Neil Lareau

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Education

Ph.D. *(expected)* Atmospheric Science, University of Utah, Salt Lake City, UT **2010-(2013)**

Thesis Topics: Dynamic Mechanism of Cold-Air Pools Break-up
Awards: Best peer-reviewed publication (2012), Outstanding Service Leading Persistent Cold-Air Pool Study (2011)
Advisor: Dr. John D. Horel

M.S. Atmospheric Science, University of Utah, Salt Lake City, UT **2008-2010**

Thesis: Climatology of Synoptic Scale Ascent over Western North America: A Perspective on Storm Tracks
High-Pass Qualifying Exam: PhD Level
Advisor: Dr. John D. Horel

B.F.A. Carnegie Mellon University, Pittsburgh, PA **1998-2002**

Experience

Research Assistant, Department of Atmospheric Science, University of Utah, Salt Lake City, Utah **2007-(2013)**

Break-up of cold-air pools in mountain valleys, Northern Hemisphere storm tracks, and mountain meteorology. Work involves boundary layer meteorological observations, WRF LES and mesoscale model simulations, and large gridded data sets.

Weather Observer, Mount Washington Observatory, North Conway, New Hampshire **2005-2007**

Weather observations, forecasts, and instrumentation. Public outreach, radio broadcasts, facility tours, and educational presentations. Search and Rescue.

Hut Crew/Caretaker, Appalachian Mountain Club, North Conway, New Hampshire **2004**

Public outreach, facility management, supply packing, cooking.

Summit Intern, Mount Washington Observatory, North Conway, New Hampshire **2003-2004**

Weather observations, forecasts, and instrumentation. Public outreach, tours, and education.

Teaching Experience

Instructor, Synoptic Meteorology II, University of Utah **2012**

Prepared and presented lectures, homework, and exams on modern synoptic meteorology at the senior/ graduate level. Grading and office hours. Received exceptional course evaluations.

Teaching Assistant (informal), Meteorological Instrumentation, University of Utah **2011**

Prepared course material and laboratory experiments. Set up meteorological instrumentation.

Forecast Group Leader, University of Utah Chapter, American Meteorological Society **2009-2011**

Forecast tutoring and guidance for undergraduate meteorology students.

Research Projects and Professional Development

DOMEX: The **DOM**inica **EX**periment: Orographic Precipitation in the Tropics **2011**

Data-analysis, flight scientist, and operations support. Coauthor on AMS BAMS publication.

PCAPS: Persistent **C**old-**A**ir **P**ool **S**tudy**,** Salt Lake City, Utah **2010-2011**

Developed scientific goals and experiment design for NSF funded experiment. Directed daily operations, organized and deployed resources and personnel. Maintained a detailed web log of observations and insights during the project. Installed surface weather stations, deployed radiosondes, crafted forecasts, interacted with local media. Lead author on project summary for AMS BAMS publication.

SOLPEX: Sounding **O**bservations of **L**ake-Effect **P**recipitation **EX**periment **2011**

Lead radiosonde deployments during lake effect snowstorms.

Campbell Scientific CR1000 Data Logger Training Course **2010**

Completed a two-day course detailing the use of the CR1000 data logger for interfacing with meteorological instruments and coding data acquisition programs.

NCAR ASP: Observing the Atmosphere: Observational Instruments and Techniques **2009**

Completed an Advanced Study Program (ASP) Colloquium featuring 2-week intensive study of modern observational instruments and techniques including aircraft, remote sensors, and surface instrumentation. Course concluded with the design and implementation of a two-day field campaign and the presentation of initial research findings.

NCAR: WAS*IS: Weather and Society Integrate Studies **2006**

Participated in a weeklong workshop on communicating weather information and forecast uncertainty to the public and stakeholders. Presented on forecasting for the Mount Washington Observatory.

Publications

Lareau, N. P., E. Crosman, C. D, Whiteman, J. D. Horel, S. W. Hoch, W. O. J. Brown, T. W. Horst, 2013: The Persistent Cold Air Pool Study. *Bulletin of the American Meteorological Society (IN PRESS).*

Lareau, N. P., and J. D. Horel, 2012: The Climatology of Synoptic-Scale Ascent over Western North America: A Perspective on Storm Tracks. *Monthly Weather Review*, 140, 1761–1778.

Smith, R. B., J. Minder, A. Nugent, T. Storelvmo, D. J. Kirshbaum, Robert Warren, **N. Lareau**, P. Palany, A. James, and J. French, 2012: Orographic Precipitation in the Tropics: The Dominica Experiment, *Bulletin of the American Meteorological Society,. (*In Press).

Presentations

Partial Removal of Stable Boundary Layers in an Urbanized Mountain Basin (July 2012), *AMS 20th Symposium on Boundary Layers and Turbulence,* Boston, MA (*oral presentation)*

Northern Hemisphere Storm Tracks Diagnosed by Synoptic-Scale Ascent (August 2012), *AMS 15th conference on Mtn. Meteorology*, Steamboat Spring, CO. (*poster presentation)*

PCAPS: Observations and Analyses (2012), *Northern Utah Symposium,* Salt Lake City, UT (*oral presentation)*

Climatology of Synoptic-Scale Ascent for Western North America: A Perspective on Storm Tracks (2011), *15th Cyclone Workshop*, Pacific Grove, California. (*oral presentation)*

A Climatology of Synoptic Forcing for Vertical Motions over the Western United States (2010), *AMS 14th Conference on Mtn. Meteorology*, Squaw Valley, CA. (*oral presentation)*

Skills

MatLab: *Advanced scripting and analysis of large geophysical data sets.*

Statistical Analysis: *Standard climatological statistics, principal component analysis, harmonic analysis, and turbulence statistics.*

Weather Observation: *Formerly METAR certified and well versed in atmospheric phenomena and instrumentation.*

Forecasting: *Use of standard meteorological charts and data to construct detailed forecasts in mountainous regions. Forecaster for PCAPS (2010-2011), Forecaster for Utah Ski Weather (2008-2011), Forecaster for Mount Washington Observatory (2005-2007), including radio and television broadcasts.*

Additional computer programming: *WRF Modeling, Perl, C-Shell/Unix, FORTRAN and GRADS*