

SAM dissemination conference 2009



Industry partners



YorkshireWater



Building a world of difference.



Met Office

Research partners



HR Wallingford
Working with water

- Spatial Rainfall database tool and analysis of spatial rainfall
- Development of Risk tool SAM-LMC
- Development of Risk based procedure
- Pilot study: Dalmarnock



Stochastic tool for Spatial rainfall



Newcastle University

- Stochastic tool for Spatial rainfall
- Efficient use of spatial rainfall data for urban flood risk analysis



The University of Sheffield

- Pilot study 2: Keighley



Wallingford Software

- Development of 2D runoff model in InfoWorks CS
- Development of a faster Simulation engine for InfoWorks CS

SAM - System based analysis and management of urban flood risks -dissemination conference

A radically new approach to drainage system analysis and management using a risk based approach

Tuesday 19 May 2009

at the Church House Conference Centre, Dean's Yard, Westminster

FREE

CONFERENCE ORGANISERS



UK Water Industry Research Limited
1 Queen Anne's Gate
London
SW1H 9BT, UK
Tel: +44(0)20 7344 1807
Fax: +44(0)20 7344 1859
E-mail: mail@ukwir.org.uk



HR Wallingford
Working with water

HR Wallingford
Howbery Park
Wallingford
Oxfordshire OX10 8BA
United Kingdom
Tel +44 (0)1491 835381
Fax +44 (0)1491 825483
www.hrwallingford.co.uk

Sponsored by:



HR Wallingford
Working with water

BERR

Department for Business
Enterprise & Regulatory Reform

CONFERENCE OBJECTIVE

The conference is aimed at informing those involved in urban flood management about the achievements of the three year research project SAM, which has the objective of developing a different approach to asset management of drainage and sewerage systems using a risk based approach..

CONTEXT

Urban drainage analysis and management of drainage systems made a major step forward in 1981 with the development of the Wallingford Procedure and the development of the simulation tool WASSP. Although tools have improved in speed, accuracy and facility, many of the principles in the approach defined over 25 years ago have remained unchanged since then.

With the availability of LiDAR and the development of tools for modelling overland flooding, an opportunity exists to address some of the limitations of the current approach to drainage analysis and management. This is fortuitous in the light of the serious flooding in the UK over the last 10 years which has highlighted the need to better understand and manage urban flood risk.

The R&D PROJECT

This three year £1.5M project is part funded by DTI (now BERR) with HR Wallingford Ltd. being the Lead Researcher supported by a number of universities, the Met Office and industrial partners (see back page).

SAM is a new risk based procedure and has developed the tools needed for carrying out a risk-based performance assessment of drainage systems. This has involved not only developing prototype software, but also the development of rainfall analysis tools, faster simulation tools, rapid flood spreading models and flood damage and costing models. The principle areas of work covered by the project include:

- Development of tools for producing spatially varying rainfall;
- Assessment of the effect of spatially varying rainfall on urban sewerage systems;
- Development of a rapid flood spreading tool and a damage cost model;
- Development of a risk based approach and tools for assessing sewerage system performance;
- Application of the risk-based procedure on two pilot areas.

PRESENTATION TOPICS

Key note speech on Urban flooding

ICE President - Jean Venables OBE FREng

Project overview

HR Wallingford - Richard Kellagher

Providing a technical overview putting the project into context with current practice

Urban flooding and the need for a risk based method

Environment Agency - Jonathan Chapman

The Environment Agency's views on the need to address flooding in an integrated manner and the importance of using a risk based approach

Radar rainfall - Data availability and accuracy at fine temporal and spatial resolutions

Met Office - Peter Dempsey

Radar rainfall and its benefits for the urban drainage engineer.

Rainfall tools – Generation of stochastic spatial rainfall series

Imperial College - Christian Onof

Newcastle University - Chris Kilsby

A brief overview of the two rainfall tools developed and data issues in producing high resolution spatial rainfall data

Risk Procedure Methodology

HR Wallingford - Richard Kellagher

A presentation of the risk procedure and the prototype tools that have been developed

Rainfall database tool and event selection

HR Wallingford - Yannick Cesses

Tool development to enable spatial rainfall series to be processed and used

Spatial rainfall and urban drainage

HR Wallingford - Yannick Cesses

A comparison between spatial and uniform rainfall on drainage system flooding predictions

Rapid Flood Spreading Model (RFSM) tool and its comparison to InfoWorks CS 2D

HR Wallingford - Julien Lhomme

The RFSM tool has been developed for extremely fast flood spreading to make a risk based procedure viable on present day computers. A comparison with InfoWorks CS 2D was made to check on the accuracy of the tool

Application of the risk based Procedure

HR Wallingford - Yannick Cesses

Trialling the procedure on part of the Dalmarnock (Glasgow) drainage system

Pilot study: Keighley

University of Sheffield - Will Shepherd

Trialling the procedure on the Keighley catchment

Network Simulation tools

Wallingford Software Ltd - Rob Millington

Development of overland flow modeling and simulation engine performance improvements.

Water Industry perspective

UKWIR Client Manager for Sewerage research - Barry Luck

A Sewerage Undertaker's perspective on the research and its implications for drainage system asset owners

Project conclusions and the way forwards

HR Wallingford - Richard Kellagher

An outline of the further work needed and data requirements to enable a risk based procedure to be reliably applied to urban drainage system management

VENUE

The venue for this meeting is the Church House Conference Centre, Dean's Yard, Westminster. Details of how to find the conference can be found on the [Church House website](#).

FEES

Attendance for this meeting is free to all. Those interested in coming are advised to make an early booking to avoid disappointment.

REGISTRATION

Registration is to be done on the UKWIR website www.ukwir.org. Follow directions for the SAM conference.

Alternative registration is possible by filling in the relevant details on this flyer and sending it to Pauline Avery at UKWIR.

On the day, registration will open at 0900. The conference will commence at 1030 and finish at 1630.

A radically new approach to drainage system analysis and management using a Risk based approach

Registration Details

(Prof/Dr/Mr/Ms) _____ First name _____

Surname _____

Organisation _____

Job Title _____

Address _____

Postcode _____

Telephone _____ Fax _____

E-mail _____

Signature _____

Date ____ / ____ / ____

FEES - Attendance for this meeting is free to all.

Please return the completed form to:

Pauline Avery

UK Water Industry Research Limited

1 Queen Anne's Gate
London
SW1H 9BT, UK

Tel: +44 (0)20 7344 1872

Fax: +44(0)20 7344 1859

E-mail: mail@ukwir.org

19 May 2009