

## CURRICULUM VITÆ

**Michela Biasutti**

### CONTACT INFORMATION

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### EDUCATION

**2003:** Ph.D. – Atmospheric Sciences, University of Washington, Seattle, WA. (Advisors: David Battisti and Ed Sarachik. Thesis: On the Annual Cycle over the Atlantic Sector. The Relative Role of Land and Ocean.)

**2000:** M.S. – Atmospheric Sciences, University of Washington, Seattle, WA. (Advisors: David Battisti and Ed Sarachik. Thesis: Decadal Variability in the Tropical Atlantic as simulated by the Climate System Model and the CCM3 coupled to a Slab Ocean Model.)

**1995:** Bachelor in Science (Physics) cum laude, Università degli Studi di Trieste, Italy. (Thesis: Variability of precipitation in response to Sea Surface Temperature variability in the COLA General Circulation Model.)

### EMPLOYMENT

**2013-present:** Lamont Associate Research Professor, Lamont-Doherty Earth Observatory; The Earth Institute at Columbia University.

**2010-2013:** Lamont Assistant Research Professor, Lamont-Doherty Earth Observatory; The Earth Institute at Columbia University.

**2007-2010:** Doherty Associate Research Scientist, Lamont-Doherty Earth Observatory; The Earth Institute at Columbia University.

**May 2007-April 2008:** Maternity and parental leave.

**2004-2006:** Post Doctoral Research Scientist, Lamont-Doherty Earth Observatory; The Earth Institute at Columbia University.

**1996–2003:** Research Assistant, Department of Atmospheric Sciences, University of Washington, Seattle, WA.

**1998:** Teaching Assistant for undergraduate class “Introduction to Weather and Climate”, Department of Atmospheric Sciences, University of Washington, Seattle, WA.

**1996:** Research Assistant, IMGA-CNR, Modena, Italy.

### **COMMENTARIES and OTHER PUBLICATIONS**

- 2013** M. Biasutti “Climate change: Future rise in rain inequality.” *Nature Geoscience*, **6(5)**, 337338. doi:doi:10.1038/ngeo1814
- 2013** M. Biasutti “Sahel Rainfall Trends in CMIP5 models” *Variations: the U.S. CLIVAR Newsletter*
- 2011** M. Biasutti. “Atmospheric science: A man-made drought.” *Nature Climate Change*, **1(4)**, 197198. doi:10.1038/nclimate1151
- 2007** Biasutti, M., A. Giannini, A. H. Sobel, I. M. Held, and J. C. H. Chiang. Sahel climate change. EOS, Transactions American Geophysical Union, 88:295.

### **BOOK CHAPTERS**

- 2014** Jean-Philippe Lafore, Michela Biasutti , Peter Knippertz , and Chris Taylor: “The West African Monsoon”, in “The Global Monsoon Systems”, edited by C.P. Chang, R. H. Johnson, Gabriel Lau, Bin Wang, Peter Webster, and Matthew Wheeler. *World Scientific Series on Asia-Pacific Weather and Climate*.
- 2013** Contributing Author: IPCC AR5, Chapter 14: Climate Phenomena and their Relevance for Future Regional Climate Change.

### **JOURNAL PUBLICATIONS**

See [ResearcherID](#) or [Google Scholar](#) for assessments of the impact of my publications. My current h-index is 13.

NB: An asterisk indicates publications lead by a mentee.

- 2015** Paul-Arthur Monerie, Pascal Roucou, and Michela Biasutti. Euro-Mediterranean circulation and the West African Monsoon withdrawal in CMIP5 projections. *Journal of Climate* submitted.
- 2015** John Dwyer, Suzana Camargo, Adam Sobel, Michela Biasutti, Kerry Emanuel, Gabriel Vecchi and Ming Zhao. Projected 21st century changes in the length of the tropical cyclone season. *Journal of Climate* submitted.
- 2014** Guan, K., Good, S.P., Caylor, K. K., Biasutti, M., Medvigy, D., Pan, M., Wood, E. F. and Sato, H. Acute and chronic water stresses: ecological implications of intra-seasonal rainfall characteristics for African terrestrial ecosystems” (In review), *Proceedings of the Royal Society B: Biological Sciences*.
- 2014** Rodriguez-Fonseca, B., E. Mohino, R. C. Mechoso, C. Caminade, M. Biasutti, M. Gaetani, J. Garca-Serrano, E. K. Vizy, K. Cook, Y. Xue, I. Polo, T. Losada, L. Druyan, B. Fontaine, J. Bader, F. J. Doblas-Reyes, L. Goddard, S. Janicot, A. Arribas, W. Lau, A.

- Colman, M. Vellinga, D. P. Rowell, F. Kucharski, A. Voldoire: “Variability and Predictability of West African Droughts.” In print in *Journal of Climate*
- 2014** Shelley Welton, Michela Biasutti, and Michael Gerrard. Legal and Scientific Integrity in advancing a “Land Degradation Neutral World”. October, 2014 *Columbia Law Review*.
- 2014** Sultan B., K. Guan, M. Kouressy, M. Biasutti, C. Piani, , G. L. Hammere, G. McLean, and D. Lobell. Robust features of future climate change impacts on sorghum yields in West Africa. *Environmental Research Letters*, 9(10), 104006. doi:10.1088/1748-9326/9/10/104006
- 2014** \* Lee, D-E and M. Biasutti: “Climatology and variability of rainfall in the 20th century reanalysis.” *Journal of Climate* 27(15), 5964-5981. doi:10.1175/JCLI-D-13-00630.1
- 2014** \* Dwyer, J.G., M. Biasutti, A.H. Sobel: “The effect of greenhouse-gas-induced changes in SST on the annual cycle of zonal-mean tropical precipitation.” *Journal of Climate* 27(12), 45444565. doi:10.1175/JCLI-D-13-00216.1.
- 2013** Biasutti, M. and S.E. Yuter: “Observed frequency and intensity of tropical precipitation: the importance of instantaneous estimates.” *Journal of Geophysical Research-Atmosphere* 118(17), 95349551. doi:10.1002/jgrd.50694
- 2013** \* Saba, A., M. Biasutti, M.B. Gerrard, and D.B. Lobell: “Getting ahead of the curve: Supporting adaptation to long-term climate change and short-term climate variability alike” *Carbon and Climate Law Review* 7(1), 323.
- 2013** A. Seth, S.A. Rauscher, M. Biasutti, A. Giannini, S.J. Camargo, and M. Rojas: “CMIP5 Projected Changes in the Annual Cycle of Precipitation in Monsoon Regions.” *Journal of Climate*, 26(19), 73287351. doi:10.1175/JCLI-D-12-00726.1
- 2013** Biasutti, M.: “Forced Sahel rainfall trends in the CMIP5 archive.” *Journal of Geophysical Research-Atmospheres*, 118, doi:10.1002/jgrd.50206.
- 2013** Sobel, A. H., C. D. Burleyson, S. E. Yuter, and M. Biasutti: “Correction to Rain on small tropical islands” *Journal of Geophysical Research-Atmospheres*, 118, doi:10.1002/jgrd.50205.
- 2012** Lintner, R.B., M. Biasutti, N.S. Diffenbaugh, J.-E. Lee, M.J. Niznik, K.L. Findell. “Amplification of wet and dry month occurrence over tropical land regions in response to global warming.” *Journal of Geophysical Research-Atmospheres*, 117(D11), D11106. doi:10.1029/2012JD017499
- 2012** \* Dwyer, J.G., M. Biasutti, A.H. Sobel: “Projected Changes in the Seasonal Cycle of Surface Temperature” *Journal of Climate*, 120419124110000. doi:10.1175/JCLI-D-11-00741.1
- 2011** Biasutti, M., S.E. Yuter, C.B. Burleyson, and A.H. Sobel: “Very High Resolution Rainfall Patterns measured by TRMM Precipitation Radar: Seasonal and Diurnal Cycles”. *Climate Dynamics*, doi:10.1007/s00382-011-1146-6

- 2011** Biasutti, M., A.H. Sobel, S.J. Camargo, and T.T. Creyts: “Projected changes in the physical climate of the Gulf Coast and Caribbean”. *Climatic Change*, doi:10.1007/s10584-011-0254-y
- 2009** Biasutti, M. and A.H. Sobel: “Delayed Seasonal Cycle and African Monsoon in a Warmer Climate”. *Geophysical Research Letters*. 36, doi:10.1029/2009GL041303.
- 2009** Biasutti, M., A. H. Sobel, S.J. Camargo: “The role of the Sahara Low in Sahel rainfall variability and change in the CMIP3 models”. *Journal of Climate*, **22**: 5755-5771. doi:10.1175/2009JCLI2969.1
- 2008** Giannini, A., M. Biasutti, M.M. Verstraete. “A climate model-based review of drought in the Sahel: Desertification, the re-greening and climate change.” *Global and Planetary Change* **64** 119-128.
- 2008** Biasutti, M., I. M. Held, A. H. Sobel, A. Giannini: “SST forcings and Sahel rainfall variability in simulations of the 20<sup>th</sup> and 21<sup>st</sup> centuries”. *Journal of Climate*, **21** 3471-3486.
- 2008** Giannini, A., M. Biasutti, I. M. Held, A. H. Sobel: “A global perspective on African climate”. *Climatic Change*. 14 March 2008. doi:10.1007/s10584-008-9396-y
- 2006** Biasutti, M., A. Giannini: “Robust Sahel drying in response to late 20<sup>th</sup> century forcings”. *Geophysical Research Letters*, 33, L11706, doi:10.1029/2006GL026067.
- 2006** Biasutti, M., A.H. Sobel, Y. Kushnir: “AGCM precipitation biases in the tropical Atlantic”. *J. Climate*, **19** 935-958.
- 2005** M. Biasutti, D. S. Battisti, and E. S. Sarachik. “Terrestrial influence on the annual cycle of the Atlantic ITCZ.” *J. Climate*, **18** 211-228.
- 2004** M. Biasutti, D. S. Battisti, and E. S. Sarachik. “Mechanisms Controlling the Annual Cycle of Precipitation in the Tropical Atlantic Sector in an Atmospheric GCM.” *J. of Climate*, **17** 4708-4723.
- 2003** J. Chiang, M. Biasutti, and D. S. Battisti. “Sensitivity of the Atlantic ITCZ to last glacial maximum boundary conditions.” *Paleoceanography*, **18**:10.1029/2003PA000916.
- 2003** M. Biasutti, D. S. Battisti, and E. S. Sarachik. “The annual cycle over the tropical Atlantic, South America, and Africa.” *J. Climate*, **16**:2491-2508.
- 2000** Navarra, A., Biasutti, M., Gualdi, S., Roeckner, E., Schlese, U., Shulzweida, U. “Sensitivity experiments to mountain representations in spectral models.” *Annals of Geophysics*, 43(3). doi:10.4401/ag-3658

**MEETINGS ORGANIZED:**

[Monsoons and ITCZ: The annual cycle in the Holocene and the future.](#) Columbia University, September 15-18, 2015

*Dynamics of Climate Change and their impacts on the hydrologic cycle at regional scales*  
Session Convener at 2011 AGU Fall Meeting.

[Workshop on Climate Change in the Sahel](#): Columbia University, March 19-21 2007.

#### **RECENT INVITED SEMINARS:**

**2014** WCRP Grand Challenge Workshop, Schloss Ringberg, Germany  
Colloquium, Dept. of Atmospheric Sciences, University of Washington, Seattle, WA

**2013** WAMME Workshop, San Francisco, CA  
CCCM (Center for Climate Change in the Mediterranean), Bologna, Italy.

**2012** Workshop on Convection, Water Vapor, and Climate, MIT, Cambridge, MA  
Climate Dynamics of Tropical Africa Workshop, John Hopkins, Baltimore, MD  
Department of Earth and Atmospheric Sciences, Cornell, Ithaca, NY  
NOAA MAPP Webinar: Evaluation of Reanalysis Products

**2011** International Center for Theoretical Physics, Trieste, Italy.  
“NCAR colloquium on African Weather and Climate”, Boulder, CO.  
“Mapping and Modeling Climate Security Vulnerability”, University of Texas, Austin  
North Carolina State University  
Stanford University

**2010** European Geophysical Union annual meeting, Vienna, Austria  
Geophysical Fluid Dynamics Laboratory, Princeton, NJ  
North-West Research Associates, Redmond, WA  
University of Washington, Bothell, WA  
Department of Environmental Sciences, State University of New Jersey, Rutgers, NJ  
School of Marine and Atmospheric Sciences, Stony Brook Univ., Stony Brook, NY

**2009** Department of Earth and Planetary Sciences, Harvard University, Cambridge, MA  
Center for Ocean Land Atmosphere Studies (COLA/IGES), Calverton, MD  
Department of Atmospheric and Oceanic Sciences, U. of MD, College Park, MD

#### **RECENTLY FUNDED PROJECTS:**

**2013-2018** NSF: Linking near term future changes in weather and hydroclimate in western North America to adaptation for land management. (R. Seager, M. Ting., Y. Kushnir, M. Biasutti, J. Smerdon, B. Cook, A. Greene, A. Ray, B. Rajagopalan)

**2011-2012** NOAA: Climatology and variability of tropical rainfall in the 20th century reanalysis. (M.Biasutti)

**2011-2014** NSF: Use of Climate Information in International Negotiation for Adaptation Resources. (M.Biasutti, M.Gerrard, D.Lobell, A.Sobel)

**2011-2012** NOAA: The role of greenhouse gases in the forcing of 20<sup>th</sup> Century Precipitation Changes in the African Sahel. (M.Biasutti, A.Giannini)

**2010-2013** NSF-AGS09-46849: Future Changes in the Seasonal Cycle: Mechanisms and Implications. (M.Biasutti, A.Sobel)

**2007-2009** NOAA-NA03OAR4320179: Mechanisms of 21<sup>st</sup> Century Changes in Sahel Precipitation in the CMIP3 Climate Models. (M.Biasutti, A.Sobel)

**STUDENTS ADVISED:**

John Dwyer (PhD student in the Department of Applied Physics and Applied Math). Co-advised with Adam Sobel.

Deanna Tufano, Julio E. Herrera Estrada (APAM Seniors). Co-advised with Adam Sobel.

Ségolène Berthou (exchange from the École Normale Supérieure de Paris). With Adam Sobel.

**COMMUNITY SERVICE & OUTREACH ACTIVITIES:**

*Contributing Author*, IPCC AR5 Chapter 14.

*Member*, US CLIVAR Working Group on the Upper-Ocean Heat Budget Synthesis for the Eastern Equatorial Pacific and Atlantic Oceans

*Reviewer*, Journal of Climate, Nature, Quarterly Journal of the Royal Meteorological Society, Climate Dynamics, Geophysical Research Letters, International Journal of Climatology

*Proposal Reviewer*, NOAA, NSF, DOE.

*Outreach*, Guest Lecturer at the American Museum of Natural History (Our Earth's Future);

Lamont Open House: atmospheric sciences experiments at the OCP tent; Marfa Dialogues;

Climate Change Panel (Maplewood, NJ).