INTERNATIONAL SPACE SCIENCE INSTITUTE

Forum Climate Extremes in Our Warming World

6-8 October 2025

Agenda

Monday, 6 October		
14:00-14:15	ISSI welcome and introduction. Aims and organisation of the forum.	Conveners
14:15-15:45	**Session 1: Monitoring extremes and their impacts** ***Convener:*** ***Rapporteur:***	
	Interactive session Joint presentations	All
	Coffee break	
15:45-17:00	Continue	All
	Ice breaker	
Tuesday, 7 October		
9:00-10:00	**Breakout groups: Summarising the types of extremes, drivers and monitoring techniques. <u>Which are the gaps in extreme/impact observations (and modelling)</u>?**	
10:00-10:30	***Rapporteur:*** Reporting back and discussion	All
	Coffee break	
11:00-12:15	**Session 2: Changes in climate extremes and the role of climate change** ***Convener:*** ***Rapporteur:***	
	TBD	Sonia Seneviratne
	Explaining and Predicting Changes in Climate Extremes	Markus Donat
	Assessing changes in climate and weather records	Philippe Naveau
	Changes in hot & dry compound events in Europe using Earth Observation	Elody Fluck
	Fires, more than just climate	Seppe Lampe
	Changes in hydrologic extremes: floods, droughts, and riverine heatwaves	Manuela Brunner
	Lunch	
14:00-15:30	**Session 2: Continue** ***Convener:*** ***Rapporteur:***	
	Rapidly intensifying extreme weather events in a warming world: how important are large-scale dynamics in generating extreme floods?	Hayley Fowler
	Monitoring precipitation extremes globally using a combination of public and commercial satellite data	Joe Munchak
	TBD	Lukas Gudmundsson
	Marine heatwaves and ocean biogeochemical extremes under global warming	Thomas Frölicher

	Current challenges and opportunities in probabilistic attribution	Sjoukje Philip
	Conditional attribution through event-based storylines	Vikki Thompson
Coffee break		
16:00-17:00	**Breakout groups: Changes in extremes: <u>what should we be monitoring</u>? When and where is necessary to improve attribution? Can changes be reverted?**	
17:00-18:00	***Rapporteur:*** Reporting back and discussion	All
Group dinner *Kornhauskeller (Kornhausplatz, 18)*		
Wednesday, 8 October		
9:00-10:30	**Session 3: Understanding and predicting worst case scenarios and unprecedented extremes** ***Convener:*** ***Rapporteur:***	
	Using climate models to explore, what is the worst that could happen?	Vikki Thompson
	Constraining the likelihood of sea level extremes	Marta Marcos
	TBD	Sebastian Sippel
	AI in sub-seasonal forecasting of extremes: Boosting predictability and gaining new teleconnection insights	Dim Coumou
	AI for hydro-meteorological hazard modelling & Overview of relevant ESA Φ-lab supported activities	Patrick Ebel
	EUMETSAT's efforts for creating climate data records to detect extreme events	Viju John
Coffee break		
11:00-12:30	**Session 4: Preparing for worst case scenarios and future extremes** ***Convener:*** ***Rapporteur:***	
	Monitoring the perception of climate extreme impacts using large language models	Mariana de Brito
	Leveraging satellite data for detecting and forecasting climate extremes to support decision-making	Mike Eilts
	Aligning climate science with stakeholder realities: the value of co-production in analyzing simulated climate extremes	Dominic Matte
	The potential health impacts of heat beyond human physiological tolerance	Tom Matthews
	Impact Attribution for Climate Law: The Case of Storm Irene	Mireia Ginesta
	Black swans and sitting ducks: enhancing the preparedness of humanitarian systems to unprecedented extremes	Dorothy Heinrich
Lunch		
13:30-14:30	**Breakout groups: What are the implications for risks in future and unprecedented extremes? How to improve communication of risks?**	
14:30-15:30	***Rapporteur:*** Reporting back and discussion. Definition of the main points of the outcome.	All
15:30-16:00	Closing and future actions/contributors to the outcome.	All