

**13th Hydroinformatics International Conference
Palermo (Italy), 1st – 6th July 2018**

Final Programme of Sessions

Monday, July 2nd 2018

		Room 7	Room 8	Room 9	Room 10	Room 11	Room 12					
08:00:00	08:20:00	Registration - Hall										
08:20:00	08:40:00	Registration - Hall										
08:40:00	09:00:00	Registration - Hall										
09:00:00	09:20:00	Opening ceremony - Plenary Room										
09:20:00	09:40:00	Opening ceremony - Plenary Room										
09:40:00	10:00:00	Opening ceremony - Plenary Room										
10:00:00	10:20:00	Coffee break										
10:20:00	10:40:00	Coffee break										
10:40:00	11:00:00	Keynote lecture 1 - Dragan Savic "Hydroinformatics so far: a story of motivation, inspiration and success" - Plenary Room										
11:00:00	11:20:00	Keynote lecture 1 - Dragan Savic "Hydroinformatics so far: a story of motivation, inspiration and success" - Plenary Room										
11:20:00	11:40:00	Keynote lecture 1 - Dragan Savic "Hydroinformatics so far: a story of motivation, inspiration and success" - Plenary Room										
11:40:00	12:00:00	Keynote lecture 2 - Vladan Babovic "Augmented Reality and Extended Intelligence: Reboot for the Hydroinformatics revolution" - Plenary Room										
12:00:00	12:20:00	Keynote lecture 2 - Vladan Babovic "Augmented Reality and Extended Intelligence: Reboot for the Hydroinformatics revolution" - Plenary Room										
12:20:00	12:40:00	Keynote lecture 2 - Vladan Babovic "Augmented Reality and Extended Intelligence: Reboot for the Hydroinformatics revolution" - Plenary Room										
12:40:00	13:00:00	Information minutes - Plenary room										
13:00:00	13:20:00	Lunch										
13:20:00	13:40:00	Lunch										
13:40:00	14:00:00	Lunch										
14:00:00	14:20:00	Session S1	79	Session A1.1	141	Session D2.1	38	Session E3.1	135	35	Session F1.1	28
14:20:00	14:40:00		213		167		43		288		103	65
14:40:00	15:00:00		237		343		78		294		225	280
15:00:00	15:20:00		308		399		277		370		270	359
15:20:00	15:40:00		314		132		7		417		194	420
15:40:00	16:00:00	Coffee break										
16:00:00	16:05:00	Parallel poster sessions P1 10 X 5'	62	Session C1.1	47	Parallel poster sessions P2 10 X 5'	14	318	Parallel poster sessions P3 10 X 5'	92	Session A5.1	9
16:05:00	16:10:00		73				59			179		
16:10:00	16:15:00		220				60			215		
16:15:00	16:20:00		326				77			329		
16:20:00	16:25:00		336				162			348		
16:25:00	16:30:00	338	362	392								
16:30:00	16:35:00	68	187	26	91	134						
16:35:00	16:40:00	291										
16:40:00	16:45:00	295										
16:45:00	16:50:00		199		91	134						
16:50:00	16:55:00				361	230						
16:55:00	17:00:00		287		374	423						
17:00:00	17:05:00				400	334						
17:05:00	17:10:00		388									
17:10:00	17:15:00											
17:15:00	17:20:00											
17:20:00	17:25:00											
17:25:00	17:30:00											
17:30:00	17:35:00											
17:35:00	17:40:00											
17:40:00	17:45:00											
17:45:00	17:50:00											
17:50:00	17:55:00											
17:55:00	18:00:00											
18:00:00	18:20:00	Meeting time										
18:20:00	18:40:00	Meeting time										
18:40:00	19:00:00	Meeting time										

Tuesday, July 3rd 2018

		Room 7	Room 8	Room 9	Room 10	Room 11	Room 12						
08:00:00	08:20:00	Registration - Hall											
08:20:00	08:40:00	Registration - Hall											
08:40:00	09:00:00	Registration - Hall											
09:00:00	09:20:00	Keynote lecture 3 - Rafael L. Bras "So Much Data and So few ways to Use It: The Era of Data Rich Hydrology" -Plenary room											
09:20:00	09:40:00	Keynote lecture 3 - Rafael L. Bras "So Much Data and So few ways to Use It: The Era of Data Rich Hydrology" -Plenary room											
09:40:00	10:00:00	Keynote lecture 3 - Rafael L. Bras "So Much Data and So few ways to Use It: The Era of Data Rich Hydrology" -Plenary room											
10:00:00	10:20:00	Information minutes - Plenary Room											
10:20:00	10:40:00	Coffee break											
10:40:00	11:00:00	Session A3.1	45	Session B1.2	16	Session C2.1	105	Session D2.2	36	Session S16	177	Session F2.1	61
11:00:00	11:20:00		133		83		106		44		206		64
11:20:00	11:40:00		173		101		26		300		211		217
11:40:00	12:00:00		298		102		416		128		289		285
12:00:00	12:20:00		306		114		203		186		328		293
12:20:00	12:40:00	307	267	257	249	378	395						
12:40:00	13:00:00	1	405	344	347	248	401						
13:00:00	13:20:00	Lunch											
13:20:00	13:40:00	Lunch											
13:40:00	14:00:00	Lunch											
14:00:00	14:20:00	Session A1.2	12	Session A6.1	24	Session E3.2	27	Session C6.1	115	Session D1.1	272	HydroEur ope special session	
14:20:00	14:40:00		74		70		210		157		279		
14:40:00	15:00:00		95		71		263		172		303		
15:00:00	15:20:00		178		97		302		244		315		
15:20:00	15:40:00	390	273	406	396	6							
15:40:00	16:00:00	Coffee break											
16:00:00	16:05:00	Parallel poster sessions P4 10 X 5'	18	Session A5.2	63	Parallel poster sessions P5 10 X 5'	121	Session S13	58			HydroEur ope special session	
16:05:00	16:10:00		185				275						
16:10:00	16:15:00		200				331						
16:15:00	16:20:00		212				384						
16:20:00	16:25:00		216				397						
16:25:00	16:30:00		268				159						
16:30:00	16:35:00		340										
16:35:00	16:40:00	137											
16:40:00	16:45:00												
16:45:00	16:50:00												
16:50:00	16:55:00		311		222								
16:55:00	17:00:00												
17:00:00	17:05:00												
17:05:00	17:10:00		364		251								
17:10:00	17:15:00												
17:15:00	17:20:00												
17:20:00	17:25:00												
17:25:00	17:30:00		402		283								
17:30:00	17:35:00												
17:35:00	17:40:00												
17:40:00	17:45:00												
17:45:00	17:50:00												
17:50:00	17:55:00				385								
17:55:00	18:00:00												
18:00:00	18:20:00	Meeting time											
18:20:00	18:40:00	Meeting time											
18:40:00	19:00:00	Meeting time											

Wednesday, July 4th 2018

		S1	S2	S3	S4	S5	S6						
08:00:00	08:20:00	Registration - Hall											
08:20:00	08:40:00	Registration - Hall											
08:40:00	09:00:00	Registration - Hall											
09:00:00	09:20:00	Keynote lecture 4 - Ezio Todini "Revisiting water distribution modeling under an uncertainty perspective" - Plenary Room											
09:20:00	09:40:00	Keynote lecture 4 - Ezio Todini "Revisiting water distribution modeling under an uncertainty perspective" - Plenary Room											
09:40:00	10:00:00	Keynote lecture 4 - Ezio Todini "Revisiting water distribution modeling under an uncertainty perspective" - Plenary Room											
10:00:00	10:20:00	Information minutes - Plenary Room											
10:20:00	10:40:00	Coffee break											
10:40:00	11:00:00	Session S9	125	Session E3.3	148	Session D5.1	3	Session F3.1	369	Session S10	142	Session S5/S11	75
11:00:00	11:20:00		256		156		4		108		202		123
11:20:00	11:40:00		317		214		96		112		234		155
11:40:00	12:00:00		330		407		100		250		266		180
12:00:00	12:20:00		337		350		320		296		349		305
12:20:00	12:40:00		383		424		356		322		375		327
12:40:00	13:00:00		389	393			333						
13:00:00	13:20:00	Lunch											
13:20:00	13:40:00	Lunch											
13:40:00	14:00:00	Lunch											
14:00:00	14:20:00	Session S2	236	Session C7.1	284	Session S7.1	72	Session D5.2	192	Session D7.1	154	Session S4.1	131
14:20:00	14:40:00		323		297		127		253		380		152
14:40:00	15:00:00		245		324		20		408		415		193
15:00:00	15:20:00		85		124		208		113		418		238
15:20:00	15:40:00	421			255	33							
15:40:00	16:00:00	Coffee break											
16:00:00	16:05:00	Parallel poster sessions P7 10 X 5'	175	Session D3.1	66	Parallel poster sessions P8 10 X 5'	8	Session A3.2	56	Parallel poster sessions P9 10 X 5'	143	Session S3/S15	13
16:05:00	16:10:00		191				29				147		
16:10:00	16:15:00		228				120				201		
16:15:00	16:20:00		52				136				205		
16:20:00	16:25:00		168				140				278		
16:25:00	16:30:00		252				235				223		
16:30:00	16:35:00		381	292									
16:35:00	16:40:00		367	353									
16:40:00	16:45:00		376										
16:45:00	16:50:00		153	164									
16:50:00	16:55:00		188	189									
16:55:00	17:00:00		188	189									
17:00:00	17:05:00		188	189									
17:05:00	17:10:00		188	189									
17:10:00	17:15:00		188	189									
17:15:00	17:20:00		188	189									
17:20:00	17:25:00	Discussion time	403	265	Discussion time	Discussion time	239						
17:25:00	17:30:00		403	265									
17:30:00	17:35:00		403	265									
17:35:00	17:40:00		403	265									
17:40:00	17:45:00		403	265									
17:45:00	17:50:00		373										
17:50:00	17:55:00		373										
17:55:00	18:00:00		373										
18:00:00	18:20:00	Meeting time											
18:20:00	18:40:00	Meeting time											
18:40:00	19:00:00	Meeting time											

Thursday, July 5th 2018

		S1	S2	S3	S4	S5	S6						
08:00:00	08:20:00	Registration - Hall											
08:20:00	08:40:00	Registration - Hall											
08:40:00	09:00:00	Registration - Hall											
09:00:00	09:20:00	Keynote lecture 5 - Demetris Koutsoyiannis "Climate change impacts on hydrological science: How the climate change agenda has lowered the scientific level of hydrology" - Plenary Room											
09:20:00	09:40:00	Keynote lecture 5 - Demetris Koutsoyiannis "Climate change impacts on hydrological science: How the climate change agenda has lowered the scientific level of hydrology" - Plenary Room											
09:40:00	10:00:00	Keynote lecture 5 - Demetris Koutsoyiannis "Climate change impacts on hydrological science: How the climate change agenda has lowered the scientific level of hydrology" - Plenary Room											
10:00:00	10:20:00	Information minutes - Plenary Room											
10:20:00	10:40:00	Coffee break											
10:40:00	11:00:00	Session A5.3	166	Session D8.1	22	Session D2.3	184	Session S4.2	31	Session S6.1	34	Session S7.2	32
11:00:00	11:20:00		174		198		246		118		46		54
11:20:00	11:40:00		229		286		281		232		139		86
11:40:00	12:00:00		332		304		89		254		149		146
12:00:00	12:20:00		41		346		319		368		181		183
12:20:00	12:40:00		309		355		394				196		204
12:40:00	13:00:00	422		366			282						
13:00:00	13:20:00	Lunch											
13:20:00	13:40:00	Lunch											
13:40:00	14:00:00	Lunch											
14:00:00	14:20:00	Session D5.3	42	Session D4.1	170	Session S6.2	2	Session S7.3	99	Session D3.2	40		
14:20:00	14:40:00		48		190		138		107		126		
14:40:00	15:00:00		76		233		290		110		176		
15:00:00	15:20:00		227		261		241		158		197		
15:20:00	15:40:00		87				262						
15:40:00	16:00:00	Coffee break											
16:00:00	16:20:00		226	Session C6.2	53	Session D4.2	171	Session S14	23	Session D8.2	51		
16:20:00	16:40:00		231		321		299		25		259		
16:40:00	17:00:00	Session A8.1	382		404		313		30		316		
17:00:00	17:20:00				419		351				345		
17:20:00	17:40:00	Closing ceremony											
17:40:00	18:00:00	Closing ceremony											
18:00:00	18:20:00	Closing ceremony											
18:20:00	18:40:00	Closing ceremony											
18:40:00	19:00:00	Closing ceremony											

#	Authors	Title	Extended Abstract	Full Paper	Topics
1	Edoardo Bertone, Guilherme Franklin de Oliveira, Rodney Stewart and Kelvin O' Halloran	Using compensated fluorescence probes data for proactive water treatment management	✓	✓	A3. Real time control technologies and applications
2	Jaya Kandasamy	Robustness of Extreme Learning Machine in Hydrological Time-Series Prediction	✓		S6. Model predictive control for water management
3	Maritza Arganis, Margarita Preciado, Jesús Javier Cortes, Miguel Eduardo Gonzalez and Víctor Damián Pinilla	Influence on the distribution function of annual maximum rainfall series when filling data using Lagrange interpolation	✓	✓	D5. Model validation, calibration and uncertainty analysis
4	Itzel Velazquez, Maritza Arganis, Ramón Domínguez, Rosalva Mendoza and Eliseo Carrizosa	Generation of daily synthetic series of inflow volume to the Las Cruces Dam, Nay., Mexico, using the Svanidze method	✓	✓	D5. Model validation, calibration and uncertainty analysis
6	Enrico Creaco, Sara Todeschini and Marco Franchini	Hydrological Modelling of the Cascina Scala catchment	✓	✓	D1. Physically based vs conceptual hydrological models
7	Aditi Bhadra, H. Lalramnghaki, L. G. Kiba and Arnab Bandyopadhyay	Temporal Variation in Water Induced Soil Erosion by RUSLE Model using Remote Sensing and GIS	✓	✓	B2. Remote sensing for water resource management
8	Kazuhiro Matsumoto and Mamoru Miyamoto	Clustering multiple hydrographs using mathematical optimization	✓	✓	D5. Model validation, calibration and uncertainty analysis
9	Camillo Bosco, Giuseppe Pezzinga, Marco Sinagra and Tullio Tucciarelli	Optimal design of water pipeline and micro-hydro turbine by genetic algorithm	✓	✓	A5. Optimization techniques and their application
12	Joshua Myrans, Zoran Kapelan and Richard Everson	Automatic identification of sewer fault types using CCTV footage	✓	✓	A1. Advanced technologies for water systems monitoring
13	Stephen Nash and Michael Hartnett	High resolution urban flood modelling: A case study of Cork City, Ireland	✓	✓	S15. Flooding forecasting and warning in urban areas
14	Ferdi Hellweger	Bringing modern biology into water quality modeling using agent-based techniques	✓		F1. Coastal and water quality modelling F2. Surface and ground water modeling
16	Lei Ren and Michael Hartnett	Application of a sequential data assimilation technique to improve modeling of surface currents using radar data at a coastal domain	✓	✓	B5. Data Assimilation Techniques
18	Arnab Bandyopadhyay, Grace Nengzouzam, W. Rahul Singh, Nemptinkim Hangsing and Aditi Bhadra	Comparison of Various Reanalyses Gridded Data with Observed Data from Meteorological Stations over India	✓	✓	B1. Remote sensing applied to hydrology
20	Sergio Martínez-Aranda, Javier Fernández-Pato, Daniel Caviedes-Voullième, Ignacio García-Palacín and Pilar García-	Towards transient experimental water surfaces: strengthening two-dimensional SW model validation	✓	✓	S7. Development and application of the next generation of shallow flow models
22	Donghwi Jung and Joong Hoon Kim	Investigating differences between topological and hydraulic reliability-based water distribution network designs	✓		D8. Modeling of urban water distribution and drainage systems
23	Heshu Li, Dong Wang, Vijay Singh and Yuankun Wang	Entropy based multicriterion evaluation for rainfall monitoring networks under the impact of discretization	✓	✓	S14. Advance in uncertainty estimation of hydro-science in changing environment
24	Nazli Yonca Aydin	Identifying critical components in water networks using time-dependent data	✓	✓	A6. Complex network theory and its application
25	Wenqi Wang, Dong Wang, Vijay P. Singh and Yuankun Wang	Spatial-temporal evaluation of rain-gauge network based on entropy theory	✓	✓	S14. Advance in uncertainty estimation of hydro-science in changing environment
26	Carolina Vega-Viviescas, David A. Zamora and Erasmo A. Rodríguez	Use of global reanalysis data in the study of the aridity index in the Magdalena-Cauca macro-basin, Colombia	✓	✓	B2. Remote sensing for water resource management
27	Roberto A. Real-Rangel, Adrián Pedrozo-Acuña, J. Agustín Breña-Naranjo and Víctor H. Alcocer-Yamanaka	Novel drought hazard monitoring framework for decision support under data scarcity	✓	✓	E3. Impacts on resources, flooding, drought
28	Zhiqiang Deng	Predicting Bacterial Levels in Recreational Beach Waters along U.S. Gulf Coast	✓	✓	F1. Coastal and water quality modelling

29	Maryam Roostae and Zhiqiang Deng	Uncertainty Analysis of Watershed-Based Flow and Water Quality Modelling with Different DEM Data Sources	✓	✓	D5. Model validation, calibration and uncertainty analysis
30	Yuankun Wang, Dong Wang and Xiaorui Shi	Investigating the complexity of runoff series in the Yangtze River using sample entropy	✓	✓	S14. Advance in uncertainty estimation of hydro-science in changing environment
31	Satoru Oishi, Toshihiko Tahara and Mariko Ogawa	Study on optimization of the operation of dams using Ensemble Prediction and a Distributed Rainfall-Runoff Model	✓		S4. Integrated use of the water reservoirs
32	Adrian Navas-Montilla and Javier Murillo	Increasing accuracy in shallow water flows: maintaining vorticity in presence of bathymetry	✓	✓	S7. Development and application of the next generation of shallow flow models
33	Yoshinori Shishido, Koichi Sato, Haruka Utada and Kazunori Nakai	Utilization and validation of hydraulic formula to optimize pipeline diameter in waterworks~Downsizing of water facilities to prepare for decrease in water demand due to population decline~	✓	✓	D5. Model validation, calibration and uncertainty analysis
34	Klaudia Horváth, Bart van Esch, Jorn Baayen, Ivo Pothof, Jan Talsma and Tjerk Vreeken	Model predictive control of a river reach with weirs	✓	✓	S6. Model predictive control for water management
35	Mohamed Mostafa Mohamed and Rezaul Kabirchowdhury	Climate Changes Impacts on Groundwater Recharge in the UAE	✓		E3. Impacts on resources, flooding, drought
36	Georges Kesserwani, Mohammad Kazem Sharifian and James	Adaptive multi-scale shallow flow model: a wavelet-based	✓	✓	D2. Mathematical modelling of water systems
38	Roberta Karinne Mocva-Kurek and Adrián Pedrozo-Acuña	Z-R law for quantitative rainfall estimation using a C-band radar and a network of ground-based disdrometers	✓	✓	B4. Airborne and remote data integration and verification
39	Manuel Bogoni and Stefano Lanzoni	Modeling meander morphodynamics influenced by self-formed heterogeneities	✓		S13. Simulation of fluvial eco-hydraulic and morphodynamic processes
40	Van Sy Pham and Jin Hwan Hwang	The effect of lateral boundary conditions on results of one-way nested ocean regional circulation model	✓	✓	D3. Hydraulic modelling of complex water bodies
41	Matthew Stenson, Ashley Sommer, Ross Searle and David	Federating and harmonising disparate soil moisture data sources	✓	✓	A4. ICT for water
42	Mamoru Miyamoto and Kazuhiro Matsumoto	Influence of Rainfall Data with Different Spatial Resolutions on Flood Forecasting Reliability	✓	✓	D5. Model validation, calibration and uncertainty analysis
43	Biswa Bhattacharya, Crystal Conway, Dimitri Solomatine, Ilyas Masih, Joanne Craven, Liton Chandra Mazumder, Maurizio Mazzoleni, Reyne Ugav, Schalk Jan van Anel and	Hydrological and erosion modelling of the Brahmaputra basin using global datasets	✓	✓	B1. Remote sensing applied to hydrology
44	Ryosuke Arai, Kazuyuki Ota, Yasushi Toyoda and Takahiro Sato	Development of a system for practical prediction of flood and debris flow throughout Japan	✓	✓	D2. Mathematical modelling of water systems
45	Jordi Meseguer, Bernat Joseph-Duran, Gabriela Cembrano and Vicenc Puig	Fault Tolerant Model Predictive Control applied to Integrated Urban Drainage Systems for Environmental Protection	✓	✓	A3. Real time control technologies and applications
46	Boran Ekin Aydin, Martine Rutten and Edo Abraham	Model Predictive Control of Salinity and Water Level in a Hypothetical Polder Ditch: Is it Possible to Use the Discretized Linearized Physical Equations for Optimization	✓	✓	S6. Model predictive control for water management
47	Ashley Sommer, Matthew Stenson and Ross Searle	Technical Breakdown of a Time-Series Data Federation system	✓	✓	C1. Data-mining techniques
48	Yosuke Nakamura, Koji Ikeuchi, Shiori Abe, Toshio Koike and Shinji Egashira	Evaluation of the uncertainty of flash flood prediction using the RRI model in mountainous rivers	✓	✓	D6. Predictive Uncertainty assessment and Ensembles
51	Leslie Salvan and Phillippe Gourbesville	Methodology for dual drainage modeling - Application to a suburban catchment	✓		D8. Modeling of urban water distribution and drainage systems
52	Fuxin Chai, Shu Liu, Changwei Hu and Hongping Zhang	Research and development of flood control operation system of Beijing city, China	✓	✓	S15. Flooding forecasting and warning in urban areas
53	Giulia Farina, Anna Bernini, Stefano Alvisi and Marco Franchini	A comparison of rapid spreading models for delimiting flooded areas based on GIS information	✓	✓	C6. DSS and GIS for water management
54	Ilhan Özgen, Dongfang Liang and Reinhard Hinkelmann	A grid convergence study for the integral porosity shallow water model on unstructured triangular meshes	✓	✓	S7. Development and application of the next generation of shallow flow models

56	Christian Chatelard, Jean-Claude Krapez, Philippe Barillot, Philippe Déliot, Yves-Michel Frédéric, Jean Pierro, Jean-Francois Nouvel, Franck Hélias, Yolande Louvet, Isabelle Le	Multispectral approach assessment for detection of losses in water transmission systems by airborne remote sensing	✓	✓	B2. Remote sensing for water resource management
58	Alessandro Monti, Mohammad Omidyeganeh and Alfredo Pinelli	Large-eddy simulation of open-channel flow with rigid submerged vegetation	✓		S13. Simulation of fluvial eco-hydraulic and morphodynamic processes
59	Qiang Ma, Mingxuan Du and Philippe Gourbesville	Application of 3D Groundwater Modelling for Pumping Strategy Management - Application to the Var Catchment, France	✓		F2. Surface and ground water modeling
60	Sergio Lopez Dubon, Daniele Pietro Viero, Manuel Bogoni and Stefano Lanzoni	Meandering evolution and width variation, a physics-statistical based modeling approach	✓		S13. Simulation of fluvial eco-hydraulic and morphodynamic processes
61	Qiang Ma, Ngoc Duong Vo and Philippe Gourbesville	Application of Distributed Deterministic Hydrological Model in Mediterranean Region, Case Study in Var Catchment, France	✓		F2. Surface and ground water modeling
62	Qiang Ma, Mingxuan Du, Ngoc Duong Vo and Philippe Gourbesville	Assessment of Snow Melting Impacts in the French Mediterranean Region, Application of the MIKE SHE Simulation in Var River Basin	✓	✓	D2. Mathematical modelling of water systems
63	Peter van Thienen, Ina Vertommen and Karel van Laarhoven	Practical application of optimization techniques to drinking water distribution problems	✓	✓	A5. Optimization techniques and their application
64	Ali Salem, József Dezső, Dénes Lóczy, Mustafa El-Rawy and Marcin Slowik	Modeling Surface Water-Groundwater Interaction in an Oxbow of the Drava Floodplain	✓	✓	F2. Surface and ground water modeling
65	Barbara Vieira, Jose Pinho and Luis Vieira	Comparison of 1DH and 2DH numerical models for wave hydrodynamics influenced by a detached breakwater	✓	✓	F1. Coastal and water quality modelling
66	Matteo Balistrocchi, Roberto Ranzi, Stefano Orlandini and Baldassare Bacchi	Flood routing efficiency assessment: an approach using bivariate copulas	✓	✓	D3. Hydraulic modelling of complex water bodies
67	Dawei Zhang, Jin Quan, Zhili Wang, Hongbin Zhang and Jianming Ma	Numerical simulation of overland flows using Godunov scheme based on finite volume method	✓	✓	D3. Hydraulic modelling of complex water bodies
68	Luigi Berardi, Daniele Laucelli, Antonietta Simone and Orazio	Investigation of DMA consumption by visibility algorithms	✓		S2. Complex Network Theory and Applications to Water Systems
70	Antonietta Simone, Luca Ridolfi, Daniele Laucelli, Luigi Berardi and Orazio Giustolisi	Centrality metrics for Water Distribution Networks	✓	✓	A6. Complex network theory and its application
71	Antonietta Simone, Luca Ridolfi, Luigi Berardi, Daniele Laucelli and Orazio Giustolisi	Complex Network Theory for Water Distribution Networks analysis	✓	✓	A6. Complex network theory and its application
72	Bobby Minola Ginting, Ralf-Peter Mundani and Ernst Rank	Parallel simulations of shallow water solvers for modelling overland flows	✓	✓	S7. Development and application of the next generation of shallow flow models
73	Pin-Hao Liao and Dong-Sin Shih	Ensemble Numerical Modeling Approach with Social Network Information to Optimize Flood Forecasting	✓	✓	D1. Physically based vs conceptual hydrological models
74	Talia Rosin, Michele Romano, Zoran Kapelan, Kevin Woodward and Ed Keedwell	Prediction of CSO chamber level using Evolutionary Artificial Neural Networks	✓	✓	A1. Advanced technologies for water systems monitoring
75	Tahiri Ayoub, David Ladeveze, Pascale Chiron and Bernard Archimède	Reconstruction of Hydrometric Data Using a Network Optimization Model	✓	✓	S5. IA techniques for Smart Water Systems
76	Pedro Arboleda-Obando, David Zamora, Carolina Vega, Nicolás Duque and Erasmo Rodriguez	Multi-structure hydrological ensemble to improve flow daily prediction in the Sumapaz River basin, Colombia	✓	✓	D6. Predictive Uncertainty assessment and Ensembles
77	Jose Pinho, José Coelho, Stênio Venâncio, Luís Vieira, Bárbara Vieira and Jose Vieira	Application of Delft3d for designing and assessing new solutions to improve sediment input to an erosion prone coast	✓	✓	F1. Coastal and water quality modelling
78	Nicolás Duque-Gardeazábal, David Zamora and Erasmo Rodríguez	Analysis of the kernel bandwidth influence in the double smoothing merging algorithm to improve rainfall fields in poorly gauged basins	✓	✓	B5. Data Assimilation Techniques
79	Xuan Wang, Serene Hui Xin Tay and Vladan Babovic	Improving water level forecast of an oceanographic model in Malacca Strait based on data-driven open boundary correction	✓	✓	S1. Data Assimilation of spatial information for hydrologic and hydraulic models
83	Chen Chen, Tiejian Li, Jiaye Li, Wang Fu and Guangqian Wang	Vegetation change analyses considering climate variables and anthropogenic variables in the Three-River Headwaters Region	✓	✓	B1. Remote sensing applied to hydrology

85	Daniele Laucelli, Luigi Berardi, Antonietta Simone and Orazio	A teaching experiment using a serious game for WDNs sizing	✓	✓	A7. Internet, Cloud and Mobile application for water
86	Janice Ayog and Georges Kesserwani	A well-balanced second-order discontinuous Galerkin reformulation for shallow water modelling	✓	✓	S7. Development and application of the next generation of shallow flow models
87	Pat Prodanovic, Cedric Goeury, Fabrice Zaoui, Riadh Ata, Jacques Fontaine, Pablo Tassi and Yoann Audouin	Shape optimization of hydraulic structures: an example of an optimum design of a fish passage	✓	✓	D5. Model validation, calibration and uncertainty analysis
88	Fernando Silva, Thaisa Dias Goulart and Regina Barros	Analysis of hypothetical water distribution network from the application of three calibration optimization algorithms applying the genetic algorithms	✓	✓	A5. Optimization techniques and their application
89	Diogo Francisco Borba Rodrigues, Geber Barbosa De Albuquerque Moura, Suzana Maria Gico Lima Montenegro, Tatiana Patrícia Nascimento Da Silva Rodrigues, Leidjane Maria Maciel De Oliveira, Ana Claudia Villar E Luna Gusmão	EvapoCalc: An Android application to estimate evapotranspiration by different methods	✓	✓	A7. Internet, Cloud and Mobile application for water
91	Mohamed Mostafa Mohamed and Samy Elmahdy	Land use/Land Cover Changes Monitoring and Analysis of Dubai Emirate, UAE Using Multi-Temporal Remote Sensing Data	✓		B2. Remote sensing for water resource management
92	Udomluck Charoenveangvechakij and Suradet Heramphakun	The knowledge development in flood risk reduction: a case of Metropolitan Waterworks Authority, Thailand		✓	E3. Impacts on resources, flooding, drought
94	Ehsan Kazemi, Stephen Mounce, Stewart Husband and Joby Boxall	Predicting turbidity in water distribution trunk mains using nonlinear autoregressive exogenous artificial neural networks	✓	✓	A3. Real time control technologies and applications
95	Weimei Shao, Jiahong Liu, Denghua Yan, Haixing Zhang, Zhaohui Yang, Guiyu Yang and Fenfen Liu	A study of public safety engineering projects for the improvement of drinking water quality in northwestern China – an example from Shanshan County, Xiniang	✓	✓	A1. Advanced technologies for water systems monitoring
96	Xiaohan Li and Patrick Willems	A Data-Driven Hybrid Urban Flood Modelling Approach	✓	✓	D5. Model validation, calibration and uncertainty analysis
97	Armando Di Nardo, Carlo Giudicianni, Roberto Greco, Manuel Herrera, Giovanni Francesco Santonastaso and Antonio Scala	Sensor placement in water distribution networks based on spectral metrics	✓	✓	S2. Complex Network Theory and Applications to Water Systems
99	Kaihua Guo, Jingming Hou and Feifei Liu	Numerical simulation of the land use effect on catchment flood mitigation	✓	✓	S7. Development and application of the next generation of shallow flow models
100	Md Nazmul Azim Beg, Jorge Leandro, Punit Bhola, Iris Konnerth, Kanwal Amin, Florian Koeck, Rita F. Carvalho and	Flood Forecasting with uncertainty using a fully automated flood model chain: a case study for the City of Kulmbach	✓	✓	D5. Model validation, calibration and uncertainty analysis
101	Diego Araújo, Suzana Montenegro, Ana Cláudia Villar E Luna Gusmão and Diogo Rodrigues	Validation of SMOS-IC soil moisture over Brazilian semiarid using in situ measurements	✓	✓	B1. Remote sensing applied to hydrology
102	Matthew Moy de Vitry, Jan Dirk Wegner and João Paulo Leitão	Automatic flood level trend estimation from CCTV videos with a convolutional neural network classifier	✓		B1. Remote sensing applied to hydrology
103	Clemens Strehl, Erle Kristvik and Juliane Koti	Finding cost-effective solutions for climate change adaptation in Bergen using extensive climate, economic and spatial data	✓	✓	E3. Impacts on resources, flooding, drought
104	João Marques and Maria Cunha	Multi-objective simulated annealing algorithm for the design of water distribution networks	✓	✓	A5. Optimization techniques and their application
105	Joaquim Leitão, Nuno Simões, José Alfeu Marques, Paulo Gil, Bernardete Ribeiro and Alberto Cardoso	Categorisation of urban water consumptions	✓	✓	C1. Data-mining techniques
106	Hongyan Li, Shanshan Bao and Yunqing Xuan	Parameter selection for phase space reconstruction in hydrological series and rationality analysis of its chaotic characteristics	✓	✓	S12. Accounting for cross-boundary model interactions and uncertainties in Integrated Water Resources Management
107	Xuefei Wu, Fan Yang and Dongfang Liang	Study of Pollutant Transport in Environmental Flows using Depth-Averaged Random Walk Method	✓	✓	S7. Development and application of the next generation of shallow flow models
108	Olivier Delaigue, Guillaume Thirel, Laurent Coron and Pierre Brigode	airGR and airGRteaching: two open-source tools for rainfall-runoff modeling and teaching hydrology	✓	✓	S8. New experiences in open-source computing, open data, and virtual laboratories
110	Ester Marafini, Franziska Tügel, Ilhan Özgen, Reinhard Hinkelmann and Michele La Rocca	Flash flood simulations based on shallow water equations to investigate protection measures for El Gouna, Egypt	✓	✓	S7. Development and application of the next generation of shallow flow models

112	Guohua He, Yong Zhao, Jiahua Wang, Yongnan Zhu, Haihong Li and Shan Jiang	Impact of water supply on energy use and carbon dioxide in Jing-Jin-Ji region, China	✓	✓	F3. Integrated Water Resources Management
113	Mariacrosetta Sambito, Cristiana Di Cristo, Gabriele Freni, Angelo Leopardi and Claudia Quintiliani	Pre-conditioning approach to Bayesian Decision Networks for water quality sensors positioning in urban drainage systems	✓		A9. Decisions using Probabilistic Forecasts
114	Maurizio Mazzoleni, Biswa Bhattacharya, Miguel Angel Laverde Barajas and Dimitri Solomatine	Exploring the use of the three rainfall remote sensing products for flood prediction in the Brahmaputra basin	✓	✓	B1. Remote sensing applied to hydrology
115	Suwan Park and Jae-Hong Ha	Development of a system dynamics computer model for the simulation of the effects of an alternate water source development project on the water supply systems management and customer	✓	✓	C6. DSS and GIS for water management
118	Sara Masia, Janez Sušnik, Serena Marras, Simone Mereu, Donatella Spano and Antonio Trabucco	Impact of Climate Change on Irrigated Agriculture in Southern Italy	✓	✓	S4. Integrated use of the water reservoirs
120	Lorena Liuzzo and Gabriele Freni	Implications of land use change on river flow in South West England	✓	✓	D5. Model validation, calibration and uncertainty analysis
121	Laurent Guillaume Courty, Jose Agustín Breña-Naranjo and Adrián Pedrozo-Acuña	Managing large geodatasets for urban flood risk mapping: The Mexican flood risk atlas	✓	✓	C6. DSS and GIS for water management
123	Armando Di Nardo, Michele Di Natale, Anna Di Mauro, Eva Martínez Díaz, Jose Antonio Blázquez Garcia, Giovanni Francesco Santonastaso and Francesco Tuccinardi	An advanced software to manage a smart water network with innovative metrics and tools based on social network theory	✓	✓	S11. Smart Sensors, Smart networks and Serious Gaming: ICT4WATER and the EU perspective
124	Qingming Wang, Yong Zhao, Jiaqi Zhai, Yongnan Zhu, Shan Jiang and Fan He	Application of Intelligent Water Network in Water Resource Management: Framework And Case	✓	✓	C7: IOT applications for water management
125	Enrico Creaco, Armando Di Nardo, Carlo Giudicianni, Roberto Greco and Giovanni Francesco Santonastaso	Resilience analysis in severe perturbation conditions due to permanent DMAs of a water distribution network	✓	✓	S9. Long-term resilience of water systems: input data analysis
126	Salam Abbas, Yunqing Xuan and Ryan Bailey	Improving River Flow Simulation Using a Coupled Surface-groundwater model for Integrated Water Resources Management	✓	✓	D3. Hydraulic modelling of complex water bodies
127	Xilin Xia, Qihua Liang and Xiaodong Ming	High-Performance Integrated hydrodynamic Modelling of Storm Induced Floods at a Catchment Scale	✓	✓	S7. Development and application of the next generation of shallow flow models
128	Riadh Ata, Kamal El Kadi Abderrezzak, Sameh Kantoush and Mohamed Saber	Next generation of hydraulic models: toward large scale multiphysics simulation	✓		D2. Mathematical modelling of water systems
129	Punit Bhole, Jorge Leandro, Iris Konnerth, Kanwal Amin and Markus Disse	Dynamic Flood Inundation Forecast for the City of Kulmbach Using Offline Two-Dimensional Hydrodynamic Models	✓	✓	S15. Flooding forecasting and warning in urban areas
131	Daisuke Nohara and Hiroki Saito	Assessment on Effects of Preliminary Release Operation of a Multi-purpose Reservoir Considering Ensemble Inflow Prediction	✓	✓	S4. Integrated use of the water reservoirs
132	Adrian Pedrozo-Acuña, Jorge Magos-Hernández, Juan Sánchez-Peralta, Jorge Blanco-Figueroa, Alejandra Amaro-Loza and Agustín Breña-Naranjo	Self-made framework for the acquisition and publication of real-time precipitation data	✓		A1. Advanced technologies for water systems monitoring
133	Jiang Xiaoming, He Xiaoyan, Ding Liuqian, Li Jiren, Li Hui, Chai Fuxin, Kan Guangyuan, Zhang Zhongbo, Wang Fan and Ren	Real-Time Flood Forecasting and Regulation System of Poyanghu Lake Basin in China	✓	✓	A3. Real time control technologies and applications
134	Shaun Boatwright, Michele Romano, Stephen Mounce, Kevin Woodward and Joby Boxall	Optimal sensor placement and leak/burst localisation in a water distribution system using spatially-constrained inverse-distance weighted interpolation	✓	✓	A5. Optimization techniques and their application
135	Attilio Fiorini Morosini, Olga Caruso and Paolo Veltri	Comparison between calibration and sensitivity approach in water network management in emergency conditions	✓	✓	D2. Mathematical modelling of water systems
136	Daniel Marton and Katerina Knoppova	Robust Reliability Assessment of Water Reservoir Under Uncertainty of Climate Change	✓	✓	D5. Model validation, calibration and uncertainty analysis
137	Jiyang Tian, Jia Liu, Chuanzhe Li and Fuliang Yu	Doppler radar data assimilation for mesoscale numerical rainfall prediction	✓	✓	B5. Data Assimilation Techniques

138	Julia Kasper, Georg Pranner, Franz Simons, Michael Denhard and Carsten Thorenz	Enhancing automated water level control at navigable waterways by high-resolution weather predictions	✓	✓	S6. Model predictive control for water management
139	Franz Simons, Julia Kasper, Kai-Uwe Amann, Eckhard Arnold, Oliver Sawodny and Carsten Thorenz	On migrating to advanced model predictive control strategies at the Moselle River	✓	✓	S6. Model predictive control for water management
140	Biswa Bhattacharya, Chris Zevenbergen, Adele Young and Mohanasundar Radhakrishnan	Extreme flooding in Alexandria: Can anticipatory flood management be a solution?	✓	✓	D8. Modeling of urban water distribution and drainage systems
141	Zhiyong Dong and Wenqian Zhao	PIV analysis of cavitating flow behind square multi-orifice plates	✓	✓	A1. Advanced technologies for water systems monitoring
142	Leonardo Alfonso, Han Wang and Schalk Jan van Andel	Machine Learning and Behavioral Economics to simulate flood early warning decisions	✓	✓	S10. Monitoring network optimization and model choice: information for predictions and value for decisions
143	Mario Morales-Hernández, Isabel Echeverribar, Pilar García-Navarro and Pilar Brufau	1D model vs 2D model for flooding events	✓	✓	D5. Model validation, calibration and uncertainty analysis
146	Jiaheng Zhao, Ilhan Özgen, Dongfang Liang and Reinhard Hinkelmann	A Novel Slope Failure Operator for The Total Load Sediment Transport Model	✓	✓	S7. Development and application of the next generation of shallow flow models
147	Tian Wang, Jingming Hou, Peng Li, Jiaheng Zhao, Ilhan Özgen and Reinhard Hinkelmann	A Proposed Implicit Friction Source Term Treatment for Simulating Overland Flow	✓	✓	S7. Development and application of the next generation of shallow flow models
148	Freddy Duarte, Gerald Corzo, Oscar Hernández and Germán Santos	Chaotic Statistical Downscaling (CSD): Application and Comparison in the Bogotá River Basin	✓	✓	E1. Regional Climate Modeling
149	Josenalde Oliveira, Tatiana M. Pinho, Joao Coelho, José Boaventura and Paulo Moura Oliveira	A sliding mode-based predictive strategy for irrigation canal pools	✓	✓	S6. Model predictive control for water management
152	Thu Hien T Le, Viet Hung Ho and Hong Nhung Le	Computation of hydraulic characteristics of flood flow downstream from the reservoir with dam safety scenarios in North Vietnam	✓	✓	S4. Integrated use of the water reservoirs
153	Dung Tien Tran, Anh Tuan Le, Hong Nhung Le and Viet Hung Ho	A study of the average flow in open channel with baffle blocks distributed uniformly	✓	✓	D3. Hydraulic modelling of complex water bodies
154	Vincent Wolfs, Victor Ntegeka, Maria Bermúdez and Patrick	Development of a fast urban flood model for real-time applications	✓	✓	D7. Computational intelligence in data driven hybrid modelling
155	Ronald R. P. van Nooijen and Alla Kolechkina	Graph theory algorithms for real time control of a sewer network	✓	✓	S5. IA techniques for Smart Water Systems
156	Marco López, Adrian Pedrozo and Agustin Breña	Adaptation and Resilience of Roads to Extreme Hydrological Events	✓	✓	E4. Resilience, adaption and mitigation
157	Philippe Gourbesville, Marc Gaetano and Qiang Ma	AquaVar: real time models for underground and surface waters management at catchment scale	✓	✓	C6. DSS and GIS for water management
158	Jian Wang, Lei Li, Dongfang Liang, Jingxin Zhang and Qi Yang	A 3D hydrodynamic model for shallow water flow through a circular patch of emergent cylinders	✓	✓	S7. Development and application of the next generation of shallow flow models
159	Chuanzhe Li, Jia Liu, Fuliang Yu, Yang Wang and Qingtai Qiu	Hydrological model calibration in data-limited catchments using non-continuous data series with different lengths	✓	✓	D5. Model validation, calibration and uncertainty analysis
162	Donatella Termini	Simulation of scouring process downstream of a hydraulic structure and analysis of the effect of vegetation	✓	✓	S13. Simulation of fluvial eco-hydraulic and morphodynamic processes
164	Kayhan Gavahi, S. Jamshid Mousavi and Kumaraswamy Ponnambalam	Comparison of Two Streamflow Forecast Approaches in an Adaptive Optimal Reservoir Operation Model	✓	✓	A3. Real time control technologies and applications
166	Yunjung Kim and Younggyun Choi	Adsorptive removal of phosphate from wastewater with magnetite particles: a study on the particle size optimization	✓	✓	A5. Optimization techniques and their application
167	Attila Bibok and Roland Fülöp	Optimal time step length to minimize uncertainty of zonal water balance calculation in drinking water distribution systems	✓	✓	A1. Advanced technologies for water systems monitoring
168	Shan Jiang	Assessment of Water Demand for Bioethanol Production from Biomass in China	✓	✓	C2. Knowledge management
170	Il Won Seo and Se Hun Yun	Prediction of Water Quality Variation Affected by Tributary Inputs in large Rivers using ANN Model	✓	✓	D4. Water quality modelling
171	Il Won Seo and Jaehyun Shin	Two-dimensional modeling of flow and contaminant transport in meandering channels	✓	✓	D4. Water quality modelling

172	Xuehong Wen	Study on Design Specification of Water Allocation Projects' Information System	✓	✓	C6. DSS and GIS for water management
173	Fatemeh Jafari, S. Jamshid Mousavi and Joong Hoon Kim	A Real-time Optimal Gate Operation Model for Urban Drainage Systems	✓	✓	A3. Real time control technologies and applications
174	Andreja Jonoski, Ioana Popescu and Sun Zhe	Optimal operation of flood storage areas in Huai River using coupled HEC-RAS river model and NSGAI global optimization algorithm	✓	✓	A5. Optimization techniques and their application
175	Nam-Hoon Kim and Jin Hwan Hwang	Designing a framework for the estuarine monitoring system	✓	✓	A5. Optimization techniques and their application
176	Yang Zhiyong, Gao Xichao and Liu Jiahong	PUBs for engineering purpose: Framework Development and Case Study	✓	✓	D3. Hydraulic modelling of complex water bodies
177	Elisa Arnone, Marco Cucchi, Sara Dal Gesso and Marcello	A multi-hazard Extreme Climate Index across Europe	✓	✓	S16. Time series analysis for climate change detection
178	Johannus Wilhelmus Wouters, Jai Sankar Seelam and Klas Jan Agema	Capitalizing RFID technology as cost-effective real-time process monitoring tool in wastewater treatment: two case studies	✓	✓	A1. Advanced technologies for water systems monitoring
179	Guiyu Yang, Hao Wang, Yangwen Jia, Xiaohui Lei, Weiwei Shao and Zhaohui Yang	Application System for Integrated Water and Water Environment Management in the Hai River Basin	✓	✓	F3. Integrated Water Resources Management
180	Barry Evans, Lydia Vamvakieridou-Lyroudia, Janez Susnik, Antonio Trabucco, Simone Mereu, Xavier Domingo Albin, Chengzi Chew and Dragan Savic	SIM4NEXUS – Coupling a System Dynamic Model with Serious Gaming for policy analysis	✓	✓	A4. ICT for water
181	Pau Segovia, Lala Rajaoarisoa, Fatiha Nejari, Eric Duviella and Vicenç Puig	Distributed Input-Delay Model Predictive Control of Inland Waterways	✓	✓	S6. Model predictive control for water management
183	Yan Xiong, Samantha Mahaffey and Qihua Liang	Simulation of floating debris in violent shallow flows	✓	✓	S7. Development and application of the next generation of shallow flow models
184	M. Tamer Ayvaz, Ulas Tezel, Elcin Kentel and Recep Kaya Goktas	Weekly flow prediction of Ergene River using an artificial neural network based solution approach	✓	✓	D2. Mathematical modelling of water systems
185	Xiaolei Zhang, Liang Guo, Ronghua Liu, Qi Liu, Yesen Liu, Qiuling Yao, Huili Zhang, Yali Wang and Rong Zhou	China National Flash Flood Disasters Investigation and Assessment	✓	✓	C3. Big-data analytics
186	Jaeyoung Jung and Jin Hwan Hwang	Comparative study on the open boundary conditions of shallow	✓	✓	D2. Mathematical modelling of water systems
187	Nicolas Caradot, Nathalie Hernandez, Hauke Sonnenberg, Andres Torres and Pascale Rouault	From CCTV data to strategic planning: deterioration modelling for large sewer networks in Germany and Colombia	✓	✓	C1. Data-mining techniques
188	Thanh Hao Nguyen, Philippe Gourbesville and Ngoc Duong Vo	Short-term reservoir system operation for flood mitigation with 1D hydraulic model	✓	✓	D3. Hydraulic modelling of complex water bodies
189	Sofia Fellini, Riccardo Vesipa, Fulvio Boano and Luca Ridolfi	Real-time measurement fault detection and remote-control in a mountain water supply system	✓	✓	A3. Real time control technologies and applications
190	Josie Ashe, Emilie Grand-Clement, Richard E. Brazier and Dragan A. Savic	Extracting value from complex high-frequency multivariate water quality data	✓	✓	D4. Water quality modelling

191	Anna Di Mauro, Armando Di Nardo, David Baquero Gonzalez, Tom Baur, Romeo Bernini, Sergio Bodini, Sante Capasso, Furio Cascetta, Francesca Castaldo, Michele Cocco, Philippe Cousin, Mario D'Acunto, Romeo Di Leo, Bartolomeo Della Ventura, Michele Di Natale, Guido Di Virgilio, Marco Doveri, Bouabid El Mansouri, Roberto Germano, Carlo Giudicianni, Nicolas Giunta, Roberto Greco, Pasquale Iovino, Evina Katsou, Ralf Koenig, Chrysi Laspidou, Vincenzo Lisbino, Lisa Lupi, Eva Martínez Díaz, Dino Musmarra, Montse Mussons Olivella, Osvaldo Paleari, Jordi Raich, Fiona Regan, Manuel Rodriguez-Pinzon, José Manuel Rodriguez-Varela, Luca Sanfilippo, Jai Sankar Seelam, Giovanni Francesco Santonastaso, Dragan Savic, Andrea Scozzari, Francesco Soldovieri, Francesco Paolo	On-line Measuring Sensors for Smart Water Network Monitoring	✓	✓	S11. Smart Sensors, Smart networks and Serious Gaming: ICT4WATER and the EU perspective
192	Romain Leroux, Cédric Goeury, Kamal El Kadi Abderrezzak and Pablo Tassi	A new methodology for the uncertainty quantification in 2D morphodynamic models.	✓	✓	D5. Model validation, calibration and uncertainty analysis
193	Vitaly Ilinich, Aleksey Perminov, Olga Rukhovich and Anna Naumova	Approach to mitigation of territory inundation with help of flood control by small water reservoirs	✓	✓	S4. Integrated use of the water reservoirs
194	Vitaly Ilinich, Irina Asaulyak, Alexandr Belolubtsev and Valentina Rashupkina	Simulation of possible scenarios of precipitations on river basin of water reservoir with considerate of climatic change.	✓	✓	E3. Impacts on resources, flooding, drought
196	Gökçen Uysal, Aynur Şensoy, Dirk Schwanenberg and Rodolfo Alvarado Montero	Short-term control of a storage hydropower under flood risk by multi-stage stochastic optimization	✓	✓	S6. Model predictive control for water management
197	Leonardo Enrico Bertassello, Antoine Aubeneau, P. Suresh Rao and Gianluca Botter	Topographic analysis of wetlandscapes: fractal dimension and scaling properties	✓	✓	D3. Hydraulic modelling of complex water bodies
198	Gema Sakti Raspati, Ingrid Selseth, Luigi Berardi, Orazio Giustolisi and Rita Ugarelli	Risk assessment and development of maintenance strategy for pipe rehabilitation using WNetXL	✓		D8. Modeling of urban water distribution and drainage systems
199	Mohammadreza Moslemi and Darko Joksimovic	Real-Time Quality Control and Infilling of Precipitation Data Using Neural Networks	✓	✓	C1. Data-mining techniques
200	Saul Arciniega, Jose A. Breña-Naranjo, Adrian Pedrozo-Acuña and Antonio Hernández-Espriú	Assessment of Irrigation Water Use patterns using remote sensing data in Mexico's northeast	✓	✓	B1. Remote sensing applied to hydrology
201	Iana Rufino, Priscila Alves, Ester Grangeiro and Karla Santos	Dynamic scenarios and water management simulations: towards to an integrated spatial analysis approach in water urban planning	✓	✓	A3. Real time control technologies and applications
202	Sara Vicario, Elena Ridolfi, Chiara Biscarini and Leonardo Alfonso	Optimizing the selection of cross section using Information Theory: a case in the Magdalena River, Colombia	✓	✓	S10. Monitoring network optimization and model choice: information for predictions and value for decisions
203	James Ball	A Classic Hydroinformatic Problem - Floods	✓	✓	C1. Data-mining techniques
204	Qian Li, Xilin Xia, Qihua Liang and Wen Xiao	Drainage network modelling with a novel algorithm for junction calculation	✓	✓	S7. Development and application of the next generation of shallow flow models
205	Xiaodong Ming, Qihua Liang and Xilin Xia	Multi-source flood modelling with defence failure scenarios adaptive to various hydraulic conditions	✓	✓	S7. Development and application of the next generation of shallow flow models
206	Truong-Huy Nguyen and Van-Thanh-Van Nguyen	Scale-invariance generalized logistic (GLO) model for estimating extreme design rainfalls in the context of climate change	✓	✓	S16. Time series analysis for climate change detection
207	Truong-Huy Nguyen, Van-Thanh-Van Nguyen and Hoang-Lam Nguyen	A spatio-temporal statistical downscaling approach to deriving extreme rainfall IDF relations at ungauged sites in the context of	✓	✓	S3. Climate change impacts on urban water systems
208	Brett F. Sanders	Tapping the power of shallow-water models for flood hazard mapping	✓		S7. Development and application of the next generation of shallow flow models

210	Mariana Castaneda-Gonzalez, Annie Poulin, Rabindranarth Romero-Lopez, Richard Arsenault, François Brissette, Diane Chaumont and Dominique Paquin	Impacts of regional climate model spatial resolution on summer flood simulation	✓	✓	E3. Impacts on resources, flooding, drought
211	Celso Santos, Carlos Galvão, Reginaldo Brasil Neto and Isabel	Variability of rainfall in the semi-arid region of Brazil	✓	✓	S16. Time series analysis for climate change detection
212	Chanyang Sur, Seo-Yeon Park, Hyun-Pyo Hong, Ho-Won Jang and Joo-Heon Lee	Assessment of Remote Sensing-based Hydrological Drought in the Korean Peninsula for Water and Energy Budget Perspectives	✓	✓	B1. Remote sensing applied to hydrology
213	Matt Bartos, Hyongju Park, Tian Zhou, Branko Kerkez and Ram Vasudevan	Vehicles as ubiquitous precipitation sensors: enhanced rainfall maps using real windshield wiper observations	✓		S1. Data Assimilation of spatial information for hydrologic and hydraulic models
214	Sara Ibarra, Annie Poulin, Rabindranarth Romero-Lopez, Rosario Landgrave, Ernesto Ruelas Inzunza and Mariana	Simulation of extreme hydrometeorological events under tropical conditions using a distributed hydrological model	✓	✓	E3. Impacts on resources, flooding, drought
215	Ngoc Duong Vo, Quang Binh Nguyen and Philippe Gourbesville	Semi distributed model application for evaluating the impact of climate change on water resource in Quang Nam - Da Nang area	✓	✓	E3. Impacts on resources, flooding, drought
216	Quang Binh Nguyen, Ngoc Duong Vo and Philippe Gourbesville	Satellite image application for assessing the effect of urbanisation to temperature at Da Nang City, Viet Nam	✓		B1. Remote sensing applied to hydrology
217	Ngoc Duong Vo, Quang Binh Nguyen and Philippe Gourbesville	Distributed hydrological model application for estimating the groundwater resource at Cu De river catchment, Viet Nam	✓	✓	F2. Surface and ground water modeling
220	Quang Binh Nguyen, Ngoc Duong Vo and Philippe Gourbesville	The uncertainty in modelling the flow around groynes. A view of different numerical schemes.	✓	✓	D3. Hydraulic modelling of complex water bodies
222	Francesca De Serio, Elvira Armenio, Diana De Padova and Michele Mossa	Data analysis and numerical modelling to detect hydrodynamics and sediment transport in a semi enclosed basin	✓	✓	S13. Simulation of fluvial eco-hydraulic and morphodynamic processes
223	Joaquim Sousa, João Muranho, Alfeu Sá Marques and Ricardo Gomes	Optimal location and setting of time modulated PRVs for water loss reduction with leakage modelling by pressure driven analysis	✓		A3. Real time control technologies and applications
225	Huy Cong Vu, Ngoc Duong Vo, Quang Binh Nguyen and Philippe Gourbesville	Climate change impact assessment using semi distributed hydrological model of Kon - Ha Thanh river catchment, Vietnam	✓	✓	E3. Impacts on resources, flooding, drought
226	Thaine H. Assumpção, André B. Venturini, Ioana Popescu, Andreja Jonoski and Dimitri P. Solomatine	Flood modelling and citizen observatories: analysing pathways for data collection in the Sontea-Fortuna case study	✓		A8. Social Media Mining and Open Data for water
227	Ziad Shawwash	Risk informed decision-making framework for operating reservoirs under flooding conditions: accounting for uncertainty and risk	✓	✓	D5. Model validation, calibration and uncertainty analysis
228	Matthew Johns, David Walker, Edward Keedwell and Dragan	Interactive Visualisation of Water Distribution Network	✓	✓	A5. Optimization techniques and their application
229	Seyed M. K. Sadr, Matthew Johns, Fayyaz Memon, Mark Morley and Dragan Savic	Development and Application of a User-Friendly Decision Support Tool for Optimization of Wastewater Treatment Technologies in	✓	✓	A5. Optimization techniques and their application
230	David Walker, Matthew Johns, Ed Keedwell and Dragan Savic	Towards Interactive Evolution: A Distributed Optimiser for Multi-objective Water Distribution Network Design	✓	✓	A5. Optimization techniques and their application
231	Silvia Isacco, Pierluigi Claps, Ennio Ferrari, Maria Bernadette Guercio, Rosaria Ester Musumeci, Graziella Emanuela Scarcella, Pasquale Versace, Francesco Laio and Susanna	Floodbook: a social platform for flood hydrology	✓	✓	A8. Social Media Mining and Open Data for water
232	Carlos Galvao, Erica Machado, Elpida Kolokytha and Haris Skoulikaris	Considering water footprint in reservoir adaptation to climate change: an evolutionary approach	✓	✓	S4. Integrated use of the water reservoirs
233	Jing Feng, Congcong Sun, Gabriela Cembrano and Vicenç Puig	Factors Influencing the Simplified Quality Model Performance	✓	✓	D4. Water quality modelling
234	Alessia Matano, Peter van der Steen, Jawad Hassan and Leonardo Alfonso	Framework to Identify Optimal Configurations of (De)Centralised Wastewater Systems, in Abu Dis, West Bank	✓	✓	S10. Monitoring network optimization and model choice: information for predictions and value for decisions
235	Wolfgang Seis, Malte Zamzow and Pascale Rouault	Using posterior predictive distributions for probabilistic forecasting of bathing water quality at urban rivers	✓		F2. Surface and ground water modeling
236	Brahim Boutkhamouine, H�el�ene Roux, Fran�ois Peres and Willem Vervoort	Uncertainty analysis of a Temperature-Index Snowmelt Model using Bayesian Networks	✓	✓	S2. Complex Network Theory and Applications to Water Systems

237	Hind Oubanas, Félix Billaud, Igor Gejadze and Pierre-Olivier Malaterre	Variational data assimilation for river discharge estimation: Application to the SWOT DAWG benchmark	✓	✓	S1. Data Assimilation of spatial information for hydrologic and hydraulic models
238	Alessandro Cavalli, Vitaly Ilinich and Ilyyas Veliev	Flood control by water reservoir with account of runoff forecast	✓	✓	S4. Integrated use of the water reservoirs
239	Kris Cauwenberghs, Tom Feyaerts, Neil Hunter, Joost Dewelde, Thomas Vansteenkiste, Michael Huybrighs, Guido	Collaborative development of high resolution pluvial flood maps for Flanders	✓	✓	S3. Climate change impacts on urban water systems
241	Luísa Ribeiro, Joaquim Sousa, João Muranho and Alfeu Sá Marques	Locating unreported leaks with modelling tools and pressure monitoring: a case study	✓	✓	S6. Model predictive control for water management
244	António Pereira, Jose Pinho, Rolando Faria and Jose Vieira	A DSS for operational management of wastewaters under uncertain conditions	✓	✓	C6. DSS and GIS for water management
245	Mathias Braun, Olivier Piller, Jochen Deuerlein, Iraj Mortazavi and Angelo Iollo	Spectral Analysis of Uncertainty in Water Age	✓	✓	D5. Model validation, calibration and uncertainty analysis
246	Ersin Bahar and Gurhan Gurarlan	A semi-lagrangian scheme for advection-diffusion equation	✓	✓	D2. Mathematical modelling of water systems
248	Prem Lal Patel and Priyank Sharma	Rainfall Trends over the past Century for Tropical Climatic Region in Western India	✓	✓	S16. Time series analysis for climate change detection
249	Vitaly Ilinich, Andrey Bolotov, Sergey Makarychev and Evgeny Shein	Assessment of surface moisture in the catchment area on the base of modelling the hydrological properties of soils	✓	✓	D2. Mathematical modelling of water systems
250	Vladimir Nikolic and Darko Joksimovic	Development of Decision Support Tool for Evaluation of Urban Water System Metabolism Efficiency	✓	✓	F3. Integrated Water Resources Management
251	Giuseppe Roberto Pisaturo and Maurizio Righetti	Sediment flushing from reservoir and ecological impacts	✓	✓	S13. Simulation of fluvial eco-hydraulic and morphodynamic processes
252	Ronghua Liu, Liang Guo, Yali Wang and Xiaolei Zhang	A parallel flood forecasting and warning platform based on HPC clusters	✓	✓	A7. Internet, Cloud and Mobile application for water
253	Vanessya Laborie, Nicole Goutal, Sophie Ricci, Matthias De Lozzo, Yoann Audouin and Philippe Sergent	Global sensitivity analysis for the Gironde Estuary hydrodynamics with TELEMAC2D	✓	✓	D5. Model validation, calibration and uncertainty analysis
254	Hae Na Yoon, Sun Hoo Ihm, Young-Oh Kim, Gi Joo Kim and Seung Beom Seo	Robust and adaptive operation: Korean example	✓	✓	S4. Integrated use of the water reservoirs
255	Massimiliano Turchetto, Renato Vacondio and Alessandro Dal Palù	Multi-GPU implementation of 2D Shallow Water Equation code with Block Uniform Quad-Tree grids	✓	✓	S7. Development and application of the next generation of shallow flow models
256	Mario Maiolo, Giuseppe Mendicino, Daniela Pantusa, Alfonso Senatore and Joaquim Sousa	Influence of climate change on the optimization of water supply systems	✓	✓	S9. Long-term resilience of water systems: input data analysis
257	Mohammad Fikry Abdullah, Mohd Zaki Mat Amin, Mohd Fauzi Mohamad, Marini Mohamad Ideris, Zurina Zainol and Nik Yusaimi Yussof	N-HyDAA - Big Data Analytics for Malaysia Climate Change Knowledge Management	✓	✓	C3. Big-data analytics
259	Jiahong Liu, Weiwei Shao and Chenyao Xiang	Modeling of Urban Flood in Xiamen Island, China	✓	✓	D8. Modeling of urban water distribution and drainage systems
261	Alper Elci, Selma Ayaz and Sebnem Aynur	Simulating the impact of water quality improvement measures for nutrient-sensitive river basins with the Aquatox model	✓	✓	D4. Water quality modelling
262	Peyman Yousefi, Gholamreza Naser and Hadi Mohammadi	Estimating High Resolution Temporal Scale of Water Demand Time Series – Disaggregation Approach (Case Study)	✓	✓	S6. Model predictive control for water management
263	Vitali Diaz, Gerald A. Corzo Perez, Henny A.J. Van Lanen and Dimitri Solomatine	Intelligent drought tracking for its use in Machine Learning: implementation and first results	✓	✓	E3. Impacts on resources, flooding, drought
265	Gerald Riss, Michele Romano, Kevin Woodward, Zoran Kapelan and Fayyaz Ali Memon	Improving Detection of Events at Water Treatment Works: A UK Case Study	✓	✓	A3. Real time control technologies and applications
266	Paulin Coulibaly, Jongho Keum and Alain Pietroniro	Assessing the Effect of Streamflow Estimation at Potential Station Locations In Entropy-Based Hydrometric Network Design	✓	✓	S10. Monitoring network optimization and model choice: information for predictions and value for decisions
267	Katharina Baumgartner, Robert Klar and Markus Aufleger	High-resolution LiDAR bathymetry data for alpine rivers - case study on the river Mareit/Mareta, Italy	✓	✓	B2. Remote sensing for water resource management
268	Lian Guey Ler and Philippe Gourbesville	Framework Implementation for Smart Water Management	✓	✓	C7: IOT applications for water management

270	Jose Luis Del Castillo Castillo, Gerald A. Corzo Perez, Laurens Bouwer, Aldo I. Ramirez Orozco and Aashish Bhardwaj	Building a nonlinear relationship between dew point temperature and precipitation to apply a method to downscale GCMs information: Case study in Santa Catarina River Basin, Monterrey	✓	✓	E1. Regional Climate Modeling
272	Jayashree Chadalawada, Vladan Babovic, Viraj Vidura Herath Herath Mudiyansele, Shijie Jiang and Xin Li	Hybrid Rainfall-Runoff modelling using Genetic Programming	✓		D7. Computational intelligence in data driven hybrid modelling
273	Jure Zevnik and Daniel Kozelj	Partition of Water Distribution Networks into District Metered Areas using a Graph Theoretical Approach	✓	✓	A6. Complex network theory and its application
275	Mehdi Ahmadi, Farnak Tootoonchi, Kayhan Gavahi and Kimia Motevalli	An Investigation on Water Scarcity in Urmia Watershed, Iran	✓	✓	C6. DSS and GIS for water management
277	Domenico De Santis and Daniela Biondi	Error propagation from remotely sensed surface soil moisture into soil water index using an exponential filter	✓	✓	B4. Airborne and remote data integration and verification
278	Morgan Abily, Ilhan Özgen, Catherine Berger, Finn Amann, Andy Kipfer and Philipp Gourbesville	High Resolution modeling of intense rainfall events over urban areas: comparison of three categories of modern numerical	✓	✓	D3. Hydraulic modelling of complex water bodies
279	Yueyang Chen, Oddbjørn Bruland and Tiejian Li	Flood discharges analysis using ENKI simulation	✓	✓	D1. Physically based vs conceptual hydrological models
280	Lara Santos, Mariana Gomes, Luis Vieira, Jose Pinho and José Antunes Do Carmo	Storm surge assessment methodology based on numerical modelling	✓	✓	F1. Coastal and water quality modelling
281	Mohammad Taghi Dastorani, Mahmoud Reza Barahimi and Ali Akbar Karimian	Evaluation of the Role of Optimized Land Use on Run off Generation (Case study: Nahre Azam Watershed of Shiraz)	✓	✓	D2. Mathematical modelling of water systems
282	Luca Cozzolino, Raffaele Castaldo, Luigi Cimorelli, Renata Della Morte, Veronica Pepe and Domenico Pianese	Multiple solutions for the Riemann problem in the Porous Shallow Water Equations	✓	✓	S7. Development and application of the next generation of shallow flow models
283	Cristiana Di Cristo, Massimo Greco, Michele Iervolino and Andrea Vacca	Numerical simulation of a dam-break wave propagating over an erodible floodplain in presence of a structure	✓	✓	S13. Simulation of fluvial eco-hydraulic and morphodynamic processes
284	Lars Schoebitz, Stuart Woolley, Jaime Sanchez Ferragut, Alison Weber, Jeff Hallowell, Jeff Wong and Jeff Piascik	Remote sensing, mobile applications and open data science tools for better monitoring of sanitation systems	✓	✓	C7: IOT applications for water management
285	Faezeh Ghaleh Navi, Hamed Mazandarani Zadeh and Dragan Savic	Comparison of Accuracy of Artificial Neural Network (ANN) and Kriging methods for estimating chlorine concentration	✓	✓	F2. Surface and ground water modeling
286	Ezio Todini and Marco Ferrante	Extending the steady-state matrix formulation to the unsteady-state in complex pressurized pipe systems' models.	✓		D8. Modeling of urban water distribution and drainage systems
287	Maria Xenochristou, Zoran Kapelan, Chris Hutton and Jan	Smart water demand forecasting: Learning from the data	✓	✓	C1. Data-mining techniques
288	Zeljko Vasilic, Milos Stanic, Zoran Kapelan and Dusan	Advanced Loop-flow Method for Fast Hydraulic Simulations	✓	✓	D2. Mathematical modelling of water systems
289	Ramesh Teegavarapu and Andrea Carpenter	Changes in streamflow extremes and characteristics: exploring links to climate change and variability	✓	✓	S16. Time series analysis for climate change detection
290	Ricardo Gomes, Joaquim Sousa, Alfeu Sá Marques and João	Optimal District Metered Area design by Simulated Annealing	✓	✓	S6. Model predictive control for water management
291	Mohsen Bozorg, Hamed Mazandarani Zadeh and Dragan Savic	Optimization of the Midterm Electricity Generation Mix Considering the Effects of Water, Land and Carbon Footprints	✓	✓	A5. Optimization techniques and their application
292	Henrik Madsen, Anne Katrine Falk and Rasmus Halvgaard	A Model Predictive Control Framework for Real-Time Optimisation of Water System Operations	✓	✓	A3. Real time control technologies and applications
293	Martina Carlino and Silvia Di Francesco	A new railway bridge on Gornalunga river: a flood modeling study.	✓	✓	F2. Surface and ground water modeling
294	Andrei-Mugur Georgescu, Remus Alexandru Madularea, Petre-Ovidiu Ciuc and Sanda-Carmen Georgescu	Decision Support for a Centre Pivot Irrigation System Based on Numerical Modelling	✓	✓	D2. Mathematical modelling of water systems
295	Mehdi Khoury, Dragan Savic and Albert Chen	Using a particle based simulation to visualize sub-catchments contribution to localized flooding	✓	✓	A4. ICT for water
296	Hamdy Elsayed, Slobodan Djordjevic and Dragan Savic	The Nile system dynamics model for water-food-energy Nexus assessment	✓	✓	F3. Integrated Water Resources Management
297	Ximena Lemaitre Ruiz, Gerald Augusto Corzo, German Ricardo Santos and Hector Andres Angarita	Development of a water resources distribution and management tool (SPEHR); applied	✓	✓	C7: IOT applications for water management

298	Congcong Sun, Bernat Joseph-Duran, Gabriela Cembrano, Vicenç Puig and Jordi Meseguer	Advanced Integrated Real-Time Control of Combined Urban Drainage Systems using MPC	✓	✓	A3. Real time control technologies and applications
299	Zara Visanji, Seyed M.K. Sadr, Fayyaz Memon, Matthew Johns and Dragin Savic	Emerging pollutants in developing countries: Optimising sustainable treatment solutions	✓	✓	D4. Water quality modelling
300	Jose Pinho, Luís Vieira, Jose Vieira, Stênio Venâncio, Nuno Simões, Marques Alfeu and Fernando Seabra Santos	Application of hydroinformatic tools for reservoirs discharges rules assessment during a flood event	✓	✓	D2. Mathematical modelling of water systems
302	Farzad Simyari, Hamed Mazandaranzadeh and Javad Mehdizadeh	Optimization of water allocation among agricultural areas considering climate change (case study: Qazvin Irrigation network)	✓	✓	E4. Resilience, adaption and mitigation
303	Masayuki Hitokoto and Masaaki Sakuraba	Applicability of the Deep learning flood forecast model against the inexperienced magnitude of flood	✓	✓	D7. Computational intelligence in data driven hybrid modelling
304	Attila Bibok and Roland Fülöp	Hydraulic model calibration of pressure reduced zones with multiple input valves	✓	✓	D8. Modeling of urban water distribution and drainage systems
305	Mehdi Houry, Albert Chen, Mike Gibson, Lydia Vamvakeridou-Lyroudia, Dragan Savic and Slobodan	A serious game exploring different flooding scenarios and their respective effects on infrastructures	✓	✓	A4. ICT for water
306	Sara Troutman, Nancy Love and Branko Kerkez	Evaluating market-based algorithms for system-level TSS control	✓		A3. Real time control technologies and applications
307	Abhiram Mullapudi and Branko Kerkez	Autonomous Control of Urban Storm Water Networks Using Reinforcement Learning	✓		A3. Real time control technologies and applications
308	Giulia Ercolani and Fabio Castelli	Mixed variational-Monte Carlo assimilation of streamflow data in flood forecasting: the impact of observations spatial distribution	✓	✓	S1. Data Assimilation of spatial information for hydrologic and hydraulic models
309	Antoni Grau, Yolanda Bolea, Alberto Sanfeliu and Ana Puig-	An Innovative ICT Solution for Sewer Systems	✓	✓	A4. ICT for water
310	Alessandro Cavalli, Vitaliy Ilinich, Maksim Lapushkin and Anna Naumova	Evaluation and stochastic simulation of storm precipitation for city underground utilities in condition of climate change	✓	✓	S3. Climate change impacts on urban water systems
311	David Walker and Matthew Craven	Visualising the Operation of Evolutionary Algorithms Optimising Water Distribution Network Design Problems	✓	✓	A5. Optimization techniques and their application
313	Mengyu Wang, Jayashree Chadalawada, Vladan Babovic, Jingjie Zhang, Seng Keat Ooi, Serene Hui Xin Tay and Bjorn	Genetic programming on water quality modelling	✓		D4. Water quality modelling
314	Maria Clara Fava, Maurizio Mazzoleni, Narumi Abe, Eduardo Mario Mendiono and Dimitri Solomatine	An approach for urban catchment model updating	✓	✓	S1. Data Assimilation of spatial information for hydrologic and hydraulic models
315	Juan Carlos Chacon-Hurtado, Gerald Corzo and Dimitri Solomatine	Testing of a conceptually distributed-lumped hydrological model for streamflow simulation	✓		D1. Physically based vs conceptual hydrological models
316	Ingrid Russwurm, Birgitte Gissvold Johannessen, Jardar Lohne and Tone Merete Muthanna	Modeling Green roof detention using SWMM LID modules	✓	✓	D8. Modeling of urban water distribution and drainage systems
317	João Muranho, Joaquim Sousa, Alfeu Sá Marques and Ricardo Gomes	Water distribution network reliability: are surrogate measures reliable?	✓	✓	S9. Long-term resilience of water systems: input data analysis
318	Khalidou M. Bâ, Vitali Diaz, Miguel Angel Gómez-Albores, Carlos Díaz-Delgado, Nancy Nájera-Mota, Ousmane Seidou	Spatially distributed hydrological modelling of a Western Africa basin	✓	✓	B1. Remote sensing applied to hydrology
319	Theoni Massara, Borja Solis Duran, Albert Guisasola, Evina Katsou and Juan Antonio Baeza	Modelling the N2O emissions in municipal wastewater treatment plants under dynamic conditions	✓	✓	D2. Mathematical modelling of water systems
320	Tatiane Pereira, Guilherme Cruz and Formiga Klebber	Parameter Uncertainties Assessment in a Conceptual Rainfall-runoff Model using Bayesian paradigm	✓	✓	D5. Model validation, calibration and uncertainty analysis
321	Viviana Vargas-Franco and Inés Restrepo-Tarquino	Towards a web decision system support for planning micro-watershed using pressure-state-response and logic fuzzy, study case	✓		C6. DSS and GIS for water management
322	Korinus Nixon Waimbo, Dragan Savic and Fayyaz Ali Memon	Integrated Model for Water, Food, Energy and Human Development	✓	✓	F3. Integrated Water Resources Management
323	Abubakr Muhammad	A Data-Driven Spatiotemporal Metric for Relating Hierarchical Irrigation Delivery to Socio-economic Indicators	✓		S2. Complex Network Theory and Applications to Water Systems

324	Branko Kerkez, Matthew Bartos, Brandon Wong and Abhiram Mullapudi	Characterizing a controllable urban watershed: using web services to control and coordinate stormwater flows	✓		C7: IOT applications for water management
326	Sung-Uk Choi, Dongkyun Im and Seung Ki Kim	Physical habitat simulation with ANFIS method	✓		D7. Computational intelligence in data driven hybrid modelling
327	Guillaume Desquesnes, Debora Alves, Guillaume Lozenguez, Arnaud Doniec and Eric Duviella	Simulation architecture based on distributive MDP for inland waterway management	✓	✓	S5. IA techniques for Smart Water Systems
328	Roberto Ranzi, Massimo Tomirotti, Baldassare Bacchi, Michele Brunetti, Alice Crespi and Maurizio Maugeri	Detection of rainfall and runoff trends of the Adda river in Lecco (1845-2014) at different time scales	✓	✓	S16. Time series analysis for climate change detection
329	Francesco Memmola and Giovanna Darvini	Changes in Precipitation-Runoff Relationship in Six Catchments of the Adriatic Coast of Center Italy	✓	✓	S16. Time series analysis for climate change detection
330	Rudy Gargano, Carla Tricarico, Simone Santopietro, Giovanni de Marinis and Guglielmo Silvagni	A tool for daily demand pattern generation	✓	✓	S9. Long-term resilience of water systems: input data analysis
331	Carla Tricarico, Rudy Gargano, Simone Santopietro and Francesco Granata	Probability of null water demand characterization	✓	✓	S9. Long-term resilience of water systems: input data analysis
332	Claudio Arena, Marcella Cannarozzo, Antonino Fortunato, Alessio Lombardo, Ignazio Scolaro and Mario Rosario Mazzola	Validation of a model for optimizing the operation of a regional water supply system	✓	✓	A5. Optimization techniques and their application
333	Rita Ugarelli, Juliane Koti, Enric Bonet, Christos Makropoulos, Juan Caubet, Staphanos Camarinopoulos, Manthos Bimpas, Mehdi Ahmadi, Lisa Zimmermann and Martin Gilie Jaatun	STOP-IT - Strategic, Tactical, Operational Protection of water Infrastructure against cyber-physical Threats	✓	✓	S11. Smart Sensors, Smart networks and Serious Gaming: ICT4WATER and the EU perspective
334	Simone Santopietro, Carla Tricarico, Mark Morley, Dragan Savic, Zoran Kapelan and Rudy Gargano	The water tariff in a WDS rehabilitation	✓	✓	A5. Optimization techniques and their application
336	Mohammad Taghi Dastorani, Mohammad Farzam, Ehsan Abdi and Mahboobeh Akramian	Evaluation of the Effects of Tamarix Roots on River Bank Cohesion and Shear Strength	✓	✓	D3. Hydraulic modelling of complex water bodies
337	Giacomo Viccione and Stefania Evangelista	Experimental and numerical analysis of the hydraulic performance of filtering cartridges for water treatment	✓	✓	S9. Long-term resilience of water systems: input data analysis
338	Jose Alfeu Sa Marques, Nuno Simoes, Lucas Maluf, Santos Fernando, Jose Vieira, Jose Pinho and Luis Vieira	Impact of sediments and constructions on river flooding in Coimbra, Portugal	✓	✓	D2. Mathematical modelling of water systems
340	Suk Hwan Jang, Jae-Kyoung Lee, Kyoung Doo Oh and Jun Won Jo	Seasonal and Spatial Variation of Seismic Activity due to Groundwater Fluctuation in South Korea	✓		E3. Impacts on resources, flooding, drought
343	Bruno Brunone and Silvia Meniconi	Pipe Characteristics vs. Reliability of Transient Test-Based Techniques for Fault Detection	✓	✓	A1. Advanced technologies for water systems monitoring
344	Paolina Bongioannini Cerlini, Bruno Brunone and Silvia Meniconi	Performance of global atmospheric datasets towards groundwater management	✓	✓	C2. Knowledge management
345	Enrico Antonio Chiaradia, Giulia Ercolani, Gian Battista Bischetti, Claudio Gandolfi, Fabio Castelli and Daniele	A Customized GIS-based Model for Stormwater Mitigation by LID Controls	✓	✓	D8. Modeling of urban water distribution and drainage systems
346	Iolanda Borzi, Brunella Bonaccorso and Giuseppe Tito Aronica	Performance analysis of the water distribution system of the city of Messina through sustainability indices	✓	✓	D8. Modeling of urban water distribution and drainage systems
347	Barbara Milici and Mauro De Marchis	On the calibration of the mathematical laws for the water loss estimation in water distribution network	✓	✓	D5. Model validation, calibration and uncertainty analysis
348	Kohji Tanaka, Hiroki Tsujikura and Kenji Miyamoto	A METHOD TO SOLVE A PROBLEM ON APPLYING THE PARTICLE FILTER FOR WATER LEVEL PREDICTION	✓	✓	S1. Data Assimilation of spatial information for hydrologic and hydraulic models
349	Luca Abele Piciaccia, Danilo Croce, Roberto Basili, Pia Ryfors and Jonas Pettersen	A Data-driven Approach for Optimal Control parameters in WWTP: the VEAS Experience in Scandinavia	✓	✓	S10. Monitoring network optimization and model choice: information for predictions and value for decisions
350	Yongnan Zhu, Zhaohui Lin, Yong Zhao and Lizhen Wang	Simulation of Land Surface Water Cycle in the Yellow River Basin in the Context of Changing Conditions	✓	✓	E3. Impacts on resources, flooding, drought
351	Stefania Piazza, E.J. Mirjam Blokker, Gabriele Freni, Valeria Puleo and Mariacrocetta Sambito	Comparison between diffusive and advective approach in quality analysis of a real distribution network	✓	✓	D4. Water quality modelling

353	Jae Heon Cho and Jong Ho Lee	Automatic calibration and performance evaluation of a water quality model for a river greatly influenced by wastewater treatment plant effluent	✓	✓	F2. Surface and ground water modeling
355	Sara Simona Cipolla and Marco Maglionico	Modelling rainwater harvesting and greywater reuse for tank size optimizations	✓	✓	D8. Modeling of urban water distribution and drainage systems
356	Georgia Papacharalampous, Hristos Tyrallis and Demetris Koutsoyiannis	Error evolution patterns in multi-step ahead streamflow forecasting	✓	✓	D5. Model validation, calibration and uncertainty analysis
359	Regina Temino-Boes, Inmaculada Romero, Rabindranath Romero-López, Maria Pachés and Remedios Martínez-	Estimation of the effect of sewage nitrogen discharges on coastal waters: Case study from the Mediterranean Sea	✓	✓	F1. Coastal and water quality modelling
361	Dionysios Nikolopoulos, Konstantina Risva and Christos Makropoulos	A cellular automata urban growth model for water resources strategic planning	✓	✓	B2. Remote sensing for water resource management
362	Jungho Kim and Jingul Joo	Evaluation of Low Impact Development using EPA SWMM-LID Modeling	✓		F3. Integrated Water Resources Management
364	Silvia Carpitella, Bruno Brentan, Idel Montalvo, Joaquín Izquierdo and Antonella Certa	Multi-objective and multi-criteria analysis for optimal pump scheduling in water systems	✓	✓	A5. Optimization techniques and their application
366	Angela Candela	Stochastic derivation of hydrological safety scenarios for a dam using a bivariate Monte Carlo analysis	✓		D2. Mathematical modelling of water systems
367	Zahra Mardani, Kumars Ebrahimi and Ali Jafari	Experimental Study on Sorption & Desorption of NaCl to Sand Using a Physical Model	✓	✓	F2. Surface and ground water modeling
368	Raquel Gómez-Beas, Eva Contreras-Arribas, Sergio Romero, Óscar Lorente, Antonio Linares-Sáez and Laura Panizo	Integrated water resources management in a complex reservoir system through a multipurpose DSS tool	✓	✓	S4. Integrated use of the water reservoirs
369	Zhaohui Yang, Hao Wang and Jie Du	Water Energy Nexus in Urban Water Resources Allocation: A Case Study of Jinan City	✓	✓	F3. Integrated Water Resources Management
370	Dongwoo Jang, Gyewoon Choi, Jintak Choi and Hyoseon Park	Estimation of NRW using Main Parameters of Water Distribution Systems	✓	✓	D2. Mathematical modelling of water systems
374	Eunji Kim and Boosik Kang	Scaling characteristics of storm-centered ARF using radar rainfall		✓	B2. Remote sensing for water resource management
375	Pauline Millet, Hendrik Huwald and Steven V. Weijs	Extracting high resolution snow distribution information with inexpensive autonomous cameras	✓	✓	S10. Monitoring network optimization and model choice: information for predictions and value for decisions
376	Kumars Ebrahimi, Mohammad Reza Nazem, Zahra Mardani, Shahab Araghinejad and Abdolmajid Liaghat	Estimation of Longitudinal and Transverse Dispersion Coefficients in Saturated Porous Media Involving Physical Model	✓	✓	F2. Surface and ground water modeling
378	Panayiotis Dimitriadis, Naya Gournary, Amalia Petsiou and Demetris Koutsoyiannis	How to adjust the fGn stochastic model for statistical bias when handling a single time series; application to annual flood inundation	✓		S16. Time series analysis for climate change detection
380	Donghee Lee, Illwon Jung, Hwansuk Kim and Jaeyoung Yoon	Monthly dam inflow forecasts using hydroclimatic teleconnection for Boryeong Dam Watershed	✓	✓	D7. Computational intelligence in data driven hybrid modelling
381	Seungwan Hong, Aviva Limos, Hwansuk Kim and Jaeyoung Yoon	Applicability Assessment of SWMM's Water Quality Module for Green Roof	✓		D5. Model validation, calibration and uncertainty analysis
382	Martha Patricia. Hansen Rodríguez, José Manuel Rodríguez Varela, Edgar Antúnez Leyva, Jorge Arturo Casados Prior, Luis Gómez Lugo, Gema Alín Martínez Ocampo and Yenni Laurel	Perception analysis of potable water service to users	✓	✓	A8. Social Media Mining and Open Data for water
383	Cristiana Bragalli, Federica Giansanti, Lorenzo Zingali and Alberto Montanari	MULTI CRITERIA DECISION ANALYSIS TO SET THE PRIORITY OF INTERVENTIONS IN WATER DISTRIBUTION SYSTEMS	✓		S9. Long-term resilience of water systems: input data analysis
384	Eisaku Yura, Kohji Tanaka and Yeonjoong Kim	Development of the similar typhoon search system based on the deep neural network using deep learning	✓	✓	C2. Knowledge management
385	Donatella Termini and Antonio Fichera	Estimation of velocity profile in a hyper-concentrated flow: a critical analysis of Bagnold equation	✓	✓	S13. Simulation of fluvial eco-hydraulic and morphodynamic processes

388	Qinli Yang, Jiaming Liu, Heng Zhang, Guoqing Wang and Junming Shao	A Data Stream Model For Runoff Simulation In A Changing Environment	✓		C1. Data-mining techniques
389	Dongil Seo, Jongtae Park and Youngmin Koo	Serial Application of SWAT and CE-QUAL-W2 to Predict Water Quality Dynamics in the Basin and Lake of the Yongdam Dam, Korea to Analyze Climate Change Effects	✓	✓	E3. Impacts on resources, flooding, drought
390	Vasiliki Koutsospyrou	Microwave Waste Water Meter: A new sensing principle for flow measurement in partially full pipes	✓		A1. Advanced technologies for water systems monitoring
392	Velimir Vesselinov	Unsupervised Machine Learning	✓		C1. Data-mining techniques
393	Mehdi Sheikh Goodarzi, Bahman Jabbarian Amiri and Shabnam Navardi	Investigating the Optimization Strategies on Performance of Rainfall-Runoff Modeling	✓	✓	D5. Model validation, calibration and uncertainty analysis
394	Cansu Özcan, Elçin Kentel and Emre Alp	Assessment of Hydromorphological Characteristics in Sakarya Watershed, Turkey	✓		D2. Mathematical modelling of water systems
395	Evdokia Tapoglou, Emmanouil A. Varouchakis and George P. Karatzas	Uncertainty estimations in different components of a hybrid ANN - fuzzy - kriging model for water table level simulation	✓	✓	D5. Model validation, calibration and uncertainty analysis
396	Mohamed Allani, Ranya Mezzi, Wajdi Abdallah, Amina Gharbi, Adel Zouabi, Kamel Hedhli, Ridha Beji, Abdejjabar Jemli, Farida Mansouri Joumade, Abdeljelil Afli, Mahmoud Elies Hamza, Hans Werner Müller and Ali Sahli	A Contribution to an Advisory Plan for Integrated Irrigation Water Management at Nebhana Dam System: from Research to Operational Support	✓	✓	C6. DSS and GIS for water management
397	Jian Xu and Hua Chen	Research and Design of Hydrological Big-data Sharing Platform	✓	✓	C3. Big-data analytics
399	Valeria Puleo, Gabriele Freni and Goffredo La Loggia	Pressure sensors positioning for leakages detection under uncertain demands	✓		A1. Advanced technologies for water systems monitoring
400	K.H. Cheng, S.N. Chan and Joseph H.W. Lee	Remote sensing of coastal algal blooms using unmanned aerial vehicles (UAV)	✓	✓	B3. Remote sensing for coastal modelling and water quality
401	Marco Picone, Arianna Orasi, Aldo Drago, Fulvio Capodici, Giuseppe Ciraolo, Gabriele Nardone, Joel Azzopardi and	A wave measurements HF radar data set in the Malta-Sicily channel: data quality, validation and gap filling	✓	✓	B3. Remote sensing for coastal modelling and water quality
402	Fernando Das Graças Braga Da Silva, Thaisa Dias Goulart and Regina Mambeli Barros	Application of routine calibration of real water supply network with adjustment of demand roughness parameters driven by applied pressure real network of Brazil	✓	✓	A5. Optimization techniques and their application
403	Noemi Gonzalez-Ramirez, Fernando Nardi and James S. O'Brien	Predicting Accurate Urban Flooding from Nuisance Flows to Major Disasters	✓	✓	D1. Physically based vs conceptual hydrological models
404	Karen O'Brian, Noemi Gonzalez-Ramirez and Fernando Nardi	QGIS FLO-2D Integration	✓	✓	C6. DSS and GIS for water management
405	Antonio Francipane, Francesca Mussomè, Giuseppe Cipolla and Leonardo Noto	Object-based image analysis technique for gully mapping using topographic data at very high resolution (VHR)	✓		B2. Remote sensing for water resource management
406	Antonio Francipane, Domenico Caracciolo, Francesco Viola, Roberto Deidda and Leonardo Noto	Performances of GPM satellite precipitation over the two major Mediterranean islands	✓		B2. Remote sensing for water resource management
407	Dario Pumo, Giuseppina Carlino, Elisa Arnone and Leonardo Noto	Relationship between extreme rainfall and surface temperature in Sicily (Italy)	✓	✓	S16. Time series analysis for climate change detection
408	Antonio Annis, Noemi Gonzalez-Ramirez, Fernando Nardi and Fabio Castelli	Integrating a 2D hydraulic model and GIS algorithms into a data assimilation framework for real time flood forecasting and mapping	✓	✓	D6. Predictive Uncertainty assessment and Ensembles
415	M. Tamer Ayvaz and Gurhan Gurarslan	Identification of the aquifer parameters from pumping test data by using a hybrid optimization approach	✓	✓	D7. Computational intelligence in data driven hybrid modelling
416	Claudia Pipitone, Francesca Cigna, Gino Dardanelli, Goffredo La Loggia, Antonino Maltese and Jan-Peter Muller	Reservoir monitoring using satellite SAR and GNSS: a case study in southern Italy	✓	✓	B2. Remote sensing for water resource management
417	Damian Staszek, Dragan Savic and Guangtao Fu	Decision making methods for water resources planning in England and Wales	✓	✓	D2. Mathematical modelling of water systems

418	Omer Burak Akgun and Elcin Kentel	Estimation of Streamflow using Takagi-Sugeno Fuzzy Rule-Based Model	✓	✓	D7. Computational intelligence in data driven hybrid modelling
419	Susanna Grasso, Andrea Libertino and Pierluigi Claps	A Web-GIS tool for rainstorm hazard management over large areas		✓	C6. DSS and GIS for water management
420	Yuqing Ling, Min Wang, Quiwen Chen and Arthur Mynett	Modelling spatial-temporal dynamics of cyanobacteria abundance in lakes by integrating cellular automata and genetic programming		✓	F1. Coastal and water quality modelling
421	Orazio Giustolisi	Development of a modularity index for reliability assessment of isolation valve systems		✓	S2. Complex Network Theory and Applications to Water Systems
422	Michael Gibson, Albert Chen, Mehdi Khoury, Lydia Vamvakeridou-Lyroudia, Dave Stewart, Michael Wood, Dragan Savic and Slobodan Djordjević	Analysing the cascading effects on critical infrastructure in Torbay coastal/pluvial flooding with climate change		✓	A4. ICT for water
423	Isaac Hamling, William Bloomfield, Kar Yee Dearing and Tim	Optimising demand reduction in water utilities		✓	A5. Optimization techniques and their application
424	Maria Pregnotato, Vasilis Sarhosis and Chris Kilsby	Towards integrating modelling of flood-induced bridge failures	✓		E4. Resilience, adaption and mitigation