



WATER IN CELTIC COUNTRIES:

Quantity, Quality and Climate Variability

*The Fourth Inter-Celtic Colloquium on Hydrology and
Management of Water Resources*

Universidade do Minho, Guimarães, Portugal, July 11-14, 2005

FINAL PROGRAMME



LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL



ASSOCIAÇÃO PORTUGUESA DOS RECURSOS HÍDRICOS



*International Association of Hydrological Sciences Association
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PAPERS:

1. Cycleau - Integrating research and decision-making for whole river basin management (Loveday E.T. Jenkin, and Dave C. Watkins - UK).
2. The eutrophication in the river Vouga basin – impacts on the quality of water for public supply (FIGUEIREDO FAUSTO OLIVEIRA - Portugal).
3. An assessment of runoff trends in the Celtic regions of North West Europe (J.HANNAFORD and T.J. MARSH, - UK).
4. Precipitation trends in Mainland Portugal in the period 1941-2000 (M. ISABEL P. DE LIMA, ANA C.P. MARQUES, JOÃO L.M.P. DE LIMA, and M. FÁTIMA E.S. COELHO – Portugal).
5. Applying MIKESHE to define the influence of rewetting on floods in Flanders (MARK HENRY RUBARENZYA, PATRICK WILLEMS, JEAN BERLAMONT, and JAN FEYEN – Belgium), (only in the CD ROM, no oral presentation)
6. Le littoral des Bas-Champs (Picardie, France) soumis aux risques perpétuels d'inondation (JULIA BASTIDE, EDWARD ANTHONY, FRANCK DOLIQUE – France).
7. Mechanisms of flooding in the Mawddach catchment (GRAHAM HALL and ROGER CRATCHLEY - UK).
8. The environmental impact and risks associated with changes in fluvial morphodynamic processes (J. S. ANTUNES DO CARMO - Portugal).
9. Influence of 7-year old eucalyptus globulus plantation in the low flow of a small basin (B. SOTO, M.A. BREA, R. PÉREZ & F.DÍAZ-FIERROS - Spain).
10. Isotopes et ressources en eau, exemple du bassin synclinal d'Essaouira (Maroc Occidental) (M.BAHIR, M.O. SILVA, J. MENDONÇA, P. CARREIRA, GALEGO FERNANDES, M. BENBIBA, and M. ELMERAJI - Maroc/ Portugal).
11. Water balance and observed flows in the Anllóns river basin (NW Spain) (RIAL RIVAS, M.ERMITAS, ÁLVAREZ ENJO MANUEL ALÍ, and DÍAZ-FIERROS VIQUEIRA, FRANCISCO - Spain).
12. Aluminium contents in drinking water from public water supplies of Galicia (Northwest Spain) (DAVIDA. RUBINOS, MANUELARIAS, CARLOS AYMERICH, and FRANCISCO DÍAZ-FIERROS- Spain).
13. Transferred to Poster Session.
14. An indicator system for surface water quality in river basins (RITA OLIVEIRA, and MANUELA LIMA – Portugal).
15. Application of RIAM to the environmental impact assessment of hydroelectric installations (PAULO S.F. DE ARAÚJO, EDUARDO F.S.C. MOURA, and NAIM HAIE - Portugal).
16. Hydrological modelling and salt water intrusion in a Northern Portugal estuary (JOSÉ L. PINHO – Portugal).
17. Origins and dynamics of suspended sediment in small agricultural catchments (J. LEFRANCOIS, C. GRIMALDI, C. GASCUEL-ODOUX, and N. GILLIET – France), (only in the CD ROM, no oral presentation)
18. Implications of climate change for river regimes in Wales: a comparison of scenarios and models (J.A.A. JONES – UK).
19. Marnage et biodiversité en étang peu profond: estimation et relations (Limousin, France) (DELPHINE BRUNAUD – France).
20. Constructions cyanobactériennes calcaires dans les rivières de Haute-Normandie: perspectives de gestion (FREDERIC PITOIS, ALAIN JIGOREL, and PAUL FERLIN – France).
21. Stockage du phosphore dans les sédiments d'un réservoir eutrophe (Gouet, Bretagne, France) (ALAIN JIGOREL, ANNICK BOUEDO, and REMY NICOLAS – France).

22. On the impact of changes in the weather on the surface temperature of Windermere (UK) and Lough Feeagh (Ireland) (GLEN GEORGE, DIANE HEWITT, ELEANOR JENNINGS, NORMAN ALLOTT, and PHILIP MCGINNITY - UK/Ireland).
23. Models to predict the impact of the climate changes on aquifer recharge (MANUEL MENDES OLIVEIRA, MARIA EMÍLIA NOVO, and J. P. LOBO-FERREIRA - Portugal).
24. On wellhead protection assessment methods and a case-study application on Montemor-o-Novo, Portugal (MARIA JOÃO MOINANTE and J. P. LOBO-FERREIRA – Portugal).
25. Assessing aquifer vulnerability to sea-water intrusion using GALDIT method: Part 1 – Application to the Portuguese Aquifer of Monte Gordo (J. P. LOBO-FERREIRA, A. G. CHACHADI, and CATARINA DIAMANTINO, M. J. - Portugal/India).
26. Assessing aquifer vulnerability to sea-water intrusion using GALDIT method: Part 2 – GALDIT Indicators Description (A. G. CHACHADI and J. P. LOBO-FERREIRA - India/Portugal).
27. Impact of road runoff in soil and groundwater. Synthesis of Portuguese and other European case-studies (TERESA E. LEITÃO - Portugal).
28. Methodologies for pollution risk assessment of water resources systems (CATARINA DIAMANTINO, M. J. HENRIQUES, MANUEL M. OLIVEIRA, and J.P. LOBO-FERREIRA - Portugal).
29. New method for groundwater plume detection under uncertainty (LUÍS MIGUEL NUNES, MARIA DA CONCEIÇÃO CUNHA, LUÍS RIBEIRO, and JOÃO AZEVEDO - Portugal).
30. Application of artificial neural networks for river flow simulation and forecasting on three French catchments (M. GOSWAMI, and K.M. O'CONNOR– Ireland).
31. Hydrologic models and Geographic Information Systems for water resources evaluation: Application of GIS-BALAN to Atlantic basins in Spain and Portugal (JAVIER SAMPER, MIGUEL ANGEL GARCÍA VERA, BRUNO PISANI, ALBERTO VARELA, JOSÉ ANGEL LOSADA, DIEGO ALVARES, and JORGE ESPINHA MARQUES - Spain / Portugal).
32. The use of multivariate statistical analysis to evaluate spatial and temporal water contamination in Germunde coal mine (Portugal) (RENATA SANTOS, LUÍS RIBEIRO, AMÉLIA CARVALHO DILL – Portugal).
33. Quality assurance for hydrometric network data as a basis for integrated river basin management (FRANK SCHLAEGER, and MICHAEL NATSCHKE – Germany).

KEY-LECTURES

1. Key-Lecture on “Echanges intersystèmes: du bassin versant aux eaux côtières littorale”, by JEAN CLAUDE LEFEUVRE Professeur au Muséum d'Histoire Naturelle de Paris, Président de l'Institut Français de la Biodiversité (France). (Paper available at the Secretariat).
2. Key-Lecture on “Hydroinformatics Support to Flood Forecasting and Flood Management”, by ADRI VERWEY, Delft Hydraulics (The Netherlands).
3. Key-Lecture on “Flooding and climate change”, by ALAN WERRITTY, Prof. at Dundee University, Scotland (UK).

ROUND TABLES

Round Table 1 on "Climate variability assessment and relevance"

Invited speakers:

1. “Impacts of Climate Change on Water Resources: a Case-Study on Portugal”, by L. VEIGA DA CUNHA (Professor at Universidade Nova de Lisboa, Portugal – Co-authors of the paper: RODRIGO PROENÇA DE OLIVEIRA, JOÃO NASCIMENTO, and LUIS RIBEIRO). - RT1P1

2. "Regional Climate Change Impact and Selected Response Studies in the UK, by IAN HOLMAN (Cranfield University at Silsoe, UK). - RT1P3
3. "On methodologies for the assessment of climate change impacts on groundwater resources", by J. P. LOBO-FERREIRA, MARIA EMÍLIA NOVO, MANUEL MENDES OLIVEIRA, and CATARINA DIAMANTINO. (Laboratório Nacional de Engenharia Civil, Portugal).

Round Table 2 on "How to achieve quantity and quality goals of the Water Framework Directive" - Invited speakers:

1. "Progresses in the implementation of the WFD in EU Member-States", by A. G. HENRIQUES (LNEC, Portugal).
2. "Potential implications of the WFD for catchments management in the UK" by ALUN ATTWOOD (Policy Advisor Wales for the Water Framework Directive, UK).
3. "Water safety plans: methodologies for risk assessment and risk management in drinking water systems", by JOSÉ VIEIRA (Universidade do Minho, Portugal). - RT2P3

POSTER SESSIONS

- P1** - Planning and management of aquifer systems using the simulate annealing method - TERESA FRAGOSO; MARIA DA CONCEIÇÃO CUNHA; J. P. LOBO-FERREIRA (Uni. Coimbra, LNEC), Portugal.
- P2** - A suggested approach to effective water resource management using the Umgeni resource system as a test case - ANTHONY J TOLLOW. (South Africa).
- P3** - Low flow distributions in Celtic Countries - L.BROGAN AND C.CUNNANE, (Ireland).
- P4** - Post-traitement d'effluents d'élevage, essais préalables au dimensionnement d'un pilote - PHILIPPE MORAND, (France).
- 13 - Hydrogeology of hard-rocks in the Portuguese Iberian Massif: Porto urban area and Serra da Estrela mountain region (M^a.JOSÉ AFONSO, J.E.MARQUES, J.M. MARQUES, P.CARREIRA, J.M. CARVALHO, M.MARQUES DA SILVA, JAVIER SAMPER, B. PISANI, F.S. BORGES, F.T. ROCHA, P. E. FONSECA, A.GOMES, M^aA. ARAÚJO, G.TELES VIEIRA, CARLA MORA, JOSÉ TEIXEIRA, P.G. ALMEIDA, J. A. GONÇALVES, and H.I. CHAMINÉ, (Portugal).

EXCURSIONS AND SOCIAL EVENTS

Ice-Breaking Party at *Palácio dos Duques de Bragança*.

A conference dinner at Pousada de Santa Marinha, in Guimarães.

Technical Excursion to the old Celtic Citânia de Briteiros and to the historical centre of the city of Braga.

A one-day post-symposium excursion to the Gerês National Park (Suajo village and Alto Lima reservoir) and to the Minho river valley, including wine tasting at the Alvarinho Wine

FINAL SCHEDULE

TIME	JULY 11	JULY 12	JULY 13	JULY 14	
09:00am-09:30am	Documentation Distribution	Poster Session 1 (P1, P2, 13)	Poster Session 2 (P3 & P4)	Post-Symposium Excursion to the Minho river valley and/or to the Gerês National Park	
09:30am-11:00am	Open Session * Key-Lecture 1 (Paper KL1)	Technical Session n.º 3 (Papers 24, 25, 26, 29, 32 & Discussion)	Technical Session n.º 6 (Papers 1, 15, 19, 27, 28 & Discussion)		
11:00am-11:30am	Coffee-break	Coffee-break	Coffee-break		
11:30am-01:00pm	Key-Lecture 2 (Paper KL2) * Key-Lecture 3 (Paper KL3)	Technical Session n.º 4 (Papers 6, 7, 8, 10, 11 & Discussion)	Round Table n.º 2 "How to Achieve Quantity and Quality Goals of the Water Framework Directive in the Celtic Countries" (Papers RT2P3 & Discussion) * End Session		
01:00pm-02:30pm	Lunch	Lunch	Lunch		
02:30pm-04:00pm	Technical Session n.º 1 (Papers 3, 4, 18, 22, 23 & Discussion)	Round Table n.º 1 "Climate Variability in Celtic Countries" (Papers RT1P1, RT1P3 & Discussion)	Technical Excursion to the old Celtic Citânia de Briteiros and to the historical centre of the city of Braga		
04:00pm-04:30pm	Coffee-break	Coffee-break			
04:30pm-06:00pm	Technical Session n.º 2 (Papers 2, 12, 14, 21, 33 & Discussion)	Technical Session n.º 5 (Papers 9, 16, 20, 30, 31 & Discussion)			
	Ice-Breaking Party	Conference Dinner			