

7th European Windstorm Workshop

Karlsruhe Institute of Technology, 10-12 October 2018



Wednesday 10 October

12:00 LUNCH

13:30 Introduction and welcome

Joaquim Pinto, Madeleine-Sophie Deroche, Patrick Ludwig, Florian Pantillon

Session 1: Dynamics of European windstorms

Chair: Patrick Ludwig

14:10 KEYNOTE Linking extreme precipitation, atmospheric rivers and extratropical cyclone airflows

Helen Dacre, Oscar Alvarado-Martinez, Cheikh Mbengue

14:40 The role of latent heating for extratropical cyclone dynamics in a warmer climate

Dominik Büeler, Stephan Pfahl

15:00 Dynamic of a Sting Jet case study over continental Europe

Lea Eisenstein, Florian Pantillon, Peter Knippertz, Joaquim Pinto

15:20 COFFEE BREAK

16:00 The Impact of Stratospheric Waves on the Deepening of North Atlantic Winter Cyclones

Gregor Pante, Seraphine Hauser, Peter Knippertz

16:20 The intensity and motion of hybrid cyclones in the Australian region in a composite potential vorticity framework

Julian Quinting, Jennifer Catto, Michael Reeder

16:40 Consistent catalogues of extreme and high-impact winter storms in Portugal

Margarida L. R. Liberato

17:00 ICEBREAKER

Thursday 11 October

Session 2: Predictability and variability from weather to climate timescales

Chair: Joaquim Pinto

09:00 KEYNOTE Clouds, radiation, weather and climate

Aiko Voigt

09:30 Forecasting wind gusts in winter storms using a calibrated convection-permitting ensemble

Florian Pantillon, Sebastian Lerch, Peter Knippertz, Ulrich Corsmeier

09:50 Observed cloud anomalies associated with the North Atlantic Oscillation and their radiative feedback

Georgios Papavasileiou, Aiko Voigt, Peter Knippertz

10:10 Large scale drivers and seasonal predictability of extreme wind speeds over the North Atlantic and Europe

Michael A. Walz, Markus G. Donat, Gregor C. Leckebusch

10:30 COFFEE BREAK

11:10 A critical assessment of the long term changes in the wintertime surface Arctic Oscillation and Northern Hemisphere storminess in the ERA20C reanalysis

Len Shaffrey, Hannah Bloomfield, Kevin Hodges, Pier Luigi Vidale

11:30 Variability of intensification mechanisms of extra-tropical cyclones analysing ERA20C reanalysis

Jens Grieger, Joaquim G. Pinto, Andreas H. Fink, Uwe Ulbrich

11:50 Long-term variability regional changes in precipitation since 850 and the role of the water vapor transport

Alexandre M. Ramos, Pedro M. Sousa, Ricardo M. Trigo, Christoph C. Raible, Martina Messmer, Joaquim G. Pinto

12:10 LUNCH

13:30 Poster session

Chair: Florian Pantillon

- 1.1 Anatomy of a windstorm in the light of a Doppler lidar
- 1.2 A global climatology of explosive cyclones using a multi tracking approach
- 2.1 Radiative impact of clouds on the global warming responses of the northern hemisphere mid-latitude storm tracks and eddy-driven jet streams
- 2.2 Seven decades of North Atlantic storm climate statistics based on a spectrally nudged ECHAM6 simulation
- 2.3 North Atlantic winter storm changes under global warming of 1.5°C and 2°C
- 2.4 Variability of compound extreme events in the Euro-Atlantic region and its association to extratropical storms
- 2.5 Northeast Atlantic Storminess and its Uncertainty in the late 19th and 20th Century
- 2.6 Extremes in the Lorenz energy cycle
- 3.1 Operational Wind Storm Service for the Insurance Sector
- 3.2 SWiFT: an operational prediction tool of the potential losses associated to European winter windstorms
- 3.3 Learnings from our European windstorm catastrophe model

Session 3: Windstorm risk and insurance collaborations

Chair: Madeleine-Sophie Deroche

15:00 KEYNOTE Operational Wind Storm Service for the Insurance Sector

Alan Whitelaw

15:30 Inter-comparison of Arctic storms in Reanalysis Datasets

Alexander Vessey, Kevin Hodges, Len Shaffrey, Jonathan Day, Tom Philp

15:50 How important is serial clustering in seasonal losses from severe windstorms in Europe?

Matthew Priestley, Helen Dacre, Len Shaffrey, Kevin Hodges, Joaquim Pinto

16:10 COFFEE BREAK

16:50 Spatial independence of wind storm gust extremes

David Stephenson

17:10 Windstorm Losses in a Changing Climate

Bernhard Reinhardt, Eric Robinson, Shane Latchmann

17:30 Metaxa: Met Office and AXA collaborate on estimations of loss based on high resolution storm footprints

Robin Locatelli, Paul Maisey, Bernd Dieter Becker, Christelle Castet

19:00 WORKSHOP DINNER AT BADISCH BRAUHAUS

Friday 12 October

09:30 Breakout discussions

Relative importance of the different jets associated with windstorms for total property damage

Introduction: Daniel Ward

What advances can we expect to make in the next 5-10 years in terms of understanding the impact of climate change on European Windstorms?

Introduction: Len Shaffrey

Validation and calibration methods of extreme storms given the limited sample size of the historic record

Introduction: Niklaus Merz

10:30 COFFEE BREAK

11:00 Breakout reports

11:30 Open discussion and closing

12:00 LUNCH