

IRISH NATIONAL HYDROLOGY CONFERENCE 2010

Tuesday, 16th November 2010

INTRODUCTION

The joint National Committees of the International Hydrological Programme and the International Commission on Irrigation and Drainage have the pleasure of inviting you to participate in the eleventh annual Irish National Hydrology Conference to be held on Tuesday 16th November 2010 in the Radisson Blu Hotel, Athlone. The conference provides a unique forum for attendees to share policy developments, research results, and practical solutions to engineering hydrology issues. This year's conference encompasses a wide range of developments in the fields of surface water and groundwater hydrology.

MAIN TOPICS

The conference will address a wide range of issues relating to hydrology and will draw on novel approaches in all aspects of hydrology, including:

- River Basin and Flood Risk Management.
- Water Resource Management and Policy.
- Community reactions to flood events
- Case Studies in Flood Management
- Groundwater Hydrology
- Water Quality Monitoring

The papers to be presented will demonstrate how the outcomes of recent hydrological research are being implemented by practitioners.

ORGANISERS

International Hydrological Programme (IHP)

The UNESCO international scientific co-operative programme in hydrology and water resources, the IHP, was established to act as a catalyst to promote co-operation and research in the management of water resources, an issue which had been identified as a significant limiting factor for harmonious development in many regions and countries of the world.

International Commission on Irrigation and Drainage (ICID)

The mission of the ICID is to stimulate and promote the development of the management of water and land resources for irrigation, drainage, flood control and river training applications, including research and development and capacity building.

The Netherlands National Committee IHP-HWRP

The Dutch contribution to the International Hydrological Programme (IHP) of UNESCO is coordinated by the Netherlands' National Committee for the IHP and the Hydrology and Water Resources Programme (HWRP) of WMO. The Committee is an interdepartmental advisory commission of two Dutch ministries, the Ministry of Transport, Public Works and Water Management (V&W) and the Ministry of Education, Culture and Science (OCW). The Committee is advised by a scientific advisory board, which is formed by key hydrological scientists from all the relevant Dutch institutions.

CONTENTS

SESSION 1: OVERVIEW

Keynote Paper: Dutch Water Management and Values of Nature

Michael van der Valk, (*Scientific Secretary of the Netherlands National Committee IHP-HWRP*).....3

Comment on the November 2009 flooding in the Shannon and Corrib Systems

Anthony Cawley (*Hydro Environmental Ltd.*), Conleth Cunnane (*Dept. of Engineering Hydrology, NUIG*).....8

SESSION 2: MONITORING OF WATER QUALITY

Turbidity, suspended sediment concentrations and fluxes for the River Owenabue in the South Western River Basin District (SWRBD), Ireland

Seán Harrington, Joseph Harrington (*C.I.T.*).....23

Mass balance modelling of drug consumption using water monitoring data

Yuliya Vystavna (*University of Bordeaux, and Kharkiv National Academy of Municipal Economy, Ukraine*), Grynenko V., (*Kharkiv National Academy of Municipal Economy*), Huneau F., Le Coustumer P. (*University of Bordeaux, France*).....34

Investigating flow and contaminant pathways through the landscape to rivers using chemical hydrograph separation

Jenny Deakin, Bruce Misstear, M. Dowling (*TCDD*) and Ray Flynn(*QUB*)43

SESSION 3: PLUVIAL FLOOD MAPPING

National Pluvial Flood Mapping for all Ireland – the modelling approach

Richard Kellagher, Mike Panzeri, Julien L’Homme, Yannick Cesses, Ben Gouldby (*HR Wallingford*) John Martin, Oliver Nicholson, Mark Adamson (*OPW*)..... 56

Development of the surface water flood map for Northern Ireland

David Porter, Malcolm Calvert, David Henderson (*Rivers Agency*) Barry Hankin (*JBA Consulting*) Simon Wells (*WDR & RT Taggart*)68

SESSION 3: CATCHMENT FLOOD MANAGEMENT

The Lee Catchment Flood Risk Management Plan

Clare Dewar, Jenny Pickles, Paul Dunne, Sharon Duggan, (*Halcrow*); John Martin (*OPW*)78

Quantifying flood risk from groundwater sources: a national approach for Ireland?

Maxine Zaidman, Mark Morris (*JBA Consulting*)88