British Hydrological Society
Tenth National Hydrology Symposium

University of Exeter
15 - 18 September 2008

Contents

01 David Archer
The influence of river regulation at Kielder Water on the thermal regime of the River North Tyne

02 David Archer, Philip Rippon, Roger Inverarity and Rachel Merrix
The role of regulating releases and natural spates on salmonid migration in the River Tyne, north-east England

03 J.P. Bloomfield, Andrew A McKenzie and Ann T Williams
An overview of complex behaviour in the groundwater compartment of catchment systems and some implications for modelling and monitoring

04 Owen Bramwell
Water management of Loch Lomond — What does the future hold?

05 D. Butler, G. Fu and S.-T. Khu
The relationship between sewer flood volume and receiving water quality in an integrated urban wastewater system

06 B. Calvo, G. Napolitano, F. Savi, L. See, B. Irvine and A. Heppenstall
Development of a real-time flood forecasting model for the city of Rome

07 N.A. Chappell, K. Bidin, T.H. Chiew, I. Douglas, W. Sinun, R.P.D. Walsh, S.N. Abu Bakar and J. Hanapi
Malaysian forestry guidelines for mitigating water quality impacts in rainforests: implications from 20 years of local hydrological science

08 Nick A. Chappell, Yongqin David Chen, Jadda Suhaimiand Mike Bonell
Climate regulation of humid tropical hydrology

09 Colin Clark
New Guide to flood estimation in England and Wales: review and update

10 Paul Copestake and Andrew R. Young
How much water can a river give? Uncertainty and the flow duration curve.

11 Alastair Dale, Ruth Goodall and Marc Pinnell
Flood probability: Do we know enough about it or does it just confuse the issue?

12 Murray Dale
Forecasting risk of flooding: results from three projects

13 E.N. Dalen, M.J. Kirkby, L. Bracken, P.J.Chapman and B. Irvine
Factors influencing runoff generation, and estimates of runoff in a semi-arid area, SE Spain

14 M.J. Duncan, K.F.D. Hughey, C.H. Cochrane and J. Bind
River modelling to better manage mammalian predator access to islands in braided rivers

15 J.E. England, D.M. Hammond, D. Leeming and C.N. Parker
Assessment of flows and macroinvertebrate species pre- and post-alleviation of low flow scheme

16 Frank Farquharson
The summer 2007 floods – a hydrological account

17 Duncan Faulkner, Katharine Robb and Alexia Haysom
Return period assessment of the Summer 2007 floods in central England

18 Hayley J. Fowler, Claudia Tebaldi, Stephen Blenkinsop
Probabilistic estimates of climate change impacts on flows in the River Eden, Cumbria

19 Dan Fox, Mike Kendon and Jonathan Rogers
The interaction of flood risk management in catchments, estuaries and the coast: a case study on the Exe Estuary, UK

20 M.N. Futter, R.C. Helliwell, P.G. Whitehead and J. Aherne
Modelling nitrate dynamics in montane catchments: pitfalls and opportunities

21 P. Grabowiecki, K. Tota-Maharaj, M. Scholz and S. Coupe
Combined permeable pavement and ground source heat pump system

22 Graham Hill, Ian Maddock and Melanie Bickerton
River habitat mapping: are surface flow type habitats biologically distinct?

23 H.A. Houghton-Carr, M.J. Fry and F.A.K. Farquharson
Driving forces of future water availability and water use within Europe

24 Nicholas Howden and Tim Burt
Spatial and temporal trends in nitrate concentrations in Dorset Chalk streams

25 D.A. Hughes, T. Sawunyama and E. Kapangaziwiri
Incorporating estimation uncertainty into water resource development planning in ungauged basins in southern Africa

26 B.M. Jackson, H.S. Wheater, N.R. McIntyre, O.J. Francis, Z. Frogbrook, M. Marshall, B. Reynolds and I. Solloway
Upscaling runoff from hillslope to catchment scale: a case study in an upland Welsh catchment

27 Jennine Jonczyk, Paul F. Quinn, David L. Rimmer, Sean Burke and Mark Wilkinson
Farm Integrated Runoff Management (FIRM) plans: a tool to reduce diffuse pollution

28 J. Jones
Flood Risk Assessments and the planning sector

29 Kenabatho P.K, McIntyre N.R., Wheater H.S.
Application of generalised linear models for rainfall simulations in semi arid areas: A case study from the Upper Limpopo basin in north east Botswana

30 Elizabeth Kendon and Robin Clark
Reliability of future changes in heavy rainfall over the UK

31 Cédric L.R. Laizé and David M. Hannah
Seasonal hydroclimatological variability in near-natural UK river basins

32 David N. Lerner
Diffuse pollution of groundwater in urban areas

33 Y. Li, D. Qin, M. Wang, H. Li, D. Yan, J. Lv and D. Han
Integrated modelling of water release and vegetation ecosystems in the Black River of China

34 Karl-Erich Lindenschmidt, Jonathan Pavey, Daniella Michalek, Katrin Drastig, Theresia Petrow, Sergiy Vorogushyn
Modelling dyke breaches and probable maximum flood in river catchments to reduce uncertainty in flood frequency analyses

35 Kenneth MacDougall, Tricia McGregor, Syin Yi Phoon and James Dent
Extreme event and flood warning Decision Support Framework for Scotland

36 Terry Marsh
The 2007 floods in context

37 A.I. McKerchar and J. Schmidt
Decreasing low flows in the lower Selwyn River, New Zealand

38 Babak Mirshahi, Christian Onof and Howard S. Wheater
Spatial-temporal daily rainfall simulation for a semi-arid area in Iran: a preliminary evaluation of Generalised Linear Models

39 A. Mustafa, M. Scholz, L. Zhang, R. Harrington and P. Carroll
The long-term performance of a representative integrated constructed wetland for treating farmyard runoff

40 Alireza Nazemi, Andrew H. Chan and Xin Yao
Selecting representative parameters of rainfall–runoff models using multi-objective calibration results and a fuzzy clustering algorithm

41 H.E. O'Brien, J.C. Labadz, D.P. Butcher, M. Billett and N.G. Midgley
Impact of catchment management upon dissolved organic carbon and stream flows in the Peak District, Derbyshire, UK

42 Mary Ockenden and Nick A. Chappell
The effect of topography, subsurface strata and land-use on observed distributions of soil moisture within a sub-catchment of the River Eden, Cumbria

43 Greg O'Donnell, Josie Geris, Will Mayes, John Ewen and Enda O'Connell
Multiscale experimentation, monitoring and analysis of long-term land use changes and flood risk

44 Steve Parsons and Sun Yan Evans
Developing a flood management system in China

45 I. Pattison, S.N. Lane, R.J. Hardy, S. Reaney
Sub-Catchment peak flow magnitude and timing effects on downstream flood risk

46 Jon F. Pavey and Emma L. Wren
Hydroecology in decision-making: balancing effort with outcome

47 I.G. Pechlivanidis, N.R. Mcintyre, H.S. Wheater, B.M. Jackson and B. Orellana
Relation of spatial rainfall characteristics to runoff: An analysis of observed data

48 Oliver Pollard, Murray Dale and Andy Barnes
Bristol Floating Harbour flood warning triggers

49 K. Potter
Planning space for water

50 Liz Price
Reservoir control curve development for Environmental Impact Assessment: an example from the Abberton Scheme

51 Sim M. Reaney and Hayley J. Fowler
Uncertainty estimation of climate change impacts on river flow incorporating stochastic downscaling and hydrological model parameterisation error sources

52 Renji Remesan, Muhammad Ali Shamim and Dawei Han
Nonlinear modelling of daily solar radiation using the Gamma Test

53 John C. Rodda
How can water resources in South-East England be sustained?

54 J.P. Rodríguez, M.A. Díaz-Granados, L.A. Camacho, I.C. Raciny, C. Maksimovic and N. McIntyre
Bogotá's urban drainage system: context, research activities and perspectives

55 Dan Rosbjerg, Henrik Madsen, Bertrand Richaud, Claus B. Pedersen and Long Le Ngo
Multi-objective optimisation of the Hoa Binh reservoir, Vietnam

56 Nick Roseveare and Gordon Trapmore
The sustainable regeneration of Boscastle

57 Muhammad Ali Shamim, Renji Remesan and Dawei Han
Solar radiation distribution conditioned on precipitation measurement

58 Will Shenton, Terry Chan and Barry Hart
Environmental flows in Victoria, Australia: Development of a Bayesian Network decision support tool

59 R.J. Sweet
The significance of available data for the production of robust Strategic Flood Risk Assessments

60 M.J. Taylor, M.A. Shepherd and J.L. Whitehead
The Whittle Dene catchment study

61 Anthony J. Tollow and Rorisang Lekonyana
A possible water resource for Likotsi, Lesotho

62 Jan van Wonderen, Pan Congxin and Liu Zongping
Can the Silk Road oases be sustained?

63 P.H. von Lany, Nigel Hepworth, P.J. Hawker and F. Choudhury
Working towards integrated and more sustainable water resources planning in South-East England

64 John Waddingham, Daniel Cadman, John Murray-Bligh and Kathryn Tanner
Towards appropriate emphasis on regulation of the hydrological regime in integrated river basin management

65 H. Wang, J. Wang, D. Qin, Y. Jia, Y. Qiu, D. Yan and D. Han
Water resources assessment based on dualistic water cycles in China

66 S. Ward, D. Butler and F.A. Memon
A pilot study into attitudes towards and perceptions of rainwater harvesting in the UK

67 Paul Wass, David Lindsay and Duncan Faulkner
Flash Flood! A lucky escape for 10,000 bikers

68 Alan Weston
The reliability of water supply systems

69 J. Whitehead, M. Shepherd, S. Anthony, E. Lord, D. Duethmann, L. Fawcett and J. King
The relationship between water availability and quality in the context of agricultural practices in England and Wales

70 Paul Whitehead, Andrew Wade and Danny Butterfield
Potential impacts of climate change on water quality in six UK rivers

71 M.E. Wilkinson, P.F. Quinn and P. Welton
Belford catchment proactive flood solutions: storing and attenuating runoff on farms

72 Junqiang Xia, Binliang Lin, Roger A. Falconer and Baosheng Wu
An unstructured finite volume algorithm for predicting man-made flood routing in the Lower Yellow River

73 S. Kazemi Yazdi and M. Scholz
Combined bio-filtration, water detention and infiltration system treating road runoff

74 Andrew R Young, Robert Grew, Virginie Keller, Julie Stannett and Stuart Allen
Estimation of river flow time-series to support water resources management: the CERF model

75 Dehua Zhu, Jongsook Park, Miguel Rico-Ramirez and Ian Cluckie
Sensitivity analysis of a distributed hydrological model for the Upper Medway catchment using point and radar-based rainfall data