

interdisciplinary

SUMMER SCHOOL

on impacts of climate extremes

Climes Summer School 2026 Schedule

	Monday 15th	Tuesday 16th	Wednesday 17th	Thursday 18th
09.00–09.15	Introduction (G. Messori)	Lecture Climate impacts (G. Messori)	Lecture Weather and im- pact forecasting (R. F. Franco)	Lecture Population health (E. Raffetti)
09.15–10.15	Lecture Climate extremes (G. Messori)			
10.15–10.45	Break	Break	Break	Break
10.45–12.00	Lecture LLMs and climate impacts (M. Kurfali)	Exercise session (M. Kurfali / T. Carvalho)	Lecture Disproportionate impacts (E. Boyd)	Exercise session (M. Kurfali / T. Carvalho)
12.00–13.15	Lunch @Segerstedshuset	Lunch	Lunch	Lunch
13.15–14.30	Exercise Session (M. Kurfali / T. Carvalho)	How do we bridge the gap between research and implementation? (STUNS)	Exploring Climate impacts in the field (C. Maybom)	Exercise presentation
14.30–15.00	Break	Break	Break	Break
15.00–16.15	Exercise session (M. Kurfali / T. Carvalho)	How do we bridge the gap between research and implementation? (STUNS)	Exercise session (M. Kurfali / T. Carvalho)	
17.00		City Tour		
18.00		School Dinner		

Lectures



Extreme Events in the Climate System

Gabriele Messori, Uppsala University

This lecture will provide a broad overview of extreme events in the climate system, including definitions of extreme events and historical observations and trends. We will also touch upon so-called compound extremes, whereby different extreme events are interlinked, and the emerging field of extreme event attribution.



Large Language Models and Climate Impacts

Murathan Kurfali, Research Institutes of Sweden AB

This lecture will introduce large language models and their relevance for studying the impacts of climate extremes. We will discuss how models such as ChatGPT work and where they come from, including the recent advances in deep learning that have shaped their development. The lecture will also present our recent work, Wikimpacts, as a case study in using LLMs to extract and structure information on the impacts of climate extremes from unstructured textual sources.



Challenges and Opportunities for Studying Impacts of Climate Extremes

Gabriele Messori, Uppsala University

This lecture will highlight the importance of studying the impacts of climate extremes, the practical hindrances to doing this, and promising new approaches that may help advance this field of research.





How do we bridge the gap between research and implementation? Tools for demand-driven and impactful research.

Angelica Rask, STUNS - The foundation for collaboration between the universities in Uppsala, business and society

How can academia, industry and the public sector truly collaborate to create research that makes a real-world difference? This workshop explores how to bridge gaps in language, expectations and needs across sectors to enable demand-driven, impactful research. Starting from a real, ongoing case where Prof. Jacinto Sà (Uppsala University) and municipal real estate company Skolfastigheter co-develop a climate adaptation solution, we will unpack both challenges and success factors in cross-sector collaboration. Participants will engage in interactive exercises to practice translating needs, aligning perspectives and formulating collaborative research questions. By the end of the session, participants will have practical tools and strategies for communicating across sectors, identifying shared goals and designing research that is grounded in real societal needs and creates impact.



Extreme Weather Events: Advances in Warnings And Hazard And Impact Forecasting

Ramón Fuentes Franco, Swedish Meteorological and Hydrological Institute

This lecture will explore how we forecast both the climate hazards associated with the extreme events and their impacts, and how such forecasts help to minimise societal impacts through early warnings. We will show concrete examples from the operational early warnings issued by the Swedish Meteorological and Hydrological Institute. We will also highlight the latest research in enhancing these systems. In particular, we will present recent developments in AI-based algorithms aimed at improving the detection and forecasting of extreme events, offering new possibilities for more timely and accurate early warnings.



Disproportionate Impacts of Climate Extremes

Emily Boyd, Lund University

This lecture covers both theory and methods of studying the disproportionate impacts of climate extremes, highlighting how many climate extremes have unequally distributed impacts across different parts of society. We will also present examples of loss and damage in a range of empirical contexts.





Exploring Climate Impacts in The Field

Charlotte Maybom, Lund University

The lecture introduces how social scientists study climate change and extreme events through qualitative fieldwork. We'll explore vulnerability in context by asking: who is affected, in what ways, what has happened before, and how people cope and adapt. Working with a concrete case, we'll work through what field research looks like in practice - shaping research questions, approaching and engaging communities ethically and practically, and learning from lived experience. The session blends brief conceptual overviews with hands-on exercises connected to the summer school themes.



Impacts of Climate Extremes on Population Health: Methods and Insights

Elena Raffetti, Karolinska Institutet

This lecture will explore the methods used to assess the impacts of climate extremes on population health, and provide insights from recent research on the topic.



Activities

Investigating the impacts of climate extremes using text as data



Taís N. Carvalho, Helmholtz Centre for Environmental Research



Murathan Kurfalı, Research Institutes of Sweden AB

The practical exercise combines the topics covered in the different lectures. You will work in small groups and have the occasion to test tools for the automated extraction of information on impacts of climate extremes from textual data. You will next work on validating and interpreting the data, with a focus on understanding the potentialities and limitations of the tools you have been using. A detailed set of instructions for the exercise is provided at the end of this document.

