## TABLE OF CONTENTS

## SESSION I: WATER POLICY AND INTEGRATED WATER MANAGEMENT

KEYNOTES LECTURES	
Gerald E. Galloway: Water Policy and Integrated Water Management: a US Perspective	5
H.P. Nachtnebel, V. Dukhovny, A. Tuchin, A. Sorokin: Can alternative water management policies rehabilitate the Aral Sea?	7
ORAL PRESENTATIONS	
<b>Deh Chien Chen, Cedo Maksimovic, Nikolaos Voulvoulis:</b> Policy options of an integrated urban water management: A Singapore case study	15
Ilona Bärlund, Kasper Kok, Martina Flörke, Matthew Fry and Joseph Alcamo: Building qualitative quantitative scenarios for Europe's waters	and 19
Mitja Brilly: From water management toward water policy	23
Jon Bartholic, Saichon Seedang, Patricia Norris, Jeremiah Asher: New Great Lakes Basin Policy and Integrated Water Management	l 27
Marta Martínková, Václav Klečka, Pavel Eger, Šárka Blažková: The simulation game on operational management: the tool for implementation of IWRM in the flood protection strategy	flood 31
Frantisek Sulan: On numerical analysis of sediment transport modeling in small rivers	35
Martin Neruda, Johana Zacharová: Small streams´ rehabilitations in the northern region of the Czech Republic	39
Tomáš Dostál, Josef Krása, Karel Vrána: Potentials of GIS in catchment management and applications Czech Republic	in the
<b>Thomas L. Thurow:</b> Risk Management Instead of Crisis Management: Necessary Components of Droug Policy for Forests and Rangelands	tht 44
Matula, S., G. Bekere Mekonnen, K. Nešetřil, K. Špongrová: Hydrogeological modelling of different scenarios of groundwater movement and discharge in the watershed of the River Labe in North-west Bohemia	48
Jörg Krywkow: A methodological framework for participatory processes in water resources Management	52
Jakub Krejci, Jan Danhelka, Jiri Zezulak: Integrated water management system for training of main components of crisis management	55
Hildelano Delanusse Theodoro, Alexandre Hojda: MSPs and Governance at Institutional Level – The Velhas River Basin Case, Minas Gerais, Brazil	Rio da 59
Vladimír Zdrazil, Miroslav Martis: Influence of main river basin district plans on Environment.	60

Zsuzsanna Flachner: Key lessons on participatory river basin management in Upper Tisza, Hungary	61
Yusup Rysbekov: Difference between regional water politics and law and level of their execution in Cer Asia	itral 62
Alexandre Hojda, Hildelano Delanusse Theodoro: Articulation and social learning: social actors in the management in Brazil	water 63
<b>Basheer Obaid:</b> Advanced Application for Water Information System based on GIS in Palestinian Water authority	64
<b>Basheer Obaid, Rolf-Dieter Wilken:</b> Water Efficiency through Economic Assessment of Rehabilitation Planning for Water Network in Developing Countries	65
Anjali Bhat: An Uneasy Partnership: Insights on Decentralization and IWRM Reforms in Two Indonesia Basins	ın River 66
POSTER PRESENTATIONS	
Pavel Eger, Václav Klečka, Marta Martínková: Simulation game on operational flood management: Hydrological evaluation	69
Rudi Harto, Elok Ponco Mulyoutami, Farida, Kevin Jeanes, Betha Lusiana, Laxman Joshi, Meine Noordwijk: Rapid Hydrological Appraisal in the Context of Environmental Service Rewards	<b>van</b> 70
Zsuzsanna Flachner, László Pásztor, Zsófia Bakacsi: Comparison of future scenarios in the Tisza basi landscapes applying ecosystem service approach	n 71
Saskia E. Werners, Zsuzsanna Flachner: Land use related policy options for climate risk reduction in the Hungarian Tisza River Basin	he 72
Saskia E. Werners, Jeroen Warner, Dik Roth, Zsuzsanna Flachner: Climate change adaptation in wa policy: the introduction of water retention in Dutch and Hungarian water management	ter 73
R. L. Mahler, M. E. Barber: Water Policy Challenges in the Pacific Northwestern Region of the USA	74
Elena Voistinova: Impact of raised bogs on river water quality formation in Western Siberia	75
C. Mattas, K. Voudouris, A. Panagopoulos G. Soulios: Integrated water resources management using DPSIR approach in a GIS context: A case study of Gallikos river basin, North Greece	76
SESSION II: CLIMATE AND MAN-MADE CHANGES AND THEIR IMPACT CATCHMENTS	)N
KEYNOTE LECTURES	
Stefan Uhlenbrook: Climate and Man-made Changes and their Impact on Catchments	81
R.M. Allen-King, C.K. Keller and J.L. Smith: The impacts of climate and drainage on agricultural N e	xport 88
ORAL PRESENTATIONS	
Dočkal, M. Kos, Z.: Adaptation and water policy under climate change	93
Bohumír Janský, Michal Černý, Miroslav Šobr, Jan Kocum Zbyněk Engel, Serguei Yerokhin: Clir change impact on mountain lakes of Kyrgyzstan with regard to the risk of their rupture	nate 98
Külli Kangur, Kati Kangur, Andu Kangur: Effects of natural and man induced stressors on large Eurolake: case study of Lake Peipsi (Estonia/Russia)	pean 101

Christine J. Kirchhoff: Linking RISA Scientists and Water Resource Managers: Forging Partnerships fo Innovative Water Resources Planning and Management	r 106
Pavel Kovar, Darina Vassova: Simulation of Water Balance in Land Use Change Scenarios on the Neme Catchment, Czech Republic	cicky 111
Michal Kravčík, Jan Pokorný, Juraj Kohutiar, Martin Kováč, Eugen Tóth: Water for the Recovery Climate - A New Water Paradigm	of the 115
Oldřich Novický, Ladislav Kašpárek, Renata Fridrichová, Magdalena Mrkvičková, Stanislav Horá Petr Vyskoč: T.G.M. WRI studies focused on impacts of climate change on water cycle components and Resources	
Michael Barber, Robert Mahler and Jennifer Adam: Climate Change and Western Prior Appropriation Water Laws in the United States: Compatible or Conflict?	n 124
K.K. Mwetu, P.M. Kundu, B.M. Mutua, J. Fürst and W. Loiskandl: Response of river flow regime to cover and climate changes in Njoro River Catchment, Rift valley province in Kenya	land- 125
<b>K. Tarnacki, T. Wintgens, G. Dimova, T. Melin:</b> Implementation of the IPPC Directive and its role in mitigation of water stress in industrialized catchments – case studies from the metal industry	126
POSTER PRESENTATIONS	
Jan Kavan, Etienne Leblois, Jan Daňhelka: Vltava river basin water resources under the climate change conditions	e 129
<b>Nechvátal, M., Soukup, M.:</b> Influence of a Big Construction ( A Highway, etc.) on the Flow in the Agric and Forest Plots of the Cerhovicky Stream Catchment	ultural 130
Ndini, M., Bruci, E., Lushaj, B: Climate changes and the expected impact to the water resources in Albania	131
Ivan Svoboda, Marie Vrbová, Emilie Pecharová: Decision-Making for Restoration of Residual Pits after Opencast Mining in Northwest Bohemian Brown Coal Basin	er 132
Alex Salki: Climate change and other human-induced impacts on the Lake Winnipeg ecosystem.	133
Lenka Zajíčková, Pavel Cudlín: The water deficit impact on resistance of Norway spruce (Picea abies (L.) Karst.)	134
SESSION III: HYDROLOGICAL EXTREMES FLOODS AND DROUGHTS	
KEYNOTES LECTURES  Henny A.J. van Lanen, Lena M. Tallaksen: Hydrological Drought: Monitoring, Prediction and Forecas	_
Harvey J. E. Rodda: Flood Risk Mapping in the United Kingdom	139 143
ORAL PRESENTATIONS	
<b>Tomasz Bryndal:</b> Identification of Small Basins Prone to Flash Flooding as a Method Supporting Flood Management - Based on the Example of the Ciężkowickie Foothills (Poland).	Risk 149
Jan Daňhelka, Jakub Krejčí: Flood Forecasting System in the Czech Part of Elbe River Basin	154
Jan Kocum, Bohumír Janský: Headstream Area Retention Capacity Enhancement as an Implement agair Floods and Droughts	inst 158
Jiří Sovina: A Case Study of the Flood Control by the Water Management System on the River Ohře	162

C. Poulard, M. Lafont, A. Lenar-Matyas, J. Ratomski, H. Witkowska, P. Breil: Defining Riverscape as Supports for Discussion between Flood Management and Ecological Requirements	s Types 169
Ahmed Nasr, Michael Bruen, and Micheá Mac Cárthaigh: Statistical Analysis of Low Flows: Results Shannon River Basin (Ireland)	for the 173
POSTER PRESENTATIONS	
Zouhri L., Pourret O., Barier P., Saj S., Deloges T., Gielen A.: The Beauvais Experimental Watershed (France): an Outlook of the Seasonal Local Recharge of the Chalk Aquifer	177
Anna Nestorowicz, Kazimierz Banasik, Leszek Hejduk: Hydrological Relation between Two Small Catchments	178
Wojciech Jakubowski: Looking for the Trends of Low Flow Characteristics	179
Davis Gruberts, Juris Soms: Runoff Extremes of the Daugava River at Daugavpils (Latvia)	180
Hana Schlangerova: Floodplain modelling using GIS	181
Petr Koudelka, Václav David: Flood Risk Assessment in Small Catchments	182
Anna Sikorska, Kazimierz Banasik: Hydrological Extremes – Assessment of Use of Instantaneous Unit Hydrographs (IUH) Estimated with Rao Equations to Predict Flood Flows in a Small Urban Catchment (Ostudy on Sluzew Creek in Warsaw)	
<b>Darina Vassova, Martin Hermanovsky:</b> Impact of Chosen Methods of Excess-rainfall Estimation on a term Runoff Prediction	Short- 184
Vera Potop: Assessment of Widespread Droughts in the Second Half of the 20th Century in the Czech R	-
Adam Choryński, Piotr Matczak, Ilona Banaszak: Experts' judgments and attitudes towards adaptatio climate change	185 n to 186
<b>Bergaoui Mohamad:</b> Hydrological Study of the Small Areas Catchment of the Tunisan Dorsal and Regionalization of Lakes	187
SESSION IV: WATER QUALITY AND ENVIRONMENT KEYNOTES LECTURES	
James Crook: Status and Role of Water Reuse	193
Jiri Wanner: Water Quality Control in the Czech Republic	196
ORAL PRESENTATIONS  R. Jan Stevenson, Michael J. Wiley and Catherine M. Riseng: Linking Ecological Thresholds, Policy, Management	and 205
Megersa Olumana, Willibald Loiskandl, Josef Fürst: Ground Water Quality Concerns for Drinking un Long-term Irrigation: The case Of WSSE in the Upper Awash River Basin, Ethiopia	ider 209
Chmelová, I., Pechar, L.: Changes in surface waters chemistry in Třeboňsko and Novohradsko regions (Bohemia) during the last fifty years – the effects of land-use in catchment	South 211
George F. Czapar: Reducing the Impacts of Agriculture on Water Quality	215
<b>Gyula Rabnecz, Zsófia Stangl, Ildikó Jócsák:</b> István Keresztényi Water quality investigations in the Ri Danube (2007-2008) using the <i>Fontinalis antipyretica</i> L. ex Hedw. as bioindicator	ver 219

Khaled Hardan, Hans-Peter Nachtnebel and Andreas Klik: Prediction of water harvesting and sedim yield in Petzenkirchen catchment using the WEPP watershed mode	nent 223
Jiri Zezulák, Jitka Pražáková: Off-stream intervention to control the quality accidents in water course to water pollution	s prone 229
Milan Mesic, Zeljka Zgorelec, Ivica Kisic, Ferdo Basic: Andjelko Butorac1, Ivan Gaspar2 Losses of I in drainpipe water at different nitrogen fertilization levels	NO3-N 234
Pardossi A., Incrocci L., Massa D., Carmassi G., Navari-Izzo F., Izzo R.: The influence of high concentration of boron and sodium chloride in the irrigation water on water use and fruit yield of greenh tomato (Solanum lycopersicum L.) grown in closed growing systém	ouse 238
Ivan Landa, Pavel Šimek, Anna Chłádková, Andrea Hlavová: Extreme Hydrogeological Situation ar Importance for Ecological Risk Zones	nd the 242
POSTER PRESENTATIONS	
<b>Katalin Zsuga, József Pekli, Adrienn Tóth:</b> The effect of the environmental changes on the water qual the River Tisza from 1950s years to the present	lity of 247
Gabor Fogarasi, Janos Nagy: Chlorophyll fluorescence change of Sphagnum species during drying and Rehydration	d 251
Thomas W. Simpson, Sarah E. Weammert: Improving Best Management Practice Effectiveness Estimate Chesapeake Bay Program: Lessons Learned	nates fo 252
Zuzana Kunesova, Joe Magner, Brad Hansen, Chris Lenhart, Jason Ulrich, Geoff Kramer, David Shannon Wing, and John Nieber: Quantifying sediment sources from ravines, streambanks and bluffs the Minnesota River Basin (USA)	
SESSION V: ECONOMICS AND SOCIAL ISSUES IN FACE OF WATER SCAI	RCIT
KEYNOTES LECTURES	
Henry Vaux, Jr: Water Scarcity, Science and Economics	259
Jiřina Jílková and Lenka Slavíková: Water framework directive: Governance and Socio-Economic Iss	sues 263
ORAL PRESENTATIONS	
Aminou Arouna, Stephan Dabbert: Estimating households' willingness to pay for rural water supply: nonparametric bivariate probit approach	a semi- 267
James P. Dobrowolski: Education for Behavioral Change in Water Conservation	271
H. Jürgen Schwarz: Water footprint of beef production - critical review of current approaches	276
K. K. Klein, R. Grant-Kalischuk, H. Bjornlund and P. L. Wilson: Impacts of Climate Change on Wa Public Health in Alberta, Canada	ater and 280
Geoff Kuehne, Henning Bjornlund: Irrigator decision-making during a time of loss and change	284
Mirja Kattelus, Muhammad Mizanur Rahaman, Olli Varis: Sustainable Water Resources Managem Myanmar: Role of Agriculture and Hydropower	ent of 288
D. Baguma, W. Loiskandl, H. Jung & M. Hauser: Harvested rainwater, water scarcity and income general domestic households	neration 294
Petr Prochazka: Comparison of Water Protection Policies: The Case of the Czech Republic and Canada	a 299

POSTER PRESENTATIONS	-
Heiner Micko: Water as a strategic resource and cause of conflicts	303
SESSION VI: SHARING WATER-ORIENTED CURRICULA	
KEYNOTES LECTURES	
Claudia Pahl-Wostl: Building capacity for water policy and management	309
ORAL PRESENTATIONS	
M. J. Kolkman: A conceptual framework for integrated assessment education	313
POSTER PRESENTATIONS	
Kovar P., Nemec J: International Workshop on Natural Disaster Prevention	319
LIST OF PARTICIPANTS	321
CONFERENCE PROGRAMME	327