



URBANFLOOD NEWSLETTER



July 2010

UrbanFlood is a project under the European Union 7th framework Programme* that develops and tests an internet based early warning system (EWS). The project started in December 2009. Project coordinator Robert Meijer: "The European Commission wants to spread technologies that help citizens in urban areas to deal with the effects of climate change. Based on all kinds of sensor inputs, expert opinions and scientific models the system decides on the threat level and suggests a response." "The system is general purpose; UrbanFlood tests the system for the case of flooding caused by dike or flood barrier failure. The idea is that the responsible organisations put sensor networks in dikes, connect the network to the internet and UrbanFlood will generate a dedicated EWS for them on the internet that is able to warn where the dike may breach and show what the consequences may be!" While the system is designed as a flood early warning tool it can also be used as a flood defence (asset) management tool.

The project is carried out by a consortium of Cyfronet (Poland), HR Wallingford (United Kingdom), OOO Siemens (Russia), STOWA, TNO and University of Amsterdam (The Netherlands).

This newsletter informs about the progress and impact of the UrbanFlood project.

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Kick-off meeting a success

In December 2009 the first meeting of the UrbanFlood project took place in Groningen, the Netherlands. The aim of the kick-off was to give the project a jumpstart in order to deliver a first version of the EWS technology by the third quarter of 2010. Project Manager Nico Pals: "Imagine: half of the project members have knowledge on the most advanced forms of ICT, they never expected that clay and sand could be such a challenge. The other half knows everything from dikes, dams, embankments and flooding and they never dreamed that artificial intelligence is an issue". Certainly after the visit to the IJkdijk location (www.ijkdijk.nl) both groups of professional knew that the fusion of ICT with dikes is the road ahead to manage flood risk.





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Website ready

The first deadline of the project was to have a website ready by the end of February; this was realised even earlier. On the website you can find details on the objectives of UrbanFlood, get to know the UrbanFlood partners and find relevant news and links. All public reports and other digital 'deliverables' will be available as downloads. We cordially invite you to have a look at www.urbanflood.eu

UrbanFlood reports

By early May 2010 two reports were completed: "*Early Warning Systems and the Mitigation of Climate Change Induced Disasters*", with the results of the stakeholders analyses, and "*Functionality & Architecture of Internet Based EWS and EWS Hosting Platforms*", which describes from a stakeholder (user) point of view, the architecture and functionality of the UrbanFlood Early Warning System (EWS). Mark Morris from HR Wallingford, one of the hydraulic engineers working for UrbanFlood, remarked: "*We have investigated the user requirements. One of the methods we employed was questionnaires. UrbanFlood will use the results in the designing of a system that is able to monitor thousands of miles of dikes, even though some of the persons we interviewed never considered monitoring to be a practical and economic option to increase flood safety.*" Ludolph Wentholt of STOWA: "*The hydraulics world has been very active on the ICT front. But it takes an internet guru to imagine that we can actually monitor the strength of thousands of km of dikes.*" The reports are available on www.urbanflood.eu.

UrbanFlood project up and running

The UrbanFlood partners are all skilled in the use of ICT. But the concept in which UrbanFlood combines cloud computing, internet, enterprise service bus, visualisation and hydraulic software is a genuine innovation. Coordination meetings that were held in Amsterdam and Cracow but especially in Wallingford, UK (24-26 March) were very important in planning the activities in detail, as well as in getting to know each other even better than before. The result is that a basic version of the EWS is constructed.





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First International Dike Monitoring and Flood Safety Workshop

The first UrbanFlood International *Dike Monitoring and Flood Safety Workshop* will be held in The Netherlands and is planned for Thursday 11th and Friday 12th November 2010. The exact venue will be decided soon. The goals of the workshop are: Sharing of the UrbanFlood project results; learning from others in the field and exchange of knowledge and experience and looking for possibilities to cooperate. Presentations and discussions are grouped under 4 themes: 1. Sensing; 2. ICT; 3. Modelling; and 4. Trials. The workshop will conclude with a plenary discussion titled *Towards European Cooperation on Flood Protection*. During the breaks UrbanFlood applications will be demonstrated.

UrbanFlood will invite international researchers and practitioners in the fields of ICT and Flood Early Warning, but also prominent flood defence asset managers at policy level, to share their experiences on on-line EWS and smart dikes and discuss the interim results and plans of UrbanFlood. If you recognize yourself in this description then you are most welcome to participate and even to present your work; for registration visit the UrbanFlood website. More details will follow soon.

Test locations for 'smart dikes'

The UrbanFlood project has pledged to have 'smart dikes' in three major cities in Europe on-line, two of them by the end of this year. Discussions on the proposed cooperation with the respective flood defence managers have been initiated, focusing on a joint wish to validate sensor technologies for various aspects of monitoring. Interesting in this aspect are links with 'multi-layered flood defence' concepts. We hope to be able to give more details in the next newsletter.

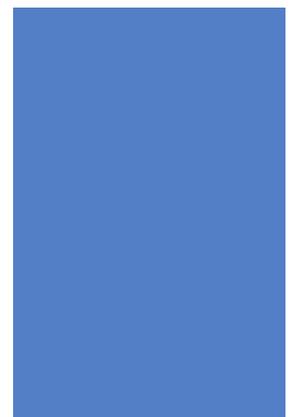
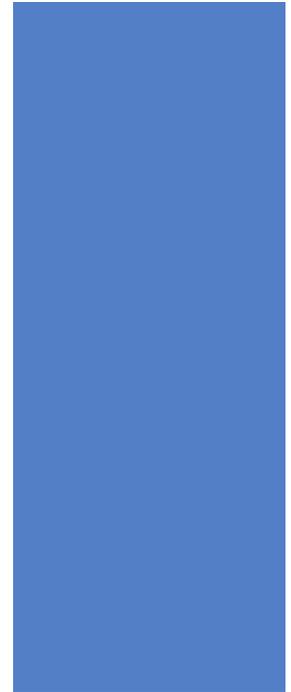
In the Spotlight: Valeria Krzhizhanovskaya

At the coordination meeting in Wallingford in March we asked Valeria, who works for the University of Amsterdam (and part-time with the University of St. Petersburg in Russia) about her expectations of UrbanFlood. Valeria: *"We are going to advance the science in simulation and modelling of the complex phenomena physics in earthen dikes to protect cities; to suggest better ways to build flood defence systems."*

"The UvA (University of Amsterdam) will develop some models, some simulation tools to assist in decision making for the advanced decision support systems based on the TNO multi touch tables. Of course we'll want to make it really accessible, interactive and intuitive for the public. And we also contribute to the advanced scientific, interactive visualization which is important to actually show the results, to show the output of the decisions support systems."

Events

November 11-12, 2010: First UrbanFlood International ***Dike Monitoring and Flood Safety Workshop*** in the Netherlands. The exact venue is to be decided. For registration visit www.urbanflood.eu





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UrbanFlood is a European project under the EU 7th framework Programme*. For more details please visit the UrbanFlood website www.urbanflood.eu or contact the project coordinator: robert.meijer@tno.nl (+31(0) 88 86 65753).

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