

Sunday, September 22, 2013

Dinner (6:00 – 8:00 PM)

Monday, September 23, 2013

Breakfast (7:00 – 8:00 AM)

Session 1: Midlatitude Cyclone Structure, Evolution and Processes (8:00 – 10:00 AM)

Chair: Andrea Lang

Time	Presenter	Title
8:00 – 8:20	Gyakum	A Reanalysis of Extreme Cyclone Processes: Tropical, Extratropical, and Otherwise
8:20 – 8:40	Plante	Storm Tracks across Eastern Canada
8:40 – 9:00	Mitchell	Characteristics of Northeast Winter Cyclones Associated With Significant Upper Level Easterly Wind Anomalies
9:00 – 9:20	Ferreira	Structure and Propagation of Midlatitude Cyclones in the Southeastern United States
9:20 – 9:40	Cohen	The Evolution of Fronts and Cyclones over the U.S. 2012-2013
9:40 – 10:00	Hewson	Why Rainfall May Reduce When the Ocean Warms

Coffee Break (10:00 – 10:20 AM)

Session 2: Jets, Fronts and Airstreams (10:20 AM – 12:20 PM)

Chair: Steven Cavallo

Time	Presenter	Title
10:20 – 10:40	Martius	A Lagrangian Climatology of Tropical and Extratropical Forcing of the Northern Hemisphere Subtropical Jet
10:40 – 11:00	Griffin	Examining Preferred Modes of Intraseasonal Variability of the North Pacific Jet
11:00 – 11:20	Rivière	A Potential Vorticity Perspective on the Motion of Midlatitude Surface Cyclones: Theory and Real Case Studies
11:20 – 11:40	Attard	A Climatology of Lower Stratospheric Fronts in North America
11:40 – 12:00	Christenson	A Synoptic-Climatology of Northern Hemisphere Jet Superposition Events
12:00 – 12:20	Winters	Investigation of the Dynamical Mechanisms Facilitating Jet Superpositions over North America

Lunch (12:20 – 1:20 PM)

Session 3: Hurricane Sandy: Research Opportunities (1:20 – 3:00 PM)

Chair: Ben Schenkel

Time	Presenter	Title
1:20 – 1:40	Zhang	Dynamics and Predictability of Heavy Precipitation Induced by Landfalling Hurricanes: Ike (2008), Irene (2011) and Sandy (2012)
1:40 – 2:00	Vigh	Evaluation of the Simulated Structure of Hurricane Sandy Using Synthetic Flight Paths
2:00 – 2:20	Colucci	An Investigation of the Interaction Between Hurricane Sandy and its Large-Scale Environment
2:20 – 2:40	Gloeckler	The Evolution of the Large-scale Extratropical Flow Pattern Associated with West Pacific Tropical Convection Prior to the Genesis of Superstorm Sandy
2:40 – 3:00	Bosart	Hurricane Sandy (2012): A Multiscale Analysis and Perspective

Recreation (3:00 – 6:00 PM)

Dinner (6:00 – 8:00 PM)

Evening Session: Hurricane Sandy Retrospective (8:00 – 10:00 PM)

Moderator: Lance Bosart

Time	Presenter	Title
8:00 – 8:20	Shapiro	The Life Cycle of Hurricane Sandy
8:20 – 8:40	Torn	Diagnosis of the Extreme Track Forecast Differences of Hurricane Sandy (2012)

8:40 – 9:00	Grams	Quantification of Hurricane Sandy's Impact on the Midlatitude Flow
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Tuesday, September 24, 2013

Breakfast (7:00 – 8:00 AM)

Session 4: Snowstorms, Rossby Waves and Global Energetics (8:00 – 10:00 AM)

Chair: Heather Archambault

Time	Presenter	Title
8:00 – 8:20	Schultz	Thermal and Microphysical Structure of the 8–9 February 2013 Northeast U.S. Blizzard
8:20 – 8:40	Kenyon	The Motion of Mesoscale Snowbands in Northeast U.S. Winter Storms
8:40 – 9:00	Bowley	A 1979-2012 Climatology of Northern Hemisphere Available Potential Energy: Source/sink regions and Short-term Increase Events
9:00 – 9:20	Lupo	Using Enstrophy Transport as a Diagnostic to Identify Flow Regime Transformation
9:20 – 9:40	Wirth	Rossby Wave Trains as Precursors to Strong Cyclones
9:40 – 10:00	Colle	Rossby Wave Packet Climatology: The Impact of Hemispheric Flow Patterns and ENSO

Coffee Break (10:00 – 10:20 AM)

Session 5: Tropical Cyclone Structure and Evolution (10:20 AM – 12:00 PM)

Chair: Brian Tang

Time	Presenter	Title
10:20 – 10:40	Nguyen	Intensification of an Asymmetric, Sheared Tropical Cyclone in a WRF Simulation
10:40 – 11:00	Riemer	Lagrangian Analysis of the Thermodynamic Cycle of Tropical Cyclones in Vertical Shear
11:00 – 11:20	Scheck	The Impact of Vertical Shear on Hurricane-like Vortices with Moist Neutral Cores
11:20 – 11:40	Corbosiero	Investigating the Factors Responsible for Secondary Eyewall Formation in an Ensemble of High-resolution Hurricane Simulations
11:40 – 12:00	Abarca	Balanced and Unbalanced Aspects of Secondary Eyewall Formation

Lunch (12:00 – 1:00 PM)

Session 6: Extreme Wind and Precipitation in Midlatitude Cyclones (1:00 – 3:20 PM)

Chair: Russ Schumacher

Time	Presenter	Title
1:00 – 1:20	Moore	Planetary- and Synoptic-scale Processes Contributing to Extreme Rainfall and Flooding in Nashville, Tennessee and Vicinity During 1–2 May 2010
1:20 – 1:40	Milrad	The Role of Anticyclones in Extreme Precipitation Events: An Examination of the Record-setting Alberta Flood of June 2013
1:40 – 2:00	Hardy	Cyclone Structure and Evolution in the 23–26 September 2012 UK Floods
2:00 – 2:20	Čampa	Moisture Transport in Mediterranean Cyclones Leading to Extreme Precipitation and Flooding Events
2:20 – 2:40	Slater	Acceleration of High Winds in Idealised Simulations of Extratropical Cyclones
2:40 – 3:00	Raveh-Rubin	The Role of Mediterranean Cyclones in Producing Wind and Precipitation Extremes
3:00 – 3:20	Froidevaux and Giannakaki	Atmospheric Precursors to Floods in Switzerland and Heavy Precipitation Events in Northern Switzerland

Recreation (3:20 – 6:00 PM)

Dinner (6:00 – 8:00 PM)

Evening Session: Upper Tropospheric – Lower Stratospheric Interactions (8:00 – 10:00 PM)

Time	Presenter	Title
8:00 – 8:30	Lang	Autumnal Season Extratropical Transition Events and Their Impact on the Early Wintertime Stratospheric Circulation
8:30 – 8:50	McTaggart-Cowan	Representing the Stratosphere in Low-topped NWP Models
8:50 – 9:10	Tripoli	Upper level energy interactions between tropical cyclones and the environment

Wednesday, September 25, 2013

Breakfast (7:00 – 8:00 AM)

Session 7: Midlatitude Convection and Severe Weather (8:00 – 10:00 AM)

Chair: Nick Metz

Time	Presenter	Title
8:00 – 8:20	Nisi	Hailstorms Analysis over the Swiss Alpine Region
8:20 – 8:40	Guastini	Progressive Derechos: Their Initiation, Maintenance, and Predictability
8:40 – 9:00	Bluestein	A Butterfly Flaps its Wings in Texas and Tornadoes Are <i>Not</i> Produced in Oklahoma
9:00 – 9:20	Markowski	Why Do Low LCLs and Strong Low-level Environmental Vertical Wind Shear Favor Tornadoes?
9:20 – 9:40	Richardson	Tornado Maintenance and Demise in the Goshen County, Wyoming Supercell of 5 June 2009 Intercepted by VORTEX2
9:40 – 10:00	Schumacher	A Very Early Look at the Historic September 2013 Rainfall and Flooding in Colorado

Coffee Break (10:00 – 10:20 AM)

Session 8: Numerical Weather Prediction: Forecast Assessment (10:20 AM – 12:20 PM)

Chair: Ryan Torn

Time	Presenter	Title
10:20 – 10:40	Grams	Feature-based Forecast Assessment of (Extra-)tropical Cyclones during the YOTC (2008-2010) Period
10:40 – 11:00	Lillo	Investigating the Dynamics of Error Growth in ECMWF Forecast Busts
11:00 – 11:20	Ancell	The Role of Nonlinear Perturbation Evolution in Best-guess Forecasts of Land-falling Midlatitude Cyclones
11:20 – 11:40	Lamberson	The Impact of Forecast Error Growth on the Medium-Range Predictability of a European Cyclone
11:40 – 12:00	Chang	Impacts of Rossby Wave Packets on Forecast Uncertainties and Errors
12:00 – 12:20	Arbogast	A Ten-year Experiment of Real-time Potential Vorticity Modifications and Inversions at Météo-France

Lunch (12:20 – 1:20 PM)

Session 9: Midlatitude – Tropical Interactions (1:20 – 3:40 PM)

Chair: Christian Grams

Time	Presenter	Title
1:20 – 1:40	Schiraldi	Understanding North American Blocking Events Associated with “Slow” and “Fast” Madden-Julian Oscillation Convection
1:40 – 2:00	MacRitchie	Anticyclonic Wavebreaking Modulated by the MJO
2:00 – 2:20	Small	A Study of Warm Season Blocking over the Pacific
2:20 – 2:40	Quinting	The Impact of North-Western Pacific Tropical Cyclones on the Excitation of Rossby Wave Trains: A Climatological Perspective
2:40 – 3:00	Archambault	Using Ensembles to Diagnose the Tropical Cyclone–Extratropical Flow Interaction Associated with Recurring Typhoon Malakas (2010)
3:00 – 3:20	Metz	North Pacific Precursors to a Multi-day Severe Weather Outbreak over the United States
3:20 – 3:40	Moore	A Climatological Comparison of Predecessor Rain Events and Diabatic Rossby Vortices Associated with Recurring Tropical Cyclones

Recreation (3:40 – 6:00 PM)

Dinner (6:00 – 8:00 PM)

Evening Session: The Current and Future State of Synoptic Analysis and Forecasting (8:00 – 10:00 PM)

Moderator: Ron McTaggart-Cowan

Time	Presenter	Title
8:00 – 8:20	Carr	Thoughts on Improving the U.S. Weather Prediction Enterprise

8:20 – 8:40	Davies	Formulations, Fallacies and the Future of the Quasi-Geostrophic ω -Equation
8:40 – 8:45	McTaggart-Cowan	Discussion Introduction & Motivation
8:45 – 9:10	Panelists	Introductory Statements
9:10 – 10:00		Discussion

Thursday, September 26, 2013

Breakfast (7:00 – 8:00 AM)

Session 10: Polar Climate and Sea Ice (8:00 – 10:00 AM)

Chair: Melissa Gervais

Time	Presenter	Title
8:00 – 8:20	Martin	Trends in the Lower Tropospheric Wintertime Cold Pool over the Past 65 Years
8:20 – 8:40	Terpstra	Moist Baroclinicity: A Unifying Perspective on Polar Low Development
8:40 – 9:00	Cavallo	Changes in the Lifecycles of Tropopause Polar Vortices from Arctic Sea Ice Loss
9:00 – 9:20	Lusk	A WRF Model Simulation of Changes in the Characteristics of Tropopause Polar Vortices Due to Sea Ice Loss
9:20 – 9:40	Turchioe	An Analysis of the Intense Arctic Cyclone of August 2012
9:40 – 10:00	Szapiro	Simulation of an Arctic Summer Cyclone Using MPAS

Coffee Break (10:00 – 10:20 AM)

Session 11: Tropical Cyclone Prediction, Size and Intensity Change (10:20 AM – 12:20 PM)

Chair: Sergio Abarca

Time	Presenter	Title
10:20 – 10:40	Harr	Air-Ocean Factors throughout the Formation and Intensification of Typhoon Malakas during the Impact of Typhoons on the Pacific (ITOP) Field Program
10:40 – 11:00	Stevenson	Linking Lightning Activity to Intensity Changes in Tropical Cyclones: A Case Study of Hurricane Earl (2010)
11:00 – 11:20	Rios-Berrios	Assessing the Impact of Initial Condition Errors on Forecasts of Hurricane Katia (2011)
11:20 – 11:40	Elless	A Climatology of ECMWF Ensemble Hurricane Track Forecast Variability
11:40 – 12:00	Schenkel	The Role of Large-scale Environmental Factors in Increasing Tropical Cyclone Size
12:00 – 12:20	Papin	A Climatology of Central American Gyres

Lunch (12:20 – 1:20 PM)

Session 12: Climate Change: Diagnosis and Prediction (1:20 – 3:40 PM)

Chair: Olivia Martius

Time	Presenter	Title
1:20 – 1:40	Gervais	Representing Extremes in Gridded Precipitation analyses: Impacts of Station Density, Resolution, and Gridding Methods
1:40 – 2:00	Lombardo	Future Variations in Cool Season Precipitation along the US East Coast
2:00 – 2:20	Marciano	Climate Change and US East Coast Cyclones
2:20 – 2:40	Lackmann	Hurricane Sandy and Anthropogenic Climate Change
2:40 – 3:00	Willison	The Future of Latent Heat Release in Extratropical Cyclones
3:00 – 3:20	Michaelis	Numerical Simulations and Climate Change of Northeast Snowstorms
3:20 – 3:40	Deroche	Detection of Events Impacting the Insurance Industry in Historical and Control Experiments from the CMIP5 Project

Poster Pitches (3:40 – 3:58 PM)

Time	Presenter	Title
3:40 – 3:42	Spenglar	Synoptic Evolution and Dynamic Characteristics of the Extreme Norwegian Winter Storm Dagmar
3:42 – 3:44	Keller	Investigating the Impact of Typhoon Choi-Wan on the Midlatitude Flow Using Eddy Kinetic Energy Analysis

3:44 – 3:46	Archambault	Quantification of the Impact of Extratropical Transition on the Midlatitude Flow: From Case Studies to a Composite View
3:46 – 3:48	Fierro	Explicit Electrification and Lightning Forecasts and Cloud Scale Lightning Data Assimilation in the WRF-ARW Model
3:48 – 3:50	McTaggart-Cowan	A Most Excellent Global Climatology of Baroclinically Influenced Tropical Cyclogenesis
3:50 – 3:52	Froidevaux	Atmospheric Precursors to Floods in Switzerland
3:52 – 3:54	Giannakaki	Heavy Precipitation Events in Northern Switzerland
3:54 – 3:56	Booth	Midlatitude Storms in a Moist World: Lessons from Idealized Baroclinic Life Cycle Experiments
3:56 – 3:58	McMurdie	OLYMPEX: A Ground Validation Campaign on the Olympic Peninsula in the Pacific Northwest

Recreation (3:58 – 6:00 PM)

Dinner (6:00 – 8:00 PM)

Poster Session (8:00 – 10:00 PM)

Friday, September 27, 2013

Breakfast (7:00 – 8:20 AM)

Session 13: Warm Conveyor Belts (8:20 – 10:00 AM)

Chair: Rich Moore

Time	Presenter	Title
8:20 – 8:40	Pfahl	Quantifying the Relevance of Cyclones and Warm Conveyor Belts for Precipitation Extremes
8:40 – 9:00	Boettcher	Numerical Study on the Downstream Impact of Warm Conveyor Belts in Extratropical Cyclones
9:00 – 9:20	Madonna	Warm Conveyor Belts: Dynamical Significance and Forecast Verification
9:20 – 9:40	Schäfler	Aircraft Measurements within a Warm Conveyor Belt during the T-NAWDEX-FALCON Campaign
9:40 – 10:00	Witlox	Warm Conveyor Belts in a Global Climate Model with a Complex Representation of Aerosol-cloud Interactions

Coffee Break (10:00 – 10:20 AM)

Session 14: Tropical Cyclogenesis (10:20 AM – 12:20 PM)

Chair: Kristen Corbosiero

Time	Presenter	Title
10:20 – 10:40	Tang	The Evolution of Precipitation Efficiency and Gross Moist Stability in the Axisymmetric Spin-up of Tropical Cyclones
10:40 – 11:00	Hankes	Thermodynamic Aspects of Tropical Cyclone Formation
11:00 – 11:20	Helms	Composite Analyses of Tropical Convective Systems Prior to Tropical Cyclogenesis
11:20 – 11:40	Wang	Role of Cumulus Congestus and Shallow Convection in Tropical Cyclone Formation
11:40 – 12:00	Dunkerton	The role of Advective and Non-advective Fluxes of Isobaric Vorticity Substance in Tropical Cyclogenesis
12:00 – 12:20	Bentley	Upper-Level Precursors Associated with Subtropical Cyclone Formation in the North Atlantic Basin

Lunch (12:20 – 1:20 PM)

End of Workshop