

Workshop Advancing Science to Aid Preparedness for Climate Extremes: Integrating Observations, Models and Space-based Capabilities

23-27 November 2026

Agenda

Monday, 23 November		
10:00-10:30	<i>Registration – Coffee area</i>	
10:30-10:45	ISSI welcome and introduction	Michael Rast
10:45-11:00	Aims and organisation of the workshop	Conveners
Session 1: Observations, Data Records, and Benchmarks of Climate and Impact Extremes		
11:00-11:20	ESA Extremes and Disasters Science Cluster	Anca Angheloa
11:20-11:40	What we know (and don't know) about global observed changes in precipitation extremes	Lisa Alexander
11:40-12:00	Cataloguing and mapping extreme events with modern machine learning approaches	Patrick Ebel
12:00-12:20	Quantifying Extreme Drought Risk using Palaeoclimate Observations and Model Simulations from the Last Millennium	Katherine Taylor
12:20-12:40	TBC	Ben Clarke
<i>Lunch (12:40–14:00)</i>		
14:00-14:30	Discussion – Session 1	All
Session 2: Modelling Climate Extremes in a Non-Stationary Climate		
14:30-14:50	Climate Change and Fire Extremes, what do we (don't) know?	Seppe Lampe
14:50-15:10	TBC	Fiona Spuler
15:10-15:30	Compound ocean extremes in a changing climate	Thomas Frölicher
15:30-15:50	Coupling multivariate extreme modelling and AI diffusion models	Philippe Naveau
15:50-16:30	Discussion – Session 2	All
<i>Ice breaker (from 17:00)</i>		
Tuesday, 24 November		
Session 2: Modelling Climate Extremes in a Non-Stationary Climate (continued)		
9:00-9:20	Modeling changes in floods	Manuela Brunner
9:20-9:40	TBC	Hayley Fowler
9:40-10:00	Atmospheric circulation changes driving accelerated warming of European summer temperatures and heat extremes are underestimated by current climate models due to signal-to-noise errors	Markus Donat
10:00-10:30	Discussion – Session 2	All

<i>Coffee break (10:30–11:00)</i>		
11:00-11:20	Estimating Changes in Storm Surge Extremes with Spatiotemporal Bayesian Models	Francisco Calafat
11:20-11:40	Impact-based forecasts of extremes using AI (alt.: droughts, teleconnections, breadbasket failures)	Dim Coumou
11:40-12:00	Marine heatwaves in a changing climate	Catherine Gregory
12:00-12:30	Discussion – Session 2	All
<i>Lunch (12:30–14:00)</i>		
14:00-14:20	European summer drying largely driven by atmospheric circulation changes since the 1980s	Sebastian Sippel
14:20-14:40	Identifying and understanding the drivers of accelerating Heat Extremes in Europe	Kai Kornhuber
14:40-15:00	Storylines and flood forecasting tools for flood preparedness in Switzerland	Olivia Romppainen
15:00-15:30	Discussion – Session 2	All
<i>Coffee break (15:30–16:00)</i>		
16:00-16:20	Towards high-resolution hydrometeorological information for the assessment of extremes and other applications across the Southern Andes	Juan Boisier
16:20-16:40	Past atmospheric circulation changes prime regional heatwaves for future surprises	Dominik Schumacher
16:40-17:00	Extreme storm surges as an indicator of externally-forced changes in atmospheric circulation	Marta Marcos
17:00-17:30	Discussion – Session 2	All
Wednesday, 25 November		
Session 3: Attribution and Anticipation of Climate and Impact Extremes		
9:00-9:20	Hazard monitoring and attribution of forecasted events	Sjoukje Philip
9:20-9:40	Anticipating catastrophic weather events	Tom Matthews
9:40-10:00	Where in Europe is less prepared for extreme rainfall?	Vikki Thompson
10:00-10:30	Discussion – Session 3	All
<i>Coffee break (10:30–11:00)</i>		
11:00-11:20	Heat extremes in subseasonal hindcasts: a General Extreme Value perspective	Pauline Rivoire
11:20-11:40	Could climate change shift the dynamical unfolding of an extreme event? A hybrid storyline approach	Marylou Athanase
11:40-12:00	The potential role of North Pacific and North Atlantic SST forcing in recent European Spring and Summer atmospheric circulation trends.	Karsten Haustein
<i>Lunch (12:20–14:00)</i>		
14:00-14:30	Discussion - Session 3	All
14:30-14:50	Real-time attribution of excess mortality to extreme heat: recent advances and open questions	Clair Barnes

14:50-15:10	The role of historical variability for record breaking probabilities of and preparedness for extremes	Iris de Vries
15:10-15:30	Attributing extreme weather events to climate change: an Irish perspective	Claire Bergin
Coffee break (15:30–16:00)		
16:00-16:45	Discussion – Session 3	All
Group dinner (TBD, 19:30h)		
Thursday, 26 November		
Session 4: From Hazard to Impact: Bridging Physical and Societal Systems		
9:00-9:20	Memory, Luck, and Changing Risk: Identifying Sitting Ducks for Tropical Cyclones	Dorothy Heinrich
9:20-9:40	Attribution of the Impacts of the 2024 Extreme Floods in Rio Grande do Sul, Brazil, to Climate Change	Mireia Ginesta
9:40-10:10	Integrating Climate Modelling, Extremes, and Co-Production: The Ouranos Climate Modelling System	Dominic Matte
10:10-10:30	Discussion – Session 4	All
Coffee break (10:30–11:00)		
11:00-11:20	Reanalysis-based attribution and storylines of extreme events	Ed Hawkins
11:20-11:40	Translating Science into Practice: Co-production for Climate Extremes Preparedness in Beira City, Mozambique	Genito Maure
11:40-12:10	TBC	Luis Artur
12:10-12:30	Crop-relevant dry spells in Southern Africa: Forecasting for early warning and preparedness	Innocent Masukwedza
Lunch (12:30–14:00)		
14:00-14:30	Discussion – Session 4	All
14:30-14:50	Integrating Knowledge on Climate Extremes: From Observations and Attribution to Impacts and Preparedness	Hindumathi Palanisamy
14:50-15:10	Translate climate projections to actionable risk: Approaches, gaps, and the role of intermediaries	Haiyan Teng
15:10-16:00	Discussion – Session 4	All
17:00-20:00	Public event - Institute for Exact Sciences, University of Bern	
Friday, 27 November		
Session 5: Synthesis and Next Steps		
9:00-9:30	Synthesis keynote How to stop being surprised: understanding unprecedented extremes in a warming climate	Erich Fischer
9:30-10:00	Increasing societal awareness for climate change by linking it to today's weather	Hylke de Vries
Coffee break (10:00–10:30)		

10:30-11:30	Groups discussion – key outcomes	All
11:30-12:00	Plenary report-back / next steps	All
12:00-12:30	Closing remarks	All