

Samuel Lillo

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EXPERIENCE

Graduate Research Assistant, School of Meteorology

Norman, OK — Fall 2012 - present

- Investigating the dynamics of error growth in ECMWF medium-range forecast busts.
- Focusing on the treatment of convection over the central US in the near term forecast, and how the related errors develop and propagate downstream into Europe.

Graduate Teaching Assistant, School of Meteorology

Norman, OK — Fall 2012

- Graded for Synoptic Lab.
- Arranged and gave lectures on winter storm forecasting, and wrote and collaborated on quiz material.

Hollings Scholar, National Weather Service

Anchorage, AK — Summer 2012

- Researched high wind events in Anchorage, AK.
- Using synoptic composites and a detailed sounding analysis, I developed an empirical formula based on several variables to forecast the magnitude of impending wind storms.
- Ran WRF simulations of selected cases to analyze the contribution from mountain wave activity.

Forecaster, New Hampshire Department of Transportation

Concord, NH — Fall 2010 – Spring 2012

- Produced winter weather forecasts for the Transportation Management Center staff
- Every 12 hours starting with a 3-day lead, forecasts detailed the expected evolution of the storm over New Hampshire: timeframe, precipitation type changes, period of heaviest precipitation, and total accumulations, by traffic district.
- During the storm, I sent nowcasts as warranted.

REU Student Researcher, National Severe Storms Laboratory

Norman, OK — Summer 2011

- Worked with Ted Mansell on investigating the sensitivity of microphysical parameters in a storm scale model on the motion, intensity, and severe characteristics of a supercell.
- Ran several perturbations of the COMMAS model.
- Results demonstrate the need for storm-scale ensemble physics diversity using multi-moment microphysics in future Warn-on-Forecast applications.

Engineering Aide, New Hampshire Department of Transportation

Concord, NH — Summer 2010

- Case study analysis of winter season observations and forecasts to establish trends and reliability stats.
- Developed a detailed forecasting process for use at the NH DOT. Gave lectures to NH DOT personnel.
- Helped in the enhancement of the Road Weather Information Systems website.

EDUCATION

University of Oklahoma

Norman, OK — 2012 - present

Pursuing Master of Science, Meteorology

Courses

- Advanced Atmospheric Dynamics I
- Convective Clouds and Storms
- Partial Differential Equations
- Advanced Synoptic Meteorology
- Atmospheric Radiation
- Advanced Topics in Data Assimilation: Ensemble Kalman Filter Techniques
- Cloud and Precipitation Physics

Plymouth State University

Plymouth, NH — 2009 - 2012

Bachelor of Science, Meteorology

Minor: Mathematics

CONFERENCE PRESENTATIONS

- **Defining a New Framework for Monitoring the QBO.**
3rd International Symposium on Earth-Science Challenges. 2013, Kyoto, Japan.
- **Investigating the Dynamics of Error Growth in ECMWF Forecast Busts.**
3rd International Symposium on Earth-Science Challenges. 2013, Kyoto, Japan.
- **Investigating the Dynamics of Error Growth in ECMWF Forecast Busts.**
16th Cyclone Workshop. 2013, Sainte Adele, Quebec.
- **Patterns Supporting High Wind Events in Anchorage, AK.**
12th AMS Student Conference, Amer. Met. Soc. 2013, Austin, TX.
- **Downstream Effects of West Pacific Bombs.**
37th Northeast Storm Conference. 2012, Rutland, VT.
- **Investigating the Synoptic Pattern leading to the Great Hurricane of 1938.**
37th Northeast Storm Conference. 2012, Rutland, VT.
- **Sensitivity of Microphysics on the Evolution of a Supercell.**
11th AMS Student Conference, Amer. Met. Soc. 2012, New Orleans, LA.

SKILLS

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| • Perl | • R Statistics | • Vis5d |
| • C/C++ | • Unix | • Mac OS X |
| • MATLAB | • HTML | • Windows XP,Vista,7,8 |
| • Python | • FORTRAN 95 | • Microsoft Office |

HONORS & AWARDS

- NOAA Ernest F. Hollings Scholarship, 2011
- Geneva Smith Meteorology Scholarship, 2011
- President's List, Fall 2009 – Spring 2012
- AMS Undergraduate Scholarship, 2009