

Ben Zaitchik

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

Current Employment

Professor, Dept of Earth and Planetary Sciences, Johns Hopkins University	2021-
Associate Professor	2017-2020
Assistant Professor	2008-2016

Previous Employment

AAAS Diplomacy Fellow, U.S. Department of State	2008-2010
Research Associate, NASA GSFC Hydrological Sciences Branch	2006-2008

Education

PhD: Yale University, Department of Geology and Geophysics <i>Elias Loomis Prize</i> for excellence in studies in the physics of the Earth	2006
MS: Cornell University, Department of Crop and Soil Sciences <i>NSF Graduate Student Fellowship</i>	2001
AB: Department of Biology, Harvard University <i>Summa cum laude, Hoopes Prize</i> for excellence in undergraduate research	1998

Summary of research interests:

My research group studies regional hydroclimate. This includes studies of fundamental climate dynamics from local to synoptic scale, development of forecast and projection tools, and interdisciplinary and transdisciplinary collaboration to quantify and address the impacts of climate variability and change.

Selected Recent Competitively Funded Research as PI

PI: *Seeing Heat Risk Through an Equity Lens: Putting High Resolution Temperature Data to Work for Urban Environmental Justice*. NOAA, 2021-2023
PI: *PREEVENTS/T2: Multi-scale prediction of flash drought in the United States*. NSF. 2019-2022
PI: *GMELT Ahead: leveraging Earth Observations for improved climate projections in High Mountain Asia*. NASA, 2020-2023
PI: *The Africa Cholera Early Warning System (ACREWS)*. NASA, 2018-2022
PI: *INFEWS/T1: Understanding multi-scale resilience options for climate-vulnerable Africa*, NSF. 2016-2022
PI: *Environmental Determinants of Enteric Infectious Disease: a GEO platform for analysis and risk assessment*, NASA. 2017-2021

Selected Recent Articles (Total: 191; Google Scholar h-index: 46)

[* indicates advisee first author]

Zhou, Y.*, Zaitchik, B. F., Kumar, S. V., Arsenault, K. R., Matin, M. A., Qamer, F. M., ... & Shakya, K. (2021). Developing a hydrological monitoring and sub-seasonal to seasonal forecasting system for South and Southeast Asian river basins. *Hydrology and Earth System Sciences*, 25(1), 41-61.

- Fetene, Z. A.*, Zaitchik, B. F., Zeleke, T. T., Yeshita, B. D., & Recalde-Coronel, C. G. (2021). Influence of the Boreal Summer Intra-Seasonal Oscillation on rainfall in the Blue Nile Basin. *Climate Dynamics*, 1-13.
- Nie, W.*, Zaitchik, B. F., Rodell, M., Kumar, S. V., Arsenault, K. R., & Badr, H. S. (2021) Irrigation water demand sensitivity to climate variability across the Contiguous United States. *Water Resources Research*, e2020WR027738.
- Osman, M.*, Zaitchik, B. F., Badr, H. S., Christian, J. I., Tadesse, T., Otkin, J. A., & Anderson, M. C. (2021). Flash drought onset over the Contiguous United States: Sensitivity of inventories and trends to quantitative definitions. *Hydrology and Earth System Sciences*, 25(2), 565-581.
- Zaitchik, B. F., Sweijid, N., Shumake-Guillemot, J., Morse, A., Gordon, C., Marty, A., ... & Lu, Y. (2020). A framework for research linking weather, climate and COVID-19. *Nature Communications*, 11(1), 1-3.
- Vashisht, A.*, Zaitchik, B., & Gnanadesikan, A. (2020). ENSO teleconnection to eastern African summer rainfall in global climate models: Role of the Tropical Easterly Jet. *Journal of Climate*, 1-50.
- Helman, D.*, Zaitchik, B. F., & Funk, C. (2020). Climate has contrasting direct and indirect effects on armed conflicts. *Environmental Research Letters*, 15(10), 104017.
- Grace, K., Siddiqui, S. & Zaitchik, B.F. (2020). A framework for interdisciplinary research in food systems. *Nature Food*, <https://doi.org/10.1038/s43016-020-00212-6>
- Recalde-Coronel, G. C.*, Zaitchik, B., & Pan, W. K. (2020). Madden–Julian oscillation influence on sub-seasonal rainfall variability on the west of South America. *Climate Dynamics*, 54(3), 2167-2185.
- DeLuca, N. M.*, Zaitchik, B. F., Guikema, S. D., Jacobs, J. M., Davis, B. J., & Curriero, F. C. (2020). Evaluation of remotely sensed prediction and forecast models for *Vibrio parahaemolyticus* in the Chesapeake Bay. *Remote Sensing of Environ.*, 250, 112016.
- Jordan, A.K.*, Zaitchik, B.F., Gnanadesikan, A., Kim, D., and Badr, H.S. (2020) Strength of Linkages Between Dust and Circulation Over North Africa: results from a coupled modeling system with active dust. *Journal of Geophysical Research-Atmospheres*. DOI:10.1029/2019JD030961.
- Carter, A.W.*, Zaitchik, B.F., Gohlke, J.M., Wang, S. and Richardson, M.B. (2020). Methods for estimating Wet Bulb Globe Temperature from remote and low-cost data: a comparative study in central Alabama. *GeoHealth*. DOI:10.1029/2019GH000231

Synergistic Activities

1. Commissioner on the City of Baltimore Sustainability Commission (appointed 2018).
2. President of the American Geophysical Union GeoHealth section.
3. Chair, JHU Department of Earth and Planetary Sciences DEI Committee, and Department “Diversity Champion.”
4. Lead for the Group on Earth Observations (GEO) Health Community of Practice international working group on satellite observations for heat and health.
5. Co-chair of the World Meteorological Organization Research Board COVID-19 Research Task Team.
6. Co-chair of the Johns Hopkins University 2022 Sustainability Plan.
7. Associate Editor, *Journal of Hydrometeorology*
8. Member, Scientific Council of Resources for the Future’s *VALUABLES* initiative on the value of Earth Observations