

“Hydrology and water resources management in a changing world”

XXX Nordic Hydrological Conference

13–15 August 2018, Bergen, Norway

**1<sup>st</sup> day 13 August 2018**

Time				Meeting room
08:00	Registration			
09:00	Opening session <i>Kolbjørn Engeland, Chair, Organising committee, NVE</i> <i>Olav Osvoll, Managing Director, BKK AS</i>			Kongesalen
09:20	Keynote session I, Chair: Kolbjørn Engeland <i>Tone Muthanna, NTNU: “Building urban resilience through transformation and reinvention of urban surface water management in harmony with groundwater”</i>  <i>Marco Borga, University of Padova: “Flash floods: a changing risk in a changing society”</i>			Kongesalen
10:40-11:00	Coffee break			
Parallel session I				
	Surface water, groundwater and blue-green solutions in urban areas	Floods	Land atmosphere interactions in high latitude and cold regions	
	Chair: Guri Venvik Meeting room: Kongesalen	Chair: Linus Zhang Meeting room: Dræggen 7	Chair: Lena M. Tallaksen Meeting room: Dræggen 8	
11:00	International knowledge exchange on infiltration of stormwater under extreme climate and geohydrolic circumstances <i>Boogaard et al.</i>	Extreme flood in small steep catchment case Utvik <i>Bruland</i>	Precipitation phase uncertainty in cold region conceptual models resulting from meteorological forcing time step intervals <i>Feiccabrino et al.</i>	
11:15	Vadose zone hydraulic assessment in urban areas – in situ experiments <i>Ghibus et al.</i>	Simulating the Utvik flood of 2017 with a 2d hydro- and morphological model <i>Dam et al.</i>	Spatial pattern of soil hydraulic conductivity in the Heihe river watershed, northwest China <i>He, C. et al.</i>	
11:30	Evaluating hydrological performance of the lid module in Mike Urban; a case study in Grefsen, Oslo <i>Hernes et al.</i>	Mapping areas exposed to erosion and water forces during extreme floods in steep terrain <i>Pavlicek et al.</i>	A Finnish infrastructure on cold climate hydrology-ecology interaction studies in the arctic Lapland <i>Kløve et al.</i>	
11:45	Water balance of a Nordic urban catchment by MIKE Urban <i>Li, H. et al.</i>	Historical flood information used for flood frequency analysis <i>Engeland et al.</i>	Seasonal river dynamics in changing cold environments <i>Lotsari et al.</i>	

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12:00	Planning green infrastructure in urban areas with the tangible landscape <i>Ortega</i>	Transition of a national water resources model to a flood risk model for Denmark <i>Henriksen et al.</i>	Influence of anthropogenic land cover changes in Norway on local to regional precipitation <i>Mooney</i>
12:15		Characterization of rainfall caused floods in the Latvian river basins during the autumn-summer period of year 2017 <i>Klints et al.</i>	Regional calibration of a spatially distributed hydrological model at 1 km resolution for the whole Norway <i>Huang, S. et al.</i>
12:30-13:30	Lunch		
Parallel session II			
	Surface water, groundwater and blue-green solutions in urban areas	Land atmosphere interactions in high latitude and cold regions/ Climate services – bridge the gap from science to management	Hydrological processes
	Chair: Helen Bonsor Meeting room: Kongesalen	Chair: Irene B. Nilsen Meeting room: Dræggen 7	Chair: Knut Alfredsen Meeting room: Dræggen 8
13:30	Green roofs for stormwater management in Nordic countries <i>Johannessen et al.</i>	Application of data from the GRACE and GRACE FO satellites for quantifying human impacts on freshwater availability <i>Rodell et al.</i>	Evaluating effects of weed cutting on water level and runoff calculations in Danish lowland streams <i>Ovesen et al.</i>
13:45	Crowdsourcing and online app in urban flood management <i>Zhang, L. et al.</i>	Spatial gradients in stable water isotopes constrain the water cycle in weather prediction and climate models <i>Sodemann</i>	Revival of a tiny hydrological research catchment in south-east Norway- why not measure everything? <i>Skaugen et al.</i>
14:00	Changes to the water balance over a century of urban development in two neighbourhoods: Vancouver, Canada <i>Kokkonen et al.</i>	Land-Atmosphere interactions in cold environments (LATICE): the role of atmosphere - biosphere – cryosphere – hydrosphere interactions in a changing climate <i>Tallaksen et al.</i>	Water-management in Arabian's northwest Badia (desert). hydrological archaeological approaches and bedouin lessons <i>Alsouliman</i>
14:15	Assessing the impacts of climate change on an urban drainage system in Trondheim, Norway <i>Munkerud et al.</i>	Coupling of a detailed snow model to WRF-Hydro for glacier mass balance and glacier runoff studies <i>Eidhammer et al.</i>	Drought risk assessment on agriculture in the Bolivian altiplano <i>Canedo et al.</i>
14:30	Modelling runoff from permeable surfaces in urban areas <i>Parnas et al.</i>	New climate services to facilitate water resources management in a changing world <i>Arheimer et al.</i>	Sensitivity analysis of ocean and topographic factors used to create a physiographic binning scheme for hydrology in Scandinavia <i>Grigg et al.</i>

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14:45	Comparing laboratory experimental measured c-values with field observations <i>Schärer et al.</i>	Integration of seasonal forecasting in water resources decision support tools <i>Butts et al.</i>	Map services from NVE <i>Lytskjold</i>	
15:00	Applicability of urban streets as temporary flood ways <i>Skrede et al.</i>	European and national climate services for improved decision making in the water sector - challenges and opportunities <i>Hisdal</i>	Quantifying the flow pathway features in forests of a rocky mountain using multi-tracer <i>Luo, Z. et al.</i>	
15:15		Climate change risk assessment for hydropower: experience from the Nenskra project in Georgia <i>Jjunju et al.</i>	Analysis of influence factors of soil infiltration based on ct scanning to detect the 3-d characteristics of macropores and rock fragments in forest stony soil <i>Chen, M. et al.</i>	
15:30	Coffee break			
15:45	General Assembly, the Nordic Association for Hydrology (NHF)			Kongesalen
17:15	Break			
17:45	Departure to the Håkonshallen			
18:00	Reception at the Håkonshallen			

**2<sup>nd</sup> day 14 August 2018**

<b>Time</b>			<b>Meeting room</b>
09:00	Keynote session II. Chair: Pål Gundersen <i>Helen Bonsor, British Geological Survey: “Bridging the gap between disciplines to solve future water challenges in cities, with examples from the UK”</i>  <i>Tor Håkon Bakken, SINTEF Energy Research AS: “Water footprint of hydropower – are reservoirs consumers or collectors?”</i>		Kongesalen
10:20-10:45	Coffee break		
Parallel session III			
	Surface water, groundwater and blue-green solutions in urban areas	Climate services – bridge the gap from science to management	Hydropower, water consumption and environmental impacts
	Chair: Tone Muthanna Meeting room: Kongesalen	Chair: Hege Hisdal Meeting room: Dræggen 7	Chair: Diana Meilutyte-Lukauskiene Meeting room: Dræggen 8
10:45	High-resolution hydrological prediction in urbanized areas <i>Olsson et al.</i>	Intercomparison of multiple-type statistical downscaling methods in modeling climate change impacts on hydrology <i>Shen, M. et al.</i>	Flood dampening in hydropower systems <i>Hansen</i>

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11:00	New regional short-duration rainfall statistics for Sweden <i>Olsson et al.</i>	Downscaling and bias-correcting climate and hydrological projections for Svalbard <i>Nilsen et al.</i>	Analysis of status and trends in short term flow regulation in Nordic rivers <i>Marttila et al.</i>
11:15	Risk assessment for urban areas prone to flooding and subsidence <i>Venvik et al.</i>	Comparison of different sampling strategies to determine nitrogen transport in streams as basis for emission-based regulation <i>van 't Veen et al.</i>	Can numerical weather prediction (NWP) model based meteorological data products replace traditional gauge measurements as inputs to hydrological model for hydropower production simulation? <i>Sivasubramaniam et al.</i>
11:30	Mapping and monitoring groundwater and implementing the groundwater directive in Norway <i>Gundersen et al.</i>	Modeling extreme drought and climate change impacts on drought in Finland <i>Veijalainen et al.</i>	Multiple-purpose use of hydropower dams in high alpine areas <i>Round et al.</i>
11:45	The study on decision index system of collaborative optimization design with greenland and the rainwater system in the view of Sponge city <i>Yang, Q. et al.</i>	Modelling past and present climate of Svalbard by downscaled reanalyses <i>Vikhamar-Schuler et al.</i>	Evaluation of the hydrological model HYPE for environmental flow in southern Norway <i>Adera et al.</i>
12:00		Spatio-temporal consistent post-processing of daily mean temperature projections – application in Trøndelag of Norway <i>Yuan, Q. et al.</i>	Water balance online: towards continuous assessment of water availability, consumption and stress <i>Hjerdt et al.</i>
12:15		Combining multi-model and multi-member ensembles to estimate temporal-spatial variation of climate change uncertainties for China <i>Zhuan, M. et al.</i>	
12:30-13:30	Lunch		
Parallel session IV			
	Groundwater	Floods	Hydrological processes/Advanced methods and technology in hydrological modelling
	Chair: Pål Gundersen Meeting room: Kongesalen	Chair: Thomas Skaugen Meeting room: Dræggen 7	Chair: Niclas Hjerdt Meeting room: Dræggen 8
13:30	Investigating hydrogeologic controls on groundwater drought hazard in Sweden and Finland <i>Nygren et al.</i>	Flood risk maps of Estonian inland water bodies <i>Lode et al.</i>	Does seasonally frozen soil influence hydrological partitioning? a global meta-analysis <i>Ala-aho et al.</i>
13:45	Estimation of sediment thickness and bedrock topography of mainland Norway <i>Kitterød et al.</i>	Importance of dynamic river network in distance distribution dynamics hydrological model <i>Tsegaw et al.</i>	Controlling factors of water storage and runoff in boreal headwaters <i>Meriö et al.</i>

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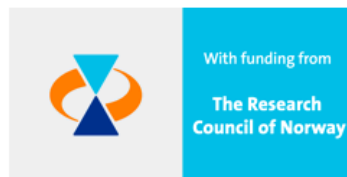
14:00	Archaeological deposits and tunnel constructions: Simulations of groundwater head at the Old Wharf of Bergen, Norway <i>Kitterød</i>	Spatiotemporal variations of extreme precipitation and their connection to elevation over Sichuan basin, China <i>Zhang, Y. et al.</i>	Water temperature modelling of small high arctic stream (Fuglebekken, SW Spitsbergen) <i>Osuch et al.</i>	
14:15	Groundwater balances and their role in water resource management: tools for sustainable strategies. <i>Earon et al.</i>	River runoff in permafrost zone <i>Bolgov et al.</i>	Evaluation of J2000G hydrological model on snowmelt simulation: Latyan case study <i>Behrawan et al.</i>	
14:30	Short poster presentations			Kongesalen
15:00	Poster session and coffee			
16:30	Introduction to the Bryggen visit			Kongesalen
17:00	Walk: “How blue-green solutions saved the world heritage site Bryggen”			
18:30	Break			
19:30	Conference dinner			Kongesalen

**3<sup>rd</sup> day 15 August 2018**

<b>Time</b>				<b>Meeting room</b>
09:00	Keynote session III, Chair: Knut Alfredsen <i>Lee Brown, University of Leeds: “River ecosystem responses to flow modification”</i>			Kongesalen
09:40-10:00	Coffee break			
Parallel session V				
	Environmental flows, water quality and sediments	Advanced methods and technology in hydrological modelling		
	Chair: Elve Lode Meeting room: Kongesalen	Chair: Chong-Yu Xu Meeting room: Dræggen 7		
10:00	Mine water influence to the freshwater ecosystem in the Kurtna lake district, Estonia <i>Terasmaa et al.</i>	SHyFT: a community resource for hydrologic prediction <i>Burkhardt et al.</i>		
10:15	Conceptual catchment typology for analyzing eutrophication risks in surface waters in Denmark <i>Kronvang et al.</i>	Development of advanced snow modelling plugin exploiting the MIKE 1D API <i>Godiksen et al.</i>		

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10:30	How well can we model changes in the indicators of hydrological alteration? <i>Massmann</i>	Hydrological simulation in a glacierised area without sufficient data <i>Li, H. et al.</i>	
10:45	Effect of vegetation on fluvial sediment transport and deposition-computational and experimental modelling approach <i>Kasvi et al.</i>	Comparing temporal and spatial variability of uncertainty sources for future runoff projections in ungauged regions <i>Yang, X. et al.</i>	
11:00	Development of Lake Victoria 2d hydrodynamic model in Comsol multiphysics software <i>Paul et al.</i>		
11:15	Assessment of hydrological processes and nutrient losses in agricultural landscape as affected by drainage systems <i>Lagzdins et al.</i>		
11:30-11:45	Coffee break		
11:45	Closing session, Chair: Knut Alfredsen <i>Prof. Chong-Yu Xu</i> : The best student presentation and poster <i>Linus Zhang, Chair, the Nordic Association for Hydrology</i> : Thank you for the participation <i>Elve Lode</i> : Welcome to the NHC2020 in Tallinn, Estonia		Kongesalen
12:30-13:30	Lunch – Grab & Go		



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### POSTERS:

1	Uncertainty of runoff projections in Lithuanian rivers <i>Akstinas et al.</i>
2	Analysis of the influence of forest on the runoff from small mountainous catchments <i>David</i>
3	Can fresh snow falling in the spring accelerate snowmelt? <i>Hjerdt et al.</i>
4	BIOWATER: a Nordic centre of excellence on integrated land and water management for a sustainable Nordic bioeconomy <i>Kløve et al.</i>
5	Year 1900 runoff in Danish streams: implications for nitrogen loadings and reference conditions <i>Kronvang et al.</i>
6	The application of digital filters and measurements upscale for identification of runoff components for the Berze river <i>Veinbergs et al.</i>
7	Impact of climate and catchment characteristics on hydrological drought development and severity in Sweden <i>Quesada-Montano et al.</i>
8	Challenging the static prediction of time to peak <i>Langridge et al.</i>
9	The perception of catastrophic floods in the eastern Europe: a case of the Nemunas river basin <i>Meilutyte-Lukauskiene et al.</i>
10	Assessment of the regional future projections of flood in Norway by paleoclimate data <i>Li, L. et al.</i>
11	Considering groundwater recharge and flow in urban development planning – a case study from Torshovdalen, Oslo <i>Uglum et al.</i>
12	Combining the Danish surface-groundwater interaction model and a high resolution (0.4 m) lidar elevation model for the development of an integrated flood warning system in Denmark <i>Bøgh et al.</i>
13	Assessment of the urban runoff and groundwater quality in the recreational area of Torshovdalen (Oslo, Norway) <i>Kristiansen et al.</i>
14	Hydrodynamic modelling of temperature distribution in a shallow dimictic lake, SE-Norway <i>Anmarkrud et al.</i>
15	Decreasing precipitation phase uncertainty in hydrological models using sub-daily time steps and supplemental data to improve traditional methods <i>Feiccabrino et al.</i>
16	The calibration and validation of forest hydrological response unit of conceptual hydrological model METQ <i>Kalvite et al.</i>
17	Predictive modelling of urban water consumption <i>Villarin et al.</i>
18	A simple flood forecasting system in Iceland <i>Priet-Mahéo et al.</i>
19	The use of analogue sorting method for an operational streamflow forecast system <i>Priet-Mahéo et al.</i>
20	Disaggregation of large-scale atmospheric data: a non-deterministic geostatistically-based approach <i>Chen, S. et al.</i>
21	Modeling of okra based on physiological response under saline irrigation followed by dilution of salts <i>Azeem et al.</i>
22	Aquifer vulnerability in parts of Yenagoa, Southern Niger delta, Nigeria <i>Willabo et al.</i>