Sarah D Bang

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EDUCATION

The University of Utah, Salt Lake City, Utah **2013- present**
Ph.D. Student, Adviser: Edward J. Zipser

The University of Utah, Salt Lake City, Utah **August 2013**
Master of Science in Atmospheric Science, 2013

The University of Chicago, Chicago, Illinois **2006-2010**
Bachelor of Science with Honors, 2010

RESEARCH

NASA Earth and Space Sciences (at the University of Utah) **2015-present**
Fellow
Study the behavior, intensity, size, and maturity of land and ocean convection with lightning throughout the global tropics.

University of Utah Dept. of Atmospheric Science **2010-present**
Graduate Research Assistant
Work with Professor Ed Zipser on severe midlatitude convection and propagation
Assembled a database of the MC3E field experiment

National Science Foundation: Think Globally, Learn Locally (TGLL) **2012-2013**
Fellow

- Created a meteorological curriculum that aligned with the core physics objectives at the Salt Lake Center for Science Education

University of Chicago Dept. of Geophysical Sciences **2006-2010**
Lab Manager, Research Assistant

- Handled all logistics for Prof. Elisabeth Moyer's laboratory while completing my undergraduate thesis under her advisement

FIELD EXPERIENCE

Integrated Hydrology and Precipitation Experiment (IPHEx) **May 2014**
Mission Science Liaison *Asheville, North Carolina*

Ontario Winter Lake-Effect Systems (OWLeS) **December 2013**
Field Researcher/Ground Instruments *Tug Hill Plateau, New York*

C*loud processes of t*H*e main precipitation systems in Brazil: A contrib*U*tion to cloud resol*V*ing modeling and to the GPM (CHUVA) **November 2012**
Forecast Support *Santa Maria, Rio Grande do Sul, Brazil*

Storm Chasing Utah Style Study (SCHUSS) **October – November 2011**
Radar Operator *Salt Lake City, Utah*

Midlatitude Continental Convective Cloud Experiment (MC3E) **May 2011**
Forecaster *Ponca City, Oklahoma*

NOAA Research Cruise: Core Sampling **May 2008**
Muskegon, Michigan

PRESENTATIONS and PUBLICATIONS

Bang, S. D. and Zipser, E. J. (2015). Differences in size spectra of electrified storms over land and ocean. *Geophysical Research Letters.* **42** (6844-6851)

NASA Global Precipitation Measurement (GPM)
7th Annual International Ground Validation Workshop: *Seoul, Korea* **May 2015**
Poster: "Upscale Growth of tropical oceanic MCSs: Is it necessary for intense convection?"

American Geophysical Union Fall Meeting: *San Francisco, CA* **December 2014**
Poster: "*Why are radar profiles and passive microwave brightness* temperatures associated with Lightning Probability over Land and Ocean So Profoundly Different?"

Master's Thesis and Defense: *Salt Lake City, UT* **August 2013**
Thesis: "On the Mutual Interactions Between Convective Storms and Their Environments During the MC3E Field Campaign in Oklahoma"

American Geophysical Union Fall Meeting: *San Francisco, CA* **December 2012**
Poster: "*Unconventional Evolution* of the Mesoscale Convective System (MCS) of May 23 During MC3E"

OUTREACH and TEACHING

U. of Utah Dept. of Atmospheric Science **October 2014, March 2015**
Substitute-lectured on thermodynamics at the undergraduate and graduate levels

NASA IPHEx Field Experiment Outreach **April 2014**
In addition to mission science liaison/forecaster duty, I spoke with local television crews and the public about the IPHEx field campaign and the role of weather radar

Natural History Museum Scientist in the Spotlight **August 2013**
Led a hands-on open discussion to the public about lightning processes and safety

National Science Foundation Think Globally, Learn Locally Fellow **2012-2013**
Taught 9th grade physics at the Salt Lake Center for Science Education
Developed a meteorological curriculum to match the core physics objectives
Discussed TGLL with the press for the Prosperity 2020 program

Natural History Museum of Utah: Science Movie Night; Twister **May 2013**
Spoke to the public with a panel about tornado and lightning science and chasing

Natural History Museum of Utah: Scientist in the Spotlight **October 2012**
Led a hands-on open discussion to the public about lightning processes and safety

STRIVE Tutoring **2007 – 2008**
Tutored inner-city Chicago children ages 8, 9, 12, and 13 one-on-one in all subjects with focus on reading and mathematics

Other Teaching and Outreach
I have taught thunderstorm science, including storm electrification and lightning safety and women in STEM careers, to classes from age 6 to 18 as a guest teacher in classrooms around the Salt Lake Valley. I have served as guest expert for Robotics Competitions. I have also given several radio and video interviews in close association with the Natural History Museum of Utah and for NASA Ground Validation field campaigns.

SKILLS

Proficient in French; Elementary knowledge of: Modern Greek, German, Portuguese
Proficient in IDL and LaTeX; Limited knowledge of Python, Matlab, FORTRAN, and HTML