

Session: HS2.4.1

Hydrological extremes: from droughts to floods

Displays: <https://meetingorganizer.copernicus.org/EGU2020/displays/35538>

Conveners: Louise Slater, Anne Van Loon, Gregor Laaha, Ilaria Prosdocimi, Lena M. Tallaksen

Chat: **Thu, 07 May, 08:30–12:30 CEST**

We will discuss the displays in order of appearance. The order of the session is approximately as follows:

- **08:30 Introduction**
- **08:33-08:55 Block 1** - Displays D54 to D57: Niko Wanders (*invited*), Abraham Gibson, Chunyu Dong, Hoori Ajami
- **08:55-09:15 Block 2** - Displays D58 to D61: Vimal Mishra, Oldrich Rakovec, Mathilde Erfurt, Manuela Brunner (*invited*)
- **09:15-09:35 Block 3** - Displays D62 to D65: Gabriele Villarini, Ralf Merz, Yuan Yang, Ricardo Mantilla
- **09:35-09:55 Block 4** - Displays D66 to D69: Jonathan Goodall, Maurizio Mazzoleni, Gauranshi Raj Singh, Rajendran Vinnarasi
- **09:55-10:15 Block 5** - Displays D70 to D74: Surendra Kumar Mishra, Hans Van de Vyver, Shuang Zhu, Xing Yuan, Liu Liu

- **10:15-10:45 Coffee break** (grab a hot drink from your kitchen!)

- **10:45 Welcome back**
- **10:48-11:10 Block 6** - Displays D75 to D78: Jiabo Yin, Ioanna Stamataki, Liliang Ren, Johannes Laimighofer
- **11:10-11:30 Block 7** - Displays D79 to D82: Josie Baulch, Gebremedhin Gebremeskel Haile, Jan Řehoř, Sigrid Jørgensen Bakke
- **11:30-11:50 Block 8** - Displays D83 to D86: Yves Trambly, Harry West, Kunal Bhardwaj, Haider Ali
- **11:50-12:10 Block 9** - Displays D87 to D90: Yusuke Satoh, Cha Zhao, Simon Parry, Kevin Mátyás
- **12:10-12:30 Block 10** - Displays D91 to D94: Bentje Brauns, Marc Scheibel, Ho Jun Kim, Ammara Nusrat

Please note that **not all authors are able to participate**, and so the timing may fluctuate a little.

Each author is asked to **prepare a 3-sentence summary** of their display (**highlights**), which may include a link to a published paper. **Authors who are absent may also send a brief a summary** to the conveners, and we will share these for them. We will then allow participants 5 minutes to read displays (during which time they may submit questions for moderation), followed by 10 minutes of questions.

Block #	Display #	Title & URL	Authors	Approx. scheduled time
SESSION I: 08:30-10:15				
1	D54	INVITED: Unravelling the complex interplay between drought and conflict	Niko Wanders, Nina von Uexkull, Halvard Buhaug, and Giuliano di Baldassarre	08:33-08:55
	D55	From Drought to Flood: The Life Cycle of Drought	Abraham Gibson, Danielle Verdon-Kidd, Greg Hancock, and Garry Willgoose	
	D56	Responses of Mediterranean-climate vegetation to drought and climate change across scales in California	Chunyu Dong, Glen MacDonald, Gregory Okin, and Thomas Gillespie	

Block #	Display #	Title & URL	Authors	Approx. scheduled time
	D57	Characterizing Groundwater Response Time to Droughts Across the United States	Hoori Ajami and Adam Schreiner-McGraw	
2	D58	Long-term (1870-2018) drought reconstruction in India	Vimal Mishra	08:55-09:15
	D59	The 2018-2019 European drought sets a new benchmark over 250 years	Oldrich Rakovec , Vittal Hari, Yannis Markonis, Luis Samaniego, Martin Hanel, Stephan Thober, Petr Maca, and Rohini Kumar	
	D60	Exploring the added value of a long-term multidisciplinary dataset in drought research - a drought catalogue for southwestern Germany dating back to 1801	Mathilde Erfurt , Georgios Skiadaresis, Erik Tijdeman, Veit Blauhut, Jürgen Bauhus, Rüdiger Glaser, Julia Schwarz, Willy Tegel, and Kerstin Stahl	
	D61	INVITED: Spatial dependence of floods and droughts: learning from differences in regional and seasonal patterns	Manuela Irene Brunner , Eric Gilleland, Daniel Swain, Andy Wood, and Martyn Clark	
3	D62	Increasing Frequency of Flood Events across the Central United States: A Weather-Type Perspective	Gabriele Villarini and Wei Zhang	09:15-09:35
	D63	Ingredients of German flood events	Ralf Merz , Larisa Tarasova, and Stefano Basso	
	D64	Global long-term sub-daily reanalysis of fluvial floods through high-resolution modeling	Yuan Yang , Ming Pan, Peirong Lin, Hylke Beck, Dai Yamazaki, Hui Lu, Kun Yang, Yang Hong, and Eric Wood	
	D65	Insights from Physics-based Hydrologic Models and Stochastic Storm Transposition into the Underlying Assumptions of Flood Quantile Regionalization Techniques	Ricardo Mantilla , Gabriel Perez, Nicolas Velasquez, Daniel Wright, and Guo Yu	
4	D66	Nuisance Flooding in Coastal Communities: Real-time Modeling and Decision Support to Improve Transportation Infrastructure Resilience	Jonathan L. Goodall , Madhur Behl, Benjamin Bowes, Brad Campbell, Alex Chen, T. Donna Chen, Jeffrey Sadler, Kyle Spencer, Michael Gorman, Shraddha Praharaj, Yawen Shen, Faria Tuz Zahura, and Luwei Zeng	09:35-09:55
	D67	Modeling the interplay between droughts, floods and human activities	Maurizio Mazzoleni , Vincent Odongo, Elena Mondino, and Giuliano Di Baldassarre	
	D68	Investigating the divergence between Standardized Precipitation Index (SPI) and Standardized Precipitation Evapotranspiration Index (SPEI) in defining drought over different climate zones of India	Gauranshi Raj Singh , Chandrika Thulaseedharan Dhanya, and Aniket Chakravorty	
	D69	Time-Varying Meteorological Drought Index for a Changing Climate	Rajendran Vinnarasi and Chandrika Thulaseedharan Dhanya	

Block #	Display #	Title & URL	Authors	Approx. scheduled time
5	D70	Assessment of droughts and their linkage to environmental flow conditions over a large Indian river basin	Sabyasachi Swain, Surendra Kumar Mishra , and Ashish Pandey	09:55-10:15
	D71	Drought assessment in a changing climate with the joint deficit index	Hans Van de Vyver , Joris Van den Bergh, and Bert Van Schaeybroeck	
	D72	Spatiotemporal evolution of drought events and its contribution on vegetation growth in the river source region	Shuang Zhu	
	D73	Human-induced intensification of flash drought risk in the Anthropocene	Xing Yuan , Linying Wang, Peng Ji, Miao Zhang, Sisi Chen, and Yumiao Wang	
	D74	Spatiotemporal Variation of Drought and Associated Multi-Scale Response to Climate Change in Southeast Qinghai–Tibet Plateau, China	Liu Liu , Hao Li, Qiankun Niu, Yurui Lun, and Zongxue Xu	
Break, then SESSION II: 10:45-12:30				
6	D75	Shifting pattern of hook structures and impacts on storm runoff extremes under anthropogenic climate warming	Jiabo Yin , Shenglian Guo, and Lei Gu	10:48-11:10
	D76	Reconstructing a hydraulic model for historic flood levels in the city of Bath, United Kingdom	Ioanna Stamatakis and Thomas Kjeldsen	
	D77	Revisiting drought trend over China during 1948-2016: a multivariate perspective	Liliang Ren	
	D78	How standard are standardized drought indices? Uncertainty contributions for the SPI & SPEI case	Johannes Laimighofer and Gregor Laaha	
7	D79	Processes, Products & Policy: Investigating how drought events are perceived differently across spatial scales	Josie Baulch , Justin Sheffield, and Jadu Dash	11:10-11:30
	D80	Spatial and temporal variation of drought patterns over East Africa	Gebre-medhin Gebremeskel Haile , Qihong Tang, Guoyong Leng, Guoqiang Jia, Jie Wang, Diwen Cai, Siao Sun, Binod Baniya, and Qinghuan Zhang	
	D81	Regional effects of synoptic situations on soil drought in the Czech Republic	Jan Řehoř , Rudolf Brázdil, Miroslav Trnka, Ladislava Řezníčková, Jan Balek, and Martin Možný	
	D82	Drought Propagation as Illustrated by the 2018 Nordic Drought Event	Sigrid Jørgensen Bakke , Monica Ionita, and Lena Merete Tallaksen	
8	D83	Flood trends in Africa	Yves Trambly and Gabriele Villarini	11:30-11:50
	D84	Mapping Wet-Dry Signatures of the North Atlantic Oscillation (NAO) in British Catchments	Harry West , Nevil Quinn, and Michael Horswell	
	D85	Role of catchment and climate characteristics in Hydrological	Kunal Bhardwaj and Vimal Mishra	

Block #	Display #	Title & URL	Authors	Approx. scheduled time
		Drought parameters and propagation in major river basins of India		
	D86	Global scaling of observed sub-daily precipitation extremes to dewpoint temperature	Haider Ali , Hayley Fowler, Geert Lenderink, and Elizabeth Lewis	
9	D87	Multi-type global drought projection using multi-model hydrological simulations	Yusuke Satoh , Tokuta Yokohata, Yadu Pokhrel, Naota Hanasaki, Julien Boulange, Peter Burek, Ted Veldkamp, Kumiko Takata, and Hideo Shiogama	11:50-12:10
	D88	Evolution of future extreme drought frequency in two climate model large ensembles	Cha Zhao , François Brissette, Jie Chen, and Jean-Luc Martel	
	D89	Drought terminations in the UK driven by high integrated vapour transport	Simon Parry , David Lavers, Rob Wilby, Paul Wood, and Christel Prudhomme	
	D90	Flow trends in Western Hungary	Kevin Mátyás , Katalin Bene, and Róbert Koch	
10	D91	Characterising the response of groundwater systems to major, continental-scale droughts: a multidecadal European case-study	Bentje Brauns , John P. Bloomfield, Daniela Cuba, David M. Hannah, Ben P. Marchant, and Anne F. Van Loon	12:10-12:30
	D92	Approaches to describe different hydrological extremes related to their impact and derived measures	Marc Scheibel	
	D93	Bayesian Parameter Estimation to Bivariate Drought Regional Frequency Analysis Model: Application to Han-River Watershed	Ho Jun Kim , Jin-Guk Kim, He Mie Cho, and Hyun-Han Kwon	
	D94	A meta-model assisted framework of optimization of the Hydrological model parameters for accurate calibration	Ammara Nusrat , Hamza Farooq Gabriel, Sajjad Haider, and Muhammad Shahid	