

Fisseha Berhane
Department of Earth and Planetary Sciences
Johns Hopkins University
Baltimore, MD

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Education

Johns Hopkins University, Baltimore, MD

Ph.D. Candidate, Earth and Planetary Sciences, 2015/2016

Thesis: Intraseasonal precipitation variability over tropical Africa

Advisor: Benjamin F. Zaitchik

M.A., Earth and Planetary Sciences May 2013

University of Connecticut

M.S., Natural Resources and the Environment, May 2011

Thesis: Model based assessment of potential impacts of climate change on the flow of
the main headwaters of the Nile River: Equatorial Lakes Region and Blue Nile
Basins

Advisor: Richard Anyah

Mekelle University, Ethiopia

B.Sc., Civil Engineering, June 2006

Research Positions

Graduate Research Assistant, Department of Earth and Planetary Science, Johns Hopkins
University, Baltimore, Maryland. August 2011 – 2015

Graduate Research Assistant, Department of Natural Resources and the Environment,
University of Connecticut, Storrs, CT 2009 – May 2011

Awards

Research Assistantship, Department of Earth and Planetary Sciences, Johns Hopkins University,
Baltimore, Maryland 2012-2015

Morton K. Blaustein Fellowship, Department of Earth and Planetary Sciences, Johns Hopkins
University, Baltimore, Maryland 2011-2012

Research Assistantship, Department of Natural Resources and the Environment, University of
Connecticut, Storrs, CT 2009-2011

Teaching Experience

Teaching assistant (TA), Department of Earth and Planetary Science, The Johns Hopkins
University, Baltimore, Maryland. Spring 2013

Assistant Lecturer, Department of Civil Engineering, Mekelle University, Ethiopia 2006-2009

Peer-Reviewed publications

Berhane F and BF Zaitchik: An MJO-mediated mechanism to explain ENSO and IOD impacts on East African short rains. in prep.

Berhane F, BF Zaitchik and HS Badr, 2015: The Madden-Julian Oscillation's influence on Spring Precipitation over Equatorial West Africa. J. Climate. doi: <http://dx.doi.org/10.1175/JCLI-D-14-00510.1>.

Berhane F and BF Zaitchik, 2014: Modulation of Daily Precipitation over East Africa by the Madden-Julian Oscillation. J. Climate, 27(15): 6016-6034. doi: <http://dx.doi.org/10.1175/JCLI-D-13-00693.1>.

Berhane F, BF Zaitchik and A Dezfali, 2013: Sub-seasonal analysis of precipitation variability in the Blue Nile River basin. J. Climate, 27(1): 325-344. doi: <http://dx.doi.org/10.1175/JCLI-D-13-00094.1>.

Data Science related courses I have done in undergrad, grad school and online

<i>In Graduate School</i>	<i>Online (Coursera, edx, Udacity)</i>
Time Series Analysis Statistical Computing Data Analytics for Engineering, Policy Analysis and Management Inversion Modeling & Data Assimilation Spatial Statistics and Modelling Environmental Quantitative Methods Python Scripting for GIS	Machine Learning BerkeleyX: CS100.1x Intro to Big Data with Apache Spark MITx - 6.00.1x Intro to Computer Science and Programming Using Python Practical Machine Learning BerkeleyX: CS190.1x Scalable Machine Learning Developing Data products Intro to Data Science DAT201x: Querying with Transact-SQL R Programming Reproducible Research The Data Scientist's Toolbox Getting and Cleaning Data Regression Models MITx: 15.071x The Analytics Edge W3C-HTML5 Statistical Inference Exploratory Data Analysis Microsoft: DAT202.1x Processing Big Data with Hadoop in Azure HDInsight
<i>In Undergraduate</i>	
Probability and Statistics Computer Programming (C++) Applied Mathematics I Applied Mathematics II Numerical Methods	

Other Skills

- ❖ **Operating Systems:** Windows , Unix and Linux
- ❖ **Software:** Python, R, Apache Spark, Hadoop, SQL, Matlab, C++, Octave, GRADS, Ferret, NCL, WRF, ArcGIS, SWAT, ERDAS IMAGINE, ENVI, RegCM, Fortran, HTML5, JavaScript, CSS, Git

Selected Presentations

- Berhane F and BF Zaitchik, 2015: The influence of the MJO on Spring Equatorial West African convection. 95th AMS Annual Meeting 2015, Sixth Conference on Weather, Climate, and the New Energy Economy, Phoenix, AZ.
- Berhane F and BF Zaitchik, 2014: Intraseasonal variability of the impacts of the Madden-Julian Oscillation on East African long and short rains. 94th AMS Annual Meeting 2014, Second Symposium on Prediction of the Madden-Julian Oscillation: Impacts on Weather and Climate Extremes, Atlanta, GA.
- Berhane F and BF Zaitchik, 2014: Intraseasonal variability of the impacts of the Madden-Julian Oscillation in the Gulf of Guinea. 94th AMS Annual Meeting 2014, Fifth Conference on Weather, Climate, and the New Energy Economy, Atlanta, GA.
- Berhane F, BF Zaitchik and A Dezfuli, 2013: Evolution of intraseasonal precipitation variability in the Blue Nile River basin. 93rd AMS Annual Meeting 2013, 25th Conference on Climate Variability and Change, Austin, Texas, USA.
- Berhane F, 2013: Modulation of daily rainfall over Africa by the Madden-Julian oscillation. 5th annual Atmosphere-Ocean Science Days seminar, Department of Earth and Planetary Sciences, Johns Hopkins University, Baltimore, Maryland
- Berhane F, 2013: Intraseasonal variability of the modulation of daily rainfall over Africa by the Madden-Julian oscillation. Atmosphere-Ocean Seminar. Department of Earth and Planetary Sciences, Johns Hopkins University, Baltimore, Maryland
- Berhane F, 2013: Modulation of daily rainfall over Africa by the Madden-Julian oscillation. Journal Club, Department of Earth and Planetary Sciences, Johns Hopkins University, Baltimore, Maryland
- Berhane F, 2012: Intraseasonal variability of precipitation in the Blue Nile River Basin. Climate Dynamics of Tropical Africa: Present Understanding and Future Directions, Department of Earth and Planetary Sciences, Johns Hopkins University, Baltimore, Maryland, USA.
- Berhane F, 2012: Rainfall anomalies in the Blue Nile basin and their teleconnections with the Indian Summer Monsoon. Journal Club, Department of Earth and Planetary Sciences, Johns Hopkins University, Baltimore, Maryland
- Berhane F, 2012: Evolution of drivers and mechanisms of precipitation variability in the Blue Nile River Basin. Eastern Nile Technical Regional Office- Nile Basin Initiative. Addis Ababa, August 2012.
- Berhane F, 2012: Model based assessment of potential impacts of climate change on the flow of the Blue Nile Basin. Eastern Nile Technical Regional Office- Nile Basin Initiative. Addis Ababa, August 2012.

Berhane F, Anyah R.O., 2010: Hydrological Response to Climate Change over the Blue Nile Basin Distributed hydrological modeling based on surrogate climate change scenarios. American Geophysical Union Fall Meeting 20140, San Francisco, California, USA.

Professional Memberships

Member of American Meteorological Society

Member of American Geophysical Union