



# Morgan E. Gorris

## Curriculum Vitae

**Director's Postdoc Fellow**

**Los Alamos National Laboratory**

*Information Systems and Modeling Group & Center for Nonlinear Studies*

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## Summary of Qualifications

I am an Earth System Science who studies GeoHealth: the nexus of health, humans, and the Earth System. I focus on how weather and climate affect environmental infectious disease dynamics, including where diseases are a threat, forecasting how many disease cases there may be, and how these diseases will shift in response to climate change.

## Education

**Ph.D. Earth System Science, University of California, Irvine** Aug 2019

*Thesis:* [Environmental infectious disease dynamics in relation to climate and climate change](#)

Thesis co-advisors: Dr. James Randerson, Dr. Charles Zender

Committee members: Dr. Kathleen Treseder

### Thesis Projects

*The Effects of Climate and Climate Change on Infectious Diseases in the United States*

Examine the relationships between climate and infectious disease dynamics in the U.S., including Valley fever and West Nile virus. I compiled the first Valley fever incidence database, created a climate threshold model of Valley fever endemicity, and modeled future projections of Valley fever in response to climate change.

*Particulate Matter Air Quality Study in Borrego Springs, CA*

Identify dust source regions to mitigate local air quality concerns by assessing the historical and present trends in particulate matter air quality in Borrego Springs, CA using satellite products, in-situ measurements, and dust transport modeling with the Weather Research and Forecasting model.

**M.S. Earth System Science, University of California, Irvine** Dec 2016

**B.S.E. Earth System Science and Engineering, University of Michigan** May 2014  
Concentration in Meteorology, Minor in Mathematics

## Professional Experience

Feb 2020 - **Los Alamos National Laboratory – Director's Postdoc Fellow**  
Current *Information Systems and Modeling Group and Center for Nonlinear Studies*  
*Advisors: Dr. Carrie Manore and Dr. Sara Del Valle*

Sept 2019 - **University of California, Irvine – Research Specialist**  
Nov 2019 *Advisors: Dr. Charles Zender and Dr. James Randerson*  
Continuation of my thesis work on modeling the effects of climate on West Nile virus and the particulate matter air quality study in Borrego Springs, CA.

- Apr 2019 - **Subcontractor to Industrial Economics, Incorporated**  
 Sept 2019 *Environmental Protection Agency Contract EP-D-14-031*  
 Projections of Valley fever impacts in response to climate change under the EPA Climate Change Impacts and Risk Analysis (CIRA) framework, in collaboration with James Neumann (IEc), Patrick Kinney (Boston University), and Marcus Sarofim (EPA).
- Jun 2018 - **Los Alamos National Laboratory – Visiting Scientist**  
 Aug 2018 *Theoretical Biology and Biophysics*  
*Advisors: Dr. Carrie Manore and Dr. Chonggang Xu*  
 Explored the spatial relationships between climate and West Nile virus incidence in collaboration with LANL as part of my dissertation.
- The University of California, Irvine – Teaching Assistant**  
**Department of Earth System Science**
- Mar 2016 - *Class: Earth System Science Laboratory and Field Methods*  
 Jun 2016 *Professor: Dr. Alex Guenther*  
 Earth System Science and Environmental Science upper division course (ESS 114) with 45 students. This course was an introduction to field methods that covered isotopic and chromatographic analysis, measuring microclimate, hydrology, trace-gas exchange, and plant growth.
- Jan 2016 - *Class: Advanced Data Modeling*  
 Mar 2016 *Professor: Dr. James Randerson*  
 Earth System Science and Environmental Science upper division course (ESS 118) with 25 students. This course was an introduction to data analysis in Python. We covered general programming techniques, analyzing and plotting data, and worked with text files and netCDF files. I conducted the class recitation and substituted for lectures.
- Sept 2015 - *Class: Introduction to Earth System Science*  
 Dec 2015 *Lecturer: Dr. Julie Ferguson*  
 General education course (ESS 1) with 400 students, targeted towards non-Earth System Science majors. We reviewed the geosphere, atmosphere, biosphere, hydrosphere, and connections between these components. I conducted three recitations with 130 students, held office hours, and led review sessions prior to exams.
- Jun 2014 - **Naval Research Laboratory – Research Intern**  
 Aug 2014 *Marine Meteorology Division*  
 Created a series of statistical analysis scripts in Python to calculate the efficiency of a navigational forecasting and ship routing algorithm developed by the Navy. The main parameter analyzed was the fuel burn of the ship, while ensuring the ship stayed within its safety and time limitations.
- Oct 2013 - **The University of Michigan – Undergraduate Research**  
 May 2014 *Advisor: Dr. Gretchen Keppel-Aleks*  
 Investigated global land-carbon dioxide dynamics, with a focus on boreal forests and other northern ecosystems. I created the boundaries of ecoregions to input in pulse-response functions of CO<sub>2</sub>.
- Jun 2013 - **Massachusetts Institute of Technology Lincoln Laboratory – Research Intern**  
 Aug 2013 *Air Traffic Management Group*

Analyzed the forecast accuracy for an algorithm that depicts arrival aircraft jet route availability based on convective weather. An emphasis was placed on forecast statistics and accuracy visuals in MATLAB.

- May 2013      **Texas Tech University – Undergraduate Field Study**  
*Tornado Radar Research*  
Collected radar data on the formation, development, and dissipation of tornadoes. Field work included videography, photography, and tracking the storm's progress.
- Jun 2012 -  
Aug 2012      **NASA Ames Research Center – Research Intern**  
*Aviation Weather Systems Division*  
Parsed the National Transportation Safety Board database of weather-related aircraft accidents to assess the greatest weather hazards to aviation in Alaska. Then I compiled appropriate weather products to implement in the development of a smart tablet application to address these weather hazards.
- Sept 2011 -  
Apr 2012      **Geophysical Flows in the Atmosphere and Ocean**  
*Undergraduate Research Opportunities Program*  
*Advisor: Dr. John Boyd*  
Created MATLAB animations of geophysical flows in the atmosphere and ocean such as baroclinic instabilities, vortices, Kelvin Helmholtz interactions, Rossby waves, and the Fujiwara effect.

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## Publications

### PUBLISHED

- Keyel, A. C., **Gorris, M. E.**, et al. (In Press, 2021). A qualitative evaluation of West Nile virus models and their application to local public health decision-making. *PLOS Neglected Tropical Diseases*.
- Gorris, M. E.**, Caballero Van Dyke, M. C., Carey, A., Hamm, P. S., Mead, H. L., Uehling, J. K. (2021). A Review of Coccidioides Research, Outstanding Questions in the Field, and Contributions by Women Scientists. *Current Clinical Microbiology Reports*. <https://doi.org/10.1007/s40588-021-00173-9>
- Treseder, K. K., Alster, C. J., Cat, L. A., **Gorris, M. E.**, Kuhn, A. L., Lovero, K. G., Hagedorn, F., Kerekes, J. F., McHugh, T. A., Solly, E. F. (2021). Nutrient and stress tolerance traits linked to fungal responses to global change: Four case studies. *Elementa*, 9(1), 00144. <https://doi.org/10.1525/elementa.2020.00144>
- Carey, A., **Gorris, M. E.**, Chiller, T., Jackson, B., Beadles, W., Webb, B. J. (2021), Coccidioidomycosis in Utah 2006-2015: Epidemiology, clinical features & outcomes. *Emerging Infectious Diseases*, 27(9). <https://doi.org/10.3201/eid2709.210751>
- Gorris, M. E.**, Neumann, J. E., Kinney, P. L., Sheahan, M., Sarofim, M. C. (2021), Economic valuation of coccidioidomycosis (Valley fever) projections in the United States in response to climate change. *Weather, Climate, and Society*, 13(1), 107-123. <https://doi.org/10.1175/WCAS-D-20-0036.1>
- Gorris, M. E.**, Cat, L. A., Matlock, M., Ogunseitan, O. A., Treseder, K. K., Randerson, J. T., & Zender, C. S. (2020), Coccidioidomycosis (Valley fever) case data for the southwestern United States, *Open Health Data*, 7(1). <https://doi.org/10.5334/ohd.31>
- Gorris, M. E.**, Treseder, K. K., Zender, C. S., & Randerson, J. T. (2019), Expansion of coccidioidomycosis endemic regions in response to climate change in the United States, *GeoHealth*, 3, 308-327. <https://doi.org/10.1029/2019GH000209>.

- Cat, L. A., **Gorris, M. E.**, Randerson, J. T., Riquelme, M., & Treseder, K. K. (2019), Crossing the Line: Human Disease and Climate Change Across Borders, *Journal of Environmental Health*, 81(8), 14-22. <https://escholarship.org/uc/item/38t7d87v>
- Aburto-Oropeza, O., Johnson, A. F., Agha, M., Allen, E. B., Allen, M. F., **et al.** (2018), Harnessing cross-border resources to confront climate change, *Environmental Science and Policy*, 87, 128-132, <https://doi.org/10.1016/j.envsci.2018.01.001>
- Gorris, M. E.**, Cat, L. A., Zender, C. S., Treseder, K. K., & Randerson, J. T. (2018), Coccidioidomycosis dynamics in relation to climate in the southwestern United States, *GeoHealth*, 2, 6-24, <https://doi.org/10.1002/2017GH000095>.

## IN REVIEW

- Gorris, M. E.**, Bartlow, A. W., Temple, S. D., Romero-Alvarez, D., Shutt, D. P., Fair, J. M., Kaufeld, K. A., Del Valle, S. Y., Manore, C. A. (In review, 2021). Species distribution maps across the Americas of *Culex* mosquitoes, disease vectors for human pathogens. *Parasites & Vectors*.
- Cat, L. A., **Gorris, M. E.**, J. Randerson, J. T., & Treseder, K. K. (In Review, 2019), Dispersal of pathogenic fungi in soil and air across the US Southwestern region, *Fungal Ecology*.

## NOT REVIEWED

- Germann, T. C., Smith, M. Z., Dauelsberg, L., Fairchild, G., Turton, T., **Gorris, M. E.**, Watson Ross, C., Ahrens, J. P., Hemphill, D. D., Manore, C. A., Del Valle, S. Y. (2020), Using an agent-based model to assess K-12 school re-openings under different COVID-19 spread scenarios—United States, school year 2020-21, preprint in *medRxiv*, 2020.10.09.20208876, <https://doi.org/10.1101/2020.10.09.20208876>

## First Author Presentations

### \*INVITED

- \***Gorris, M. E.** (2021), Projecting the risk of environmental infectious diseases in response to climate change. US CLIVAR webinar. May 19.
- Gorris, M. E.**, Kinney, P. L., Neumann, J. E., Sarofim, M. C. (2021). Using precipitation to forecast coccidioidomycosis incidence in the San Joaquin Valley of California. Apr 16.
- \***Gorris, M. E.**, Germann, T. C., Smith, M. Z., Dauelsberg, L., Fairchild, G., Turton, T. L., Ross Watson, C., Ahrens, J. P., Hemphill, D. D., Manore, C. A., Del Valle, S. Y. (2021). Using an agent-based model to assess school reopening scenarios in response to COVID-19. Lawrence Technical Institute math seminar. Mar 16.
- Gorris, M. E.**, Bartlow, A. W., Romero-Alvarez, D., Temple, S., Fair, J. M., Kaufeld, K. A., Del Valle, S. Y., & Manore, C. A. (2020), *Forecasting Valley fever, an infectious fungal disease*, American Geophysical Union Fall Meeting. San Francisco, CA. Dec 15.
- Gorris, M. E.** (2020), *Forecasting Valley fever, an infectious fungal disease*, Los Alamos National Laboratory Science in 3. Los Alamos, NM. Nov 5.
- \***Gorris, M. E.**, Manore, C. A., Xu, C., Treseder, K. K., Zender, C. S., & Randerson, J. T. (2019), *A migration of West Nile virus in the United States in response to climate change*, eLightning talk at the American Geophysical Union Fall Meeting. San Francisco, CA. Dec 9.
- \***Gorris, M. E.**, Treseder, K. K., Zender, C. S., & Randerson, J. T. (2019), *The expansion of Valley fever endemic regions in response to climate change*, webinar for the Collaborative on Health and the Environment. Dec 5. <https://www.healthandenvironment.org/webinars/96503>

- \***Gorris, M. E.**, Treseder, K. K., Zender, C. S., & Randerson, J. T. (2019), *How climate conditions impact Valley fever disease dynamics*, Anivive annual corporate retreat. Los Angeles, CA. Nov 11.
- \***Gorris, M. E.**, Treseder, K. K., Zender, C. S., & Randerson, J. T. (2019), *The future of Valley fever in response to our changing climate*, 2019 UC Valley Fever Summit at University of California, Merced. Merced, CA. Oct 25.
- \***Gorris, M. E.**, Zender, C. S., Randerson, J. T., Cat, L. A., & Treseder, K. K. (2019), *Using climate and environmental data to understand Valley fever disease dynamics*, department seminar in Environmental Sciences at University of California, Riverside. Riverside, CA. May 17.
- Gorris, M. E.**, Salamone, A., Clifford, W., Zender, C. S., Treseder, K. K., & Randerson, J. T. (2019), *Environmental niche modeling of Coccidioides ssp. in Washington State*, oral presentation at the 63<sup>rd</sup> Coccidioidomycosis Study Group Meeting, Sacramento, CA. Apr 5.
- Gorris, M. E.**, Treseder, K. K., Zender, C. S., Clifford, W., Salamone, A., Oltean, H. N., & Randerson, J. T. (2019), *Coccidioidomycosis Climate Niche Model for Predicting Current and Future Endemic Regions in the United States through the 21st Century and Applications to Environmental Soil Sampling*, oral presentation at the American Meteorological Society 99<sup>th</sup> Annual Meeting, Phoenix, AZ. Jan 9.
- Gorris, M. E.**, Zender, C. S., Randerson, J. T., Goodsman, D. W., Xu, C., & Manore, C. A. (2018), *Expanding a seasonal forecast of US West Nile virus for 21<sup>st</sup> century disease projections*, oral presentation at the American Geophysical Union Fall Meeting. Washington, DC. Dec 10.
- Gorris, M. E.**, Zender, C. S., Randerson, J. T., Goodsman, D. W., Xu, C., & Manore, C. A. (2018), *Expanding a seasonal forecast of US West Nile virus for 21<sup>st</sup> century disease projections*, poster presentation at the 75<sup>th</sup> Los Alamos National Laboratory Student Symposium. Los Alamos, NM. Aug 1.
- Gorris, M. E.**, Treseder, K. K., Zender, C. S., & Randerson, J. T. (2018), *The effects of climate change on coccidioidomycosis endemic regions in the United States*, oral presentation at the 62<sup>nd</sup> Annual Coccidioidomycosis Study Group Meeting, Northern Arizona University. Flagstaff, AZ. Apr 14.
- Gorris, M. E.** & Zender, C. S. (2018), *Evaluating Particulate Matter Air Quality in Borrego Springs. Year 2: An overview and cases studies of particulate matter air quality in Borrego Springs*, Borrego Springs, CA. Feb 18.
- Gorris, M. E.**, Hoffman, F. M., Treseder, K. K., Zender, C. S., & Randerson, J. T. (2017), *The Influence of Current and Future Climate on the Spatial Distribution of Coccidioidomycosis in the Southwestern United States*, oral presentation at the American Geophysical Union Fall Meeting, New Orleans, LA. Dec 12.
- Gorris, M. E.**, Cat, L. A., Zender, C. S., Treseder, K. K., & Randerson, J. T. (2017), *The Effects of Climate on Valley Fever Incidence in the Southwestern United States*, poster presentation at the 7<sup>th</sup> International Coccidioidomycosis Symposium, Stanford University, Stanford, CA. Aug 11.
- Gorris, M. E.** (2017), *Valley Fever: More than just Dust in the Wind*, oral presentation at Associated Graduate Student Symposium, UC Irvine, Irvine, CA. Apr 21.
- Gorris, M. E.**, Parajuli S. P., & Zender, C. S. (2017), *Evaluating Particulate Matter Air Quality in Borrego Springs. Year 1: Characterization and evaluation of historical air quality*, Borrego Springs, CA. Feb 26.
- Gorris, M. E.**, Cat, L. A., Treseder, K. K., Zender, C. S., & Randerson, J. T. (2017), *The Spatiotemporal Relationship between Climate and Valley Fever in the Southwestern United States*, oral presentation at the American Meteorological Society 97<sup>th</sup> Annual Meeting, Seattle, WA. Jan 23.

- Gorris, M. E. & Cat, L. A. (2016),** *Disease in the Desert: Ecology, Epidemiology and Environmental Modeling of Valley Fever*, invited talk at the 2016 Colorado Desert Natural History Research Symposium, Nov 4.
- Gorris, M. E., Cat, L. A., Randerson, J. T., Zender, C. S., & Treseder, K. K. (2016),** *Climate Drivers and Coccidioidomycosis Incidence at the Regional Scale*, poster presentation at the 60<sup>th</sup> Annual Coccidioidomycosis Study Group Meeting, UCSF Fresno. Fresno, CA. Apr 9.
- Gorris, M. E. & Cat, L. A. (2015),** *Out of the Valley: A multi-disciplinary approach to forecasting valley fever dispersal in the U.S. Southwest*, invited talk and poster presentation at University of California, Irvine's 1<sup>st</sup> Annual Data Science Initiative Summer Symposium. Irvine, CA. Sept 17.
- Gorris, M. E. (2014),** *Analysis of Convective Weather Impact Prediction on Arrival Routes in the New York Airspace*, Abstract S30, poster presentation at the American Meteorological Society 13<sup>th</sup> Annual Student Conference, Atlanta, GA, Feb 2–6.
- Gorris, M. E. & Boyd J. P. (2012),** *Geophysical Flows in the Atmosphere and Ocean*, poster presentation at the University of Michigan Undergraduate Research Opportunities Program Spring Symposium. Ann Arbor, MI. Apr 18.

## Awards and Honors

- Los Alamos National Laboratory Distinguished Performance Award (FY2020)** Jul 2021  
*Recognized for their significant contributions towards LANL's COVID-19 response through modeling and decision support (Team of 29).*
- Los Alamos National Laboratory Exploratory Research Grant (Co-PI; FY2022-2025)** Jul 2021  
*"Assessing Environmental and Health Impacts of Airborne Particulates"*
- Los Alamos National Laboratory Distinguished Postdoc Performance Award (FY21)** Apr 2021  
*Recognized for their significant contributions towards LANL's COVID-19 response in support of state, local, and federal partners, including the CDC, FEMA, DOE, DoD, and the White House COVID-19 Task Force (Team of 4).*
- Los Alamos National Laboratory Director's Postdoc Fellowship** Jan 2020 – Current
- Los Alamos National Laboratory Center for Nonlinear Studies Postdoctoral Fellowship** Jun 2019 – Current
- Los Alamos National Laboratory Spot Award** Aug 2020  
*Recognition for COVID-19 Modeling work, going above and beyond*
- UC Irvine Earth System Science Faculty Endowed Fellowship** Jun 2019
- Outstanding Student Presentation Award: American Geophysical Union** Jan 2019  
*GeoHealth Conference*
- Best Student Oral Presentation: American Meteorological Society** Feb 2017  
*7<sup>th</sup> Conference on Environment and Health*
- National Defense Science and Engineering Graduate Fellowship** Sept 2016 – Sept 2019  
*American Society of Engineering Education*

<b>Borrego Valley Endowment Fund Support</b>	Feb 2016 – Feb 2019
<b>UC Irvine Physical Sciences Travel Grant (\$250; \$300)</b>	Dec 2016; Mar 2019
<b>Honorable Mention, National Science Foundation Graduate Research Fellowship Program</b>	Apr 2016
<b>Coccidioidomycosis Study Group Travel Grant (\$500)</b>	Apr 2016
<b>Data Science Initiative Fellowship</b>	Jun 2015 – Sept 2015
<b>Jenkins Family Graduate Fellowship</b>	Oct 2014 – Dec 2014
<b>Outstanding Poster Award</b> <i>University of Michigan Undergraduate Research Opportunities Program Spring Symposium</i>	Apr 2012
<b>Naval Weather Service Association Scholarship</b>	Sept 2010

## Popular Press

- Scientific American** (June 1, 2021), *Deadly fungi are the newest emerging microbe threat all over the world*. Author: M. McKenna. <https://www.scientificamerican.com/article/deadly-fungi-are-the-newest-emerging-microbe-threat-all-over-the-world/>
- Science Friday** (Apr 24, 2020), *A Fever in the dust*. Author: L. Young and K. Klein. <https://methods.sciencefriday.com/valley-fever>
- ASBMB Today** (Apr 7, 2020), *Stopping the devil in the dust*. Author: J. Arnst. <https://www.asbmb.org/asbmb-today/science/040720/stopping-the-devil-in-the-dust>
- California Healthline** (Dec 16, 2019), *Valley fever cases climb in California's Central Valley — and beyond*. Author: B. Ostrov and H. Rowan. <https://californiahealthline.org/multimedia/valley-fever-cases-climb-in-californias-central-valley-and-beyond/>
- Cronkite News Arizona PBS** (Nov 5, 2019), *As valley fever education increases, so does the infection's reach*. Author: G. Schmidt. <https://cronkitenews.azpbs.org/2019/11/05/valley-fever-education/>
- High Country News** (Oct 16, 2019), *Diseases are spreading with climate change. Panic doesn't have to*. Author: H. Santoro. <https://www.hcn.org/articles/public-health-diseases-are-spreading-with-climate-change-panic-doesnt-have-to>
- Valley Public Radio, NPR for Central California** (Oct 1, 2019), *Valley fever could spread with climate change, Study Warns*. Author: K. Klein. <https://www.kvpr.org/post/valley-fever-could-spread-climate-change-study-warns>
- Insider** (Sep 25, 2019), *A deadly fungal infection that spreads through dust is on the rise in the southwestern US, and scientists warn the north may be next*. Author: G. Landsverk. <https://www.insider.com/valley-fever-deadly-fungal-infection-spreading-north-climate-change-2019-9>
- Yahoo News Video** (Sep 25, 2019), *A deadly fungal infection that spreads through dust is on the rise in the Southwestern U.S.* <https://news.yahoo.com/deadly-fungal-infection-spreads-dust-195130345.html>

- Great Falls Tribune** (Sep 23, 2019), *Potentially fatal desert lung disease could reach Montana by century's end*. Author: David Murray. <https://www.greatfallstribune.com/story/news/2019/09/23/climate-change-could-bring-valley-fever-montana-century-s-end/2422190001/>
- Futurity** (Sep 20, 2019), *Climate change could push fungus infection from dirt north*. Author: B. Bell. <https://www.futurity.org/valley-fever-climate-change-2165882/>
- Edgy Labs** (Sep 19, 2019), *Valley fever range to double in size due to climate change*. Author: Z. Guedim. <https://edgy.app/valley-fever-range-to-double-in-size-due-to-climate-change?pfrom=science&fp=a7>
- National Science Foundation** (Sep 19, 2019), *Scientists project northward expansion of Valley fever by end of 21<sup>st</sup> century*. [https://www.nsf.gov/discoveries/disc\\_summ.jsp?cntn\\_id=299221](https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=299221)
- Truthout** (Sep 18, 2019), *Climate change expected to accelerate spread of something-fatal fungal infection*. Author: B. Bell. <https://truthout.org/articles/climate-change-expected-to-accelerate-spread-of-sometimes-fatal-fungal-infection/>
- Mountain West News Bureau, KUNC** (Sep 18, 2019), *Climate change may bring Valley fever to more of the Mountain West*. <https://www.kunc.org/post/climate-change-may-bring-valley-fever-more-mountain-west#stream/0>. Also a 1-minute radio segment broadcast on NPR stations across the Mountain West.
- News Medical Life Science** (Sep 17, 2019), *Range of Valley fever expected to increase substantially, say UCI scientists*. <https://www.news-medical.net/news/20190917/Range-of-Valley-fever-expected-to-increase-substantially-say-UCI-scientists.aspx>
- Popular Science** (Sep 17, 2019), *This deadly fungal disease could use climate change to mobilize*. Author: N. Wetsman. <https://www.popsci.com/climate-change-valley-fever-fungus-weather/>
- OC Weekly** (Sep 17, 2019), *Valley fever still coming soon because climate change*. Author: A. Pignataro. <https://ocweekly.com/valley-fever-still-coming-soon-because-climate-change/>
- YubeNet.com** (Sep 17, 2019), *Climate change expected to accelerate spread of sometimes-fatal fungal infection: valley fever*. <https://yubanet.com/scitech/climate-change-expected-to-accelerate-spread-of-sometimes-fatal-fungal-infection-valley-fever/>
- AGU100 American Geophysical Union** (Sep 16, 2019), *Climate change expected to accelerate spread of sometimes-fatal fungal infection*. <https://news.agu.org/press-release/climate-change-expected-to-accelerate-spread-of-sometimes-fatal-fungal-infection/>
- Environmental News Network** (Sep 16, 2019), *Climate change expected to accelerate spread of sometimes-fatal fungal infection*. <https://www.enn.com/articles/59737-climate-change-expected-to-accelerate-spread-of-sometimes-fatal-fungal-infection>
- Science Daily** (Sep 16, 2019), *Climate change expected to accelerate spread of sometimes-fatal fungal infection*. <https://www.sciencedaily.com/releases/2019/09/190916114034.htm>
- Medical Xpress** (Sep 16, 2019), *Scientists project northward expansion of Valley fever by end of 21<sup>st</sup> century*. <https://medicalxpress.com/news/2019-09-scientists-northward-expansion-valley-fever.html>
- UCI News** (Sep 16, 2019), *UCI Scientists project northward expansion of Valley fever by end of 21<sup>st</sup> century*. <https://news.uci.edu/2019/09/16/uci-scientists-project-northward-expansion-of-valley-fever-by-end-of-21st-century/>
- BuzzFeed News** (Oct 18, 2018), *An incurable disease is on the rise in California, and scientists say climate change could cause it to spread to much of the western US*. Author: S. K. Baer. <https://www.buzzfeednews.com/article/skbaer/valley-fever-fungal-infection-spreading-climate-change>



## Professional Affiliations

**American Geophysical Union** Jul 2017 – Current

*Early Career Scientist Co-chair for GeoHealth Meetings Committee (Jan 2019 – Current)*

*Session convener or chair:*

- *“Climate Change and Health Equity: Action at the intersection of social justice and health disparities” (Union, Dec 2021)*
- *“Accelerating Human Agility in Shifting Disease Landscapes” (GeoHealth, Dec 2021)*
- *“Environmental Injustice in GeoHealth” (GeoHealth, Dec 2021)*
- *“Impacts of Climate on Vector-Borne and Other Environmental Infectious Diseases” (eLightning, GeoHealth, Dec 2020)*
- *“COVID-19 and Earth and Space Science” (Posters, GeoHealth, Dec 2020)*
- *“Climate Influences on Infectious Disease Dynamics and the Potential for Transnational Outbreaks” (Posters, GeoHealth, Dec 2018)*

**American Meteorological Society** Dec 2011 – Current

*President and Co-founder of zotCAMS: Student Chapter of AMS at UC Irvine (Apr 2017 – Jun 2019)*

*Aviation, Range, and Aerospace Meteorology Student Committee Member (Jan 2015 – Jan 2019)*

*University of Michigan Student Chapter Executive Board (Sept 2013 – May 2014)*

**American Institute of Aeronautics and Astronautics** Sept 2012 – May 2014

## Extra Curricular Activities

**Journal Referee:** *Earth's Futures; Ecohealth; mSphere; Weather, Climate, and Society*

**Students** (\*undergraduate, \*\*graduate)

*\*\*Ryan Hodge, Los Alamos National Lab, UC Riverside, PhD expected 2026*

June 2021 – Aug 2021

*\*Patrick Mara, UC Irvine, BS Earth System Science, Graduated June 2019*

Feb 2018 – Jun 2019

**Los Alamos National Laboratory Peer Coaching Group** Mar 2021 – Current

**zotCAMS: Student Chapter of the American Meteorological Society at UC Irvine**

*President and Co-founder*

Apr 2017 – Aug 2019

- *UC Irvine Anteater Awards Best New Student Organization (2017 – 2018)*
- *AMS Student Chapter of the Year Honor Roll (2017 – 2018)*
- *AMS Annual Meeting Best Local Student Chapter Poster (Jan 2019)*
- *UC Irvine Student Organization of the Month (Apr 2018)*

**CLEAN (Climate, Literacy Empowerment And iNquiry)**

Oct 2014 – Aug 2019

**Elementary School Outreach – Student Member**

**UC Irvine Physical Sciences Student Mentor**

Oct 2016 – Aug 2019

**Southern California Science Olympiad exam writer**

Spring 2017, 2018, 2019

## Personal Interests

Hikes with my dog Jasper, horseback riding, volleyball, camping, fishing, lighthouses, NPS