

January 2013

Welcome

Now, it is really true: 2013 will be our final AMICE year and it will be a pretty exciting one too! Before we can go and rush to the end, there will be our great, unique **AMICE Final Conference!** We kindly invite all of you to come and participate in this event which will happen on March 13th-15th in Sedan, France. **Bridging Gaps!** is the central theme and we'll let you experience this in manifold ways. So don't hesitate and [register right now!](#) On page 6 of this newsletter you can find the complete programme too. We're looking forward to meeting all of you in Sedan! As usual, [numbers 1 to 6](#) of Meuse and Climate are still available from the website.

Word from the nv De Scheepvaart, partner in AMICE

What is the role of the n.v. De Scheepvaart?

The n.v. De Scheepvaart is the Flemish manager of the Albertkanaal and other waterways in the provinces of Antwerp and Limburg. Moreover, n.v. De Scheepvaart manages the Scheldt-Rhine junction and the Flemish part of the Common Meuse. Our aim is to make sure that ships can safely sail these waterways. They are kept in good condition and we pay attention to the sluices as well as to the bridges. Investments are made in order to improve the carriage capacity of the Albertkanaal thus reducing the number of trucks on the roads. Real estate along the waterway is chiefly destined for water-bound economic activities.

Why is the n.v. De Scheepvaart partner in AMICE ?

The river Meuse is very important for the management of our canal system. All of them are fed by water originating from that river. A sustainable management of our waterways is but possible on condition that the Meuse system is kept in good condition. Climate change makes for new challenges. We are convinced that we can manage new problems on condition that we can collaborate with our colleagues from other regions and countries in the Meuse basin. With regard to such a collaborative effort, the AMICE project proved to be a key feature.

Why is international collaboration along the Meuse so important?

Multi-functionality is quite of a word but here on the Meuse it is our daily life. Water is used for different purposes throughout its basin. It links us all together. In order to sustain and develop the Meuse's multifunctionality we all have to face many new challenges, not the least the impacts of climate changes. Nobody will succeed here by itself. Together we can make things work!

Is the River Meuse important to you, personally?

Mr. Maeghe: I graduated in 1995 which was a year that saw several huge river floods. We then paid visits to water control plants in several countries; their importance was stressed by the floods. I will never forget those images. They highlighted the power of the river and its whimsical character. It is fascinating to observe how in summer this same river changes into a calm and steady waterway that comes with its own challenges. It is very rewarding to be allowed to work on this river.

Do you have a message for the AMICE partners?

The Dutch comic Frans Vermeulen once composed a beautiful song that starts with these words: "I moved a stone in a river..." That is what we did with AMICE. We had a new step towards the sustainability of our river Meuse. Let us be proud of what has been achieved. We are looking forward to a collaborative future.



Mr. K. Maeghe, head of division, and Mrs. K. Moesse, project-engineer with the NV De Scheepvaart

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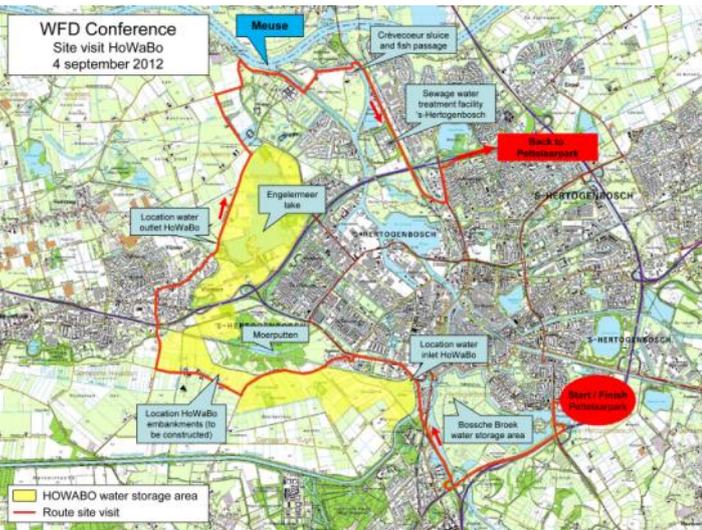
Site visit HOWABO and WFD conference on September 4th-5th in 's-Hertogenbosch (NL)

This two days event offered us a bus trip along the HOWABO project's inlet construction and a conference on the Water Framework Directive (WFD) with the nice title 'River of Dreams'.

It was good to be in 's-Hertogenbosch again, to see the area we already visited in March 2010 and to appreciate the changes, indeed!



The venue was the Hall of the Province of Noord-Brabant in 's-Hertogenbosch where we were welcomed by Mr. L. Verheijen, chair of the Waterboard Aa en Maas (see also his interview in Meuse and Climate n° 2). Then Maïté Fournier, from EPAMA used the film (www.amice-film.eu) to present AMICE and Joop de Bijl from the Waterboard Aa en Maas gave in introduction to the field trip.



The Drongelens kanaal plays an important role in preventing flooding in downtown 's-Hertogenbosch. If there is too much water in the canal, the new inlet can be opened and the hinterland can act as a temporary water storage area.



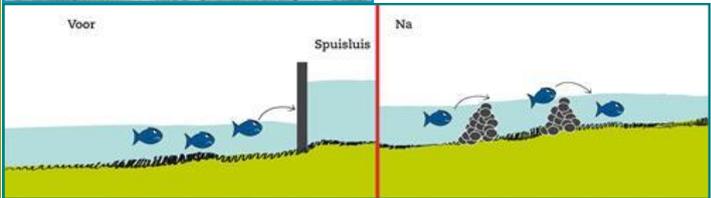
This is what we saw at the Drongelens kanaal.



At the sluice Crèvecoeur we could leave the bus for a while, enjoy the sunny weather and learn about the fish passage.



Fishes can now swim from the Meuse into the Aa and Dommel basin as the barrier formed by the sluice has been removed. All fishes using the passage are being monitored so the Waterboard gets a clear idea of the populations.



Back at the Province hall drinks were served and of course we took the opportunity to surprise the audience with our AMICE-song! *You can [learn the lyrics here](#) and you'll hear it at our final conference !*



In the evening we made a very special boat-trip which brought us right into the bowels of the old city through an intricate network of canals. Old 's Hertogenbosch came into life!

Thanks to the hosts of the conference for making this site visit possible. Click [here](#) to learn more about it.

A message from 's Hertogenbosch

The second day was devoted to the Water Framework Directive with the idea of creating a 'River of Dreams'. As a 'Warming-up' there was a plenary debate on Crossing borders to connect perspectives and lessons learned. This was followed by two parallel sessions on different aspects of Integrated River Basin Management, each with presentations and a reflection panel. The ultimate aim of the day was to present a so-called 's-Hertogenbosch Statement on the Water Framework Directive.

All along the conference an artist had been busy drawing cartoons during the different sessions. At the end some of them were presented to the audience.



Moreover, this resulted in the publication of the most striking statements of the conference. Check them out at the [conference website](#) under the head 'Ten statements' and enjoy a very illustrative way of reporting!



Here we see part of the sluice, the control tower and the building where two pumps are already in place.

In the nv De Scheepvaart's boat there were presentations on the organisation, the project at Ham and AMICE. In the meantime, there were plenty of opportunities to get acquainted with the other participants.



Site visit Lock of Ham on September 27th

It's been long awaited for but finally we had the site visit at the lock of Ham, on the Albert Canal in Flanders. There, we witnessed the delivery and putting into place of one of the huge Archimedes screws that will help to save water and produce electricity in a sustainable way.



Participants were welcomed on the lock of Ham by Kathleen Moesse, Paula Palman and Koen Maeghe, the hosts from nv De Scheepvaart.



After lunch it was time to see the third pump being put in place!



Thanks to the nv De Scheepvaart for organising and hosting this visit. We would all like to come back and see the pumps at work!



Rijkswaterstaat
Ministerie van Infrastructuur en Milieu



The pumps on the Albert Canal

The works on the pump and hydro-electric power plant on the lock complex in Ham had been in progress for some time and on Thursday September 27th the Archimedes screws were delivered. It was the first time that such colossal screws were used. This was an unique opportunity to see such screws up close.



With a diameter of 4.30 meters and a length of 22 meters, these are probably the biggest jack-screws in the world for such an application. The screws were placed in a pump installation and a hydro-electric power plant on the Albert Canal at the lock complex of Ham.

These screws are so large that a special transport on the road to Ham would have caused a lot of inconvenience. The combination jack-screw / truck weighs about 120 tons.

Even when performing major infrastructure projects nv De Scheepvaart wishes, if possible, to use the waterway as it is an environmentally friendly transport mode. Therefore, the four vast screws were loaded on a ship at Roeselare and transported by water to Ham.

With the new installation at Ham nv De Scheepvaart stores two birds with one stone. On the one hand the pumps ensure that the water in the Albert Canal is



maintained in periods of drought and that water saving measures by other water users may be delayed. On the other hand the plant generates renewable energy when there is a sufficient amount of water available.

The construction of this installation received support from the European AMICE project that supports initiatives in the context of climate change. By the end of the year the plant in Ham will be ready to use. In March 2012, the work on an analogue system at the lock complex of Olen started. At a later stage nv De Scheepvaart will also build installations at the lock complexes of Genk, Diepenbeek, Hasselt and Wijnegem.

In gratitude of their support, nv De Scheepvaart invited members of AMICE to attend the delivery of the screws at Ham.



Steenbergse Vliet: Bat and Breakfast!

In Steenbergem the bat's house is ready and the Bat and Breakfast opened its doors! As the works are ready, the area can now house lots of dragonflies and other insects that are good prey for bats. A local nature conservation NGO will monitor the bats hibernating in the new house.

You can pass by it when you follow the cycle track, and get information on your Smartphone.



Research: low-flow statistics in Wallonia

Now, low flows and droughts are more and more recognised as risk situations due to the huge consequences of water shortage. Furthermore, climate change constitutes a new threat, even though the uncertainty about the evolution of low-flows remains high.

In Wallonia, low flows had never been studied in details, and no method existed to estimate them. Therefore, Gembloux Agro-Bio Tech (University of Liège) aimed at filling this knowledge gap.

By now it is possible to estimate low flows anywhere in an ungauged catchment of Wallonia. It is even possible to calculate low flows for any return period.

Knowing the magnitude and the frequency of such extreme events will help Walloon managers to improve the management of low flows in rivers and the management of droughts.

Wallonia has a quite young monitoring network for river discharges. The present report showed that only 59 out of 244 stations were sufficiently robust to provide good data for such analyses. This situation will improve gradually during the coming years.

A regionalisation analysis was performed and four homogeneous regions were identified. In regards to the current length of data and in order to obtain a model sufficiently robust, a single regression was carried out for the whole Wallonia.

The model can predict MAM7 from catchment area, percolation and recession coefficient, the two last ones being related to substrate permeability. This means that geology plays an important role in determining low flows in Wallonia.

The model developed gives good predictions but can be improved with a recalibration using more data, especially for lower and upper limits of low flows. This will be possible in around 10 years, when more stations have at least 20 years of data.

This increase in number of stations will also allow carrying out a new classification and developing one model per region, which will probably also improve estimate precision.

The complete report can be downloaded [here](#).

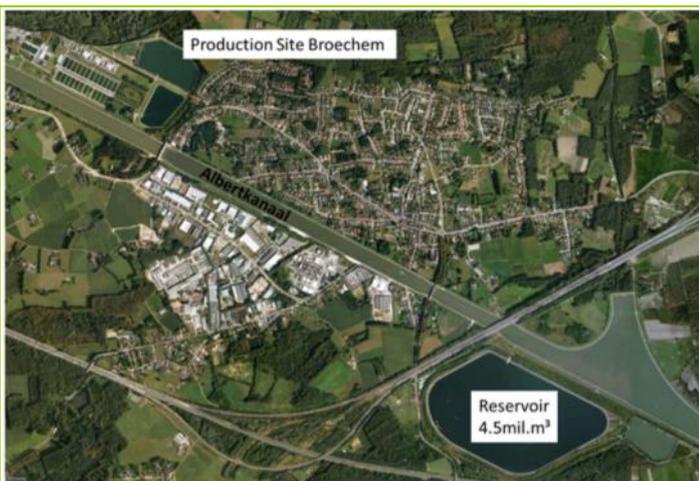
AMICE results: quantification of the impacts of floods, droughts and low flows

Quantification of damages from floods

One common methodology was built for the international Meuse basin to calculate the economical damages and compare the future situations (in 2050 and in 2100) with the present situation. There are huge differences between the sections of the Meuse and Rur. These are explained by different land-uses (higher damages in urban areas than rural areas) and protection levels. Results are available for every section and maps have been drawn over the sensitive areas. Partners have also compared the transnational methodology with their regional calculation method to evaluate the uncertainty.

Damages from droughts and low-flows.

Both nuclear power production and hydropower would severely be impacted by future low-flows if the AMICE extreme dry scenario turned-out to be true. Low water situations have already generated economical losses for the navigation sector but adaptations are already implemented. Impacts on drinking-water production are hard to evaluate as other factors like water temperature or quality are more limitative. It was however demonstrated that storages would be too little in case of an extreme situation. Finally, cereal crops would be favoured by the increase of temperatures and CO2 concentrations, except for maize. But a higher variability in yields and calamities is to be expected as well.



Drinking water extraction point Broechem (Flanders)

The AMICE flood exercise - Dutch part Maastricht, province of Limburg, October 25th- 26th

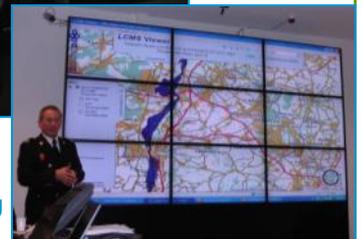
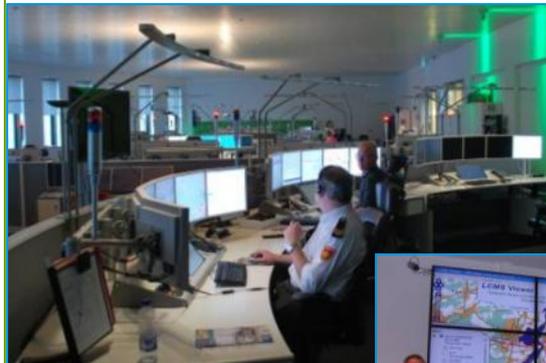
Representatives from France, Wallonia and Flanders participated to this visit. They were welcomed by Rijkswaterstaat and the crisis managers of the safety region Zuid-Limburg. Floods are one of the main risks in the Maastricht neighbourhood.

Crisis management in « the Dutch-fashion » was detailed, in particular the 5-levels organisation of the alert system (called GRIPs). The decision-support tool for the crisis center (called LCMS) was presented. It gives the possibility to have an overview of the situation on a map interface and to post comments for all services to read them.

The flood exercise (discharge forecast and flood maps) had been held a few days earlier without foreign observers. Results from this exercise were visible on the LCMS.

Propagation time of the flood peak is very short in this region: Liège is only 30km away which means about 6 hours reaction left between the measure at the station and the coming of the flood peak in Maastricht. Between the French border and Maastricht, the propagation time is about 16 hours.

Works on the Meuse in Flanders are taken into account in the forecast model thanks to a good cooperation between the river managers.



On October 26th, the meeting was divided into 2 parts :

- observation of the activities of the operational cell (with the different emergency services) who analyses the situation and make recommendations for action;
- observation of the activities of the decisional cell (with the mayors from the safety region Zuid-Limburg)

The observers also discussed the nature and frequency of the data that are already shared between the countries as well as those who could be exchanged for a better decision making.

Visit from the Mekong delegation

Rur & Amblève catchments, December 4th-5th

The Climate Change and Adaptation Initiative (CCAI) is a collaborative regional effort of the Mekong River Commission Countries to support processes of adapting to the new challenges posed by climate change in the Lower Mekong Basin. In the framework of this initiative, the Mekong delegation visited a number of projects in Germany, The Netherlands and Belgium. Among them were the AMICE investments on the Rur basin (WVER) and the project on the Amblève (Riou).

Here you see the delegation at BNVS premises near Amel. Outside you can see the Emmels valley covered in snow. For these people from South-East Asia, this was an exceptional day!



More about this visit can be learned from the [UNECE website](#).

News from the Cluster:

Final Conference, 28th-29th January 2013, Lille France

This year the activities of the SIC Adapt! cluster are coming to an end too with the Cluster's final conference.



One of the prominent guests will be Commissioner Conny Heidegaard, DG Climate Action. Commissioner Johannes Hahn, DG for Regional and Urban Policy will send a video message to the attendees.

The eight Cluster projects and their 100 project partner organisations will be present, they will showcase good practice in four interactive workshops.

The Policy Recommendations which are worked out by the Cluster consortium will be officially handed over to European and national representatives in order to foster adaptation to the impacts of climate change.

The official dinner will be accompanied by an input from the insurance sector and there will happen even more...

Click [here](#) for more information and registration

AMICE FINAL CONFERENCE

Bridging Gaps !

March 13th-15th, 2013 - Sedan, FRANCE

Dear Sir, Dear Madam,

After 5 years of rich and varied activities on the Meuse river basin, the AMICE Project is nearly completed. As the Lead Partner, I have the pleasure to invite to our final conference and give us the pleasure to celebrate the success of this international cooperation.

You will have the opportunity to meet all the Partners that were deeply involved in this ambitious adventure.

In addition to the presentation of AMICE's achievements, we have invited experts who will tell us about other innovative approaches for water management and adaptation to climate change.

Finally, the animation programme and the workshops will offer us the possibility to proceed with our collaboration and to think about the future. The Meuse river is a transnational structuring line, that shall be regarded as a development leverage intended to the federation of local, regional and international stakeholders. Looking forward to welcoming you at this event !

EPAMA's President,

Jean-Paul BACHY

Come celebrate the AMICE successes with the AMICE-band !



Contacts and credits:

AMICE Lead Partner - Coordinator : Maïté Fournier (EPAMA)

AMICE Communication Officer : Martine Lejeune (RIOU)

AMICE logo conception : Olivier Drogue

The PROGRAMME

WEDNESDAY, MARCH 13th 2013

18H45 : WELCOME SPEECHES

19H30 : ICE-BREAKING PARTY

THURSDAY, MARCH 14th 2013

9H—17H : PLENARY SESSIONS

Session 1 : DOES THE RIVER MEUSE CHANGE ?

Session 2 : TOO MUCH OR TOO LITTLE WATER ?

Session 3 : WHAT ARE WE DOING ?

Session 4 : LIVING WITH A CHANGING CLIMATE

18H30 : CITY TOUR

19H30 : NETWORKING DINER

FRIDAY, MARCH 15th 2013

9H30 : PLENARY SESSIONS

TRANSNATIONAL WATER MANAGEMENT COMES TRUE

11H00 : WORKSHOPS

Workshop 1 : THE MANY FACES OF THE MEUSE

Workshop 2 : THE WHIMSICAL MEUSE

Workshop 3 : TAMING THE MEUSE ?

Workshop 4 : WE AND THE MEUSE

Workshop 5 : A VISION FOR TOMORROW ON THE MEUSE BASIN

14H : WORKSHOPS' CONCLUSION

14H45 : MEUSE COUNTRIES' JOINT DISCUSSION

16H : END

AND ALSO: POSTER CONTEST, VIRTUAL SITE VISITS, DEMONSTRATIONS, STANDS, ...

Meals and access to the final conference are free of charge.

Accommodation

Book your hotel room via the touristic information center of Sedan: <http://www.tourisme-sedan.fr/amice>

Contacts and registration

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AMICE website : <http://www.amice-project.eu/>

Climate Changing ? Meuse Adapting !