

# Kristina Dahl, Ph.D.

Climate Scientist



## EXPERIENCE

### Union of Concerned Scientists — *Senior Climate Scientist*

2018 - PRESENT

I design, execute, and communicate scientific analyses that make climate change more tangible to the general public and policy makers. My research focuses on the impacts of climate change on people and the places and institutions they care about. In this role, I also speak extensively with the media on a wide range of climate issues and contribute to the [UCS blog](#).

### Union of Concerned Scientists — *Science Consultant*

2011 - 2018

I provided research, data analysis, graphics, and writing services for 10 UCS publications. For many of these, I designed and developed core pieces of the underlying research. This research involved performing analyses and mapping areas at risk of coastal flooding using custom-built Python programs and GIS systems. I also communicated our research to external advisors, reviewers, and media outlets.

### American Museum of Natural History — *Course Scientist*

2009 - 2013

As a course scientist for 15+ Ocean Systems courses, I guided students (primarily K-12 educators) to develop scientific thinking skills through online forums.

### Rutgers University — *Associate Director, Climate and Environmental Change Initiative*

2007 - 2009

At Rutgers, I managed the university's initiative on climate change. Together with interdisciplinary groups of professors, I developed and wrote grant proposals to organizations such as NOAA. I built the initiative's website and developed its content. I also wrote a variety of materials, ranging from press releases to technical grant proposals, and organized events ranging from small meetings to conferences with 200+ attendees.

### The Climate Project — *Climate Change Presenter*

2006 - 2007

As part of Vice President Al Gore's Climate Project, I delivered over 30 presentations on global warming to schools, corporations, and community groups including the Gulf of Maine Research Institute and the Audubon Society.

## SKILLS

GIS (ArcGIS; QGIS)

Python

Data analysis

Climate science

Science writing

## AWARDS

Early Career Mentor for the DISCCRS IV Symposium (2008)

Gera Panteleyev Award for improving student life (2006)

NOAA Climate and Global Change Postdoctoral Fellowship (2005)

JOI/USSAC Ocean Drilling Program Fellowship (2003)

## COMMUNITY SERVICE

Parent Teacher Association, Financial Secretary 2016-18

SF-Marin Food Bank

Presidio Trust

## LANGUAGES

English

## **Scripps Institution of Oceanography — *Postdoctoral Fellow***

2005 - 2006

As a postdoc, I published and reviewed scientific articles for several journals and participated in an expedition to the Republic of Kiribati to assess both recent human impacts to marine ecosystems and historical climate change using fossil corals.

### **EDUCATION**

#### **MIT/WHOI Joint Program — *Ph.D.***

2000 - 2005

As a graduate student, I completed and published a scientific thesis on the climate history of the Indian Monsoon. This work involved analyzing output from the GFDL climate model as well sampling and analyzing marine sediments. I funded my own thesis research by writing a successful grant proposal to the National Science Foundation, and presented my work as a teaching assistant, guest lecturer, and invited speaker at universities and conferences.

#### **Boston University — *B.A., Earth Sciences***

1996 - 1999

### **SELECTED PUBLICATIONS (full list available upon request)**

#### **ONLINE INTERACTIVE MAP TOOLS**

Too Hot to Work (2021):

<https://storymaps.arcgis.com/stories/0983100fa18744fc97bd477d9879a9f8>

Underwater (2018): <https://arcg.is/1aXHrbo>

When Rising Seas Hit Home (2017): <https://arcg.is/1GL99P>

#### **PUBLIC-FACING REPORTS**

**K. Dahl** and R. Licker. 2021. Too Hot to Work. Union of Concerned Scientists.

Ferguson, R., **K. Dahl**, and M. DeLonge. 2019. Farmworkers at Risk. Union of Concerned Scientists.

**K. Dahl**, E. Spanger-Siegfried, R. Licker, A. Caldas, J.T. Abatzoglou, N. Mailloux, R. Cleetus, S. Udvardy, J. Declet-Barreto, P. Worth. 2019. Killer Heat in the United States. Union of Concerned Scientists.

**K. Dahl**, R. Cleetus, E. Spanger-Siegfried, S. Udvardy, A. Caldas, and P. Worth. 2018. Underwater. Union of Concerned Scientists.

Spanger-Siegfried, E., **K. Dahl**, A. Caldas, S. Udvardy, R. Cleetus, P. Worth, and N. Hernandez-Hammer. 2017. When Rising Seas Hit Home. Union of Concerned Scientists. (Lead scientist)

Spanger-Siegfried, E., **K. Dahl**, A. Caldas, and S. Udvardy. 2016. U.S. Military Bases on the Front Lines of Rising Seas. Union of Concerned Scientists. (Lead analyst)

Cleetus, R., R. Bueno, and K. Dahl. 2015. Surviving and Thriving in the Face of Rising Seas. Union of Concerned Scientists. (Analytical support)

McNamara, J., S. Clemmer, K. Dahl, and E. Spanger-Siegfried. 2015. Lights Out? Storm Surge, Blackouts, and How Clean Energy Can Help. Union of Concerned Scientists. (Spatial data analyst)

Carlson, C., G. Goldman, and K. Dahl. 2015. Stormy Seas, Rising Risks: What Investors Should Know About Climate Change Impacts at Oil Refineries. Union of Concerned Scientists. (Spatial data analyst)

Spanger-Siegfried, E., M. Fitzpatrick, and K. Dahl. 2014. Encroaching Tides: How Sea Level Rise and Tidal Flooding Threaten U.S. East and Gulf Coast Communities over the Next 30 Years. Union of Concerned Scientists. (Lead analyst)

(No authors listed). 2013. Causes of Sea Level Rise. Union of Concerned Scientists. (Analysis, research, writing and design support)

Climate Hot Map. 2010. Union of Concerned Scientists. (Contributor)

#### PEER-REVIEWED ARTICLES

Licker, R., K. Dahl, and J.T. Abatzoglou. 2021. Quantifying the impact of future extreme heat on the outdoor work sector in the United States. *Elementa* 10(1): 00048, doi:10.1525/elementa.2021.00048

Pei, S., K. Dahl, T.K. Yamana, R. Licker, and J. Shaman. 2020. Compound risks of hurricane evacuation amid the COVID-19 pandemic in the United States. *Geohealth* 4(12): e2020GH000319, doi:10.1029/2020GH000319.

C.A. Phillips, A. Caldas, R. Cleetus, K.A. Dahl, J. Declat-Barreto, R. Licker, L.D. Merner, J.P. Ortiz-Partida, A.L. Phelan, E. Spanger-Siegfried, S. Talati, C.H. Trisos, C.J. Carlson. 2020. Compound climate risks in the COVID-19 pandemic. *Nature Climate Change* 10, 586–588.

Dahl, K., R. Licker, J.T. Abatzoglou, and J. Declat-Barreto. 2019. Increased frequency of and population exposure to extreme heat index days in the United States during the 21st century. *Environmental Research Communications* 1(7), doi:10.1088/251.

Dahl, K., E. Spanger-Siegfried, A. Caldas, and S. Udvardy. 2017. Effective inundation of continental United States communities with 21st century sea level rise. *Elementa Science of the Anthropocene* 5 (37), doi:10.1525/elementa.234.

Dahl, K., M. Fitzpatrick, and E. Spanger-Siegfried. 2017. Sea level rise drives increased tidal flooding frequency at tide gauges along the U.S. East and Gulf Coasts: Projections for 2030 and 2045. *PLoS ONE* 12(2): e0170949.

Carlson, C., G. Goldman, and K. Dahl. 2016. Stormy seas, rising risks: Assessing undisclosed risk from sea level rise and storm surge at coastal US oil refineries. In: *Communicating Climate Change and Natural Hazard Risk and Cultivating Resilience*. Edited by J.L. Drake, Y.Y. Kontar, J.C. Eichelberger, T.S. Rupp, and K.M. Taylor. Springer International Publishing, pp. 295–308.

Dahl, K.A., and D.W. Oppo. 2006. Sea surface temperature pattern reconstructions in the Arabian Sea. *Paleoceanography* 21(1), doi: 10.1029/2005PA001162.

Broccoli, A.J., K.A. Dahl, and R.J. Stouffer. 2006. Response of the ITCZ to Northern Hemisphere cooling. *Geophysical Research Letters* 33(1), doi: 10.1029/2005GL024546. [Over 400 citations as of 12/2016]

Dahl, K.A., A.J. Broccoli, and R.J. Stouffer. 2005. Assessing the role of North Atlantic freshwater forcing in millennial scale climate variability: a tropical Atlantic perspective. *Climate Dynamics* 24(4) 325-346.

Dahl, K.A., D.W. Oppo, T.I. Eglinton, K.A. Hughen, W.B. Curry, and F. Sirocko. 2005. Terrestrial plant wax inputs to the Arabian Sea: Implications for the reconstruction of winds associated with the Indian Monsoon. *Geochimica et Cosmochimica Acta* 69(10), 2,547-2,558.

#### **SELECTED MEDIA CLIPS (full list available upon request)**

How California became ground zero for climate disasters

<https://www.nytimes.com/2020/09/20/climate/california-climate-disasters.html?referringSource=articleShare>

Florida and Miami-Dade change plans to host hurricane evacuees in hotel rooms

<https://www.miamiherald.com/news/weather/hurricane/article245078390.html>

Scientists expect floods in Bay Area from rising seas in coming decades

<http://www.sfchronicle.com/bayarea/article/Scientists-expect-floods-in-Bay-Area-from-rising-11284750.php>

Sea level rise could bring costly flooding in coastal communities within decades

<http://www.sandiegouniontribune.com/news/environment/sd-me-sea-level-rise-20170723-story.html>

Study maps out devastating effects of sea level rise on South Florida

<http://miami.cbslocal.com/2017/07/13/union-of-concerned-scientists-sea-level-rise-study/>

Military installations prepare for tidal flooding, climate change

<http://wtop.com/local/2016/07/military-installations-prepare-tidal-flooding-climate-change/>

Rising Ocean Threatens Ga.'s Coastal Military Bases, Report Says

<http://news.wabe.org/post/rising-ocean-threatens-ga-s-coastal-military-bases-report-says>

Report warns Parris Island could be severely affected by rising ocean

<http://www.southcarolinaradionetwork.com/2016/08/22/report-warns-parris-island-could-be-severely-affected-by-rising-ocean/>

US military bases at risk from sea level rise: study

<http://phys.org/news/2016-07-military-bases-sea.html>