

Jeffrey Shaman
Curriculum Vitae (Abridged)

College of Oceanic and Atmospheric Sciences
Oregon State University
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Areas of Interest: Large-scale climate dynamics, tropical meteorology, climate prediction, monsoons, the hydrologic cycle, land surface processes, hillslope hydrology, infectious disease transmission and epidemiology, mosquito-borne disease, mosquito ecology

Education:

University of Pennsylvania, Bachelor of Arts in Biology, *Cum Laude* with honors in the major, 1990
Columbia University, Masters of Arts, Department of Earth and Environmental Sciences, 2000
Columbia University, Masters of Philosophy, Department of Earth and Environmental Sciences, 2002
Columbia University, Doctor of Philosophy, Department of Earth and Environmental Sciences, 2003,
Awarded with Distinction
Harvard University, National Oceanic and Atmospheric Administration Post-Doctoral Fellow in Climate and Global Change, 2003-2005

Appointments:

Assistant Professor, College of Oceanic and Atmospheric Sciences, Oregon State University, 2005-present
National Oceanic and Atmospheric Administration Post-Doctoral Fellow, Harvard University, 2003-2005
National Aeronautics and Space Administration Earth System Science Fellow (graduate), 2000-2003
Laboratory Technician, Children's Hospital of Philadelphia and the University of Pennsylvania.
Immunological research involving molecular and cellular experimentation investigating the class II system and its genetic expression, 1992-1994
Field Researcher, The University of Pennsylvania. Plant biology surveys, experimentation and research of forest regrowth and plant community competition, 1990-1991

Graduate and Postdoctoral Advisors:

Mark A. Cane, Columbia University (graduate)
Eli Tziperman, Harvard University (post-doctoral)

Awards:

National Oceanic and Atmospheric Administration Post-Doctoral Fellowship in Climate and Global Change, 2003-2005
Bruce C. Heezen Prize for graduate students making exceptional scientific contributions, 2003
Columbia Sigma Xi, 2003
Ph.D. Awarded with Distinction, 2003
NASA Earth System Science Fellowship, 2000-2003

Manuscripts in Preparation, Review, and Press:

Day JF, Shaman J. Severe Winter Freezes Enhance St. Louis Encephalitis Virus Amplification and Epidemic Transmission in Peninsular Florida. Accepted to: *Journal of Medical Entomology*.
Shaman J, Samelson RM, Skillingstad, E. Air-Sea Fluxes over the Gulf Stream Region: Atmospheric Controls and Trends. In review: *Journal of Climate*.
Shaman J, Pitzer VE, Viboud C, Grenfell BT, Lipsitch M. Absolute Humidity and the Seasonal Onset of Influenza in the Continental US. In review: *PLoS Biology*.

Peer Reviewed Publications:

- Shakun JD, Shaman J. Tropical Origins of North and South Pacific Decadal Variability. *Geophysical Research Letters*, **36**, L19711, doi:10.1029/2009GL040313, 2009.
- Shaman J, Esbensen SK, Maloney ED, The Dynamics of the ENSO-Atlantic Hurricane Teleconnection: ENSO-related changes to the North African-Asian Jet affect Atlantic Basin Tropical Cyclogenesis. *Journal of Climate* **22**(9):2458-2482, 2009.
- Shaman J, Kohn, MA. Absolute Humidity Modulates Influenza Survival, Transmission and Seasonality. *Proceedings of the National Academy of Sciences* **106**(9):3243-3248, doi:10.1073/pnas.0806852106, 2009.
- Maloney ED, Shaman J. Intraseasonal Variability of the West African Monsoon and Atlantic ITCZ. *Journal of Climate*, **21**(12):2898-2918, 2008.
- Day JF, Shaman J. Using hydrologic conditions to track the risk of focal and epidemic arboviral transmission in peninsular Florida. *Journal of Medical Entomology*, **45**(3):458:465, 2008.
- Shaman J, Tziperman E. The summertime ENSO-North African-Asian jet teleconnection and implications for the Indian monsoons. *Geophysical Research Letters*, **34**, L11702, doi:10.1029/2006GL02914, 2007.
- Shaman J. Amplification due to Spatial Clustering in an Individual-Based Model of Mosquito-Avian Arbovirus Transmission. *Transactions of The Royal Society of Tropical Medicine and Hygiene*, **101**(5):469-483, 2007.
- Shaman J, Day, JF. Reproductive Phase Locking of Mosquito Populations in Response to Rainfall Frequency. *PLoS ONE*, **2**(3):e331. doi:10.1371/journal.pone.0000331, 2007.
- Shaman J, Day JF, Stieglitz M, Zebiak S, Cane M. An Ensemble Seasonal Forecast of Human Cases of St. Louis Encephalitis in Florida Based on Seasonal Hydrologic Forecasts. *Climatic Change*, **75**(4):495-511, 2006.
- Warrach, K, Stieglitz M, Shaman J, Engel VC, Griffin, KL. Twentieth Century Climate in the New York Hudson Highlands and the Potential Impacts on Eco-Hydrological Processes. *Climatic Change*, **75**(4):455-493, 2006.
- Shaman J, Spiegelman M, Cane M, Stieglitz M. A Hydrologically Driven Model of Swamp Water Mosquito Population Dynamics. *Ecological Modelling* **194**(4):395-404, 2006.
- Shaman J, Cane M, Kaplan A. The Relationship between Tibetan Snow Depth, ENSO, River Discharge and the Monsoons of Bangladesh. *International Journal of Remote Sensing* **26** (17):3735-3748, 2005.
- Shaman J, Day JF. Achieving Operational Hydrologic Monitoring of Mosquito-Borne Disease Transmission, *Emerging Infectious Diseases* **11** (9):1343-1350, 2005.
- Shaman J, Tziperman, E. The Effect of ENSO Variability on Tibetan Plateau Snow Depth: A Stationary Wave Teleconnection Mechanism and Implications for the South Asian Monsoons. *Journal of Climate* **18** (12):2067-2079, 2005.
- Shaman J, Day JF, Stieglitz, M. Drought-induced amplification and epidemic transmission of West Nile virus in South Florida, *Journal of Medical Entomology* **42**:134-141, 2005.
- Shaman J, Stieglitz M, Burns D. Are Big Basins just the Sum of Small Catchments? *Hydrological Processes* **18**:3195-3206, 2004.
- Shaman J, Day J, Stieglitz M. The Association of Drought, Wetness and Human Cases of St. Louis Encephalitis Virus in South-Central Florida. *American Journal of Tropical Medicine and Hygiene* **71**:251-261, 2004.
- Shaman J, Day J, Stieglitz M, Zebiak S, Cane M. Seasonal Forecast of St. Louis Encephalitis Virus Transmission, Florida. *Emerging Infectious Diseases* **10** (5): 802-809, 2004.
- Stieglitz M, Shaman J, McNamara J, Engel V, Shanley J, Kling G. An approach to understanding hydrologic connectivity on the hillslope and the implications for nutrient transport. *Global Biogeochemical Cycles* **17**(4), 1105, doi:10.1029/2003GB002041, 2003
- Shaman J, Day J, Stieglitz M. St. Louis Encephalitis Virus in Wild Birds During the 1990 South Florida Epidemic: The Importance of Drought, Wetness Conditions, and the Emergence of *Culex nigripalpus* to Arboviral Amplification and Transmission. *Journal of Medical Entomology* **40**(4): 547-554, 2003.
- Shaman J, Stieglitz M, Zebiak S, Cane, M. A Local Forecast of Land Surface Wetness Conditions Derived from Seasonal Climate Predictions. *Journal of Hydrometeorology* **4** (3): 611-626, 2003.
- Shaman J, Stieglitz M, Engel V, Koster R, Stark C. Representation of Stormflow and a More Responsive Water Table in a TOPMODEL-Based Hydrology Model. *Water Resources Research* **38** (8), 1156, doi:10.1029/2001WR000636, 2002.
- Shaman J, Day J, Stieglitz M. Drought-induced amplification of St. Louis encephalitis virus, Florida. *Emerging Infectious Diseases* **8** (6): 575-580, 2002.

- Shaman J, Stieglitz M, Stark C, Le Blancq S, Cane M. Using a dynamic hydrology model to predict mosquito abundances in flood and swamp water. *Emerging Infectious Diseases* **8** (1): 6-13, 2002.
- Busch R, vonScheven E, Amaya M, Shaman J, Mellins ED. Biochemical analysis of a mutant HLA-DM molecule containing a Cys79 beta->Tyr mutation. *Human Immunology* **47**: (1-2) O489-O489, 1996.
- Shaman J, vonScheven E, Morris P, Chang MDY, Mellins E. Analysis of *HLA-DMB* mutants and *-DMB* genomic structure. *Immunogenetics* **41**:117-124, 1995.
- Morris P, Shaman J, Attaya M, Amaya M, Goodman S, Bergman C, Monaco JJ, Mellins E. An essential role for HLA-DM in antigen presentation by Class II major histocompatibility molecules. *Nature* **369**:551-554, 1994.

Published Abstracts and Conference Proceedings

- Zollner G, Shaman J, Sithiprasasna R, Vaughan JA, Coleman RE, 2005. Using a dynamic hydrology model to quantify seasonal changes in breeding habitat preferences of *Anopheles* larvae in western Thailand, *American Journal of Tropical Medicine and Hygiene*, **73**(6):149-149, Supplement S.
- Shaman J and E Tziperman, 2005. ENSO and South Asian Monsoons, *Bulletin of the American Meteorological Society*, **86**:333-334.
- Rutledge, RC, Day JF, Ross GK and J Shaman, 2004. Arbovirus surveillance in Florida: Getting closer to real time. 22nd International Congress of Entomology, Brisbane, Australia, 15-21 August.
- Shaman J, Stieglitz M, Zebiak S, Cane M, Day J., 2003. A Local Forecast of Land Surface Wetness Conditions, Drought, and St. Louis Encephalitis Virus Transmission Derived from Seasonal Climate Predictions. *Proceedings of the World Water and Environmental Resources Congress 2003*.

Expository Publications

- Shaman J, 2005. Malaria Mapping and Prevention, *Geotimes*, **50**:18-21.

Editorial Activities

Manuscripts Reviewed for: *International Journal of Climatology*, *Climatic Change*, *Global Change Biology*, *Journal of Medical Entomology*, *Ecological Modelling*, *Journal of Climate*, *International Journal of Remote Sensing*, *Hydrological Processes*, *Geophysical Research Letters*, *Journal of Geophysical Research*, *PloS ONE*, *Vector-Borne and Zoonotic Diseases*, *Quarterly Journal of the Royal Meteorological Society*, *Water Resources Research*, *Atmospheric Research*, *PLoS Medicine*, *PNAS*, *PLoS Neglected Tropical Diseases*, *Journal of Vector Ecology*, *Journal of the Atmospheric Sciences*, *American Journal of Epidemiology*, *Environmental Health Perspectives*, *Entomologia Experimentalis et Applicata*, *Malaria Journal*, *Acta Tropica*, *Proceedings of the Royal Society B*

Proposals Reviewed for: *NSF Climate and Large-Scale Dynamics*, *NOAA Climate Prediction Program for the Americas*, *EPA Biodiversity and Human Health*