

Gregory Herman

Phone: (425)-802-0440

E-mail: gberman@atmos.colostate.edu

(Last Updated: 13 November 2016)

Education

2015-Pres: Colorado State University

PhD Candidate, Atmospheric Science

Advisor: Russ Schumacher

2015: M.S. (Atmospheric Science), Colorado State University

Advisor: Russ Schumacher

2013: B.S. (Physics, Atmospheric Science, Computer Science), *magna cum laude*,
with honors in Physics

Halbert and Nancy Robinson Center's Academy for Young Scholars Program

Matriculated after completion of 10th Grade

Professional Positions

2013-Present: Graduate Research Assistant, Colorado State University

2012-2013: Software Development Intern, 3TIER

Developed analogue and ensemble forecasting capabilities for wind energy prediction

2011: Student Assistant, University of Washington

Programmed to create weather display capabilities for the Atmospheric Sciences department website

Peer-Reviewed Publications

2016: **Herman, G.R.** and R.S. Schumacher: Extreme Precipitation in Models: An Evaluation. *Weather and Forecasting*, in press.

2016: Nielsen, E.R., **G.R. Herman**, R.C. Tournay, J.M. Peters, and R.S. Schumacher: Reply to "Comments on 'Double Impact: When both tornadoes and flash floods threaten the same place at the same time.'" *Weather and Forecasting*, in press.

2016: **Herman, G.R.** and R.S. Schumacher: Using Reforecasts to Improve Forecasting of Fog and Visibility for Aviation. *Weather and Forecasting*, 31, 467-482.

2015: Nielsen, E.R., **G.R. Herman**, R.C. Tournay, J.M. Peters, and R.S. Schumacher: Double Impact: When both tornadoes and flash floods threaten the same place at the same time. *Weather and Forecasting*, 30, 1673-1693.

Presentations

2016: **Herman, G.R.**, E.R. Nielsen, J.M. Peters, and R.S. Schumacher: Predicting 'Double Impact' Concurrent and Collocated Tornadoes and Flash Floods. Format: Poster. 28th *Conference on Severe Local Storms*.

2016: **Herman, G.R.**, J.M. Peters, E.R. Nielsen, and R.S. Schumacher: Tornadoes and the Nocturnal Transition: Will they Persist? Format: Poster. 28th *Conference on Severe Local Storms*.

2016: (Invited Talk) Nielsen, E.R and **G.R. Herman**: Double Impact: When both tornadoes and flash floods threaten the same place at the same time. National Weather Service Weather Forecast Office (Severe Weather Seminar), Cheyenne, WY.

- 2016: (Invited Talk) **Herman, G.R.:** Extreme Value Theory: A Practical Introduction. Colorado State University (ATS 655: Objective Analysis), Fort Collins, CO.
- 2016: (Invited Talk) **Herman, G.R.:** Using Reforecasts to Improve Forecasting of Fog and Visibility for Aviation. Vaisala Inc., Louisville, CO.
- 2016: **Herman, G.R.** and R.S. Schumacher: Locally Extreme Precipitation in Models: Model Climatologies by Extreme Value Theory. Format: Oral. *96th Annual Meeting of the American Meteorological Society.*
- 2016: **Herman, G.R.** and R.S. Schumacher: Improving Forecasts for Locally Extreme Rainfall: A Probabilistic Approach. Format: Oral. *96th Annual Meeting of the American Meteorological Society.*
- 2016: **Herman, G.R.:** Using Reforecasts to Improve Forecasting of Fog and Visibility for Aviation. Format: Poster. *96th Annual Meeting of the American Meteorological Society.*
- 2016: **Herman, G.R.,** E.R. Nielsen, R.C. Tournay, J.M. Peters, and R.S. Schumacher: Diagnosing the Meteorology of ‘Double Impact’ Tornado/Flash Flood Events. Format: Poster. *96th Annual Meeting of the American Meteorological Society.*
- 2015: **Herman, G.R.** and R.S. Schumacher: Generating Skillful and Reliable Forecasts for Locally Extreme Rainfall. Format: Oral. *27th Conference on Weather Analysis and Forecasting/23rd Conference on Numerical Weather Prediction.*
- 2015: **Herman, G.R.** and R.S. Schumacher: Forecast Improvement of Locally Heavy Rainfall Events through Diagnosis and Examination of Model Precipitation Climatologies. Format: Poster. *95th Annual Meeting of the American Meteorological Society.*

Research-To-Operations Experience

- 2016-Present: Joint Technology Transfer Initiative (see below): Transfer of extreme precipitation forecasting algorithms to the Weather Prediction Center to assist operational forecasters with creating their excessive rainfall outlooks.
- 2016: At the request of NWS San Diego, trained and implemented models to generate real-time forecasts of cloud ceiling and visibility for KSAN and KSNA based on methods developed in Herman and Schumacher (2016).

Field Experience

- 2017: Verification of the Origins of Rotation in Tornadoes Experiment-Southeast (VORTEX-SE): Mar-Apr 2017
Rawinsonde launches, Southeast US
- 2016-2017: CSU Convective Cloud Outflows and Updrafts Experiment (C³LOUD-Ex): Field Operations Jul 2016, Apr-May 2017
Mobile rawinsonde launches, NE CO/SE WY/SW NE; Primary evening forecaster; development of forecast tools; operations planning
- 2015: Olympic Mountains Experiment (OLYMPEX): Dec 2015
Rawinsonde launches, Pacific coast of Washington
- 2015: Plains Elevated Convection at Night (PECAN): May-Jul 2015
Mobile nighttime rawinsonde launches over central US (KS, NE, OK, TX, IA, MN, WI, IL, IN, MO, SD)
- 2014: Front Range Air Quality and Photochemistry Experiment (FRAPPÉ): Jul-Aug 2014
Forecast assistance for aircraft missions over Colorado and vicinity

Funded Grants

2016-2018: National Oceanic and Atmospheric Administration, Joint Technology Transfer Initiative: “Improving Probabilistic Forecasts of Extreme Rainfall through Intelligent Processing of High-Resolution Ensemble Predictions.” Co-PI. Lead PI: R.S. Schumacher
2015-2016: National Oceanic and Atmospheric Administration, VORTEX-SE: “Multi-disciplinary investigation of concurrent tornadoes and flash floods in the Southeastern US.” Co-PI. Lead PI: R.S. Schumacher; other Co-PIs: J. Henderson, E.R. Nielsen, J.M. Peters, R.C. Tournay.

Teaching Experience

2016: Teaching Assistant, ATS 641 Mesoscale Meteorology. Instructor: Russ Schumacher
2010: Teaching Assistant, Summer Stretch Discrete Mathematics

Service

2015-Present: CSU Sounding Outreach Team
2014: Science Olympiad exam writer, Regional and State
2011: WeatherFest, booth volunteer. *91st Annual Meeting of the American Meteorological Society*
2010-2012: Webmaster, UW Student Chapter of American Meteorological Society

Reviewer

Weather and Forecasting

Academic Awards/Honors

- 2014, 2015, National Science Foundation Graduate Research Fellowship, Honorable Mention
- 2013-2014, CSU PRSE Fellowship
- 2013, Phil Church Award, UW Atmospheric Science
- Phi Beta Kappa
- Sigma Pi Sigma
- UW Quarterly Dean’s List every quarter (Autumn, Winter, Spring)
- 2011, UW Department of Atmospheric Sciences Bruce Caldwell Memorial Special Scholarship

Professional Affiliations

American Meteorological Society: 2009-Present
FORTCAST (local chapter, AMS): 2013-Present

Miscellaneous

WxChallenge Playoff Qualifier (Round of 32, 2014-15)
United States Bridge Junior Internationalist (2013, 2014, 2016)
National Collegiate Bridge Champion (2013)
Founded/President of University of Washington Bridge Club (2011-2013)