



5th Workshop on European Storms

Impacts and Predictability

31 August – 2 September 2015, University of Bern, Switzerland

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Program 4th European Windstorm Workshop StormEx

MONDAY, 31 August 2015

12:00	Registration and Lunch	
13:15	Welcome	C. Raible

Session 1 – Climate Variability and Change of Storms (convener: J. Pinto)

13:20	Serial clustering of extratropical cyclones in a multi-model ensemble of historical and future simulations	D. Stephenson
13:50	An example of extra-tropically transitioning storms – Hurricane Gonzalo	F. Feser
14:05	Future projections of North Atlantic explosive cyclones simulated by the EC-Earth model	M. Liberato
14:20	10 min short break	
14:30	Understanding the climate change response of the Northern Hemisphere wintertime storm tracks	L. Shaffrey
14:45	A Probabilistic View on Winter Storm Damages	U. Ulbrich
15:00	Was the extreme storm season 2013-14 over the North Atlantic and the UK triggered by changes in the West-Pacific Warm Pool?	S. Wild
15:15	On separating the forced response from variability in circulation changes over Europe	T. Shepherd
15:30	30 min Coffee break and Poster	

Session 2 – Synoptic- and Meso-scale Dynamics (convener: S. Gray)

16:00	Climatology of dry air intrusions and their relation to strong surface winds in extratropical cyclones	S. Raveh-Rubin
16:30	Joint occurrence of precipitation and wind extremes	O. Martius
16:45	The downstream impact of extratropical transition from an eddy kinetic energy perspective	J. Keller
17:00	The pivotal nature of merger and splitting in the cyclone life cycle	S. Kew
17:15	10 min short break	
17:25	The importance of Atmospheric Rivers in the development of explosive cyclogenesis in the North Atlantic basin	A. Ramos
17:40	What factors govern the magnitude and variability of moisture transport to Antarctica?	H. Dacre
17:55	Frontal-wave cyclogenesis in the North Atlantic - A climatological characterization	S. Schemm
18:10	Discussion of the first day	
19:15	Conference Dinner at the Tramdepot (10 min by bus)	

TUESDAY, 1 September 2015

Session 3 – Insurance applications: risk assessment and quantification (convener: D. Stephenson)

08:45	A simple benchmark model for European Windstorm Losses	G. Leoncini
09:15	Representation of storm clustering in the Impact Forecasting European windstorm model	A. Georgiadis
09:30	Met Office European Windstorm Event Response Services	B. Becker
09:45	10 min short break	
09:55	Developing a winter storm model for Europe: Challenges, potential solutions, and open issues	D. Renggli
10:10	A millennium simulation based NAO+ loss scenario incorporated in an insurance loss model	I. Kuehnel
10:25	How extreme can storms get in space and time?	T. Economou
10:40	20th Century extratropical cyclone climatology and risk assessment	F. Varino
10:55	30 min Coffee break and Poster	
11:25	Breakout groups	
	1. Enhancements in understanding the dynamics of storm development	H. Wernli
	2. Climate Variability and Change of storms?	D. Stephenson
	3. Potential of predicting extreme events?	C. Raible
	4. From storms to impacts – what is missing?	S. Dierer
	5. Bridging the gap between cutting edge research and (re)insurance applications: Wish list for a better EU windstorm model?	G. Leoncini
13:00	Lunch	

Session 4 – Impacts of mid-latitude storms (convener: C. Raible)

14:00	High resolution weather models for storm simulations: uncertainty of results and impact on loss simulations	S. Dierer
14:30	Return periods of losses associated with European windstorm series in a changing climate	J. Pinto
14:45	Poster session and Coffee break	
16:30	Past, present and future impact of Vb-cyclones on extreme precipitation over Central Europe	M. Messmer
16:45	To Warn or not to Warn: That is the risky question! Perspectives on uncertainty in weather warnings.	M. Goeber
17:00	Exploring nearly one millennium scenarios of extreme rainfall through dynamically downscaling paleo-climatic simulations	J. Gomez-Navarro
17:15	Analysis of synoptic conditions leading to positive and negative sea level extremes along the coast of the Mediterranean Sea	P. Lionello
17:30	Modelling dependency in extremal windstorm footprints	L. Dawkins
17:45	Discussion of the second day	
19:00	Dinner (partly on own expense, 10 min by foot)	

WEDNESDAY, 2 September 2015

Session 5 – Predictability of extreme events (convener: O. Martius)

08:45	Return times, Dispersion and Memory in Extremes of Mid-latitude Vorticity	R. Blender
09:15	Vortex-vortex interaction between Hurricane Nadine (2012) and an Atlantic cutoff dropping the predictability over the Mediterranean	F. Pantillon
09:30	Predictability of Extratropical Cyclones and Windstorms on Seasonal Timescales	G. Leckebusch
09:45	10 min short break	
09:55	Cyclonic Windstorms – Morphology, Model Representation and Predictability	T. Hewson
10:10	Statistical simulation of extreme European windstorms and other natural hazard events	B. Youngman
10:25	A novel metric to assess the “extremeness” of cyclones	C. Grams
10:40	Predictability and variability of sting jets in extreme windstorms	S. Gray
10:55	30 min Coffee break	
11:25	Reports from Breakout Groups and Concluding Discussion	
13:00	Lunch	

Poster session

S. Mueller	Maps of windstorm risk in Switzerland
N. Tilinina	Association of cyclone characteristics in the North Atlantic with synoptic
P. Stucki	Evaluation of dynamical downscaling and wind gust parameterizations for recent and historical windstorms in Switzerland
S. Blumer	The downstream impact of extratropical transition of Hurricane Katia (2011)
S. Blumer	Extreme Winter Cyclones in the North Atlantic in a CESM1 Last Millennium Climate Simulation
C. Kuszli	Spatial improvement of a wind gust scheme for extreme winter storms
H. Wernli	Diabatic Rossby waves: from “Lothar” to a global climatology
P. Maisey	The use of hindcasts to assess European windstorm risk
A. Volonté	Analysis of a Sting Jet in Simulations of Windstorm Tini
O. Martinez-Alvarado	Sensitivity of high-impact weather events associated with jet streaks to changes in latent heat and longwave radiation
B. Schaaf	Added value of very high resolution model simulations for the coasts of Northern Germany using the example of two case studies of extra-tropical cyclones
C. Grams	The impact of tropical cyclones undergoing extratropical transition on the midlatitude flow: a refined view unifying the composite and case study approach
J. Pinto	Robustness of serial clustering of extra-tropical cyclones to the choice of tracking method
P. Lionello	Probabilistic prediction of extreme storm surges in Venice
P. Lionello	Storminess trends in the Northern Mediterranean Sea from the analysis of one among the longest wave gauge time series in the world
N. Kirchner-Bossi	Sensitivity analysis of Serial Clustering of Extra-tropical Cyclones and Wind Storms in Europe
B. Crasemann	Impact of Arctic Sea Ice on Circulation Patterns, Planetary and Baroclinic Waves
S. Gray	Clustering and stalling of extratropical cyclones: their influence on extreme precipitation in the UK.
J. Grieger	Winter windstorms during the last millennium and their relationship to NAO and AMV
D. Handorf	Recent changes in Northern Hemisphere cyclone activity in ERA-Interim data and ECHAM6 simulations and their associations with Arctic sea-ice changes