

Workshop on:
"Large-scale atmospheric controls of extreme weather events and novel predictability pathways"

5th-6th October 2017, Stockholm, Sweden

*Convenors: Gabriele Messori and Rodrigo Caballero,
Department of Meteorology, Stockholm University*

With the support of the International Meteorological Institute and the Bolin Centre for Climate Research.



Extreme, high-impact weather events have serious social and economic consequences, and have garnered widespread scientific and media attention. Understanding their drivers and improving their prediction is therefore a topic of crucial societal and economic value, where the interests of academia, policy makers and private stakeholders converge.

The workshop will focus on large-scale atmospheric controls of extreme weather, and will address key questions related to the predictability of extremes and responses to climate change. Emerging mathematical and statistical techniques which may advance the field will also be discussed. The main objectives are to review recent research ideas on the topic, explore links with end-users of research on weather extremes and develop strategies to grow activity in this important area.

The workshop will feature an international panel of invited speakers and will emphasises open discussions. Attendance is open to all, but due to space limitations please register beforehand by sending an email to Gabriele Messori (gabriele.messori@misu.su.se)

1. Venue:

Thursday 5th October: Room Y22, Geovetenskapenshus.

Directions: Coming from the tunnelbana or bus stop *Universitetet*, walk straight ahead of you towards the university buildings. You will see a circular square with a small statue in the middle and several walkways branching out. Take the one to the left of the information panel. The first building on your left is Geovetenskapenshus. Go through the main doors, up a flight of stairs and you will see indications for *Hus Y*. Follow them; room Y22 will be on your left.

Friday 6th October: Room C609, Arrheniuslaboratorierna.

Directions: Coming from the tunnelbana or bus stop *Universitetet*, walk straight ahead of you towards the university buildings. You will see a circular square with a small statue in the middle and several walkways branching out. Take the one to the left of the information panel. The third building on your left, just after a green wooden villa, is Arrheniuslaboratorierna. Go through the first set of main doors, turn right once inside and go up three flights of stairs (or take the lift!) to the top floor. The Department of Meteorology will be to your right. Ring the bell for access. Room C609 is the first room on your left once you are inside the department.

2. Workshop Programme:

Thursday 5th October, Room Y22

08:30-08:45 Welcome

08:45-09:15 Presentation: Tim Woollings,
“Daily to decadal modulation of jet variability.”

09:15-09:45 Presentation: Gwendal Rivière,
“Link between intense extratropical cyclones and large-scale modes of climate variability in the Northern Hemisphere during the 20th Century as inferred from ERA-20C Reanalysis.”

09:45-10:15 Presentation: Joaquim Pinto,
“The dynamics of cyclone clustering in re-analysis and a high-resolution climate model.”

10:15-10:45 Discussion

10:45-11:10 Coffee break

11:10-11:40 Presentation: Steve Jewson,
“Catastrophe modelling for extratropical cyclones.”

11:40-12:10 Presentation: Lynn McMurdie,
“Observations of extreme precipitation events documented by the Olympic Mountains Experiment (OLYMPEX) and their implications for regional and climate forecast models.”

12:10-12:30 Discussion

12:30-14:00 Lunch

14:00-14:30 Presentation: Richard Grotjahn,
“Do extreme cold air outbreaks on the US west coast have a tropical connection?”

14:30-15:00 Presentation: Nili Harnik,
“The circumglobal teleconnection pattern under a changing climate - model evaluation and future projection.”

15:00-15:30 Presentation: Rodrigo Caballero,
“Dynamics of wet-bulb temperature extremes and heat stress events in South Asia.”

15:30-16:00 Discussion

16:00-16:25 Coffee break

16:25-16:55 Presentation: David Battisti,
“Summertime temperature extremes and climate change.”

16:55-17:25 Presentation: Gabriele Messori,
“Wintertime temperature extremes in the Arctic.”

17:25-17:45 Discussion

19:30 Workshop Dinner

Friday 6th October, Room C609

08:45-09:15 Presentation: Davide Faranda,
"Dynamical proxies of North Atlantic predictability and extremes."

09:15-09:45 Presentation: Pascal Yiou,
"Trends in the recurrence of North-Atlantic atmospheric circulation patterns."

09:45-10:15 Presentation: Freddy Bouchet,
"Extreme heat waves sampled through large deviation algorithms."

10:15-10:45 Discussion

10:45-11:10 Coffee Break

11:10-12:30 Discussion and workshop closing
