center

Certificate of Competence for Working in Confined Spaces

"CATEC®" training

IOWater organizes qualification training courses for personnel conducting operations in confined spaces, as is the case of many drinking water supply and sanitation facilities.

In 2013, IOWater was the first organization approved by the French National Institute for Research and Security (INRS) to provide training to prepare for the Certificate of Competence for Working in Confined Spaces (CATEC® in French).

Originally imposed to private companies specializing in water, these measures are now being adopted by communities which chose **IOWater-FNWTC** to train their staffs.

In a starting phase of the new system, enterprises and communities, wishing to train a large number of staffs, choose the in-company formula on their own site.

The peculiarity of FNWTC is also to offer inter-company training sessions in its training unit at La Souterraine: a true simulator of the real situations encountered.

Recognizing the competence and remarkable equipment used by **FNWTC** for training in confined spaces, **construction companies, metallurgy industry, realizing the maintenance of pressure pipe-lines, have relied on IOWater to train their staff,** or also to participate in the development of their response procedures in the absence of any specific reference frame.

IOWater-FNWTC also runs training sessions for executives and prevention specialists to organize interventions and raise the people's awareness of their responsibilities. ✔

A new key topic: Stormwater Management

The "show-room" platform
© IOWater - C.Runel

For decades, urban floods have multiplied during heavy rainfall events. The consequences of these phenomena on goods and people can be dramatic or at least generating material damage and inconvenience for the population and urban activity.

Increasing soil sealing, due to urbanization growth, is the main cause of these events: the classic design of stormwater drainage is compromised.

Today, it is necessary to promote the integration of water into urban planning when designing development projects.

The challenge now is to limit soil sealing, favor infiltration, reduce discharges into the natural environment and develop alternative techniques to direct-to-sewer drainage by managing stormwater at the earliest possible stage.

To raise elected officials and prime contractors' awareness of integrated stormwater management, **the International Office for Water, in partnership with the Loire-Brittany and Adour-Garonne Water Agencies and Greater Limoges:**

- **Published a "Technical Booklet N° 20" on Stormwater in 2014;**
- Built in Limoges, **a "showroom" platform for presenting various alternative techniques** (gutters, ditches, trenches, draining pavements, flood-prone areas, etc.). ✔

EUROPE - FRANCE

The French National Water Training Center

Maintenance of backflow preventers: 20 years of qualifying courses

A regulatory requirement

The French Public Health Code requires a protection of drinking water supply systems against any backflow and a regular monitoring of all equipment. The health regulations specify the control frequency of backflow preventers.

Since 1987, a circular has required that the staffs working on protective equipment against backflow, including backflow preventers, be qualified.

Practical arrangements

A first educational unit was built in Limoges in 1992 to develop the first training courses, which were carried out in collaboration with the Health Protection Research and Engineering Service.

To qualify, trainees must know the theoretical elements, but also be able to diagnose a faulty device by using a standard sheet and to repair the device.

Trainees must pass an examination every 3 years for the renewal of their qualification.

View of IOWater "backflow preventer" educational unit

Technical developments

Today the IOWater-FNWTC unit includes 8 work stations equipped with 8 different types of backflow preventers, regularly replaced by newer models to keep up with manufacturers' developments.

This unit presents backflow preventer models of all sizes and ages to familiarize the trainees with all the products found in the systems.

Since 1993, 3,000 trainees have attended these qualifying courses.

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New educational units for drinking water production

"Remineralization" unit

In 2014, two new educational and testing units for drinking water production were completed with professional equipment on the IOWater-FNWTC site at La Souterraine:

➤ **The first one is a water remineralization unit with injection of carbon dioxide and micronized lime milk.** Outcome of test studies made after the termination of maerl extraction in Glénans, it allows providing solutions for communities to remineralize their drinking water.

This fully automated unit, with sensors for measuring turbidity and pH parameters, is placed in a container and is thus entirely mobile, which allows for on-site testing to determine the treatment rates to be used for CO2 and micronized lime milk, and their associated costs.

Many partners have helped to complete this project, including the General Council of the Creuse, the Loire-Brittany Water Agency, the Limousin ARS, Veolia Water, SAUR, Air Products, Comap, Sofrel and Lhoist.

➤ **The second unit achieves training on operating ultrafiltration membranes for drinking water production.** This unit is also mobile. It allows carrying out the conditioning/deconditioning of modules, different production and washing cycles and integrity tests on these modules.

"Ultrafiltration" unit

Membrane manufacturers participated in this pilot unit with 2 modules that are already operating (Aquasource and Polymem) and two others that will be installed later (X-flow and Hydranautics).

These pilot units can be used by communities or industrialists... to validate the proper technical solutions for water to be remineralized or clarified.

✔

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EUROPE - FRANCE

The French National Water Training Center

2015 Training program for "industry"

For several years, the IOWater-FNWTC training program for industrialists has been regrouped in a specific catalogue.

In the catalogue for 2015, FNWTC proposes 64 training modules, divided into 82 training courses on the following topics:

- **Regulations, quality, security and the environment:** Classified Installations for Environmental Protection, water abstractions and effluent discharges, analysis of water quality, validity of analyses of industrial wastewater, operation and maintenance of sensors and self-monitoring systems, hygiene and safety, pollution removal on polluted sites, etc.
- **Drilling, pumping, maintenance and automation:** operating a borehole, choice and installation of a pump, equipment maintenance, wiring and automation programming.
- **Water production and distribution:** production of clean industrial water, water disinfection, water softening, water purification, ion exchange resins, reverse osmosis, boiler and cooling water, technical and health rules in internal systems.
- **Treatment of industrial wastewater and sludge treatment:** design and sizing of facilities, operation of treatment plants, biogas recovery, reuse of treated water, use of membrane aeration reactors, treatment and recycling of sludge, operating a deodorization unit.
- **Effluent treatment in surface treatment processes.**
- **Sustainable development, energy and waste:** electric energy savings, strategy for the use of renewable energy, carbon footprint, sustainable development approach, chemical waste management in the laboratory, waste characterization and reduction.

Today, employees' safety is a major issue in a company: in addition to professional knowledge and skills, knowledge and specific behaviors need to be learned and strengthened.

In this context, **the IOWater-FNWTC catalogue offers, in 2015, 8 new training courses focusing on safety at work:** First-aid Officer, Personal Protective Equipment, Self-Contained Breathing Apparatus, prevention of risks related to manual handling, transportation of Dangerous Goods, awareness to explosive atmospheres through play, crewmember for first fire response.

The FNWTC also expands its training curriculum for qualification, proposed in response to regulatory requirements and needs for validation of professional skills: sampling of hazardous substances in the environment, handling of chlorine in bottles... ✔

Upon request, all these training courses may be carried out in English for groups of trainees.

2015 Training on "Water - Irrigation and Agriculture"

Since 2013, the IOWater-FNWTC has been proposing a catalogue specifically addressed to professionals in irrigation and agriculture, with 18 training modules, divided into 26 sessions on the topics:

- Design and sizing of irrigation systems.
- Management and operation of irrigation systems.
- Water resources for agriculture.
- Treatment and recovery of agricultural effluents.

Precise management of water resources, reuse of agricultural effluents, control of land application ... are matters that require specialized skills and trained and qualified professionals.

In 2015, **FNWTC** has included one new course in the catalogue:

- **Control of land application of agricultural liquid manure.**

✔

IOWater-FNWTC's complete training offer can be consulted on the website:
www.iowater.org/nwtc

EUROPE – FRANCE

Information – Documentation – Data Management

Informing citizens about the status of water and aquatic environments

IOWater yearly contributes to the national programs for the management and synthesis of data on resources, water quality, pollution, biodiversity and the protection of aquatic environments.

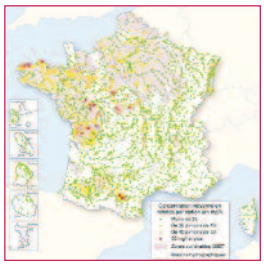
In 2014, its experts produced, with the financial support of ONEMA, educational documents on the sales of phytosanitary products, on the concentrations of nitrates from agricultural sources in rivers and groundwater, and on the Water Development and Management Plans (SAGE).

These documents are intended for raising the stakeholders' awareness on the need to preserve and restore aquatic environments, but also to promote activities undertaken for achieving Good Status of Water Bodies.

The "SAGEs" are 20 years old

For twenty years, **the Water Development and Management Plans (SAGE),** planning tool for local water management, has evolved to adapt to environmental and legal changes. In France, it has become a key tool for ensuring sound and sustainable water resources management and integrating this issue into regional planning. Who develops it? What are the steps? What is its added value? The synthesis answers these questions...

Nitrates in rivers and groundwater



On the occasion of the conference on "Nitrates in Waters in 2014", organized by the European Scientific Association for Water and Health (ASEES) on 22 and 23 May 2014 at the Faculty of Pharmacy of Lyons, **IOWater presented, with ONEMA, the results of the last monitoring campaign on nitrate concentrations in aquatic environments, which ran from 1 October 2010 to 30 September 2011 in Metropolitan France and Overseas Departments.**

These findings, reported to the European Commission by the Ministry of the Environment, are also available in a bulletin published on the portal for access to public information and data on water and aquatic environments:

www.rapportage.eaufrance.fr/directive-nitrates ✔

WATERDOC

WATERDOC, the IOWater international documentation portal on water, proposes services suited to your needs:

- **Access to the IOWater documentary base:** nearly 260,000 references and full text documents;
- **Tailored services on all kinds of water issues** (non-point source pollution, agriculture, aquatic environments, technologies, regulations, socio-economics, etc.) for watch solutions and informational research, drafting of customized documentary records and writing of summaries.

www.iowater.org/documentation ✔

INVITATION

Participate in sessions of the 7th World Water Forum on theme 4.5: "Enhancing Education and Capacity Building" in Daegu!

1. **"Water Education and Capacity Building: Key for Water Security and Sustainable Development"**
   Thursday 16 April, 11:20-13:20
2. **"Financing water professional training to develop competencies: A fruitful economic strategy for water utilities!"**
   Thursday 16 April, 17:00-19:00
3. **"Ensuring sustainability of water infrastructures by investing in Water Training Centers: It pays back!"**
   Wednesday 15 April, 14:40-16:40
4. **"Facing changes in due time: Specific training for river basin organizations"**
   Thursday 16 April, 14:40-16:40
5. **"Water Education for Leaders on safe water and environment"**
   Wednesday 15 April, 9:00-11:00
6. **"Innovative and unconventional tools and techniques to captivate the attention of leaders and global population on water issues"**
   Wednesday 15 April, 11:20-13:20
7. **Concluding session 4.5:**
   Enhancing Education and Capacity Building
   Friday 17 April, 11:20-13:20

These sessions will be held on the premises of Daegu Exco

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"GEST'EAU"

Better understanding the "SAGEs" and Environments Contracts

Established in 2002 by the French Ministry of Ecology and IOWater, "Gest'eau" is the national website dedicated to Water Development and Management Plans (SAGE) and Environments Contracts.

In 2014, it had more than 1.2 million visitors.


GEST'EAU

Décembre 2014

Quelle stratégie pour lutter contre les espèces végétales envahissantes dans le bassin versant de l'Azergues ?

Le bassin de l'Azergues est confronté à des invasions d'espèces végétales. Le Syndicat mixte pour le réaménagement de la plaine des Chères lutte contre ces plantes depuis une quinzaine d'années dans le cadre d'un contrat de milieu : quel bilan ? quelles limites à la stratégie ? et quelles actions pour les années à venir ?

Témoignage

Pierre GADIOLET
Chargé de mission du contrat de rivière et du PAPI du bassin versant de l'Azergues

Quelles sont les espèces végétales qui prolifèrent dans le bassin de l'Azergues ?

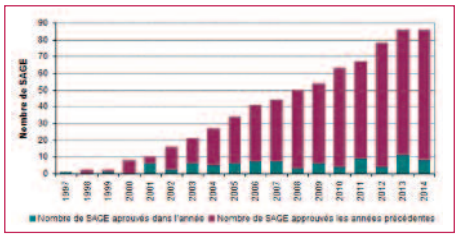
L'Azergues est un affluent de rive droite de la Saône qui coule dans le département du Rhône et draine la partie sud des monts du Beaujolais. Son bassin versant qui recouvre un territoire d'environ 500 km² et 260 km de cours d'eau, est depuis de longue date envahi par la renouée du Japon, introduite en Europe comme plante ornementale. Cette espèce se retrouve un peu partout dans le bassin versant mais est surtout omniprésente sur le cours aval de l'Azergues. Des fragments de rhizomes contenus dans des remblais suffisent en effet à donner naissance à de nouveaux massifs qui sont à leur tour autant de sources de dissémination de la plante.

F

Sharing the actions completed

Its objective is to foster the sharing of knowledge between stakeholders involved in local integrated water management processes.

For such a purpose, **IOWater has developed the website since its creation:** in 2014, this represents 164 descriptive sheets of the "SAGE" and 90 updated sheets on the Environments Contracts, 10 new documentary entries, 1,402 documentary notes entered, 12 newsletters, including 6 with a testimony.



Monitoring the progress of integrated water management tools

If these tools are now better known, stakeholders in local water management are always curious to know about their progress and evolution. Therefore **IOWater** conducted a study to:

- Identify a list of key figures for the "SAGEs" and Environments Contracts,
- Describe the necessary data and formulas to calculate these key figures,
- Develop an automatic calculation system.

www.gesteau.eaufrance.fr

✔

INVITATION

Participate in the European Sessions of the 7th World Water Forum in Gyeongju!

1. **"Successful experience of European International Basin Organizations for better managing transboundary rivers, lakes and aquifers in Europe"**
   Monday 13 April, 11:20-13:20
2. **"The EU Water Directives: Efficient tools to reach the ambitious objectives of European joint policy to safeguard water and aquatic environments"**
   Tuesday 14 April, 14:40-16:40
3. **"European examples and instruments for effective adaptation to climate change"**
   Tuesday 14 April, 17:00-19:00
4. **"Living with water in cities of tomorrow: Challenges and ways forward towards implementation of solutions"**
   Tuesday 14 April, 11:20-19:00
5. **"Water-Energy efficiency for green growth"**
   Wednesday 15 April, 9:00-11:00
6. **"Science and Technology: Creating an enabling environment to bridge the gap from science to implementation by working in the Triple Helix"**
   Tuesday 14 April, 14:40-16:40
7. **European concluding session**
   Wednesday 15 April, 14:40-18:00

A glossary on water and aquatic environments

The glossary on water and aquatic environments is a common tool for the partners of the French Water Information System (WIS).

It results from the pooling of fifty glossaries since 2010, in order to develop a semantic data model.

It includes about 1,100 terms currently available in English, French and Spanish.

This is a "collaborative" website, any user can propose to amend it, delete some words or add others. Proposals are evaluated by a group of users, WIS partners. The website content is entirely free and reusable.

It is also in line with the "linked data" dynamics, which aims to promote the publication of structured data on the Web using semantic technologies.

Current efforts are based on the linking of the glossary terms with Wikipedia articles (DBpedia) and the GEMET thesaurus.

IOWater added approximately 300 Glossary terms in 2014.

As **IOWater** was anxious to make it a more interactive Glossary, more game-like interfaces, based on relationship graphs, were established for the general public and, for specialists, a SPARQL query interface (fr.wikipedia. org / wiki / SPARQL) will allow exploring, recovering or viewing the contents of the glossary.

www.glossaire.eaufrance.fr

✔

EUROPE – FRANCE

Information – Documentation – Data Management

"SANDRE"

French National Service for Water Data and Common Reference Frames Management

Establishing a common language

The French National Service for Water Data and Common Reference Frames Management (SANDRE) was created in 1993 to simplify the exchange of data between the various stakeholders involved.

It thus offers a unique interchange interface and addresses the need to establish a common language between partners from the water world.

Through "SANDRE", many tools are then developed to allow the stakeholders concerned to make their information systems interoperable: dictionaries and interactive exchange scenarios, web services, reference data, a cartographic atlas, a metadata catalogue, audits of computer systems, compliance labels, etc.

"SANDRE" is proposing more than 20,000 pages of technical specifications. It establishes compliance labels for over 15,000 files per year and more than 30,000 interventions (taxons, substances, etc.). Its website receives more than 250,000 visitors a year.

IOWater takes care of "SANDRE" Technical Secretariat with the support of the National Agency for Water and Aquatic Environments (ONEMA).

Adapting to the stakeholders' needs

For example, each year in France, more than ten million results of water analyses (drinking water, surface water, groundwater, coastal water, wastewater,…) are produced and exchanged between analysis laboratories and partners (ARS, DREAL, Water Agencies, industrialists,…).

IOWater, as "SANDRE" Secretariat, worked out, with the support of the Ministries in charge of the Environment and Health and ONEMA and with the assistance of a group of experts, a standard for data interchange: **"EDILABO".**

The order of 29 November 2006, stipulates, in article 3, that any laboratory must from now on be able to receive a request for analyses and to provide results in the **"EDILABO"** format.

The stakeholders must change their information systems by developing an interchange interface in conformity with the **"EDILABO"** standard, version 2 published in 2014.

"SANDRE" Conference - Pollutec Lyons 2014

Extension to other fields

IOWater also intervenes for:

➥ INSPIRE

Under the European INSPIRE Directive, IOWater is a contributing member to the writing of specifications on the interchange of water data.

An approximating of **"SANDRE"** and **INSPIRE** models was published on our website.

The new dictionaries of **"SANDRE"** data on wetlands, river and administrative reference frames are now compatible with this Directive.

An online service is already being tested; it allows any WIS user to transform a file in "SANDRE" format into the INSPIRE format.

➥ Interoperability

The communities of research, standardization and industry were gathered to participate in the first Interoperability and Innovation Days. On this occasion, **IOWater** presented the **"SANDRE"** semantic repositories for the sharing and dissemination of geographic data.

Interoperability and Innovation Days ENSG Paris

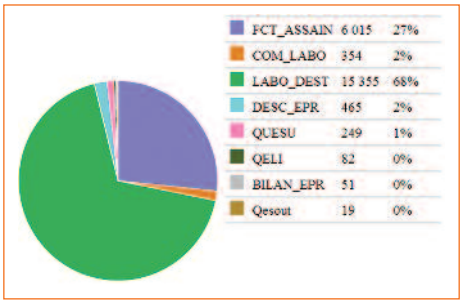
Meeting national needs

IOWater, as **"SANDRE"** Secretariat, is contributing to national projects developed by the partners of the French Water Information System (WIS):

➥ Data Quality

IOWater has developed a service to transform a **"SANDRE"** XML file into a more readable format for the user. This service also controls the data and issues certificates.

The graph below shows the number of **"SANDRE"** certificates (in percentage) issued to water stakeholders in 2014 by type of exchange scenario.



IOWater controls the geographic data collected from WIS data producers.

These data are then published on "SANDRE" website in the atlas and metadata catalogue.

✔

http://sandre.eaufrance.fr

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EUROPE – FRANCE

Audits and Studies

Interdepartmental Syndicate for Sanitation of Greater Paris (SIAAP)

Educational audit and training

The Downstream-Seine wastewater treatment plant

The Downstream-Seine wastewater treatment plant is being renovated in order to improve performance and environmental protection.

The improvements especially concern effluent pretreatments.

The Interdepartmental Syndicate for Sanitation of Greater Paris (SIAAP) deemed an audit to be necessary so that the concerned staff members could adequately operate the new pretreatment facilities under construction.

About sixty workers were thus audited by **IOWater** between November 2013 and January 2014. The audit was progressively carried out in several stages, in close and continuing consultation with "SIAAP" representatives.

This audit led to a training plan for the staff, composed of various modules to be implemented immediately afterwards (2014), before the workers operate the new facilities.

The audit findings were positively received: this work on skills is crucial for an organization like "SIAAP" and such a huge Downstream-Seine plant.

With this audit, IOWater increased its know-how in HRM and demonstrates its ability to support the water stakeholders in managing and improving their skills.

For example, strong demand was expressed by all audited staff members on the topic of odor treatment, renovation of pretreatment, including the chemical treatment of odors in this unit.

Thus, 88 workers, from all services (operation, maintenance, laboratory, 3x8 shift teams) and all hierarchical levels, were trained, from late 2013 to June 2014, on odor treatment techniques: chemical washing, biological treatment, adsorption, heat treatment.

✔

SIAAP
Service public de l'assainissement francilien

Corsica

Missions for the Corsican Hydraulic Equipment Board (OEHC)

In 2013, the Corsican Hydraulic Equipment Board (OEHC) commissioned IOWater for an assessment of the operation of drinking water treatment units.

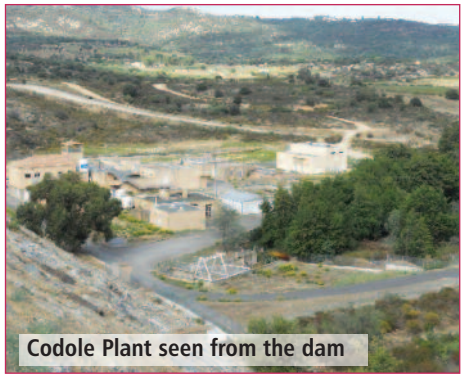
The visit of Rizzanese (Sartène), Bomortu (Ajaccio), Codole and Calvi plants, and interviews with technical staffs, allowed listing the weaknesses and strengths of the services.

In 2014, IOWater assessed the skills of the technical staffs of Codole and Calvi plants in Upper Corsica.

This second mission proposed a new organization of the service, including through team strengthening, staff training and technical improvements, especially regarding the chlorination points in the distribution system.

✔

Collectivité Territoriale de CORSE
CORSICA
Office d'Equipement Hydraulique de Corse
Uffiziu di Echippamentu Idrolicu di Corsica



Codole Plant seen from the dam

EUROPE – FRANCE

Audits and Studies

Perpignan Urban Community

Implementation of water tariffs convergence


Perpignan

Since 2011, IOWater has helped the Perpignan-Mediterranean Urban Community for the establishment of a consistent and adapted pricing strategy for the 72 transferred municipal water and sewerage utilities.

After determining equilibrium tariffs in 2012 and their evolution up to 2015, **the International Office for Water** helped the Urban Community on with the pricing convergence and the development of a social and environmental pricing of the water and sanitation services of the 15 towns directly managed by it.

Indeed, if the pooling of technical services is currently effective, financial management remains at the municipal level: Municipalities with an unfavorable geographical, hydrological and environmental situation support major investments, ultimately causing a high price of their water and sanitation services.

For neighboring consumers depending of the same Urban Community utility, the pricing structure and the price may be very different.

After studying several convergence time scenarios, several assumptions for the evolution of the billing basis (consumers and volume) and different levels of investment, while maintaining the total revenue of the service, **the Perpignan-Mediterranean elected officials decided to gradually harmonize their pricing over the next six years (2015-2020).**

After establishing convergence, the maximum increase in the annual water and sewerage bill will not exceed €31 (taxes not included) when it could have reached 54 € (taxes not included) in some municipalities.

For delegation-managed municipalities, pricing convergence will be effective in 2015 in the Central Area (Perpignan and three neighboring municipalities) and 2016 for the Littoral Area ("Canet en Roussillon" and 4 neighboring municipalities).

Secondly, pricing will evolve towards a more social and incentive approach to water saving (pricing by consumption blocks) while guaranteeing a sufficient level of revenue for the development and adaptation of the services to the future challenges.

✔

PERPIGNAN MÉDITERRANÉE

Self-monitoring

Audit and control of facilities

For many years, **IOWater** (French National Water Training Center) has carried out yearly checks of **the self-monitoring devices used for effluent discharges** from the Atomic Energy Commission (Commissariat à l'Energie Atomique - CEA), AREVA, Paris Airport (ADP), etc. This activity consists in checking the conditions for implementation of the devices, in monitoring the performance of the measurements and/or samples and finally drafting a compliance report.

Gradually, **IOWater was requested to assess the existing self-monitoring equipment.** Thus, several people involved in the nuclear sector (CEA, Fontenay aux Roses in 1996 and 2014; CEA, Bruyeres le Châtel in 2010, AREVA Bessines in 2011 and 2014, and the Géligné site in 2014) wished to validate the compliance of their facilities and be assisted to resize, reorganize even, their measurement and sampling points in order to make their results ever more reliable when needed.

Today, IOWater is even requested to validate the compliance of new facilities before presentation to the supervisory authorities, as was the case in the first quarter of 2014 on an "ADP" site.

✔

Alsace

Study of the corrosivity of water intended for human consumption


Colmar

The study on water corrosivity in Alsace, implemented by IOWater, together with the Eurofins analysis laboratory, commissioned by the Regional Health Agency (ARS) of Alsace, ended early July 2014.

A data feedback meeting, on the premises of the **"ARS"** in Colmar, validated the final report that summarizes the data collected throughout the study, i.e.:

- **General information on water quality parameters** and their involvement in the corrosion phenomena, regulations in force, bibliographic data on the water quality impact on materials;
- **An analysis of the situation in Alsace** (water quality, status of the systems, treatment performance);
- **Possible corrective actions** (correction of water mineralization, use of corrosion inhibitors, curative actions in the supply system);
- **An action program for Alsace,** with an estimated costing of plant rehabilitation and of the treatments to be used, and prioritization.

✔

ars Agence Régionale de Santé Alsace

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EUROPE – FRANCE

Audits and Studies

Eurocoustic - Saint-Gobain Group

Assessment of sanitation facilities and characterization of process water

The Saint-Gobain Group has made water conservation one of its priorities, firstly, in terms of its exposure to risks associated with the use of water in its processes, and secondly, because of its involvement in the business of water supply and sanitation.

This commitment was reflected in 2011 with the adoption of a "water policy".

The group's objective is to minimize the quantitative and qualitative impact of its activities on water resources, both in terms of its withdrawals as its discharges: to do so, it must "withdraw the minimum resource to strive for zero discharge of industrial water in liquid form, while avoiding to generate new impacts for the other environments and/or stakeholders".

This standard should be implemented for all group activities.

Thus the Eurocoustic plant, located in Genouillac in the Creuse, specializing in rock wool manufacturing for insulation, began the implementation of this "Water Policy".

In its industrial process, Eurocoustic uses large quantities of varied quality water coming from very different sources: water from the stormwater drainage system, water springs and recycled water from various workshops.

In this context and due to the significant transformations experienced by the Genouillac site since its origin, an assessment was launched to draw up an inventory and optimize water management. This decision was supported by the will of developing the site and by a strong influence of the quality of the water used on the quality of insulation products.

This study was also an opportunity for updating the maps of the wastewater collection points on the site, given the numerous changes occurring during developments made in recent years.

This mission was entrusted to IOWater.

To do this, several investigation campaigns were carried out between November 2013 and January 2014.

These investigations, which were conducted under variable weather conditions (dry and wet weather), consisted of:

- Tests with dyes to plot the sanitation systems (sewage and stormwater) and process waters,
- An inventory of the various water treatment structures,
- A measurement of the water flow rates used in the manufacturing process,
- Water samplings and analyses for their characterization.

Field water samplings and analyses

All field investigations were conducted by **IOWater's** staff. It was the same for water analyses that were made by our laboratory at La Souterraine.

Using the field investigations made, **the International Office for Water provided a study report** including:

- **A checking plan for sewage, stormwater and industrial wastewater systems,**
- **A quantitative synthesis of the waters used on the site,**
- **A qualitative synthesis of waters,**
- **Possible improvements.**

This assessment will allow Eurocoustic to launch further investigations to optimize water use on the Genouillac site, according to the "Water" policy implemented by the Saint-Gobain Group. ✔

Cosmetic Industry

Technical support to the Parchimy Company


Equipment for effluent pretreatment at Parchimy

The International Office for Water provides technical support on request of private companies or local authorities.

In this context, the Parchimy Company, a subsidiary of Eugène Perma Group, requested its know-how.

The wish of this industrialist, who is producing cosmetics, was to make the effluent pretreatment reliable before its discharge into the domestic wastewater sewerage system of the Urban Community of Greater Reims.

IOWater thus conducted an on-site audit to establish the operating instructions and list a set of best practices for reliability and optimization of the facilities.

Consequently, the consumption of ferric chloride has been halved.

IOWater then accompanies this client in its reliability approach regarding its wastewater treatment plant.

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EUROPE – FRANCE

Audits and Studies

Vassivière Lake Syndicate

Sanitation challenges

Created by the building of a hydropower dam, Lake Vassivière is one of the largest artificial lakes in France. It is located in the Creuse and Upper-Vienne Departments.

In partnership with **the Vassivière Lake Syndicate,** tourist facilities and services are being developed. The Syndicate is in charge of managing the main system collecting effluents from towns bordering the lake. This system aims to protect the lake against all direct discharges, by carrying treated effluents out of the basin to avoid the risk of eutrophication of bathing areas.

In this context, **IOWater studied the lake sanitation challenges.**

Previous studies and assessments were updated. Innovative alternatives - including the one based on the use of a different operation method according to the seasons - were also proposed.

Search for optimization resulted in the development of three major scenarios for the rehabilitation of the sewerage system. The estimated costs of rehabilitation work were valued at €6.3 million for the scenario providing partial rehabilitation, and at € 8 million for the scenario providing the complete rehabilitation of the system.

✔

Adour Garonne River Basin

Charter on the Quality of Sewerage Systems

"Analysis of the implementation of the Charter on the Quality of Sewerage Systems in the Adour Garonne Basin"

Design defects and aging structures may jeopardize the good operation of sewerage systems and their sustainability, with consequences on the environment and on the water price.

To improve the situation, **in 1995, the Adour-Garonne Water Agency adopted a Charter on the Quality of Sewerage Systems,** whose application is a condition for eligibility to its aids. In 2006, a National Charter on the Quality of Sewerage Systems was signed to homogenize the charters of the six French Water Agencies.

Wishing to obtain feedback on the implementation of the charter in its basin, **the Adour-Garonne Water Agency launched an assessment study in 2014.**

IOWater developed an evaluation grid for the completed sewerage projects. This grid is established to take into account all the sanitation building stages, the consultation company's record at final acceptance.

IOWater will propose improvements to the charter, based on the results of this study.

✔

AGENCE DE L'EAU ADOUR-GARONNE

Mayor's report

Reducing leaks in drinking water supply systems: use of indicators

In France, the Report on the Price of Service Quality (RPQS) is an annual public document that informs the users about the operation of each water supply and sanitation utility. The Decree of 2 May 2007 introduced the utility performance indicators to be included in the report.

As part of its Multi-Year Target Agreement with "ONEMA", IOWater is studying how to combine the various indicators of the drinking water system to better determine the losses in a network, and therefore optimize it.

At this stage of the study, the selected indicators mainly concern:

- The performance of the distribution system;
- The Linear Loss Index of a Network;
- The knowledge and asset management index of drinking water supply systems;
- Linear Index of the volumes of unaccounted-for water...

The optimization scenarios include pressure management in systems, active leak detection, repair / rehabilitation / replacement and improvement of the knowledge of networks.

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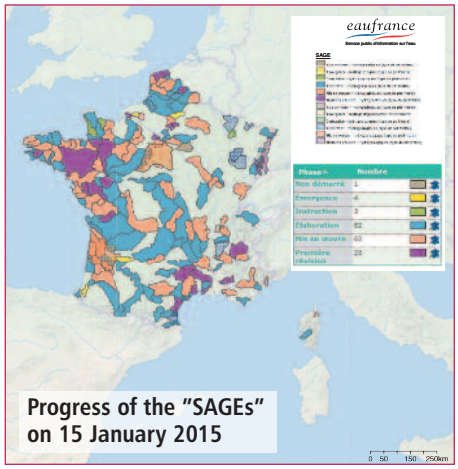
EUROPE – FRANCE

Audits and Studies

What territorial strategies for water management in Europe?



To implement the WFD and especially its River Basin Management Plans and Programs of Measures, France has a strategy based on a consistent hydrographic unit, the sub-basin, in promoting the development of **Water Development and Management Plans (SAGE)** at this level.

Is the French "SAGE" unique in Europe?

In eight European countries, IOWater analyzed the tools for sub-basin water resources management that meet the characteristics of the French "SAGE":

- **Planning at the level of a sub-basin or a consistent hydrographic unit;**
- **Approach to sound and sustainable water resources management;**
- **A multi-stakeholder consultation framework;**
- **A document having a regulatory scope and defining enforceable rules.**

The observation of the eight European countries, Belgium (Walloon Region), Germany (Lander of Lower Saxony), Italy, Luxembourg, the Netherlands, Spain, Sweden and the United Kingdom, shows that these countries have mainly developed plans for managing water resources at regional level, depending on their institutional, historical and cultural context.

Spain is organizing water management on the scale of major river basins, but Luxembourg keeps water resource planning at national level.

England has recently developed an approach to planning at the level of consistent hydrographic units.

If the Programs of Measures of the River Basin Management Plans are usually developed with regional plans, some countries bordering France have developed tools that draw heavily on river contracts on the sub-basin scale (the Walloon Region, Luxembourg, Italy, Spain occasionally).

The Lander of Lower Saxony, the Netherlands, England, Walloon Region, Luxembourg and Sweden have institutionalized dialogue in multi-stakeholder committees. However, their implementation method, their powers and privileges vary for each country.

The "French SAGE" seems to remain unique in Europe! ✔

The Siagne "SAGE" keeps going

A River Basin with strong contrasts

The Siagne, a permanent karstic river, is born in the Escragnolles county and flows over 44 km before flowing out into the Mediterranean Sea. Situated in both the Var and Alpes-Maritimes Departments, its catchment area covers a surface area of 520 km² and includes 32 municipalities.

The assessment is being completed

The Water Development and Management Plan (SAGE) of the Siagne was launched in July 2010 and the Local Water Commission established on 14 May 2013.

The key structure for the "SAGE" is the Interdepartmental and Intermunicipal single-purposed Syndicate (SIIVU) of the Upper Siagne.

The group led by Acteon with IOWater was selected to develop an assessment of the Siagne "SAGE".

This 2-year study started in spring 2013. After a phase for information collection and analysis, including the organization of several meetings with groups of involved partners, the initial assessment and baseline scenario were validated by the Reading Committee in September 2014.

The prospective phase is being implemented

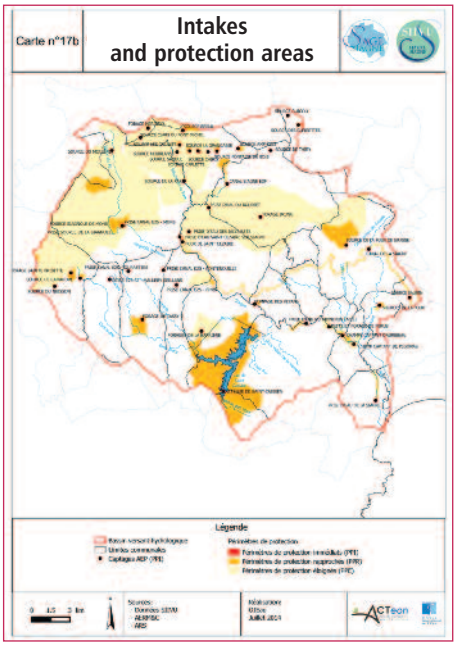
The "SAGE" assessment started with a participatory workshop in autumn 2014 and **the contrasting alternative scenarios are expected in early 2015.** A study is carried out at the same time to define the water volumes that can be abstracted.

The challenges of restoring ecological continuity, governance, optimization of hydraulic structures and water resources sharing are at the core of the actions to be carried out in the coming years.

In this project, IOWater also deals with the Geographic Information System (GIS) and Water Information System (WIS). A cartographic atlas was completed and an online metadata catalogue was established, freely available on the website:

www.oieaudci.net/catsiagne

✔



EASTERN AND CENTRAL EUROPE

Croatia

End of the twinning agreement on the Flood Directive

In April 2014, Austria, France and the Netherlands closed the twinning project on the European Flood Directive with Croatia, which became a full EU Member State in July 2013.

Adopted in 2007, the Flood Directive imposed its schedule to the four countries participating in the twinning project. The schedule of the Directive, which eventually will be synchronized with that of the Water Framework Directive, gives the following deadlines for **the 3 stages of preparation of Flood Risk Management Plans to be developed in each river basin/unit:**

- **Preliminary Flood Risk Assessment (PFRA) with selection of Areas with Significant Potential Flood Risk (ASPFR) by December 2011;**
- **Hazard and risk mapping of ASPFR by December 2013;**
- **Flood Risk Management Plans (FRMPs), including their Program of Measures by December 2015.**

This 16-month project especially focused on **the mapping of flood risk in two priority pilot areas: the Kupa River in the Black Sea Basin and the delta of the Neretva River in the Adriatic Sea Basin with specific flood characteristics.**

IOWater was responsible for implementing the training program that supported the preparation of the Flood Risk Management Plan (FRMP) with its Program of Measures and associated economic analysis.

A model for identifying the data necessary for preparing the plan was also developed for dissemination to other Croatian pilot basins.

On the French side, in addition to **IOWater** intervention on behalf of the Ministry of Ecology, Sustainable Development and Energy, the support of **"CEREMA",** Center for Studies and Assessment of Risk, Environment, Mobility and Development, which has developed modeling tools suited to the Directive requirements for the French Authorities, has been valuable and appreciated. ✔

Macedonia

Institutional capacity building and Improvement of Legislation

IOWater is implementing, in partnership with Ramboll, a technical assistance project for capacity building of the Ministry for the Environment of Macedonia, in order to develop and apply the legislation on water.

The project, of a 2-year duration, is funded by the European Union.

IOWater is in charge of carrying out 2 activities for the improvement of the legislative framework for water resources management in Macedonia, and the development of the 4 first elements of a Management Plan for the main basin of the country, that of the Vardar River, thanks to the intervention of two long-term experts on site and assistance with short-term expert missions.

A thorough analysis of the Macedonian legislation for water management was conducted to identify discrepancies with the obligations of the various European water-related Directives.

Recommendations for amending the texts of current law were proposed and additions will be prepared later on in the project.

The four initial elements to be developed for the Vardar River Basin Plan include:

- **Characterization of Water Bodies in the basin;**
- **Identification of pressures on water bodies;**
- **Mapping of protected areas;**
- **Development of a Monitoring Plan.**

One of the priority objectives of the project is also the on-the-job training and capacity building of the staff of the Water Department of the Macedonian Ministry for the Environment.

✔

Moldova

Analysis of priority options for water governance

More than twenty years after the break-up of the Soviet Union, the Republic of Moldova is still facing considerable challenges.

For more than 13 years, Swiss Cooperation has supported the development of innovative and decentralized water supply and sanitation services. Thanks to this help, access to drinking water was improved for more than 40.000 people in Moldova.

In this context, **IOWater** was selected by **the Swiss Cooperation Office** in Moldova (SDC/SCO-M), in collaboration with the Coordination Office for Technical Cooperation of **the Austrian Embassy (ADA),** in order to conduct an in-depth analysis of the situation and present recommendations for action focusing on:

- **Developing a water information management system,** that provides complete and reliable data to the e-governance platform,
- **Promoting integrated water resources management,** according to the provisions of the new water law;
- **Organizing capacity building and training** aimed at implementation of a newly adjusted regulatory framework on water supply and sanitation.

Coordinated by **IOWater,** 2 French and 2 Austrian experts realized a first mission between 14 and 20 September 2014, in order to analyze the situation and identify the priority needs and concrete actions that could be implemented in the coming years with **SDC** and **ADA** support on these 3 topics.

The mission report was presented and discussed during a national workshop organized on 22 October 2014 in Chisinau.

✔

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Turkey

Success for three European institutional twinning projects

➤ Bathing Water Directive

Started in January 2013 for an initial 2-year period, **the Twinning project on Bathing Water with Turkey is coordinated by the International Office for Water on behalf of the French Ministry of Social Affairs and Health, together with the Italian association Minoprio, mandated by the Lombardia Regional Council.**

The Turkish legislative framework has been analyzed and its updating is underway, according to the new Bathing Water Directive 2006/7/EC. Simultaneously, **150 staff members of the Public Health Institution of Turkey, in charge of bathing water management, are being trained on the various aspect of the Directive:**

- Classification of bathing areas according to their quality;
- Development of profiles for bathing areas, with an Action Plan to improve water quality and manage risks;
- Management of the data flows and development of a database;
- Global monitoring of bathing areas, from the information of the public to the management of crisis situations;
- Improvement of the technical capacities of control laboratories.

Group of experts in the seminar on monitoring for bathing waters

www.aquacoope.org/turkeybw

➤ Flood Directive

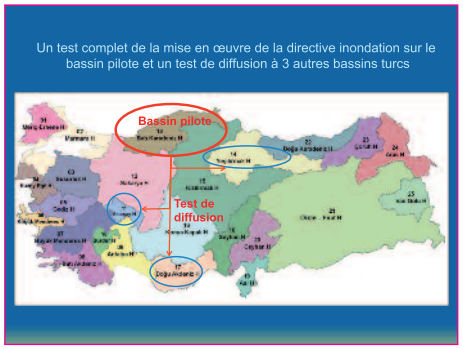
The project "Capacity building for the implementation of the Flood Directive" was launched to support the Directorate General for Water Management of the Ministry of Forestry and Water Affairs in its new coordination mission for better flood risk management in Turkey.

It has been developing for over 2 years with the support of major French and Romanian Public Institutions working on this directive in their respective countries: the Directorate General for Risk Prevention of the French Ministry of Environment (MEDDE), the "CEREMA", the National Agency Apele Romane and its Institute of Hydrology and Water Management, **coordinated by IOWater.**

The project aimed at developing the main tools planned for in the EU Directive:

- **Transposition of the Flood Directive (FD)** into Turkish legislation and adaptation of the institutional organization;
- Implementation of the 3 preparatory steps for **a Flood Risk Management Plan in the pilot "Bati Karadeniz" Basin.** The users were consulted in these key stages. A methodological guidance document was drafted to be disseminated to the **25 other Turkish basins** and training activities were tested in three basins.
- Preparation of **the National Flood Directive Implementation Plan,** integrating economic analysis.

A key moment was the consultation with stakeholders in Karabük on 27 August 2013 on the results of the Preliminary Flood Risk Assessment (PFRA) for the pilot "Bati Karadeniz" Basin for validating the first stage of the Flood Risk Management Plan.



➤ Water Framework Directive

This twinning agreement on the implementation of the Framework Directive was carried out between September 2011 and February 2014. This project, implemented by the Netherlands, France and Spain, aimed to support the Turkish Ministry of Forestry and Water Affairs in **developing monitoring plans for six pilot basins and a national monitoring plan.**

On the French side, experts from the "MEDDE", Seine-Normandy Water Agency, "IRSTEA", "IFREMER", and **coordinated by IOWater,** contributed to this work.

In 2014, the Twinning project was completed with the finalization of **the national plan for the implementation of monitoring programs,** including institutional and legislative recommendations in particular, but also an estimate of the costs incurred to harmonize Turkish practices with the requirements of the EU Water Framework Directive in the monitoring of Water Bodies.

✔

EMWIS

SEMIDE
EMWIS

Better management of knowledge on water in the Mediterranean

New Spanish Presidency for EMWIS

The Chairmanship of the Steering Committee of **the Euro-Mediterranean Water Information System (EMWIS)** was transferred from Italy to Spain during the committee meeting last September in Valencia: **the president of the Jucar Basin Authority, Ms. Maria Ángeles Ureña, succeeded to Mr. Walter Mazzitti.**

The Committee approved the development priorities for the coming years. They include:

- Continuing the development of **National Water Information Systems** in the Mediterranean countries;
- Boosting **joint working groups,** with experts from the EU (in particular those in the CIS: Common Implementation Strategy of the Water Framework Directive), on issues of common interest, such as the reuse of treated wastewater, solutions to fight against water scarcity and degradation of the quality of water resources...
- Developing synergies with regional and national political processes such as **the Water Strategy for the Western Mediterranean (5+5):** a preparatory meeting was held as a side event of the Steering Committee;
- Preparing **new projects** leading to achievements directly usable in the countries;

The Water Directors of the 13 countries present reiterated their commitment to continue their joint activities within EMWIS platform, highlighting its uniqueness in institutional exchanges between all the Mediterranean countries.

✔

Passing the Presidency from Italy to Spain

The Mediterranean Water Knowledge Platform (UfM)

Steering Committee of the Mediterranean Water Platform

Following the unanimous approval of the project by 43 member countries of the Union for the Mediterranean (UfM) in April 2014, the first meeting of the project Steering Committee was held in Valencia (Spain).

The four pilot countries of the Southern Mediterranean (Jordan, Lebanon, Morocco and Tunisia) presented the work progress made for the implementation of **National Water Information Systems** shared by these countries' institutions and in the drafting of white papers that can guide policies for integrated water resources management.

In addition to the project sponsors, **the International Office for Water, the Mediterranean Water Institute** and the technical coordinators **(EMWIS and MENBO),** the Water Directorates of ten Mediterranean countries participated in this Steering Committee as well as the European Environment Agency, the Mediterranean Action Plan, the Water Center of the Arab League and the Mediterranean Center for Integration.

The project is now entering an active phase of looking for funding of its regional activities. Indeed, the regional component of the project is open to all Northern, Southern and Eastern Mediterranean countries and aims to provide guides, tools, training, exchange of experiences and finally the demonstration of data flow for international reporting.

http://upm-eau.net

✔

Innovation to meet the Mediterranean water challenges

The Mediterranean region is facing many challenges in sustainable water resources management. Many solutions have been developed by research centers, but the transition to a large-scale deployment is delayed due to the lack of field validation in real size.

The European Union, with its "Innovation Program for Water", is supporting real-size water demonstration projects involving laboratories, companies and end users.

EMWIS takes part in four of these projects, with a high potential for the region, to:

- Advise farmers on their irrigation practice on a daily basis, but also on the planning of coming crops that will soon be possible thanks to an online expert system implemented by **"OPIRIS"** (www.opiris.eu);
- Solve the three problems of feeding populations, energy efficiency and water efficiency, the **"WEAM4i"** project implements solutions for intelligent irrigation management (weam4i.eu);
- Make large Mediterranean tourist resorts water-self sufficient, which remains a very long-term goal, but the **"demEAUmed"** project is testing solutions for water treatment and control for that purpose (www.demeaumed.eu) ;
- In the Mediterranean, dams are important for irrigation, drinking water supply and flood control, but their management is complex. The **"SAID"** project proposes a set of tools for monitoring, control and early warning related to water quality, hydrometeorology for floods, management and maintenance of structures (www.said-project.eu).

✔

www.emwis.net

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"MED-3R"

For better management of urban solid waste in the Mediterranean

The management of urban solid waste is a priority issue in the Mediterranean. The report presented at the Ministerial Conference on the Environment of the Union for the Mediterranean demonstrates the importance of this issue to achieve the goal of removing pollution in the Mediterranean by 2020 (Horizon2020).

The strategic platform implemented in the Med-3R project, co-funded by the European Commission under the European Neighborhood Financial Instrument, offers an actual response to this problem.

This platform is built around various activities: pilot actions carried out **in 8 Mediterranean cities** (Nice-Riviera Metropolis, Hyeres, Genoa, Sfax, Sousse, Blat, Byblos, and Aqaba), drafting of waste management plans, training, capitalization of knowledge of municipalities, industry and expert networks.

The addressed topics cover food waste, waste sorting, composting of bio-waste, Waste of Electrical and Electronic Equipment (WEEE), waste of activities with infectious risk (medical waste), plastic waste and waste of islands.

In 2014, the pilot actions, coordinated by **EMWIS,** have all started and an assessment framework with sets of indicators has been defined to present the lessons learned by the end of 2015.

IOWater, for its part, carried out the following actions:

- Preparation of a report on **the sorting of bio-waste;**
- Drafting of technical sheets on **the use of waste dryers in the catering industry,**


Training session in Lebanon

- **Organization of 2 training sessions** for municipal officials in Lebanon on the topic of waste sorting and collection, and on communication strategies to be implemented to improve service performance.

The network has expanded with the joining up of five new towns at the meeting of the **Med-3R** Committee at Byblos in October 2014.

www.med-3r.eu

✔

AquaForMed

Mediterranean Network of Water Training Centers


Session of the AquaForMed Network
3rd International Water Forum in Istanbul

Launched in March 2012 in Marseilles, on the occasion of the 6th World Water Forum, **the AquaForMed Network** gathers water training centers around the Mediterranean having a significant training activity for the technical staffs of water supply and sanitation utilities.

It aims to enable vocational training on water in the Mediterranean region.

In particular, it supports the principle that the development of skills through training improves service quality and increases the life span of structures.

This belief is based on two studies being developed by Network members: the first deals with the benefits of vocational training for water and sanitation utilities and, the second, with the regulatory and financial context including training in the Mediterranean.

A dynamic Network for a strategic issue

The launching phase of AquaForMed has been financed by the Ile-de-France Region since September 2012. The first activities of the Network enabled the development of an online website, the organization of three steering committees and the conducting of a study tour of water supply and sanitation utilities in Paris in March 2014.

The Network also participated in **the 3rd International Water Forum in Istanbul,** by organizing on 28 May 2014 a session gathering stakeholders in vocational training.

Finally, the Network is continuing its expansion, with the accession of three important centers in 2014: the Water Training Center (CFME) of the "Algérienne des Eaux" (Algiers Water Company - ADE), the Sanitation Training Center (CFMA) of the Algerian National Sanitation Office (ONA), and The City of Water and Sanitation (LCDEA) of the Interdepartmental Syndicate for Sanitation of Greater Paris (SIAAP).

AquaForMed will intervene at the 7th World Forum in Korea in thematic sessions on the economic benefits of vocational training, coordinated by **the International Network of Water Training Centers (INWTC).**

www.aquaformed.org

✔

Tunisia

Rural and Agricultural Development

IOWater is participating in two new projects in Tunisia under the "Support Program for public water resources management policy for agricultural and rural development (PAPS-Water)" funded by the European Union.

The first project, aiming to provide **overall technical assistance,** began in October 2014.

The second project **"Assessment of the National Water Saving Program (irrigation)"** started in November 2014.

IOWater is part of the Louis Berger/IOWater/SCET/CCM Consulting consortium, which was selected to implement this project.

✔

European Commission

Support to CITET Development

As part of the twinning agreement, led by the French Ministry of the Environment, between the European Union and the Tunisian Ministry of the Environment and focusing on institutional support in the field of environmental protection and sustainable development, **IOWater, in 2013 and 2014, provided support for strengthening the International Center for Environmental Technologies of Tunis (CITET).**

In a first phase in 2013, experts from **IOWater** contributed to establish a strategic assessment (SWOT analysis, benchmarking, competitive positioning, etc...), define areas for strategic development, develop **a business development plan for "CITET"** and organize a study tour in France.

In 2014, **IOWater** accompanied **"CITET"** on operational actions with experts' missions to:

- **Coach "CITET" teams** on pollution removal in industrial effluents (sugar refinery...);
- **Support the establishment of a training process** (training reference frames, jobs, assessment and certification) on the topic of "Sampling and flow measurements of industrial wastewater";
- **Assess and support "CITET" Documentation Service** (weekly newsletter, web content management...).

✔

European Commission

Governance of irrigated areas in north-central Tunisia

IOWater is involved with the Canal de Provence Company in technical assistance to the General Directorate of Rural Engineering and Water Use (DGGREE) of the Ministry of Agriculture for the sustainability of irrigated areas in five Governorates in central and northern Tunisia.

This project, which consists of an institutional support to Agricultural Development Groups (ADG) in Tunisia, is financed by "AFD" with a contribution from the French Rhone-Mediterranean-Corsica Water Agency.

IOWater is contributing in the assessment of Public Irrigated Areas (PIA) by carrying out field surveys, involving Agricultural Development Groups (ADG) and the Directorates of the Regional Agricultural Development Commissions (RADC), and more specifically in the organization of participatory workshops in which stakeholders talk about problems and difficulties they encounter.

Workshops were held in the fall of 2014:

- **In the Governorate of Bizerte** on the relationships between RADC and ADGs, in which each participant was asked to present the tasks that the other is performing, as well as his own, then wonder about the indicators they have in common to objectify their assessments, and finally share all the solutions that they could implement. The method is based on the Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis associated with the adapted metaplan technique.
- **In the Governorate of Kairouan,** as the problem of resource scarcity is arising in critical terms, the stakeholders have chosen to work on the cost of infractions by using role playing games featuring a group of offenders and a group of managers who must respond with suited tools.


Sidi Saâd dam reservoir

The analysis of technical, organizational and governance difficulties encountered on the PIAs concerned should lead to an assessment of needs and to a capacity building program including awareness raising, the training of trainers, professional managers, technicians and managers, which will be implemented during the second year of the project.

✔

AGENCE FRANÇAISE DE DÉVELOPPEMENT

agence de l'eau

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Algeria

Capacity building

As part of an overall plan for capacity building supported by the Algerian Government, **IOWater** achieved a curriculum for upgrading and acquiring new areas of expertise for consulting firms.

Thus, IOWater conducted several training sessions in Oran for the West Hydro Project consulting firm on the following topics:

- Sizing of sewerage systems and urban hydrology,
- Assessment and modeling of drinking water supply systems,
- Design of an earth dam reservoir and an irrigation system for agriculture,
- Hydraulic Studies: pumping and distribution.

Training for WHP

Engineers from **the Algiers Water and Sanitation Company (SEAAL)** also attended training sessions in Limoges in January 2014 on the operation of drinking water production plants, including the establishment of energy balances and carbon footprints.

Under the Support Program for the Water and Sanitation Sector - Water II, led by the Ministry of Water Resources (MRE) with the support of the European Union, **the Algerian National Sanitation Office (ONA) entrusted IOWater with a mission to design and launch its Water and Sanitation Training Center (CFMA).**

This assignment continued in 2014 with the development of technical specifications for educational units for this training center and with assistance to **"ONA"** in the preparation of tender documents for achieving these new educational tools. ✔

Strategic development of ONID

Opening of the feedback session by Mr. Belkateb, DG of ONID

The National Irrigation and Drainage Office (ONID), which manages large irrigated areas in Algeria, was entrusted, when established in 2005, with major strategic objectives:

- Increasing the surface area of irrigated lands by taking it up to 400,000 ha in 2020;
- Improving the efficiency of community irrigation systems;
- Promoting a proactive water use by optimizing irrigation, achieving water savings or by developing the reuse of treated wastewater;
- Providing an advice service to irrigators;
- Reducing the time needed to complete major irrigation projects.

After assessing the achievement of the objectives assigned to **"ONID"** and measuring the strengths, on which to capitalize, and weaknesses, that must be corrected, **the International Office for Water prepared a medium and long term Strategic Development Plan for "ONID" by:**

- Conducting a review of the changes that occurred at "ONID";
- Establishing an assessment of its positioning based on a SWOT analysis;
- Formulating goals for "ONID";
- Drafting specifications for selecting a service provider to establish the action plan and method for monitoring its implementation.

In May 2014, after four months of investigation and thinking, **IOWater** presented its recommendations to the head of the Directorate for Agricultural Water at the Ministry of Water Resources, the Ministry of Agriculture and Rural Development, the Director of "ONID", in the presence of some of their key staffs and representatives of **the Belgian Technical Cooperation.** ✔

National Sanitation Development Plan

The International Office for Water (IOWater) is intervening on behalf of EGIS Water in the implementation of the National Sanitation Development Plan in Algeria, a project funded by the European Union.

EGIS-Water asked **IOWater** to analyze the governance of the sanitation sector in Algeria.

After several meetings with all the Algerian stakeholders in the sector, **IOWater** presented the strengths and weaknesses of the organization and current legislation, and made recommendations to increase their efficiency.

✔

European Commission

Algeria - ONEDD

Environmental Information System

Pursuant to the decision of 5 September 2011 of the Ministry of Regional Planning and Environment, **the Algerian National Observatory of Environment and Sustainable Development (ONEDD)** has to develop with its partners some indicators on sustainable development.

To fulfill this mission, **"ONEDD" is implementing an Environmental Information System (EIS).**

This fundamental work aims to increase environmental knowledge in Algeria.

The expected results of the twinning project funded by the **European Union** are:

- Capacity building of **"ONEDD"** in the processing and interpretation of geographic and environmental data;
- Establishment of an operational EIS;
- Training of **"ONEDD"** engineers and technicians on the operation of the EIS;
- Increase of the sharing of environmental information and its access for the civil society.

This project, led by the French Ministry of Ecology, Sustainable Development and Energy (MEDDE), was initiated in September 2014 and is supported by fifteen French and Austrian experts collaborating with their Algerian colleagues. This corresponds to 280 days of expertise and training in Algeria and two study tours in France and Austria over a period of 18 months.

Substantive action on data management is conducted by IOWater.

It involves the development of a catalogue of data sources of the Environmental Information System, the establishment of new exchange systems and the harmonization of data production formats between the involved parties.

✔

Middle East

Training sessions for Degrémont

As part of the capacity building of its staff based in Dubai and Jordan, **Degrémont entrusted in 2014 IOWater's National Water Training Center (NWTC), with the realization of training sessions in Amman and Dubai** on techniques for drinking water production and treatment of wastewater of Degrémont group.

These training sessions followed a training course conducted earlier in Doha, Qatar.

✔

Palestine

Palestinian Water Authority (PWA)

Under the decentralized cooperation activities of **the Adour-Garonne Water Agency** and projects of the French NGO, **HAMAP, IOWater's National Water Training Center (NWTC)** achieved in 2013 and plans to conduct, training courses in Palestine and Limoges for the capacity building of the Palestinian Water Authority (PWA) and Palestinian municipalities on the themes of selection, sizing and operation of urban wastewater treatment plants.

Visit of Ramallah wastewater treatment plant

Training sessions are scheduled in 2015 to be performed in Limoges and Ramallah on the assessment of treatment units.

✔

Sultanate of Oman

Training for PAEW

The Suez Environment Group entrusted IOWater with the realization in Oman of 12 training courses, between November 2013 and February 2014, for technicians and engineers of **the Public Authority for Electricity and Water (PAEW),** on the topic of drinking water supply.

IOWater conceived the educational documents used to meet local conditions. Training Kits were developed in English, and **the courses were conducted in Arabic and/or English.**

About a hundred PAEW employees, from the Water Departments from all governorates of the Sultanate of Oman, benefited from this very technical training program.

On successful completion of this training program, **it is planned that IOWater will help Suez Environment-PAEW to achieve a second training plan in 2015.**

✔

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The News N° 25 - February 2015

Publishing Director: Christiane RUNEL

Coordination - Production: Frédéric Ransonnette - IOWater - Paris / Editing - Translation: Gisèle Sine / Photos: IOWater

Printing: GDS Imprimeurs - Limoges - N° ISSN : 1278-186X - N° ISSN Online : 2310-5895

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