

# Katharine J. Mach

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## EDUCATION

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### **Stanford University**, Stanford, California, 2005-2010

Ph.D. in Biological Sciences at Hopkins Marine Station  
Focus areas: marine biology, biomechanics, ecophysiology

### **Harvard College**, Cambridge, Massachusetts, 2000-2004

A.B. in Biology, *summa cum laude*  
Highest Honors in Biology; *Summa* grade for senior honors research thesis  
Language citation in French

## PROFESSIONAL AFFILIATIONS

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### **University of Miami, Rosenstiel School of Marine, Atmospheric, & Earth Science**

Chair, Department of Environmental Science and Policy	2023-present
Professor, Department of Environmental Science and Policy	2022-present
Associate Professor, Department of Environmental Science and Policy	2019-2022
Faculty Scholar, Leonard and Jayne Abess Center for Ecosystem Science and Policy	2019-present

### **Yale School of the Environment**

Coleman P. Burke Distinguished Visiting Professor	2025
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### **Stanford University**

Senior Research Scientist, Department of Earth System Science	2016-2019
Director, Stanford Environment Assessment Facility	2016-2019
Faculty Affiliate, Emmett Interdisciplinary Program in Environment and Resources	2017-2019

### **Carnegie Institution for Science**

Visiting Investigator, Department of Global Ecology	2016-2019
Senior Research Associate, Department of Global Ecology	2015-2016

### **Carnegie Mellon University**

Adjunct Assistant Professor, Department of Engineering and Public Policy	2016-2020
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### **Intergovernmental Panel on Climate Change Working Group II Technical Support Unit**

Director, Science	2015
Co-Director, Science	2012-2015
Project Scientist	2011-2012
Postdoctoral Research Associate, Carnegie Institution for Science	2010-2011

JOURNAL ARTICLES & ASSESSMENT PUBLICATIONS (peer reviewed)—————  
163 in total, incl. 130 journal articles (\* indicates student or postdoc first author)

- Parsons, M., J. Nalau, V. Muccione, M. van Aalst, S. Dessai, T. Doeffinger, X. Fu, T. Hasegawa, D. Khojasteh, R. Kidane, B.L. Preston, N.P. Simpson, A. Wreford, and K.J. **Mach** (in press). Critical science for the next decade of climate risk management. *Climate Risk Management*
- Seeteram\*, N.A., L. Shi, K. **Mach**, A. Carrère, T. Chatterjee, A. Garner, and R. Horton (in press). Challenges and opportunities in scaling climate-resilient housing solutions in the United States. *Nature Communications*.
- Turek-Hankins\*, L.L., V. Schueler, M. Hino, and K.J. **Mach** (2026). Weatherization reduces needs for energy bill assistance. *Energy Policy* 208: 114911.
- Muse\*, N., B. McNoldy, A. Clement, and K.J. **Mach** (2025). Increased nighttime land surface temperatures in a seasonally muggy climate. *Climatic Change* 178: 176.  
(Coverage: *Miami Herald* 1, *Miami Herald* 2)
- Bower\*, E.R., A.R. Siders, C.M. Kraan, K.J. **Mach**, and G. Wong-Parodi (2025). Navigating justice tensions in managed retreat. *Environmental Science and Policy* 172: 104191.
- Niemann-Morris, J., A.R. Siders, M. Hino, C.M. Kraan, A. Agopian, C. Samoray, and K.J. **Mach** (2025). Divergent priorities in flood adaptation. *Environmental Research: Climate* 4: 035012.
- Sanders, B.F., J.E. Schubert, E.-M.H. Martin, S. Wang, M.C. Sukop, and K.J. **Mach** (2025). A fast flood inundation model with groundwater interactions and hydraulic structures. *Advances in Water Resources* 204: 105057.  
(Coverage: NOAA)
- Biesbroek, R., M. Haasnoot, K.J. **Mach**, and A.C. Petersen (2025). Adaptation planning in the context of a weakening and possibly collapsing Atlantic Meridional Overturning Circulation (AMOC). *Regional Environmental Change* 25: 93. 10.1007/s10113-025-02434-5
- Cruz\*, M., K.J. **Mach**, L.L. Turek-Hankins, K.C. Ashad-Bishop, Z.D. Bailey, S.D. Evans, A. Fanning, M. Fernandez-Burgos, J. Gilbert, B. Howard, M. Mahabir, J. Marturano, L.N. Murphy, N. Muse, J. Pérodin, and A.C. Clement (2025). Where heat does not come in waves: a framework for understanding and managing chronic heat. *Environmental Research: Climate* 4: 023002.  
10.1088/2752-5295/adc827  
(Coverage: *UMiami*, *ScienceNews*)
- Turek-Hankins\*, L.L., M. Cruz, N. Brown, N. Muse, A. Clement, and K.J. **Mach** (2025). Interactions between indoor heat and energy affordability amplify household risks in hot-humid US climate zones. *One Earth* 8: 101235.  
(Coverage: *UMiami*, *News@TheU*, *Miami Herald* 1, *Miami Herald* 2, *WLRN*)
- Maskell\*, G., R. Shukla, K. Jagannathan, K. Browne, N. Ulibarri, D. Campbell, C. P. Franz, C. Grady, E.T. Joe, C.J. Kirchhoff, M. Madhavan, L. Michaud, S. Sharma, C. Singh, B. Orlove, G. N. Alverio, I. Ajibade, K.J. Bowen, N. Chauhan, E. K. Galappaththi, A.J. Hudson, K.J. **Mach**, J.I. Musah-Surugu, J. Petzold, D. Reckien, B. Schauburger, A.C. Segnon, B. van Bavel, and C. Gornott (2025). Dichotomy or continuum? A global review of the interaction between autonomous and planned adaptations. *Ecology and Society* 30:18.
- Kraan\*, C.M., M. Haasnoot, and K.J. **Mach** (2025). Expert perspectives on living with water (*meebewegen*) as climate adaptation in the Netherlands. *Environmental Research: Climate* 4: 015009.  
(Coverage: *Deltares*, *H2O Waternetwerk*)
- Carrere\*, A., K. Broad, J. Lombard, D. Hector, and K.J. **Mach** (2024). A typology of climatopias: visualizations, motivations, and transformations. *Environmental Research: Climate* 3: 045024.  
10.1088/2752-5295/ad8f58  
(Coverage: *UMiami*, *America Adapts*)
- Kousky, C., G. Treuer, and K.J. **Mach** (2024). Insurance and climate risks: policy lessons from three

- bounding scenarios. *PNAS* 121: e2317875121.  
(Coverage: EDF, The Invading Sea, LinkedIn)
- McDonnell\*, L.H., E.L. Hazen, and K.J. **Mach** (2024). Characteristics of animal movement and environmental data for dynamic ocean management: insights and guidance. *Conservation Science and Practice* e13268: 1-21.
- Carrere\*, A., K. Broad, and K.J. **Mach** (2024). Defining “climatopia”: An evaluation framework to support transformational adaptation in climate-inspired utopic design. *One Earth* 7: 1692-1704.  
<https://doi.org/10.1016/j.oneear.2024.09.005>
- Muse\*, N., A. Clement, and K. J. **Mach** (2024). Daytime land surface temperature and its limits as a proxy for surface air temperature in a subtropical, seasonally wet region. *PLOS Climate* 3: e0000278.  
<https://doi.org/10.1371/journal.pclm.0000278>  
(Coverage: Phys.org, WLRN)
- Siders, A.R., J. Niemann, M. Hino, E. Shields, L. Cano Pecharroman, T. Doeffinger, L. Gerber-Chavez, J.-C. Huang, A. Lafferty, S. Tamima, C. Williams, A. Agopian, C. Samoray, and K.J. **Mach** (2024). How local governments avoid floodplain development through consistent implementation of routine municipal ordinances, plans, and programs. *Oxford Open Climate Change* kgae017.  
<https://doi.org/10.1093/oxfclm/kgae017>.  
(Coverage: Phys.org, LinkedIn, Grist)
- Agopian\*, A., M. Hino, A.R. Siders, C. Samoray, and K.J. **Mach** (2024). A nationwide analysis of community-level floodplain development outcomes and key influences. *Earth's Future* 12: e2024EF004585. <https://doi.org/10.1029/2024EF004585>.  
(Coverage: UMiami, ScienceDaily, yahoo!finance, Grist, TheHill)
- Simpson, N.P., K.J. **Mach**, M.G.L. Tebboth, E.A. Gilmore, A.R. Siders, P. Holden, B. Anderson, C. Singh, S. Sabour, L.C. Stringer, H. Sterly, P.A. Williams, A.L.S. Meyer, G. Cundill, S. Rosengaertner, A. Nunow, K. Amakrane, and C.H. Trisos (2024). Research priorities for climate mobility. *One Earth* 7: 589-607.
- Dario\*, C., C. Curley, and K.J. **Mach** (2024). Shaping coastal nature-based solutions: perceptions and policy priorities of living shorelines. *Nature-Based Solutions* 6: 100179.
- Wannewitz\*, M., I. Ajibade, K.J. **Mach**, A. Magnan, J. Petzold, D. Reckien, N. Ulibarri, A. Agopian, V.I. Chalastani, T. Hawxwell, L.T.M. Huynh, C.J. Kirchhoff, R. Miller, J.I. Musah-Surugu, G. Nagle Alverio, M. Nielsen, A.M. Nunbogu, B. Pentz, A. Reimuth, G. Scarpa, N. Seeteram, I. Villaverde Canosa, J. Zhou, The Global Adaptation Mapping Initiative Team, and M.s Garschagen (2024). Progress and gaps in climate change adaptation in coastal cities across the globe. *Nature Cities* 1:14. <https://doi.org/10.1038/s44284-024-00106-9>.
- Ramirez\*, J.D. I. Maldonado, K.J. **Mach**, J. Potter, R.R. Balise, Santos, P.H. (2024). Evaluating the impact of heat stress on placental function: a systematic review. *International Journal of Environmental Research and Public Health* 21: 1111. <https://doi.org/10.3390/ijerph21081111>.
- Jinnah, S., S. Talati, L. Bedsworth, M. Gerrard, M. Kleeman, R. Lempert, K. **Mach**, L. Nurse, H.O. Patrick, and M. Sugiyama (2024). Do small outdoor geoengineering experiments require governance? *Science* 385: 600-603.
- Schubert, J.E., K.J. **Mach**, and B.F. Sanders (2024). National-scale flood hazard data unfit for urban risk management. *Earth's Future* 12: e2024EF004549. <https://doi.org/10.1029/2024EF004549>.  
(Coverage: NOAA, Science Daily, Bloomberg, LAIST, Forbes, SmartCitiesDive)
- Mach**, K.J., K. Jagannathan, L. Shi, L.L. Turek-Hankins, J.R. Arnold, C. Brelsford, A.N. Flores, J. Gao, C.E. Martin, D.L. McCollum, R. Moss, J. Niemann, B. Rashleigh, and P.M. Reed (2024). Research to confront climate change complexity: intersectionality, integration, and innovative governance. *Earth's Future* 12: e2023EF004392. <https://doi.org/10.1029/2023EF004392>.
- Samoray\*, C., M. Hino, A.R. Siders, A. Agopian, and K.J. **Mach** (2024). Housing amenity and affordability shape floodplain development. *Land Use Policy* 144: 107216.
- Sanders, B.F., D. Brady, J.E. Schubert, S.J. Davis, and K.J. **Mach** (2024). Quantifying social inequalities in flood risk. *ASCE Open: Multidisciplinary Journal of Civil Engineering* 2: 04024004.

- Shi\*, L., A. Brandt, D. Iancu, K.J. **Mach**, C. Field, M.-J. Cho, M. Ng, K.J.(S.) Chey, N. Ram, T. Robinson, and B. Reeves (2024). Climate impacts of digital use supply chains. *Environmental Research: Climate* 3: 015009.
- Mach**, K.J., J. Niemann, R. Donald, J. Owley, N.A. Seeteram, A.R. Siders, X.I. Cortada, A. Nyburg, A. Roberti, and I.A. Wright (2023). Practitioner perspectives on climate mobilities in South Florida. *Oxford Open Climate Change* 3: kgad015. <https://doi.org/10.1093/oxfclm/kgad015>  
(Coverage: University of Miami)
- Seeteram\*, N.A., E.P. Anderson, M. Bhat, K. Grove, B.F. Sanders, J.E. Schubert, F. Hassan, and K.J. **Mach** (2023). Living with water: Evolving adaptation preferences under increasing sea-level rise in Miami-Dade County, FL, USA. *Climate Risk Management* 42: 100574.
- Mach**, K.J., R. Vallario, J.R. Arnold, C. Brelsford, K.V. Calvin, A.N. Flores, J. Gao, K. Jagannathan, D. Judi, C.E. Martín, F.C. Moore, R. Moss, E. Nance, B. Rashleigh, P.M. Reed, L. Shi, L.L. Turek-Hankins, D.L. McCollum, and F. Lipschultz (2023). Chapter 18: Sector interactions, multiple stressors, and complex systems. In: *Fifth National Climate Assessment*. U.S. Global Change Research Program, Washington, DC, USA. <https://nca2023.globalchange.gov/chapter/18/>  
(Coverage: NYTimes)
- Seeteram\*, N.A., K. Ash, B.F. Sanders, J.E. Schubert, and K.J. **Mach** (2023). Modes of climate mobility under sea-level rise. *Environmental Research Letters* 18: 114015.  
(Coverage: Columbia)
- Khojasteh, D., M. Haghani, R.J. Nicholls, H. Moftakhari, M. Sadat-Noori, K.J. **Mach**, S. Fagherazzi, A.T. Vafeidis, E. Barbier, A. Shamsipour, and W. Glamore (2023). The evolving landscape of sea-level rise science from 1990 to 2021. *Communications Earth & Environment* 4: 257  
<https://doi.org/10.1038/s43247-023-00920-4>.
- Magnan, A.K., R. Bell, V.K.E. Duvat, J.D. Ford, M. Garschagen, M. Haasnoot, C. Lacambra, I.J. Losada, K.J. **Mach**, M. Noblet, D. Parthasarathy, M. Sano, K. Vincent, A. Anisimov, S. Hanson, A. Malmström, R.J. Nicholls, and Gundula Winter (2023). Status of global coastal adaptation. *Nature Climate Change* 1-12. <https://doi.org/10.1038/s41558-023-01834-x>
- Petzold, J., T. Hawxwell, K. Jantke, E. Gonçalves Gresse, C. Mirbach, I. Ajibade, S. Bhadwal, K. Bowen, A.P. Fischer, E.T. Joe, C.J. Kirchhoff, K.J. **Mach**, D. Reckien, A.C. Segnon, C. Singh, N. Ulibarri, D. Campbell, E. Cremin, L. Färber, G. Hegde, J. Jeong, A.M. Nunbogu, H.K. Pradhan, L.S. Schröder, M.A.R. Shah, P. Reese, F. Sultana, C. Tello, J. Xu, The Global Adaptation Mapping Initiative Team, and Matthias Garschagen (2023). A global assessment of actors and their roles in climate change adaptation. *Nature Climate Change* 1-10. <https://doi.org/10.1038/s41558-023-01824-z>
- Simpson, N.P., P. Adade Williams, K.J. **Mach**, L. Berrang-Ford, R. Biesbroek, M. Haasnoot, A.C. Segnon, D. Campbell, J.I. Musah-Surugu, E.T. Joe, A.M. Nunbogu, S. Sabour, A.L.S. Meyer, T.M. Andrews, C. Singh, A.R. Siders, J. Lawrence, M. van Aalst, C.H. Trisos, and The Global Adaptation Mapping Initiative Team (2023). Adaptation to compound climate risks: a systematic global stocktake. *iScience* 26: 105926. <https://doi.org/10.1016/j.isci.2023.105926>
- Andrews, T.M., N.P. Simpson, K.J. **Mach**, and C.H. Trisos (2023). Risk from response to a changing climate. *Climate Risk Management* 39: 100487.
- Amer\*, L., M. Erkoc, R.A. Feagin, S. Kameshwar, K.J. **Mach**, and D. Mitsova (2023). Measuring resilience to sea-level rise for critical infrastructure systems: leveraging leading indicators. *Journal of Marine Science and Engineering* 11: 1421.
- Mejía-Duwan\*, J., M. Hino, and K.J. **Mach** (2023). Emissions redistribution and environmental justice implications of California's clean vehicle rebate project. *PLOS Climate* 2(5): e0000183. <https://doi.org/10.1371/journal.pclm.0000183>  
(Coverage: New Scientist, Gizmodo, Bloomberg, phys.org, StreetsBlog USA)
- Wood, R.A., M. Crucifix, T.M. Lenton, K.J. **Mach**, C. Moore, M. New, S. Sharpe, T.F. Stocker, and R.T. Sutton (2023). A climate science toolkit for high impact–low likelihood climate risks. *Earth's Future* 11: e2022EF003369. <https://doi.org/10.1029/2022EF003369>

- Jagannathan, K., G. Emmanuel, J. Arnott, K.J. **Mach**, A. Bamzai-Dodson, K. Goodrich, R. Myer, M. Neff, K.D. Sjostrom, K.M.F. Timm, E. Turnhout, G. Wong-Parodi, A.T. Bednarek, A. Meadow, A. Dewulf, C.J. Kirchhoff, R.H. Moss, L. Nichols, E. Oldach, M. Carmen Lemos, and N. Klenk (2023). A research agenda for the science of actionable knowledge: Drawing from a review of the most misguided to the most enlightened claims in the science-policy interface literature. *Environmental Science and Policy* 144: 174-186.
- Mach**, K.J. (2023). *Climate Science and Law for Judges: Impacts of Climate Change*. Environmental Law Institute, Washington, DC, USA. 25 pp.
- Sanders, B.F., J.E. Schubert, D.T. Kahl, K.J. **Mach**, D. Brady, A. AghaKouchak, F. Forman, R.A. Matthew, N. Ulibarri, and S.J. Davis (2023). Large and inequitable flood risks in Los Angeles, California. *Nature Sustainability* 6: 47–57. <https://doi.org/10.1038/s41893-022-00977-7>  
(Coverage: News & Views, Sustainability Community Blog, WSJ, NY Times #1, NY Times #2, Los Angeles Times, Grist, NPR KCRW, StoryMap, UCI)
- Miller\*, R.K., L. Shi, A. Wulf, and K.J. **Mach** (2022). Trends in wildfire-related bills in California, 2001-2020. *Environmental Research: Climate* 1: 025006. <https://doi.org/10.1088/2752-5295/ac8caa>
- Mach**, K.J., M. Hino, A.R. Siders, S.F. Koller, C.M. Kraan, J. Niemann, and B.F. Sanders (2022). From flood control to flood adaptation. *Oxford Research Encyclopedia of Environmental Science* <https://doi.org/10.1093/acrefore/9780199389414.013.819>
- Lesk\*, C., D. Csala, R. Hasse, S. Sgouridis, A. Levesque, K.J. **Mach**, D. Horen Greenford, H.D. Matthews, and R.M. Horton (2022). Mitigation and adaptation emissions embedded in the broader climate transition. *PNAS* 119: 1-11. <https://doi.org/10.1073/pnas.2123486119>
- Palutikof, J.P., S.L. Boulter, C.B. Field, K.J. **Mach**, M.R. Manning, M.D. Mastrandrea, L. Meyer, J.C. Minx, J.J. Pereira, G.-K. Plattner, S.K. Ribeiro, Y. Sokona, F. Stadler, and R. Swart (2022). Enhancing the review process in global environmental assessments: the case of the IPCC. *Environmental Science and Policy* 139: 118-129.
- Luers, A., L. Yona, C.B. Field, R.B. Jackson, K.J. **Mach**, B.W. Cashore, C. Elliott, L. Gifford, C. Honigsberg, L. Klaassen, H.D. Mathews, A. Peng, C. Stoll, M. Van Pelt, R.A. Virginia, and L. Joppa (2022). Make greenhouse-gas accounting reliable—build interoperable systems. *Nature* 607: 653-656.
- Donald\*, R., C. Young, and K.J. **Mach** (2022). The role of local narratives in emerging climate governance. *Environmental Research: Climate* 1: 015003.  
(Coverage: University of Miami)
- Muse\*, N., D.M. Iwaniec, C. Wyczalkowski, and K.J. **Mach** (2022). Heat exposure and resilience planning in Atlanta, Georgia. *Environmental Research: Climate* 1: 015004.  
(Coverage: University of Miami)
- Pisor, A.C., X. Basurto, K.G. Douglass, K.J. **Mach**, E. Ready, J.M. Tylianakis, A. Hazel, M.A. Kline, K.L. Kramer, J.S. Lansing, M. Moritz, P.E. Smaldino, T.F. Thornton, and J. Holland Jones (2022). Effective climate change adaptation means supporting community autonomy. *Nature Climate Change* 1-3 <https://doi.org/10.1038/s41558-022-01303-x>.  
(Coverage: WSU)
- Moore, F.C., K. Lacasse, K.J. **Mach**, Y.A. Shin, L.J. Gross, and B. Beckage (2022). Determinants of emissions pathways in the coupled climate-social system. *Nature* 603: 103-111. <https://doi.org/10.1038/s41586-022-04423-8>.  
(Coverage: Nature Research Briefing, UC Davis, UVM, Guardian, Bloomberg, AGCI, Express, WSJ, Popular Science, BBC, Carbon Brief, Volts, WaPo)
- Shi\*, L., K.J. **Mach**, S. Suh, and A. Brandt (2022). Functionality-based life cycle assessment framework: an information and communication technologies (ICT) product case study. *Journal of Industrial Ecology* 1-19 <https://doi.org/10.1111/jiec.13240>
- Ara Begum, R., R. Lempert, E. Ali, T.A. Benjaminsen, T. Bernauer, W. Cramer, X. Cui, K. **Mach**, G. Nagy, N.C. Stenseth, R. Sukumar, and P. Wester (2022). Point of Departure and Key Concepts. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner,

- D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)). Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 121–196, doi:10.1017/9781009325844.003.  
(Coverage: WLRN, Florida Roundup, NBC4, FOX43, University of Miami)
- Nalau, J., L. Rickards, T. Lissner, K.J. **Mach**, E.L.F. Schipper, C. Singh, W. Solecki, A. Thomas, and E. Totin (2022). Cross-Chapter Box ADAPT: Adaptation science. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)). Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 166–169.
- New, M., D. Reckien, D. Viner, C. Adler, S.-M. Cheong, C. Conde, A. Constable, E. Coughlan de Perez, A. Lammel, R. Mechler, B. Orlove, and W. Solecki (2022). Decision-Making Options for Managing Risk. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)). Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2539–2654, doi:10.1017/9781009325844.026.  
[**Mach**, K.J., Contributing Author]
- Adler, C., R. Lempert, A. Constable, M. Haasnoot, J. Lawrence, K.J. **Mach**, S. French, R. Kopp, C. Parmesan, M. Domínguez Aguilar, E.A. Gilmore, R. Bezner Kerr, A. Gameda, C. Tirado-von der Pahlen, D. Ley, and R. Mukerji (2022). Cross-Chapter Box DEEP: Effective adaptation and decision-making under deep uncertainties. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)). Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2578–2580.
- Trisos, C.H., O. Geden, S.I. Seneviratne, M. Sugiyama, M. van Aalst, G. Bala, K.J. **Mach**, V. Ginzburg, H. de Coninck, and A. Patt (2022). Cross-Chapter Box SRM: Solar radiation modification. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)). Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2473–2478.
- Chen, D., M. Rojas, B.H. Samset, K. Cobb, A. Diongue Niang, P. Edwards, S. Emori, S.H. Faria, E. Hawkins, P. Hope, P. Huybrechts, M. Meinshausen, S.K. Mustafa, G.-K. Plattner, and A.-M. Tréguier (2021). Framing, Context, and Methods. In: *Climate Change 2021: The Physical Science Basis*. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 147–286, doi:10.1017/9781009157896.003. [**Mach**, K.J., Contributing Author]
- Miller\*, R.K., and K.J. **Mach** (2021). Roles and experiences of non-governmental organisations in wildfire response and recovery. *International Journal of Wildland Fire* 31: 46-55.  
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(The above article was featured in *Nature News & Views: Carrington, E. (2013). Plant biomechanics: high-endurance algae. Nature 503: 345-346; and in Inside JEB: Stead, N. (2013). Coralline alga stands the test of time on shoreline. Journal of Experimental Biology 216: i.)*
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- IPCC (2012). *Meeting Report of the Intergovernmental Panel on Climate Change Expert Meeting on Geoengineering* [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, C. Field, V. Barros, T.F. Stocker,

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- IPCC (2012). *Meeting Report of the Intergovernmental Panel on Climate Change Expert Meeting on Economic Analysis, Costing Methods, and Ethics* [Field, C.B., V. Barros, O. Edenhofer, R. Pichs-Madruga, Y. Sokona, M.D. Mastrandrea, K.J. **Mach**, and C. von Stechow (eds.)]. IPCC Working Group II Technical Support Unit, Carnegie Institution, Stanford, CA, USA, 75 pp.
- IPCC (2011). *Workshop Report of the Intergovernmental Panel on Climate Change Workshop on Impacts of Ocean Acidification on Marine Biology and Ecosystems* [Field, C.B., V. Barros, T.F. Stocker, D. Qin, K.J. **Mach**, G.-K. Plattner, M.D. Mastrandrea, M. Tignor, and K.L. Ebi (eds.)]. IPCC Working Group II Technical Support Unit, Carnegie Institution, Stanford, CA, USA, 164 pp.
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- Ellis, J.C., M.J. Shulman, H. Jessop, R. Suomala, S.R. Morris, V. Seng, M. Wagner, and K. **Mach** (2007). Impact of raccoons on breeding success in large colonies of Great Black-backed Gulls and Herring Gulls. *Waterbirds* 30: 375-383.
- Mach**, K.J., D.V. Nelson, and M.W. Denny (2007). Review. Techniques for predicting the lifetimes of waveswept macroalgae: a primer on fracture mechanics and crack growth. *Journal of Experimental Biology* 210: 2213-2230.
- Mach**, K.J., B.B. Hale, M.W. Denny, and D.V. Nelson (2007). Death by small forces: a fracture and fatigue analysis of wave-swept macroalgae. *Journal of Experimental Biology* 210: 2231-2243. (The two above articles were featured in *Inside JEB: Blackburn, L. (2007). Seaweeds crack up. Journal of Experimental Biology* 210: i-ii.)

Miller, L.P., M.J. O'Donnell, and K.J. **Mach** (2007). Dislodged but not dead: survivorship of a high intertidal snail following wave dislodgement. *Journal of the Marine Biological Association of the United Kingdom* 87: 735-739.

### **Manuscripts in review**

- Cai\*, X., Q. Qin, M. Kirwan, H. Michael, J. Shen, K.J. **Mach**, and P. Raymond. Recognizing salt wave events in coastal systems. In review.
- Seeteram\*, N., L. Shi, K. **Mach**, and R. Horton. Pathways to a climate-resilient housing stock in the United States. In review.
- Amer\*, L., M. Erkoc, R.A. Feagin, S. Kameshwar, K.J. **Mach**, and D. Mitsova. Sea-level rise adaptation: a review of decision-making approaches and the role of operations management. In review.
- McCoshan\*, E., K.J. **Mach**, and K.C. Seto. Climate risks and responses in informal settlements. In review.
- Ashad-Bishop, K.C., F.O. Casanova, M. Cruz, N. Muse, E. Bassuk, M.J. Chery, J. Ravix, Z.D. Bailey, D.M. Zuniga Carlier, K.J. **Mach**, L.L. Turek-Hankins, A. Clement, and S.H.L. George. "When it comes to heat, I retreat": Heat impacts and adaptation practices among people of African ancestry with cancer. In review.
- Fanning\*, A., K.J. **Mach**, M. Cruz, and A.C. Clement. Global metrics quantify shifts in chronic heat. In review.
- Bach\*, M., L. Loy, K.J. **Mach**, S. McDermid, and J. Jacquet. Environmental claims, climate promises, and 'greenwashing' by meat and dairy companies. In review.
- Chen Huebscher, M., K.J. **Mach**, A. Stanić, M. Leippold, B. Gaiarin, Z. Hausfather, E. Rawat, E. Fischer, M. Ciaramita, J. Rogelj, C. Buck, L. Sestorain, and R. Knutti. CLINB: A climate intelligence benchmark for foundational models. In review.
- Kenney, M.A., R. Kopp, C. Samaras, and U.S. Climate Assessment Scientists. What a robust, evidence-based United States climate assessment needs. In review.
- Zhu, C., C. Li, F.W. Zwiers, X. Zhang, A.D. Ziegler, K.J. **Mach**, and X. He. Inequality in labor losses from heat stress. In review.
- Mach**, K.J., A.R. Siders, M. Hino, J. Helgeson, R. Tatasciore, D. Recht, C.J. Denney, A. Agopian, I. Kwass-Mason, K. Larson Mohr, E.-M.H. Martin, J. Niemann-Morris, C. Samoray, J.E. Schubert, M.C. Sukop, I. Tavaréz, and B.F. Sanders. Scenario planning for transformative climate adaptation. In review.
- McMillan, D.W., et al. A community research partnership to understand hurricane preparedness in South Floridians living with spinal cord injury (SCI). In revision.
- Mach**, K.J. Reasons for Hope? Climate responses for equitable, long-term well-being. In revision.

### **AWARDS, HONORS, & FELLOWSHIPS**

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Climate Insider 15 Women Leading Climate Tech Research	2024
University of Miami Provost's Award for Collaborative Teaching	2023
Finalist, UM Provost's Award for Outstanding Achievement in Research and Scholarship	2023-2024
Piers Sellers Prize for world leading contribution to solution-focused climate research	2020
University of Miami Rosenstiel School Outstanding Mentor Award	2020
Candidate, Pritzker Emerging Environmental Genius Award	2017
UCAR Special Recognition Award for IPCC work	2014
UCAR Performance Award for IPCC work	2012
Jane Miller Scholars Award at Hopkins Marine Station	2010

Arthur C. Giese Award for best original experimental work at Hopkins Marine Station	2009
Stanford Interdisciplinary Graduate Fellowship	2008-2011
Stanford Graduate Fellowship	2005-2008
Wainwright Fellowship, Friday Harbor Laboratories, Washington	2007
Hannah T. Croasdale Fellowship, Phycological Society of America	2007
Earl H. & Ethel M. Myers Oceanographic & Marine Biology Trust Award	2007
Stanford Biological Sciences Excellence in Teaching Award	2006
A.B. in Biology, <i>summa cum laude</i>	2004
Phi Beta Kappa	2004
Harvard College Detur Book Prize	2001

## GRANTS

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### **Current**

**A fast-response, interactive flood modeling platform for coordinated, effective flood adaptation**

DoD ESTCP, \$1,923,797. Co-PI with B.F. Sanders (PI). 2025-2028.

**EAGER: Fast flood modeling for design of efficient and resilient infrastructure systems**

NSF ISP, \$300,000. PI with B.F. Sanders (Co-PI). 2025-2027.

**RAISE: CHIRRP: Advancing actionable understanding of chronic heat risks and response potentials in the urbanized subtropics.**

NSF CHIRRP, \$1,000,000. Co-PI with A. Clement (PI), 2025-2029.

**Collaborative Research: Floodplain management in the United States: where, why, and how policies have shaped exposure outcomes**

NSF HDBE, \$220,002. PI. Collaborative Proposal with A.R. Siders (Lead PI, \$280,091) and M. Hino (PI, \$148,962), 2021-2026.

**SCC-IRG Track 2: Equitable-access flood modeling for timely and just adaptation in the near and long term**

NSF SCC, \$1,499,549. PI with B.F. Sanders (Co-PI). 2023-2026.

**Coastal Research and Education Actions for Transportation Equity (CREATE) Tier 1 University Transportation Center**

DOT University Transportation Centers Program, \$3,000,000. Senior Personnel with S. Kulesza (PI). 2022-2026.

### **Previous**

**Multi-Objective Assessment of Flood Adaptation Options in Los Angeles County**

NOAA ESLR, \$499,915. Co-PI with B.F. Sanders (PI). 2023-2025.

**Pathways for achieving transformational climate adaptation**

NIST, \$58,238 for UM. PI. NIST IPA agreement in collaboration with A.R. Siders (\$28,938 for UD) and M. Hino (\$30,480 for UNC), 2024-2025.



**Training in Heat-Related Equity and Disparities (THREAD): developing innovative tools for heat-health attribution and enhancing local action in Miami-Dade.**

U-LINK Resilience Challenge, \$99,500. Co-PI with A. Clement (PI), Z.D. Bailey, S.D. Evans, and K. Ashad-Bishop, 2023-2025.

**Equity-focused community engagement to advance infrastructure-based resilience practice**

NOAA OAR CPO, \$491,955. Co-PI with W. Solecki (PI). 2024-2025.

**SCC-IRG Track 2: Equitable-access flood modeling for timely and just adaptation in the near and long term**

NSF SCC REU supplement, \$8,000. PI with B.F. Sanders (Co-PI). 2024.

**Developing a framework for understanding and managing chronic humid heat, its risks, and potential actions**

NOAA, \$30,000. Co-PI with A. Clement (PI). 2023-2024.

**Climate and racial justice**

U-LINK Social Equity Competing Renewal, \$49,870. Co-PI with A. Fleming, S. Evans, and A. Henderson, 2022-2024.

**The Resilient305 Collaborative: advancing hyperlocal, replicable, impact-driven adaptation science through resilience learning**

NOAA AdSci. Co-PI, UM subaward (\$80,000), 2021-2024.

**On the move: climate migration and retreat in South Florida, the Caribbean, and beyond**

U-LINK Phase II Year Two, \$99,984. PI with X. Cortada, J. Owley, and I. Wright, 2022-2024.

**Saint Mark's Episcopal School contract: sea-level rise advising for place-based learning**

PI. Contract amount based on total time contributed. 2021-2024.

**SRS-RN Planning Grant: Integrated and convergent sea level adaptation for urban and rural systems in the Gulf of Mexico Coastal Regions**

NSF SRS-RN Planning Grant, \$149,577. Co-PI with M. Erkoc (PI), R. Feagin, D. Mitsova-Boneva, and S. Kameshwar, 2022-2023.

**Using community-engaged research to launch climate change resilience from an inclusive design beachhead starting with Southeastern Floridians living with spinal cord injury (SCI)**

U-LINK Resilience Challenge, \$100,000. Co-PI with D. McMillan (PI), J. Lombard, and T. Green, 2022-2023.

**Planning activities to support the Resilient305 Strategy and Collaborative**

Miami Foundation and Florida International University. Co-PI, UM subaward (\$16,624), 2021-2022.

**Training in Heat-Related Equity and Disparities (THREAD) research collaborative.**

U-LINK Resilience Challenge, \$98,311. Co-PI with A. Clement (PI), Z.D. Bailey, S.D. Evans, and K. Ashad-Bishop, 2022-2023.

**On the move: climate migration and retreat in South Florida, the Caribbean, and beyond**

U-LINK Phase II Year One, \$99,640. PI with X. Cortada, J. Owley, and I. Wright, 2021-2022.

**Antiracism and climate justice dialogues to build an interdisciplinary course and research inquiry**

U-LINK Social Equity Challenge, \$99,992. PI with S. Evans, A. Fleming, and A. Henderson, 2020-2021.

**Forests and climate 2030: impacts, mitigation, and adaptation**

Climate and Land Use Alliance, \$50,000. PI on UM subaward (\$15,000) from Stanford, 2020-2021.

**On the move: climate migration and retreat in South Florida, the Caribbean, and beyond**

U-LINK Phase I, \$40,000. PI with X. Cortada, N. Mignanelli, J. Owley, and I. Wright, 2020.

**On the carbon storage capacity of the terrestrial biosphere: permanence risks and management**

Climate and Land Use Alliance, \$180,000. Co-PI with C.B. Field, 2019.

**Negative emissions: really?**

David and Lucile Packard Foundation, \$200,000. Co-PI with C.B. Field, 2016-2018.

**Natural and working lands in California's climate portfolio**

S.D. Bechtel, Jr. Foundation, \$248,860. Co-PI with C.B. Field, 2016-2017.

**Scoping work for the California natural and working lands inventory and assessment**

Environmental Defense Fund, \$14,300. Co-PI with C.B. Field, 2016.

***Submitted proposals***

**Southeast Climate Adaptation Pathways (SE-CAP)**

*Submitted to* NOAA Climate Adaptation Partnerships Program: Southeast Region. \$5,492,035. Co-PI, UM subaward, with T. Troxler (PI). 2024-2029.

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**RECENT MENTORSHIP**

*(\* indicates individual has completed program or employment and advanced to next career stage)*

***University of Miami Ph.D. students***

Armen Agopian, Abess Graduate Program in Environmental Science and Policy (advisor)

Alizé Carrère\*, Abess Graduate Program in Environmental Science and Policy (co-advisor)

Sophia Cayuso, Department of Teaching and Learning PhD Program (committee member)

Carmen Chavez, Abess Graduate Program in Environmental Science and Policy (co-advisor)

Mayra Cruz, Abess Graduate Program in Environmental Science and Policy (co-advisor)

Jalyse Cuff, Abess Graduate Program in Environmental Science and Policy (advisor)

Carla Dario\*, Abess Graduate Program in Environmental Science and Policy (committee member)

Vanessa Forbes Pateman, Abess Graduate Program in Environmental Science and Policy  
(committee member)

Katie Geddes, Abess Graduate Program in Environmental Science and Policy (advisor)

Kevin Larson Mohr, Abess Graduate Program in Environmental Science and Policy (advisor)

Steve Koller\*, Abess Graduate Program in Environmental Science and Policy (committee member)

Carolien Kraan\*, Abess Graduate Program in Environmental Science and Policy (advisor)

Laura McDonnell\*, Abess Graduate Program in Environmental Science and Policy (co-advisor)

Nkosi Muse\*, Abess Graduate Program in Environmental Science and Policy (advisor)  
Marissa Naclerio, Abess Graduate Program in Environmental Science and Policy (co-advisor)  
Ethan Prall, Abess Graduate Program in Environmental Science and Policy (advisor)  
Isabella Tavarez, Abess Graduate Program in Environmental Science and Policy (co-advisor)  
Lynée Turek-Hankins\*, Abess Graduate Program in Environmental Science and Policy (advisor)  
Matthew Varkony\*, Abess Graduate Program in Environmental Science and Policy (committee member)

***University of Miami postdoctoral scholar***

Rosalind Donald\* (supervisor)

***University of Miami research analyst***

Jennifer Niemann (supervisor)

***University of Miami MPS and MS students***

Maya Bach\*, Department of Environmental Science and Policy MS (co-advisor)  
Emily Bernfeld\*, Rosenstiel MPS in Marine Conservation (committee chair)  
Maya Bhalla-Ladd\*, Rosenstiel MPS in Tropical Marine Ecosystem Management (committee chair)  
Austin Bozgoz\*, Atmospheric Sciences MS (committee member)  
Juan Cervera\*, Marine Ecosystems and Society MS (committee member)  
Lourdes Duren Calo, Department of Atmospheric Sciences (co-advisor)  
Leah Ferger\*, Rosenstiel MPS in Marine Conservation (committee chair)  
Ben Gulmon\*, Rosenstiel MPS in Exploration Science (committee chair)  
Megan Hoover\*, Rosenstiel MPS in Marine Conservation (committee chair)  
Zezheng Hua\*, Rosenstiel MPS in Natural Hazards and Catastrophes (committee chair)  
Miah Jones, Department of Environmental Science and Policy MPS (advisor)  
Devon Ledbetter\*, Rosenstiel MPS in Marine Conservation (committee chair)  
Patrick O'Donnell\*, Rosenstiel MPS in Climate and Society (committee chair)  
Christopher Ramm\*, Rosenstiel MPS in Natural Hazards and Catastrophes (committee chair)  
Ryan Sedagat\*, Rosenstiel MPS in Coastal Zone Management (committee chair)  
Aida Stevenson\*, Rosenstiel MPS in Fisheries Management and Conservation (committee chair)  
Kim Tapia\*, Rosenstiel MPS in Climate and Society (committee chair)  
Shichen Wang\*, Rosenstiel MPS in Climate and Society (committee chair)  
Jamal Wilson\*, Abess/Rosenstiel MPS in Environment, Culture, and Media (committee member)

***University of Miami undergraduate students***

Addison Becker, Rosenstiel Marine Affairs (academic advisor)  
Anna Frey, Rosenstiel Marine Affairs (academic advisor)  
Natalie Lewis (research internship mentor, Office of Undergraduate Research and Community Outreach)  
Sam Lindemann\* (research internship mentor, NSF Research Experiences for Undergraduates program)  
Jalen Mathis, Rosenstiel Marine Affairs (academic advisor)  
Delaney Reynolds\*, Rosenstiel Marine Science (committee member, senior thesis)  
Bela Ricardo, Rosenstiel Marine Affairs (academic advisor)  
Eliza Spain, Rosenstiel Marine Affairs (academic advisor)

***Florida International University Ph.D. student***

Nadia Seeteram\*, Ph.D. Program in Earth Systems Science (committee member)

***Yale University Ph.D. student***

Nadia Ahmad, Ph.D. Program in School of the Environment (committee member)  
Aymane Eddahmani, Ph.D. Program in School of the Environment (committee member)

Richa Mahtta, Ph.D. Program in School of the Environment (committee member)

***University of Delaware Ph.D. student***

Salvesila Tamima, Ph.D. Program (committee member)

***Universität Stuttgart Ph.D. student***

Hannes Lauer, Ph.D. Program in Spatial and Regional Planning (external supervisor)

***Duke University Ph.D. student***

Gabriela Nagle Alverio, Ph.D. Program at the Nicholas School of the Environment & Sanford School of Public Policy (committee member)

***Stanford Ph.D. students***

Garrett Adler\*, Emmett Interdisciplinary Program in Environment and Resources (committee member)

Christa Anderson\*, Emmett Interdisciplinary Program in Environment & Resources (committee member)

Emily Francis\*, Earth System Science (committee member)

Benjamin Franta\*, History of Science (research mentor)

Miyuki Hino\*, Emmett Interdisciplinary Program in Environment and Resources (committee member)

Rebecca Miller\*, Emmett Interdisciplinary Program in Environment and Resources (committee member)

Lin Shi\*, Emmett Interdisciplinary Program in Environment and Resources (committee member)

Leehi Yona\*, Emmett Interdisciplinary Program in Environment and Resources (committee member)

***Stanford Master's students***

Ejeong Baik\*, Energy Resources Engineering (research mentor)

Samanthe Belanger\*, E-IPER MS-MBA (capstone project advisor)

Mackenzie Burnett\*, FSI International Policy Studies (thesis project advisor)

Himanshu Gupta\*, E-IPER MS-MBA (capstone project advisor)

Ashley Hammerbacher\*, Civil and Environmental Engineering (research mentor)

***Stanford undergraduate research program students***

Ana Katrina (Nina) Donaldson\*, Civil and Environmental Engineering (advisor) [SESUR]

J Mejía Duwan\*, Environmental Studies at Yale University (advisor) [SURGE]

Zhanpei Fang\*, Physics and Art Practice (advisor) [SESUR]

Maeve Givens\*, Environmental System Engineering (advisor) [VPGE]

Kendall Kissel\*, Earth Systems (advisor) [SESUR]

Talia Trepte\*, Earth Systems (advisor) [SESUR]

Lynée Turek-Hankins\*, Mechanical Engineering (advisor) [MUIR]

***University of Toronto undergraduate research program student***

William Lloyd\*, Laidlaw Scholars Programme

***Stanford and Carnegie Science postdoctoral scholars***

Connor Nolan\*, Woods Institute for the Environment (supervisor)

Daniel Sanchez\*, Global Ecology (supervisor)

Charlotte Stanton\*, Global Ecology (supervisor)

Peter Turner\*, Global Ecology (supervisor)

***Stanford and Carnegie Science research analysts***

Eren Bilir\*, Global Ecology (supervisor)

Patrick Freeman\*, Global Ecology (supervisor)

Erica Johnston\*, Woods Institute for the Environment (supervisor)  
Carolien Kraan\*, Woods Institute for the Environment (supervisor)  
Seth Lalonde\*, Global Ecology (supervisor)

## TEACHING EXPERIENCE

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**Climate Adaptation (RSM523/623)**, Instructor, University of Miami 2026  
**Climate Adaptation (ENV791b)**, Instructor, Yale School of the Environment 2025  
**Sea Level Rise (MSC348)**, Instructor, University of Miami 2023-present  
**Climate Resilience: A Multi-faceted Approach**  
(COM406/MSC372/GEG390/ECS403/ARC481/EGN181/BPH499/NUR499), Instructor, University of Miami 2022-present  
**The Science of Actionable Knowledge (EVR511/611)**, Instructor, University of Miami 2021-present  
**Interdisciplinary Environmental Research: Introduction to the Why and the How**  
(EVR603/ECS601), Instructor, University of Miami 2019-present  
**Guest lectures** for diverse undergraduate, graduate, law-school, and summer-program courses 2014-present

### Examples:

- **University of Miami Courses:** Climate and society (RSM 520/620, 2025); Adaptation to climate change (ARC 539/639, 2022); Survey of environmental organizations (ECS 372, 2021); Environmental Justice Clinic class (UM School of Law, 2020); Rosenstiel undergraduate faculty seminar series (2020, 2022); Podcast storytelling (CCA 594/795 & JMM 592/692, 2020)
- **YSE Course:** International organizations and conferences (2025)
- **MIT Course:** Social carbon economy (2024)
- **University of California, Irvine Course:** Flood risk and modeling (2022)
- **Indiana University:** Climate disasters and resilience (2022)
- **University of Toronto:** Climate change adaptation (EES1136H, 2022)
- **Middlebury Institute of International Studies at Monterey:** Sustainable coastal management (2021)
- **University of Michigan Course:** Climate change adaptation (2021)
- **Stanford University Courses:** Human and planetary health (2022); Environmental research design seminar (2019); Introduction to resource, energy, and environmental economics (2018); Disaster resilience seminar (2018); Implementing climate solutions at scale (2018, 2017); Gender, land, and climate change (2018, 2017); Climate change: an Earth systems perspective (2018, 2017); Climate and society (2018, 2017); Climate, politics, and infrastructure (Stanford Law School, 2019, 2018); Issues in environmental science, technology, and sustainability (2019, 2017); Introduction to environmental science (2017)
- **University of West Virginia Course:** Science and public policy (2018)
- **Dartmouth College Course:** Sustainable resource revolution (2018, 2017)
- **University of California, Davis Course:** Energy and the environment (2017)

**Distance Learning Training** (advanced online teaching, videoconference/collaboration tools, fostering community and engagement in online courses, case study/narrative techniques), Participant in Trainings, University of Miami 2020

**Directed Readings: Managed Retreat, Bioenergy with Carbon Capture and Storage, Wildfire Risk Management, Functionality-based Electronics Assessment**, Instructor, Stanford University, California 2016-2019

**The California Coast: Science, Policy, and Law**, Lecturer and Teaching Assistant, Stanford University, California 2009, 2011  
**Biomechanics**, Lecturer and Teaching Assistant, Friday Harbor Laboratories, University of Washington 2008  
**Cell Biology and Animal Physiology**, Teaching Assistant, Stanford University, California 2006  
**Biomechanics, Ecological Physiology, and Genetics of Intertidal Communities**, Lecturer and Teaching Assistant, Hopkins Marine Station of Stanford University, California 2005, 2007, 2009  
**Clinging for Dear Life: Exploring Seaweeds from Wave-swept Rocky Shores**, Outreach Workshop Leader, Expanding Your Horizons Conference, San Jose, California 2006-2008

## SERVICE & PROFESSIONAL DEVELOPMENT

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**Reviewer** for journals including *Climatic Change*, *Nature Climate Change*, *Nature*, *PNAS*, *Science Advances*, *Global Environmental Change*, *Environmental Science and Policy*, *Journal of Environmental Management*, *Climate Risk Management*, *Climate Policy*, *Environmental Research: Climate*, *Climate and Development*, *Journal of Environment and Development*, *Political Geography*, *Meteorological Monographs*, *Bulletin of the American Meteorological Society*, *Joule*, *Ecological Economics*, *Philosophical Transactions of the Royal Society A*, *Studies in History and Philosophy of Modern Physics*, *Nature Water*, and *Weather*, *Climate and Society* and for the publisher *Oxford University Press* Ongoing  
**Media interviews** upon request for diverse climate change topics Ongoing  
**Member** of the U.S.–India Track II Dialogue on Energy Cooperation and its Resilience and Adaptation Working Group 2025-present  
**Guest Editor** for ASCE OPEN Collection on Flood Adaptation 2024-present  
**Member** of Management Transition Advisory Group for the NOAA FIU Coastal Subsurface Monitoring research project 2024-present  
**Chapter Author** for U.S. Sixth National Climate Assessment 2024-2025  
**Co-organizer** of *Earth's Future* special section, “Advancing Complex Adaptive Human-Earth Systems Science in a World of Interconnected Risks” 2023-present  
**Chair**, Department of Environmental Science and Policy, Rosenstiel School of Marine, Atmospheric, & Earth Science, University of Miami 2023-present  
**Member** of the National Academies Climate Security Roundtable 2022-present  
**Member** of Jury for Frontiers Planet Prize 2022-present  
**Co-Editor in Chief** for *Climate Risk Management* 2021-present  
**Member** of University of Miami Resilience Institute Committee on Education 2021-present  
**Member** of University of Miami Office of Civic and Community Engagement's Advisory Stakeholder group for the Climate & Equity Mapping Project (CAMP) 2021-present  
**Advisory Board Member** for the NSF-funded Megalopolitan Coastal Transformation Hub (MACH) External Advisory Board 2021-present  
**Editorial Board Member** for *Environmental Research: Climate* 2021-present  
**Track Co-Lead**, MPS in Climate and Society, Rosenstiel School of Marine, Atmospheric, & Earth Science, University of Miami 2021-present  
**Editorial Board Member** for *Oxford Open Climate Change* 2020-present  
**Advisory Board Member** for the Aspen Global Change Institute 2018-present  
**Ad Hoc Reviewer** for NSF Human-Environment and Geographical Sciences Program 2024  
**Ad Hoc Reviewer** for NSF Decision, Risk and Management Sciences (DRMS) 2024  
**Organizing Committee Member** for Extreme Heat Workshop: Emerging Risks from Concurrent,

Compounding and Record-breaking Extreme Heat across Sectors, Columbia Climate School	2024
<b>Peer Reviewer</b> for New York Sea Grant	2023
<b>Member</b> of University of Miami's Academic Personnel Board	2022-2023
<b>Advisory Committee Member</b> for Columbia University 2023 conference on managed retreat	2022-2023
<b>Ad Hoc Reviewer</b> for NSF Marine Geology and Geophysics	2022
<b>Panel Reviewer</b> for NSF Humans, Disasters, and the Built Environment (HDBE)	2022
<b>Chapter Lead</b> for U.S. Fifth National Climate Assessment	2021-2024
<b>Member</b> of John Templeton Foundation Humble Approach Initiative, "From Coronavirus to Climate Crisis: Facing the Challenge"	2021-2023
<b>Member of Search Committee</b> , IDSC-Rosenstiel faculty hires, University of Miami	2021-2023
<b>Member of Search Committee</b> , Environmental Science and Policy faculty hires, Rosenstiel School of Marine, & Atmospheric Science, University of Miami	2021-2023
<b>Member</b> of Climate and Heat Health Task Force for Miami-Dade County and Resilient305	2021-2023
<b>Member</b> of Undergraduate Teaching Innovation Committee, Rosenstiel School of Marine and Atmospheric Science, University of Miami	2021-2023
<b>Participant</b> in SESYNC workshop, "Adaptation"	2021-2023
<b>Organizing Committee Member</b> for University of Miami Climate and Health Symposium 2022	2021-2022
<b>Chair of Search Committee</b> , Lecturer in Marine Conservation, Department of Marine Ecosystems and Society, Rosenstiel School of Marine and Atmospheric Science, University of Miami	2021
<b>Panel Reviewer</b> for U.S. Department of Energy Office of Science	2021
<b>Panel Reviewer</b> for University of Miami Fellowship in the Arts & Humanities	2021
<b>Member of Seminar Series Committee</b> , Department of Environmental Science and Policy (previously Marine Ecosystems and Society), Rosenstiel School of Marine, Atmospheric, & Earth Science, University of Miami	2020-2023
<b>Advisory Committee Member</b> for Columbia University 2021 conference on managed retreat	2020-2021
<b>Graduate Program Director</b> , Department of Environmental Science and Policy (previously Marine Ecosystems and Society), Rosenstiel School of Marine and Atmospheric Science, University of Miami	2020-2023
<b>Member</b> of Climate Science Working Group for California CalTrans and Department of General Services	2020-2022
<b>Session Co-Organizer</b> , "Long-talk: is It Working, and for Whom? Evaluation of DMDU engagements," Society for Decision Making under Deep Uncertainty Annual Meeting	2020
<b>Member of Search Committee</b> , Lecturer in Marine Conservation, Department of Marine Ecosystems and Society, Rosenstiel School of Marine and Atmospheric Science, University of Miami	2020
<b>Advisory Committee Member</b> for Stratospheric Controlled Perturbation Experiment (SCoPEX), Harvard University	2019-2024
<b>Participant</b> in SESYNC pursuit, "Putting people into climate models"	2019-2023
<b>Participant</b> in SESYNC pursuit, "New scenarios and models for climate engineering"	2019-2023
<b>Organizing Committee Member</b> for University of Miami Climate Symposium 2020	2019-2020
<b>Advisory Committee Member</b> for Columbia University Conference, "At what point managed retreat? Resilience in the coastal zone"	2019
<b>Review Panel Member</b> for NAS Gulf Research Program thriving communities research-practice grant, "Enhancing coastal community resilience and well-being in the Gulf of Mexico region"	2019
<b>Lead Author</b> for IPCC Sixth Assessment Report	2018-2022
<b>Co-editor</b> for <i>Current Opinion in Environmental Sustainability</i> special issue, "Advancing the science of actionable knowledge for sustainability"	2018-2020
<b>Reviewer</b> for National Academies' report on climate assessments	2018

<b>External Examiner</b> for University of Melbourne PhD thesis: “Bioenergy with Carbon Capture and Storage: Sustainability, Challenges, and Potential” by N. Pour	2018
<b>Associate Deputy Editor</b> for <i>Climatic Change</i>	2017-2021
<b>Participant</b> in SESYNC project, “Advancing the science of knowledge use: mechanisms, applications, and gaps”	2017-2019
<b>Expert interviews</b> for US Government Accountability Office on climate risks and adaptation	2016-2024
<b>Advisor</b> , as part of Science Advisory Board, for Carbon180	2016-2023
<b>Lead Author</b> for U.S. Fourth National Climate Assessment	2016-2018
<b>Seminar Committee for Carnegie Science Global Ecology</b> , Chair of Committee	2015-2016
<b>Leopold Leadership Program Advanced Training</b> , “Hitting your policy mark: leveraging networks and collective impact,” Washington, D.C.	2014
<b>Media Training for IPCC Authors</b> in California, the Netherlands, and Denmark	2013-2014
<b>Seminar Committee for Carnegie Science Global Ecology</b> , Member of Committee	2011-2012
<b>Communicating Climate Change Science to Policymakers</b> , Workshop Participant, Center for Ocean Solutions, Monterey, California	2010
<b>Communication Partnership for Science and the Sea (COMPASS) Media Workshop</b> , Participant, through the Center for Ocean Solutions, Moss Landing, California	2009
<b>“What do policy makers need to know about climate change and the oceans?” Symposium</b> , Event Organizer & Faculty-Panel Moderator, Monterey Research Institutions’ Network	2009
<b>Leadership Laboratories</b> , Participant, Stanford Graduate School of Business, California	2009
<b>Communication Matters Workshop Series</b> , Participant, Stanford University, California	2009
<b>I-RITE/I-SPEAK: Science Communication</b> , Participant, Stanford Graduate Summer Institute, California	2009
<b>The Role of Marine Science in Public Policy</b> , Workshop Participant, Stanford University, California	2007

## MEDIA & OTHER INTERVIEWS

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### **America Adapts: the Climate Change Podcast**

“Making Sense of the IPCC Report and How the Media Succeeds (and Fails) in Explaining It,” interview with K.J. Mach. June 20, 2022. Audio available at <https://www.americaadapts.org/episodes/making-sense-of-the-ipcc-report-and-how-the-media-succeeds-and-fails-in-explaining-it-guest-dr-katharine-mach>

### **WLRN Sundial**

“Managed retreat,” interview with K.J. Mach. August 9, 2021. Audio available at <https://www.wlrn.org/podcast/sundial/2021-08-09/fius-fall-semester-amid-covid-spike-fort-lauderdale-beach-tunnel-and-managed-retreat>

### **Climate One**

“Temperature Check: Science, Texas, and Climate Chaos,” interview with M. Shepherd and K.J. Mach. March 5, 2021. Audio available at <https://www.climateone.org/audio/temperature-check-science-texas-and-climate-chaos>

### **The Weekly Anthropocene**

“Scientist Spotlight: An Exclusive Interview with Dr. Katharine Mach.” March 1, 2021. Available at [https://theweeklyanthropocene.weebly.com/uploads/8/7/5/0/87509708/scientist\\_spotlight-\\_dr.\\_katharine\\_mach.pdf](https://theweeklyanthropocene.weebly.com/uploads/8/7/5/0/87509708/scientist_spotlight-_dr._katharine_mach.pdf)

### **Climate Action Now**

“Aligning with Climate Science to Limit Global Warming to 1.5 Degrees,” interview with K.J. Mach and others. January 2020. Audio available (K.J. Mach starting at 4:20) at <https://orsted.com/en/Act-now/climate-action-now-podcast>



### **Climate One**

"If Global Warming Exists, Why Is It So Cold Outside?" interview with D. Fenton, K.J. Mach, A. Reid, and B. Santer. February 26, 2019. Audio and video available at <https://www.climateone.org/events/if-global-warming-exists-why-it-so-cold-outside>

### **Climate One**

"The Paris Agreement at Three: Floundering or Flourishing," interview with T. Houser and K.J. Mach. December 12, 2018. Audio and video available at <https://climateone.org/audio/paris-agreement-three-floundering-or-flourishing>

### **KQED**

"Climate Summit: What Happened and What It Means," interview with K.J. Mach, J. Rockström, and others. September 17, 2018. Audio available (K.J. Mach starting at 38:13) at <https://www.kqed.org/science/1931512/climate-summit-what-happened-and-what-it-means>

### **Climate One**

"Climate Winners and Losers," interview with S. Hsiang and K.J. Mach. May 29, 2018. Audio and video available at <http://www.climateone.org/events/climate-winners-and-losers>

### **Coping with Uncertainty: Normative Approaches, Current Practice**

"Decision-making under Severe Uncertainty," interview with K.J. Mach. Video available at <https://player.vimeo.com/video/219973648?title=0&byline=0&portrait=0&color=ffffff>

### **Climate One**

"Jeff Goodell: The Water Will Come," interview with J. Goodell, M. Krapels, and K.J. Mach. November 8, 2017. Audio and video available at <https://climateone.org/events/jeff-goodell-water-will-come>

### **World Affairs Council, San Francisco**

"Taking Climate Change Seriously," interview with K.J. Mach and M. Hino. October 12, 2017. Video available at <http://www.worldaffairs.org/events/event/1766#.Wj1PLt-nEuU>

### **Uncommon Dialogue: Building Coastal Resilience: US Risks and Preparedness**

"Moderator Takeaway: Sea Level Rise," interview with K.J. Mach. September 19, 2017. Video available at <https://www.youtube.com/watch?v=qw40aOKYtMs&t=21s>

### **Climate Geoengineering: GeoElive**

"Climate Change and Geoengineering," interview with K.J. Mach. September 12, 2017. Video available at <https://www.facebook.com/isgpf/forum/videos/1974525119498518/>

### **The World, PRI**

"Harvey May Have Caught Texas by Surprise, But Other Places Have Been Getting Ready for More Extreme Weather," interview with K.J. Mach. August 28, 2017. Audio available (K.J. Mach starting at 23:50) at <https://www.pri.org/programs/pri-world/relief-efforts-texas-sheriff-joes-pardon-and-plastic-bags>

### **The Reasoner**

Interview with K.J. Mach. July 2017. Transcript available at <https://blogs.kent.ac.uk/thereasoner/files/2017/06/TheReasoner-117.pdf>

### **CTV News Channel**

"Great Barrier Reef Bleaching," interview with K.J. Mach. April 10, 2017. Video available at <https://www.facebook.com/CTVNewsChannel/videos/1389876927740301/>

### **America Adapts: the Climate Change Podcast**

"Behind the Scenes at the IPCC," interview with K.J. Mach. March 14, 2017. Audio available at <http://americaadapts.libsyn.com/website/america-adapts-the-climate-change-podcast-0>

### **Other Voices Forum, Peninsula Peace and Justice Center**

"One Year After Paris Climate Agreement: Now What?" interview with K.J. Mach and C.B. Field. December 17, 2016. Video available at <https://www.youtube.com/watch?v=oh9oGyALxTU>

### **Radio Ecoshock**

"Climate Disruption: Here and Now," interview with K.J. Mach, C.B. Field, and M. Mariette. September 8, 2016. Audio available (K.J. Mach starting at 25:01) at <http://www.ecoshock.org/2016/09/climate-disruption-here-now.html>

### **The Brad Bogner Show**

"Episode 223" on COP21, interview with K.J. Mach and C.B. Field. December 30, 2015. Audio available at <http://www.bradbogner.com/episode-223-chris-field-and-katharine-mach-carnegie-institution-for-science-at-stanford/>

### **Green.TV**

"COP21 Daily News: Fighting Climate Change is a Numbers Game," interview with K.J. Mach and others. December 10, 2015. Video available (K.J. Mach starting at 1:30) at <https://www.facebook.com/greentv/videos/10153302016351452/>

### **Climate Home**

"COP21," interview with K.J. Mach. December 9, 2015. Video available at <https://youtu.be/uNFUNj4tymS>

### **Other Voices Forum, Peninsula Peace and Justice Center**

"Last Chance? The United Nations Global Conference on Climate Change," interview with K.J. Mach and C.B. Field. November 24, 2015. Video available at <https://youtu.be/4JmtUP7mKUI>

### **Ask a Leader, KUCI**

"Physical Science and Political Science Meet at COP21," interview with K.J. Mach and C.B. Field. November 24, 2015. Audio available at <http://tunein.com/topic/?topicId=102373949>

### **Colin McEnroe Show, WNPR**

"Fighting Climate Change Could Involve Changing Your Lifestyle," interview with J. Gowdy, C.B. Field, K.J. Mach, and J. Stodder. June 23, 2015. Audio available (K.J. Mach starting at 11:30) at <http://wnpr.org/post/fighting-climate-change-could-involve-changing-your-lifestyle-stream/0>

### **Ask a Leader, KUCI**

"Scientists' Take-Away From Lima," interview with C.B. Field and K.J. Mach. December 16, 2014. Audio available (interview starting at 27:13) at <http://askaleader.com/?p=393>

### **Forum with Michael Krasny, KQED**

"U.N. Panel Warns of 'Severe and Irreversible' Effects of Climate Change," interview with E. Holthaus, K.J. Mach, M. Oppenheimer, and G. Yohe. November 4, 2014. Audio available (K.J. Mach starting at 11:18) at <http://www.kqed.org/a/forum/R201411040900>

### **2014 Roundtable at Stanford**

"The Climate Conversation You Haven't Heard," video interview featuring K.J. Mach and others. October 24, 2014. Video available (K.J. Mach starting at 1:46) at <http://roundtable.stanford.edu/webcast/>

### **The Brian Lehrer Show, WNYC**

"Ask a Climatologist," interview with K.J. Mach. April 22, 2014. Audio available at <http://www.wnyc.org/story/ask-climate-scientist/>

### **IPCC Working Group II Interviews about Author Experiences**

Interview with K.J. Mach at the final Lead Author meeting in Bled, Slovenia. July 2014. Video available at <http://vimeo.com/88201681> and <http://vimeo.com/88202245>

### **Evening News, KVMR**

Interview with K.J. Mach. May 15, 2012. Audio available (interview starting at 18:50) at <http://audio.kvmr.org/podhawk/audio/KvmrPodcast-2012-05-15-70363.mp3>

## **INVITED PRESENTATIONS**

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### **University of Miami School of Law**

2026 Mach, K.J. A discussion of *North: The Future of Post-Climate America* with Jesse Keenan. Discussion moderator. Coral Gables, FL.

### **Cascadia CoPes Hub**

2026 Mach, K.J. Increasing preparedness for intensifying climate change. Online webinar series for the NSF Cascadia Coastlines and Peoples Hazards Research Hub.

**American Geophysical Union**

- 2025 Mach, K.J., A.C. Clement, M. Hino, and A.R. Siders. Understanding and managing complex hazards and risks. New Orleans, Louisiana.
- 2025 Mach, K.J., and B.F. Sanders. Advancing science–practice interactions to manage complex risks. New Orleans, Louisiana.

**India-U.S. Track II Dialogue on Energy Cooperation**

- 2025 Mach, K.J. Adaptation and disaster resilience. Aspen Institute virtual interim meeting.

**Miami-Dade County Department of Environmental Resources Management**

- 2025 Mach, K.J. Adaptive pathways. Transformative Environmental Change Webinar for the Biscayne Canal (C-8) Adaptation Action Area (AAA).

**Yale School of the Environment**

- 2025 Mach, K.J. The role of climate assessment. International Organizations and Conferences Course, New Haven, Connecticut.

**Yale School of the Environment**

- 2025 Mach, K.J. Wildfire risk and adaptation. Urban Learning Community, New Haven, Connecticut.

**Columbia University**

- 2025 Mach, K.J. Increasing preparedness for intensifying climate change. Columbia Climate School Signature Speaker Series, New York, New York.

**NSF MACH Coastlines and People Hub Seminar Series**

- 2025 Mach, K.J., M. Hino, and A.R. Siders. Where and how U.S. towns limit floodplain development. Webinar.

**Greater Everglades Ecosystem Restoration**

- 2025 Mach, K.J., and B.F. Sanders. Strengthening technology and processes for participation in flood adaptation planning. Coral Springs, Florida.

**University of Miami**

- 2025 Mach, K.J. Strategic, managed retreat and “avoid” measures in transformative climate adaptation. Virtual presentation, Climate and Society Course.

**Hixon Center for Urban Sustainability (YSE) & the Indian Institute for Human Settlements**

- 2025 Mach, K.J. Cities in action: expert conversations for urban heat solutions. Moderator and presenter. Webinar.

**Los Angeles Regional Collaborative for Climate Action and Sustainability**

- 2025 Martin, E.-M, K.J. Mach, J.E. Schubert, and B.F. Sanders. Flood control infrastructure adaptation in Los Angeles County. Webinar.

**NPR Climate Week**

- 2025 Mach, K.J. How climate change is affecting where and how we live. Panelist. Webinar.

**Yale School of the Environment**

- 2025 Mach, K.J. Increasing preparedness for intensifying climate change. BIOMES Seminar Series, New Haven, Connecticut. Video available at <https://www.youtube.com/watch?v=H68LhFzuAEI>

**16th Annual Southeast Florida Regional Climate Leadership Summit**

- 2024 Mach, K.J. Innovation for resilience finance. Panelist. Key West, Florida.

**Sixth National Climate Assessment**

- 2024 Mach, K.J. Complexity and interconnectivity. First all authors meeting. Virtual meeting.

**Environmental Defense Fund**

- 2024 Mach, K.J. Adaptation to intersectional and chronic climate risks: examples of success and future possibilities. Economic Seminar Series. Webinar.

**USC Sea Grant AdaptLA Seminar Series**

- 2024 Sanders, B.F., E.-M. Martin, J. Schubert, and K. Mach. Exploring the transformative adaptation of Southern California flood infrastructure. Dornsife College of Letters, Arts and Sciences, University of Southern California.

**MIT**

2024 Mach, K.J. Confronting climate change complexity: intersectionality, integration, and innovative governance. The MIT Social Carbon Economy (SCE) Initiative. Virtual presentation.

**Princeton University**

2024 Mach, K.J. Commentary on power, justice, and community collaboration. Climate Mobilities Conference: Justice, Data, and Governance. Princeton, New Jersey.

**The Resilient305 Collaborative Annual Meeting**

2024 Turek-Hankins, L.L., M. Cruz, N. Brown, N. Muse, A. Clement, and K.J. Mach (presenting). Interactions between indoor heat and energy affordability amplify household risks. Miami, Florida.

**Underwater Conversation**

2024 Mach, K.J. Climate mobilities in South Florida. Moonlighter FabLab, Miami Beach, Florida.

**Oregon State University**

2024 Mach, K.J. Confronting climate change complexity: intersectionality, integration, and innovative governance. Seminar Series in Geography and Geospatial Science. Webinar.

**MSD Community of Practice Webinar Series**

2024 Mach, K.J., K. Jagannathan, C.E. Martín, P.M. Reed, L. Shi, and D. Singh. Confronting climate change complexity: intersectionality, integration, and innovative governance. Webinar. Video available at <https://www.youtube.com/watch?v=84BW3kIQzxE>

**Peterson Institute for International Economics**

2024 Mach, K.J. Confronting climate change complexity: intersectionality, integration, and innovative governance. Webinar.

**NSF Smart and Connected Communities PI Meeting**

2024 Mach, K.J. Equitable-access flood modeling for timely and just adaptation in the near and long term. Presentation and poster. Nashville, Tennessee.

**University of Florida**

2024 Mach, K.J., and B.F. Sanders. Collaborative flood modeling for inclusive and time-efficient climate adaptation. Water Institute Symposium, Gainesville, Florida.

**NCA5 Webinar Series**

2024 Mach, K.J., C. Brelsford, K. Jagannathan, C.E. Martín, P.M. Reed, L. Shi, and D. Singh. Complex systems chapter and compound events focus box. Webinar. Video available at <https://www.globalchange.gov/resources/nca5-webinar-complex-systems-and-compound-extreme-events>

**Underwater Conversation**

2023 Mach, K.J. Art Week 2023 finale: an underwater conversation. Panelist. Moonlighter FabLab, Miami Beach, Florida.

**American Geophysical Union**

2023 Mach, K.J. Advancing actionable, equitable complex systems research and practice for climate responses. San Francisco, California.

2023 Mach, K.J., and B.F. Sanders. A new simulation platform for time-efficient, cost-effective, and equitable flood adaptation. San Francisco, California.

**University of Delaware Mather lecture**

2023 Mach, K.J. Increasing preparedness for intensifying climate change. Newark, Delaware.

**University of Miami Rosenstiel School Climate Café**

2023 Mach, K.J. Water, water, everywhere. Panelist. Miami, Florida.

**NAS Dynamics of Climate and the Macroeconomy Workshop**

2023 Mach, K.J. Perspectives on future directions. Panelist. Washington DC.

**NAS Climate Security Roundtable**

2023 Mach, K.J. Human response as a determinant of complex climate risk. Washington DC.

**Greater Everglades Ecosystem Restoration**

2023 Mach, K.J., and B.F. Sanders. A new simulation platform for time-efficient, cost-effective, and equitable flood adaptation. Coral Springs, Florida.

**Concordia Americas Summit**

2023 Mach, K.J. Climate resilience's 'Ground Zero': Miami seas. Panelist. Miami, Florida. Video available at <https://www.youtube.com/watch?v=yGna6PXOAAbE>

**Aspen Ideas: Climate**

2023 Mach, K.J. Come hell or high water. Panel moderator. Miami Beach, Florida. Video available at <https://www.youtube.com/watch?v=bwO76lbOTCw>

**University of Miami**

2023 Mach, K.J. Collaborative flood modeling. SRS RN Workshop on Convergent Sea Level Rise Adaptation for Urban and Rural Systems in the Gulf of Mexico. Miami, Florida.

**Southeast & Caribbean Disaster Resilience Partnership**

2023 Mach, K.J. Community-based risk reduction. Panelist. SCDRP 2022 Annual Meeting: Responding to the Urgency: Working Together to Build Effective and Inclusive Resilience. Miami, Florida.

**NAS Climate Security Roundtable**

2023 Mach, K.J. Climate and conflict. Washington DC.

**University of California, Irvine**

2022 Mach, K.J. A digital platform for community-engaged, science-informed solutions to coastal erosion and beach loss in California: overcoming barriers to participation. Irvine, California.

**American Geophysical Union**

2022 Mach, K.J. Advancing complex systems approaches towards equity, actionable knowledge, and principles for governance. Chicago, Illinois.

**Stanford University**

2022 Mach, K.J. Strategic, managed retreat and transformative climate adaptation. Human and Planetary Health, virtual presentation.

**Knowledge Action Network on Emergent Risks and Extreme Events**

2022 Mach, K.J. Advancing complex systems approaches towards equity, actionable knowledge, and principles for governance. Virtual presentation for Compound Events Webinar Series.

**Danube University Krems**

2022 Mach, K.J. Climate justice and adaptation. Climate Justice: Ethical Reflection and Transformative Action series. Virtual presentation.

**BlackRock**

2022 Mach, K.J. Preparing for climate risks. Aladdin Sustainability Lab and BlackRock Sustainable Investing seminar series. Virtual presentation.

**USGCRP Observations Interagency Working Group**

2022 Agopian, A., M. Hino, A.R. Siders, and K.J. Mach. A national index of floodplain development to guide climate-smart growth and land use management. Virtual presentation.

**University of Rhode Island**

2022 Mach, K.J. Community-based solutions to rising coastal challenges. Panelist. Virtual event, Metcalf Institute Annual Lecture Series.

**Government Accountability Office**

2022 Mach, K.J. IPCC WGII AR6 and implications for adaptation decision-making. Virtual presentation for GAO Climate Change Community of Practice.

**Frost Museum of Science**

2022 Mach, K.J. Imagining Miami's environmental future. Panelist. LIVE@FrostScience event, Miami, Florida.

**University of Miami School of Architecture**

2022 Mach, K.J. An overview of retreat. Virtual presentation.

**Stanford Woods Institute for the Environment**

2022 Mach, K.J. Ice sheets and sea level rise. Panelist. Virtual event.

**American University and U.S. Department of Defense**

2022 Mach, K.J. The Defense Department's role on climate change. Panelist. Virtual roundtable.

**University of Toronto**

2022 Mach, K.J. The role of actionable knowledge and portfolios of responses for climate change adaptation. Virtual presentation.

**Center for Climate and Security**

2022 Mach, K.J. Decoding the new IPCC report on climate impacts: implications for security and adaptation. Panelist. Virtual event. Video available at <https://www.youtube.com/watch?v=9sE4EJ1EteU>; summary available at <https://climateandsecurity.org/2022/03/event-summary-ipcc-authors-underscore-importance-of-governance-adaptation-to-reduce-climate-vulnerability/>

**CLEO Institute's 11th Annual Climate Symposium**

2022 Mach, K.J. Energy justice in an inequitable, warming world. Moderator of discussion with Shalanda H. Baker, Deputy Director, Office of Economic Impact and Diversity at the U.S. Department of Energy. Virtual symposium.

**Indiana University**

2022 Mach, K.J. Portfolios of responses for disaster risk management and climate adaptation. Virtual presentation.

**North Carolina State University**

2022 Mach, K.J. Strategic, managed retreat and “avoid” measures in transformative climate adaptation. Virtual presentation, College of Design Spring Speakers Series on Disaster Resilient Design.

**Rosenstiel Undergraduate Faculty Seminar Series**

2022 Mach, K.J. Climate change adaptation in Miami and beyond. Virtual presentation.

**Southeast & Caribbean Disaster Resilience Partnership**

2022 Mach, K.J. Managed retreat and climate migration. Panelist. Virtual event, SCDRP 2022 Annual Meeting: Unique Communities, Shared Challenges: Building Resilience, Equitably.

**National Science Policy Network**

2022 Mach, K.J. Intersectional workshop on environmental justice. Panelist. Virtual event by the NSPN DEI committee.

**University of California, Irvine**

2022 Mach, K.J. Strategic, managed retreat and “avoid” measures in portfolios of transformative climate adaptation and flood risk management. Virtual presentation.

**13th Annual Southeast Florida Regional Climate Leadership Summit**

2021 Mach, K.J. Zero hour: the economic imperative of decarbonization and a just transition. Presenter. Virtual event.

**City of Miami Climate Resilience Committee**

2021 Mach, K.J. Strategic and managed retreat. Virtual presentation.

**Middlebury Institute of International Studies at Monterey**

2021 Mach, K.J. Strategic, managed retreat and transformative climate adaptation. Virtual presentation.

**Stanford University Scientists Speak up**

2021 Mach, K.J. How the IPCC works and why it matters. Panelist. Virtual event.

**U.S. Department of Energy**

2021 Mach, K.J. Human systems and dynamics. Panelist. Artificial Intelligence for Earth System Predictability (AI4ESP) workshop, U.S. DOE Earth and Environmental Systems Science Division (EESD) and Advanced Scientific Computing Research (ASCR) program. Virtual event.

**Council on Foreign Relations**

2021 Mach, K.J. The climate crisis. Panelist. Home and Abroad virtual forum on climate change. Video available at <https://www.youtube.com/watch?v=U-DI4-uNGCo>

**Erol Foundation**

2021 Mach, K.J. Key highlights from the IPCC AR6 report. Panelist. Virtual event.

**Environmental Security Summit**

- 2021 Mach, K.J. The role of natural resource management in environmental security. Panelist. Virtual summit, World War E: How the World Is Fighting for Environmental Security, by the Environmental Security Working Group.

#### **University of Virginia**

- 2021 Mach, K.J. Climate risks and adaptations: integrating knowledge, making it actionable. Environmental Sciences seminar series. Virtual presentation.

#### **Columbia Climate School and Earth Institute**

- 2021 Mach, K.J. A discussion of the *Science* Special Issue on climate-induced relocation. Panelist. Virtual conference, At What Point Managed Retreat? Resilience, Relocation, and Climate Justice.

#### **National University of Singapore and the HEAD Foundation**

- 2021 Mach, K.J. In the wake of a changing climate: the resource challenge in Southeast Asia. Panelist. Virtual event. Video available at <https://headfoundation.org/2021/06/15/in-the-wake-of-a-changing-climate-the-resource-challenge-in-southeast-asia-2/>

#### **Met Office Climate Science Conference**

- 2021 Mach, K.J. Low probability, high impact outcomes of climate change (including tipping points). Panelist. Virtual conference.

#### **U-LINK One Book One U**

- 2021 Henderson, A., K.J. Mach, and J. Niemann. Antiracism and climate justice dialogues. Virtual event.

#### **Health Care without Harm**

- 2021 Mach, K.J. Climate, health, and community resilience. Panelist. Virtual conference, Building Health Care and Community Resilience in Southeast Florida.

#### **Yale School of the Environment**

- 2021 Mach, K.J. Actionable knowledge for climate solutions in 2021. Virtual Weekly BIOMES Seminar Series.

#### **Sea Secrets**

- 2021 Mach, K.J. Climate change 2021: managing floods, heat, and fires to keep people and nature safe. Virtual Talk Series, University of Miami Rosenstiel School of Marine and Atmospheric Science. Video available at <https://www.youtube.com/watch?v=UdjNNF9QOF4>

#### **Boston Tech Hub Faculty Working Group**

- 2021 Mach, K.J. The science of climate risks and adaptations: extremes, long tails, and most dire outcomes. Virtual Discussion Series, Belfer Center for Science & International Affairs, Harvard Kennedy School.

#### **Cobb Institute/Florida Clinicians for Climate Action**

- 2021 Mach, K.J. Climate impacts. Climate, Health and Equity Virtual Symposium.

#### **U.S. National Academies of Sciences, Engineering, and Medicine**

- 2021 Mach, K.J. Effective adaptations to climate risks. Virtual Workshop Series, Sustainable and Resilient Supply Chains with Emerging Technologies.

#### **SciLine Media Briefing: Climate change, mitigation, and adaptation**

- 2021 Mach, K.J. Climate change adaptation. Webinar.

#### **American Geophysical Union**

- 2020 Mach, K.J. Actionable knowledge for equitable adaptation in the built environment: supporting global-to-local resilience. Virtual conference.

#### **Priestley International Centre for Climate**

- 2020 Mach, K.J. A methods workshop on expert elicitation. Webinar with Priestley Climate Scholars, University of Leeds, Leeds, UK.

#### **Women in International Security**

- 2020 Mach, K.J. Climate change and conflict. Virtual conference, University of Pittsburgh, Pittsburgh, Pennsylvania.

#### **University of Miami Rosenstiel School of Marine and Atmospheric Science**

2020 Mach, K.J. Climate, security, and conflict. Climate Café Seminar Series, Economic and Societal Impacts of a Changing Climate, Miami, Florida.

**University of Miami Rosenstiel School of Marine and Atmospheric Science**

2020 Mach, K.J. Managed retreat as an adaptive response to climate change. Undergraduate Faculty Seminar Series, Miami, Florida.

**Priestley International Centre for Climate**

2020 Mach, K.J. Climate risks and adaptations: integrating knowledge, making it actionable. Webinar for Piers Sellers prize, University of Leeds, Leeds, UK. Video available at <https://mymedia.leeds.ac.uk/Mediasite/Play/1d74df896dda41e997c2b7bb198be0f51d>

**University of Denver**

2020 Mach, K.J. Managed retreat as an adaptive response to climate change. Denver, Colorado.

**Florida International University**

2020 Mach, K.J. Managed retreat as a response to climate change. Miami, Florida.

**Miami Climate Symposium 2020: Predicting and Living with Extremes**

2020 Mach, K.J. Managed retreat as an adaptive response to climate change. Miami, Florida.

2020 Mach, K.J. Tropical cyclones, extreme rainfall, and drought. Moderator. Miami, Florida.

2020 Mach, K.J. Predicting and living with extremes closing discussion. Panelist. Coral Gables, Florida.

**University of Miami Rosenstiel School of Marine and Atmospheric Science**

2019 Mach, K.J. Managed retreat as an adaptive response to climate change. Marine Ecosystems and Society Department Seminar Series, Miami, Florida.

**University of Miami**

2019 Mach, K.J. Managed retreat as an adaptive response to climate change. Biology Department Seminar Series, Coral Gables, Florida.

**Underwater HOA**

2019 Mach, K.J. The climate challenge 2019: a conversation about the risks and the options. Pinecrest, Florida.

**At What Point Managed Retreat?**

2019 Mach, K.J. Why are we talking about retreat? Columbia University, New York City, New York.

**Stanford University**

2019 Mach, K.J. How to make knowledge actionable. Vice Provost for Graduate Education Fellows Forum, Stanford, California.

**Stanford University**

2019 Mach, K.J. Science-policy interactions in the climate challenge. Stanford Science Policy Group, Stanford, California.

**National Council for Science and the Environment**

2019 Mach, K.J. Realizing the new carbon economy: innovations for carbon negative infrastructure. Panelist. Washington DC.

**Stanford in the Wild**

2019 Mach, K.J. The climate challenge 2019: solutions for people and the planet. Fallen Leaf Lake, California.

**Stanford University**

2019 Mach, K.J. The ethics of creating actionable knowledge for the climate challenge. Center for Ethics, Stanford, California.

**Yale University**

2019 Mach, K.J. The climate challenge 2019: solutions for people and the planet. Virtual Seminar in Climate and Energy, New Haven, Connecticut.

**The Advanced Bioeconomy Leadership Conference Global**

2018 Mach, K.J. Disruptive technologies forum: fuels and chemicals. Panelist. San Francisco, California.

**Stanford University**



2018 Mach, K.J. Solutions for the future of climate migration. Panelist. Stanford, California.

**University of Miami**

2018 Mach, K.J. Integrative assessment of climate risks and responses in the coastal zone. Miami, Florida.

**University of Florida**

2018 Mach, K.J. Integrative assessment of climate risk and adaptation. Gainesville, Florida.

**Global Climate Action Summit Science-to-Action Day**

2018 Mach, K.J. Assessment, an evolving tool to support action. Presenter and panelist. San Francisco, California.

**Climate and Land Use Alliance**

2018 Mach, K.J. Five reasons the Earth's climate depends on forests. Panelist on audio briefing.

**Stanford University's Energy@Stanford & SLAC**

2018 Mach, K.J. The climate challenge: societal responses to the risks. Stanford, California.

**Climate Works**

2018 Mach, K.J. Carbon dioxide removal: carbon sinks and sustainability. Panelist. Philanthropic Priorities for Climate Action, San Francisco, California.

**US Department of Energy**

2018 Mach, K.J. Rightsizing and unleashing carbon removal towards ambitious climate goals. Summit on Realizing the Circular Economy, Golden, Colorado.

**Stanford University**

2018 Mach, K.J. Rightsizing carbon removal in climate change responses. Summer Session for International Students, Stanford, California.

**Stanford Environment & Energy Panel Series**

2018 Mach, K.J. Carbon removal in the climate response portfolio. Panelist. The National Press Club, Washington DC. Video available (K.J. Mach starting at 28:35) at <https://woods.stanford.edu/news-events/event/dc-forum-carbon-removal-climate-response-portfolio>

**Stanford Precourt Institute for Energy**

2018 Mach, K.J. Bioenergy with carbon capture and storage. Panelist. Stanford, California.

**California Climate Policy Modeling Workshop**

2018 Mach, K.J. Role of agriculture and forestry in achieving very low CO<sub>2</sub> futures. Panelist. University of California Davis, Davis, California.

**Saint Louis University**

2018 Mach, K.J. Climate change 2018: managing risks, building responses. Saint Louis, Missouri. Video available at <https://www.youtube.com/watch?v=cYmF83zhu0I>

**Middlebury Institute of International Studies at Monterey**

2018 Mach, K.J. The Paris Agreement and carbon dioxide removal/negative emissions technologies. Panelist. Monterey, California.

**Forum for Climate Engineering Assessment**

2018 Mach, K.J. Assessing carbon dioxide removal. Panelist. Webinar.

**University of Wisconsin-Madison**

2018 Mach, K.J. Climate solutions 2018: assessing the risks and the options. Madison, Wisconsin.

**Stanford University**

2018 Mach, K.J. Advancing knowledge bases for the management of environmental risk. Earth System Science Seminar Series, Stanford, California.

**Wilson Center**

2018 Mach, K.J. An expert assessment of climate and conflict. Washington DC.

**Duke University**

- 2018 Mach, K.J. Climate 101: what every MBA needs to know. Global MBA Summit on Climate, Capital, and Business. Durham, North Carolina. Video available at <https://www.climatecapsummit.org/watch/>

**Stanford University's Bechtel International Center**

- 2018 Mach, K.J. Rightsizing carbon removal in ambitious climate change responses. Stanford, California.

**Natural Capital Symposium**

- 2018 Mach, K.J. A focus on risk and solutions: lessons from climate assessment and responses. Panelist. Stanford, California.

**Citizens' Climate Lobby**

- 2018 Mach, K.J. Climate attribution. Menlo Park, California.

**American Geophysical Union**

- 2017 Mach, K.J., and C.B. Field. Rightsizing expectations for carbon dioxide removal towards ambitious climate goals. New Orleans, Louisiana.

**Forum for Climate Engineering Assessment**

- 2017 Mach, K.J., and C.B. Field. The exigencies driving a focus on carbon dioxide removal/negative emissions technologies. Washington DC. Video available at <https://echo360.org/media/6b18cb54-ec10-40b8-8a8c-f479e5c3491a/public>

**Urban Sustainability Directors Network**

- 2017 Mach, K.J. Climate change 2017: understanding the risks and the options. All-network webinar.

**Boston University**

- 2017 Mach, K.J. Assessment of risks and options in a changing climate. Pardee Center for the Study of the Longer-Range Future, Boston, Massachusetts. Video available at <http://www.bu.edu/pardee/2017/09/26/upcoming-seminar-assessment-of-risks-and-options-in-a-changing-climate/>

**Uncommon Dialogue: Building Coastal Resilience: US Risks and Preparedness**

- 2017 Mach, K.J. Sea level rise panel. Moderator. Stanford, California. Video available at <https://woods.stanford.edu/news-events/event/building-coastal-resilience-us-risks-and-preparedness>

**Uncommon Dialogue: Building Coastal Resilience for Greater US and International Security**

- 2017 Mach, K.J. Sessions throughout the day. Host, moderator, and panelist. Washington DC.

**Stanford University's Energy@Stanford & SLAC**

- 2017 Mach, K.J. Assessment of risks and options in a changing climate. Stanford, California. Video available at [https://www.youtube.com/watch?v=2Axv1Vk\\_6r0](https://www.youtube.com/watch?v=2Axv1Vk_6r0)

**Northeastern Marine Science Center**

- 2017 Mach, K.J. Assessment of risks and options in a changing climate. Nahant, Massachusetts.

**US Government Accountability Office**

- 2017 Mach, K.J., and M. Hino. Managed retreat as a response to natural hazard risk. Washington DC.

**Uncommon Dialogue: Building Coastal Resilience for Greater US Security**

- 2017 Mach, K.J. Coastal risk management and relocation discussions. Moderator. Washington DC.

**Stanford University's Center for International Security and Cooperation**

- 2017 Mach, K.J. What next for climate? Assessing the risks and the options. Stanford, California.

**BECCS: Communicating the Facts in a Political World**

- 2017 Mach, K.J., and C.B. Field. Rightsizing negative emissions—science, policy, and communications challenges. Packard Foundation, Los Altos Hills, California.

**Consultative Group on Biological Diversity**

- 2017 Mach, K.J. When climate change actions challenge our conservation goals: avoiding unintended consequences and managing trade-offs. Panelist. Flagstaff, Arizona.

**Coping with Uncertainty: Normative Approaches, Current Practice**

2017 Mach, K.J. Unleashing expert judgment in assessment: IPCC AR5 and beyond. École Normale Supérieure, Paris, France. Video available at <https://www.youtube.com/watch?v=L7bYsHBgb-M>

**Electric Power Research Institute**

2017 Mach, K.J. Research frontier panel. Presenter and panelist. 20th Energy and Climate Research Seminar, Washington DC.

**Stanford Law School**

2017 Mach, K.J. The first 100 days of the Trump administration: implications for energy and climate—a bipartisan discussion. Panelist. Stanford, California.

**University of California, Davis, Institute of Transportation Studies**

2017 Mach, K.J. What next for climate? Assessing the risks and the options. Sustainable Transportation Energy Pathways Seminar Series, Davis, California.

**Climate Action Reserve**

2017 Mach, K.J. Communicating climate change. Panelist. Navigating the American Carbon World, San Francisco, California.

**Taste of Science**

2017 Mach, K.J. Climate change 2017: understanding the risks and the options. Palo Alto, California.

**Yale University**

2017 Mach, K.J. What next for climate? Assessing the risks and the options. Seminar in Climate and Energy, New Haven, Connecticut.

**Chapman University**

2017 Mach, K.J. Climate change: implications and adaptations globally and locally. Panelist. Orange, California.

**Stanford University Energy Seminar**

2017 Mach, K.J. What next for climate? Assessing the risks and the options. Stanford, California. Video available at <https://energy.stanford.edu/events/energy-seminar-katharine-mach-what-next-climate-assessing-risks-and-options>

**Center for Carbon Removal**

2017 Mach, K.J. Land-use overview. Panelist. Advisory Board Meeting, San Francisco, California

**Stanford University Atmosphere and Energy Program**

2017 Mach, K.J. What's next for climate? Assessing the risks and the options. Stanford, California.

**Forum for Climate Engineering Assessment**

2017 Mach, K.J. The exigencies driving NETs/CDR. Carbon Dioxide Removal/Negative Emissions Technologies Workshop, Berkeley, California.

**Stanford Environment & Energy Panel Series**

2017 Mach, K.J. Climate adaptation. Panelist. The National Press Club, Washington DC. Video available (K.J. Mach starting at 28:30) at <https://woods.stanford.edu/news-events/news/how-adapt-changing-climate>

**American Geophysical Union**

2016 Mach, K.J. Getting near zero: decarbonizing the last 20% of energy-sector CO<sub>2</sub> emissions. Panelist. San Francisco, California. Video available (K.J. Mach starting at 1:16:53) at <http://bit.ly/2igEuss>

**Stanford Law School**

2016 Mach, K.J. The Trump administration: implications for energy and climate—a bipartisan discussion. Panelist. Stanford, California. Video available (K.J. Mach starting at 9:28) at <https://law.stanford.edu/event/trump-administration-implications-energy-climate-bipartisan-discussion/>

**Stanford Woods Institute for the Environment Advisory Council Meeting**

2016 Mach, K.J. The Stanford Environment Assessment Facility. Stanford, California.

**World Meteorological Organization**

2016 Mach, K.J. Engaging weather presenters as climate communicators. Panelist. Marrakech, Morocco.

**Stanford Woods Institute for the Environment**

2016 Mach, K.J. Climate change: from Paris to Stanford. Panelist. New York City, New York.

**Stanford University Crothers Hall Global Citizenship Evening Series**

2016 Mach, K.J. Climate change on the road through Paris. Panelist. Stanford, California.

**California Public Utilities Commission**

2016 Mach, K.J. A climate change discussion. Presenter and panelist. Thought Leaders Speaker Series, San Francisco, California.

**US Senate Committee on Environment and Public Works**

2016 Mach, K.J. Climate change: how the world has changed since IPCC AR5. Panelist in staff briefing. Washington DC.

**Commission for Environmental Cooperation**

2016 Mach, K.J. Climate change on the road through Paris: a focus on biodiversity. Presenter and panelist. Merida, Mexico.

**Acterra Lecture Series**

2016 Mach, K.J., and C.B. Field. After the Paris Agreement: how far we've come, and what is left to do. Sunnyvale, California.

**Woodside and Portola Valley Rotary Club**

2016 Mach, K.J., and C.B. Field. Climate change: the road through Paris. Woodside, California.

**Stanford Earth Summer Faculty Seminar Series**

2016 Mach, K.J. Assessment in a changing climate: IPCC AR5 and beyond. Stanford, California.

**Oil, Gas, and Paris**

2016 Mach, K.J. Climate change and world energy after the Paris Climate Agreement. Presenter and panelist. Schlumberger-Doll Research, Cambridge, Massachusetts.

**Carnegie Mellon University**

2016 Mach, K.J. Assessment in a changing climate: IPCC AR5 and beyond. Center for Climate and Energy Decision Making, Pittsburgh, Pennsylvania.

**Carnegie Institution for Science Board of Trustees Meeting**

2016 Mach, K.J. Science for climate solutions: the role of assessment. Washington DC.

**Council on Foreign Relations**

2016 Mach, K.J. The role of science in the post-Paris climate agenda. Panelist. Roundtable Series on Energy Security and Climate Change. Washington DC.

**Stanford University's Connecting the Dots: Knowledge to Action**

2016 Mach, K.J. Connecting knowledge to transformation: building on COP21. Panelist. Stanford, California.

**Stanford Woods Institute for the Environment**

2016 Mach, K.J. After Paris: innovation and implementation. Panelist. Community Retreat, Aptos, California.

**Harvard Club of Southern California**

2016 Mach, K.J., and C.B. Field. Climate change: the road through Paris. Pasadena, California.

**Stanford Fresno Alumni Association**

2016 Mach, K.J., and C.B. Field. Climate change: the road through Paris. Fresno, California.

**Stanford's Women's Club**

2016 Mach, K.J., and C.B. Field. Climate change: the road through Paris. Great Decisions Foreign Policy Discussion Series, Stanford, California.

**Chapman University**

2016 Mach, K.J. Climate change on the road through Paris: personal perspectives and global efforts. Orange, California.

**Western Colorado State University**

2016 Mach, K.J. Climate change on the road through Paris: the IPCC AR5 and beyond. Gunnison, Colorado.

**Climate and Land Use Alliance**

2016 Mach, K.J., and C.B. Field. Negative emissions—really? Napa, California.

**California Department of Transportation**

2016 Mach, K.J., and C.B. Field. Climate change on the road through Paris: the IPCC AR5 and the California context. Sacramento, California.

**World Affairs Council, Peninsula Chapter**

2016 Mach, K.J., and C.B. Field. The UN global conference on climate change: a final opportunity. Los Altos, California.

**International Council on Monuments and Sites**

2015 Mach, K.J. An introduction to the IPCC Assessment Reports and the consideration of cultural heritage in the AR5. Paris, France.

**Electric Power Research Institute**

2015 Mach, K.J. Characterizing and advancing our understanding of the social cost of carbon. Event moderator. Paris, France.

**Development and Climate Days**

2015 Mach, K.J. High-level closing panel. Panelist. Paris, France. Coverage available at <http://www.iied.org/mary-robinson-global-solidarity-needed-confront-climate-crisis>

**Stanford University OpenXChange Open Office Hours**

2015 Mach, K.J. Climate change panel. Panelist. Stanford, California.

**A Climate Change Dialog: Risks and Opportunities for the Oil and Gas Industry**

2015 Mach, K.J. The climate-change solution space: integrating mitigation, adaptation, and sustainable development. Sugarland, Texas.

**Stanford University Crothers Hall Global Citizenship Evening Series**

2015 Mach, K.J. Climate change on the road through Paris. Panelist. Stanford, California.

**Stanford University's Energy@Stanford & SLAC**

2015 Mach, K.J. The IPCC Fifth Assessment Report: a scientific foundation. Stanford, California. Video available at <https://youtu.be/XznrML77Ydk>

**The Social Life of Climate Change: A Workshop on Climate Change & the Role of Social Sciences**

2015 Mach, K.J. The IPCC Fifth Assessment Report: entry points for social science. Center for Advanced Study in the Behavioral Sciences, Stanford, California.

**San Mateo County Democracy for America**

2015 Mach, K.J., and C.B. Field. Climate change: the road through Paris. Redwood City, California.

**Mission of the United States in Geneva**

2015 Mach, K.J. The IPCC Fifth Assessment Report: six fundamental conclusions. Geneva, Switzerland.

**Chevron Webinar Series**

2015 Mach, K.J., and C.B. Field. Climate Change 2013/2014: risk of impacts—how they change with amount of warming. San Ramon, California.

**Caribbean Regional Broadcast: A Climate Change Exchange on IPCC AR5 and UNFCCC COP21**

2015 Mach, K.J., and C.B. Field. The IPCC Fifth Assessment Report. Caribbean Community Climate Change Centre, Belize City, Belize.

**University of Zagreb**

2015 Mach, K.J., and C.B. Field. The IPCC Fifth Assessment Report. Zagreb, Croatia.

**CalEPA's Indicators of Climate Change in California**

2015 Mach, K.J., and C.B. Field. The IPCC Fifth Assessment Report. Sacramento, California.

**UNFCCC Bonn Climate Change Conference Side Event "Thinking from a Different Mindset"**

2015 Mach, K.J. Climate change as a challenge in managing risks. Bonn, Germany.

**University of Ljubljana and Slovenian Meteorological Agency**

2015 Mach, K.J., and C.B. Field. The IPCC Fifth Assessment Report. Ljubljana, Slovenia.

**Republic Hydrometeorological Service of Serbia**

2015 Mach, K.J., and C.B. Field. The IPCC Fifth Assessment Report. Belgrade, Serbia.

**IPCC Expert Meeting on Scenarios**

2015 Mach, K.J., and C.B. Field. Scenarios in the AR5 for the assessment of impacts, adaptation, and vulnerability. International Institute for Applied Systems Analysis, Laxenburg, Austria.

**CICERO Workshop: From Science to Policy—How to Improve the Dialogue?**

2015 Mach, K.J. Balancing relevance, scientific rigor, and policy impact in IPCC assessment. Oslo, Norway. Meeting report at <http://www.cicero.uio.no/en/posts/news/report-from-science-to-policy-how-to-improve-the-dialogue>.

**Western Colorado State University**

2015 Mach, K.J. Climate change as a challenge in managing risks: the IPCC's Fifth Assessment Report. Gunnison, Colorado. Video available at <https://www.youtube.com/watch?v=g5mD42-O17w>

**Arizona State University's School of Sustainability**

2015 Mach, K.J. Transforming assessment in a changing climate. Tempe, Arizona. Video available at <https://vimeo.com/120009582>

**McGill University's Department of Geography**

2015 Mach, K.J. Transforming assessment in a changing climate. Montreal, Canada.

**IPCC Outreach Event in Tanzania**

2015 Mach, K.J. Reasons for concern in a changing climate. Arusha, Tanzania.

**IPCC Outreach Event in Kenya**

2015 Mach, K.J. Reasons for concern in a changing climate. Nairobi, Kenya.

**SBSTA–IPCC Event at UNFCCC COP20**

2014 Mach, K.J., and C.B. Field. IPCC Synthesis Report Topic 2: future climate changes, risks, and impacts. Lima, Peru.

**Fourth Meeting of the Structured Expert Dialogue on the 2013-2015 Review at UNFCCC COP20**

2014 Mach, K.J., and C.B. Field. The adequacy of 2°C in terms of risk management and progress towards the long-term global goal: risks of impacts and how they change with amount of warming. Lima, Peru.

**IPCC Outreach Event at San Marcos University**

2014 Mach, K.J. The frontier of impacts, adaptation, and vulnerability assessment. Lima, Peru.

**Integrated Assessment Modeling Consortium Seventh Annual Meeting**

2014 Mach, K.J. Integrated Assessment Models and Working Group II: lessons from the IPCC AR5. College Park, Maryland.

**Lockheed Martin STAR Labs Palo Alto Colloquia**

2014 Mach, K.J. Climate change impacts, adaptation, and vulnerability: the new international assessment. Palo Alto, California.

**The IPCC's Fifth Assessment Report: What Does It Mean for Uganda's development?**

2014 Mach, K.J. Risks, adaptation, and climate resilience: best practice lessons for Africa. Kampala, Uganda.

**The IPCC's Fifth Assessment Report: What Does It Mean for Ethiopia's development?**

2014 Mach, K.J. Risks, adaptation, and climate resilience: best practice lessons for Africa. United Nations Conference Centre, Addis Ababa, Ethiopia.

**Ecological Society of America**

2014 Mach, K.J. The US National Climate Assessment and the IPCC Fifth Assessment Report: what's in it for ecologists? Panelist. Sacramento, California.

**Understanding Global Change: Summer Institute**

2014 Mach, K.J. Risks and opportunities for response: a look at climate change impacts, adaptation, and vulnerability. University of California Museum of Paleontology, Berkeley, California.

**Stanford Center for Assessment, Learning, and Equity: Summer Teachers' Workshop**

2014 Mach, K.J. Climate change as a challenge in managing risks: the IPCC's Fifth Assessment Report. Stanford, California.

**IPCC Regional Outreach in Singapore: Insights into the Fifth Assessment Report**

2014 Mach, K.J. Working Group II: Impacts, Adaptation, and Vulnerability—an overview. Singapore.

**IPCC Regional Outreach in the Philippines**

2014 Mach, K.J. Working Group II: Impacts, Adaptation, and Vulnerability—an overview. Climate Change Commission of the Philippines, Manila, Philippines.

**San Diego State University**

2014 Mach, K.J. Risks and opportunities for response: a look at the IPCC's Fifth Assessment Report. Mathematics Colloquium of the Department of Mathematics and Statistics. San Diego, California.

**Stanford University's Connecting the Dots: the Climate, Energy, Food, and Water Nexus**

2014 Mach, K.J., M.D. Mastrandrea, and C.B. Field. IPCC Working Group II: key findings. Stanford, California. Video available at <https://tomkat.stanford.edu/videos/ipcc-working-group-ii-key-findings-0>

**American Geophysical Union Fall Meeting**

2013 Mach, K.J., C.B. Field, M.D. Mastrandrea, and V. Barros. Assessment of the risks of climate change in the Working Group II contribution to the IPCC's Fifth Assessment Report. Uncertainty Quantification of Climate Change, Earth System, and Integrated Assessment Models. San Francisco, California.

2013 Mastrandrea, M.D., C.B. Field, K.J. Mach, and V. Barros. Managing the risks of extreme events and disasters in a changing climate: lessons for adaptation to climate change. Climate Change Adaptation and Mitigation. San Francisco, California.

**Cañada Community College**

2013 Mach, K.J. Climate change as a challenge of managing risks. Redwood City, California.

**IPCC Working Group II Lead Author Meeting 4 for the Fifth Assessment Report**

2013 Mach, K.J., and M.D. Mastrandrea. WGII AR5 summary documents: next steps. Bled, Slovenia.

2013 Mach, K.J., and C.B. Field. Beyond scenarios. Bled, Slovenia.

**NASA Terrestrial Ecology Science Team Meeting**

2013 Mach, K.J. IPCC WGII progress and findings: how has TE contributed and how could it contribute to the next round? La Jolla, California.

**ACE Teachers' Workshop**

2013 Mach, K.J. IPCC Working Group II assessment of climate change impacts, adaptation, and vulnerability. Sacramento, California.

**Stanford Woods Institute Uncommon Dialogue on Climate Adaptation and Extremes**

2013 Mach, K.J. Roles for private/public/university/media in preparing for extremes. Panel moderator.

**Transformation in a Changing Climate**

2013 Mach, K.J., J. Smith, N. Witoszek, and A. Franceschini. Deep conversation: the story of climate change. Presenter and participant. Oslo, Norway.

**IPCC Working Group II Lead Author Meeting 3 for the Fifth Assessment Report**

2012 Mach, K.J., and M.D. Mastrandrea. WGII AR5 summary documents: process and progress. Buenos Aires, Argentina.

**Grass Valley Sierra Club**

2012 Mach, K.J. Climate change and its impacts: the scientific basis and its assessment by the IPCC.

**IPCC Working Group II Lead Author Meeting 2 for the Fifth Assessment Report**

2011 Mach, K.J. Practical guidance for WGII AR5 FOD preparation: effective assessment practices, Frequently Asked Questions, boxes, and case studies. San Francisco, California.

2011 Smith, N., K.J. Mach, and M.D. Mastrandrea. Activities in support of WGII AR5: Cross-Cutting Topics and associated workshop/expert meetings since LAM1. San Francisco, California.

**IPCC Working Group I/II Lead Author Meeting 3 for the Special Report on Extremes**

- 2011 Mach, K.J. References and non-journal literature collection. Gold Coast, Australia.  
2011 Working Group II and I co-chairs and TSUs. Key themes for preparation of the final draft—  
Chapters 1 through 9. Gold Coast, Australia.

**IPCC Working Group II Regional Expert Meetings**

- 2011 Mach, K.J. Conducting literature searches and identifying sources in non-UN languages.  
2011 Mach, K.J., and M.D. Mastrandrea. Use of literature in the Working Group II contribution to Fifth  
Assessment Report.  
2011 Mastrandrea, M.D., and K.J. Mach. Fifth Assessment Report guidance on consistent treatment of  
uncertainties.

**San Diego State University**

- 2010 Mach, K.J. Death by small forces: breakage by fatigue in wave-swept seaweeds. Computational  
Science Research Center, San Diego, California.

**Society for Integrative and Comparative Biology**

- 2010 Mach, K.J. Killing them softly: failure by fatigue in the wave-swept macroalga *Mazzaella*.  
Plant Biomechanics Symposium, Seattle, Washington.

**University of California at Berkeley**

- 2009 Mach, K.J. Death by small forces: fatigue in seaweeds. Biomechanics Working Group, Berkeley,  
California.

**Western Society of Naturalists**

- 2008 Mach, K.J. What is going on with women in science?: a graduate student gets curious.  
Presidential Symposium, Vancouver, British Columbia.

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**OTHER ACADEMIC PRESENTATIONS**

**American Geophysical Union**

- 2025 DiPietro, S., A.C. Clement, and K.J. Mach. Impact of ocean temperatures on heat stress in South  
Florida. Poster presentation. New Orleans, Louisiana.  
2025 Cruz, M., K.J. Mach, L.L. Turek-Hankins, K.C. Ashad-Bishop, Z.D. Bailey, S.D. Evans, A.  
Fanning, M. Fernandez-Burgos, J. Gilbert, B. Howard, M. Mahabir, J. Marturano, L.N. Murphy, N.  
Muse, J. Pérodin, and A.C. Clement. Where heat does not come in waves: a framework for  
understanding and managing chronic heat. New Orleans, Louisiana.  
2025 Tavarez, I., A.C. Clement, B.F. Sanders, S. Lindemann, K. Larson Mohr, E.-M. Martin, J.E.  
Schubert, M.C. Sukop, and K.J. Mach. Using natural language processing to reveal coordination  
gaps in multi-scale government flood adaptation. New Orleans, Louisiana.  
2025 Larson Mohr, K., B.F. Sanders, D. Houston, S. Lindemann, J. Niemann-Morris, J.E. Schubert,  
M.C. Sukop, E.-M. Martin, S. Wang, I. Tavarez, and K.J. Mach. Flood risk perception, institutional  
trust, and lived experience shape household preparedness in urban coastal communities. New  
Orleans, Louisiana.  
2025 Ahmad, N., T. Kandakji, D. Esty, L. Sanford, G. Torres, Z. Zhu, and K.J. Mach. Enhanced  
forecasting methods for extreme weather events and vulnerable populations. New Orleans,  
Louisiana.  
2025 Wang, S., K.J. Mach, E.-M. Martin, B.F. Sanders, J.E. Schubert, and M.C. Sukop. Classification  
and spatial patterns of drainage infrastructure in Miami-Dade County, Florida. New Orleans,  
Louisiana.

**Columbia Climate School**

- 2025 Niemann, J., A.R. Siders, M. Hino, C.M. Kraan, A. Agopian, C. Samoray, and K.J. Mach.  
Divergent priorities in flood adaptation. Mobility, Adaptation, and Wellbeing in a Changing  
Climate. New York City, New York.



- 2025 Martin, E.-M., B.F. Sanders, J.E. Schubert, J. Niemann-Morris, C. Ramm, K. Larson Mohr, S. Lindemann, and K.J. Mach. Flood adaptation pathways to support flood risk reduction and resilience. Mobility, Adaptation, and Wellbeing in a Changing Climate. New York City, New York.

#### **National Practice Forum on Nature-Based Solutions**

- 2025 Martin, E.-M., K.J. Mach, J.E. Schubert, and B.F. Sanders. Multi-benefit metrics of flood infrastructure adaptation in Los Angeles County. Forum by Network for Engineering With Nature (N-EWN), NAS Resilient America Roundtable, and UCSC Center for Coastal Climate Resilience. Poster presentation. Irvine, California.

#### **American Meteorological Society**

- 2025 Muse, N., B.D. McNoldy, A. Clement, and K.J. Mach. Increased nighttime land surface temperatures in a seasonally muggy climate. Virtual oral presentation. New Orleans, Louisiana.

#### **American Geophysical Union**

- 2024 Muse, N., B.D. McNoldy, A. Clement, and K.J. Mach. Increased nighttime land surface temperatures in a seasonally muggy climate. Poster presentation. Washington DC.
- 2024 Martin, E.-M., B.F. Sanders, J.E. Schubert, J. Niemann-Morris, C. Ramm, K. Larson Mohr, S. Lindemann, and K.J. Mach. Metrics of flood risk reduction benefits from infrastructure adaptation. Washington DC.
- 2024 Ashad-Bishop, K., E. Bassuk, M. Cruz, K.J. Mach, Z. Bailey, S. George, and A. Clement. Qualitative exploration of heat impacts among medically vulnerable populations. Washington DC.
- 2024 Larson Mohr, K., B.F. Sanders, D. Houston, J. Niemann-Morris, S. Lindemann, J.E. Schubert, C. Ramm, M.C. Sukop, E.-M. Martin, S. Wang, and K.J. Mach. Resident perceptions of flood risks and responses shaping prospects for adaptation. Poster presentation. Washington DC.
- 2024 Sanders, B.F., K.J. Mach, E.-M. Martin, J.E. Schubert, and M.C. Sukop. Multi-grid modeling of urban flooding with groundwater interactions. Washington DC.
- 2024 Agopian, A., A.R. Siders, M. Hino, C. Samoray, P. Parkash, and K.J. Mach. Policy pathways for limiting floodplain housing development. Poster presentation. Washington DC.

#### **Floodplain Management Association Annual Conference**

- 2024 Sanders, B.F., J.E. Schubert, and K.J. Mach. Comparison of Parallel Raster Inundation Model (PRIMo) and First Street Foundation flood hazard data across Los Angeles County. Henderson, Nevada.
- 2024 Martin, E.-M., J.E. Schubert, K.J. Mach and B.F. Sanders. Regional scale flood hazard modeling for adaptation planning—Los Angeles County. Henderson, Nevada.

#### **Extreme Heat Workshop**

- 2024 Turek-Hankins, L.L., M. Cruz, N. Brown, N. Muse, A. Clement, and K.J. Mach. Interactions between indoor heat and energy affordability amplify household risks. Emerging Risks from Concurrent, Compounding and Record-breaking Extreme Heat across Sectors, Columbia Climate School, New York, New York.
- 2024 Muse, N., B. McNoldy, A. Clement, and K.J. Mach. Understanding the role of land surface temperature in heat exposure in a seasonally wet, tropical climate. Emerging Risks from Concurrent, Compounding and Record-breaking Extreme Heat across Sectors, Columbia Climate School, New York, New York.
- 2024 Cruz, M., K.J. Mach, L.L. Turek-Hankins, A.R. Bozgoz, N. Muse, M. Fernandez-Burgos, K. Ashad-Bishop, Z.D. Bailey, S.D. Evans, J. Pérodin, B. Howard, and Amy C. Clement. Where heat doesn't come in waves: a framework for understanding and managing chronic heat. Emerging Risks from Concurrent, Compounding and Record-breaking Extreme Heat across Sectors, Columbia Climate School, New York, New York.
- 2024 Bass, D., D. Samano A.J. Wells, M.A. Correa, N. Brown, Y. Tagurum, L.L. Turek-Hankins, A. James, J. Lombard, K. Mach, and D. McMillan. SCI and Extreme Heat: Perspectives from Southeastern Floridians living with spinal cord injury. Poster presentation. Emerging Risks from

Concurrent, Compounding and Record-breaking Extreme Heat across Sectors, Columbia Climate School, New York, New York.

#### **Natural Hazards Workshop**

- 2024 Hino, M., K.J. Mach, and A.R. Siders. Floodplain management in the United States: the role of local governments. Natural Hazards Center, Boulder, Colorado.

#### **American Spinal Injury Association**

- 2024 Bass, D., D. McMillan, K. Mach, J. Lombard, D. Samano, L.L. Turek-Hankins, and A. James. Climate health, disability, and resilience. San Juan, Puerto Rico.
- 2024 Samano, D., D. Bass, A.J. Wells, M.A. Correa, N. Brown, Y. Tagurum, L.L. Turek-Hankins, A. James, J. Lombard, K. Mach, and D. McMillan. SCI and Extreme Heat: Perspectives from Southeastern Floridians living with spinal cord injury. Poster presentation. San Juan, Puerto Rico.
- 2024 Bass, D., D. Samano, A.J. Wells, M.A. Correa, N. Brown, Y. Tagurum, L.L. Turek-Hankins, A. James, J. Lombard, K. Mach, and D. McMillan. Flooding and SCI: characterizing weather effects on the SCI community in South Florida. Poster presentation. San Juan, Puerto Rico.

#### **American Geophysical Union**

- 2023 Turek-Hankins, L.L., M. Cruz, N. Brown, N. Muse, A. Clement, and K.J. Mach. Multisector indoor heat risk in a chronically hot city. San Francisco, California.
- 2023 Agopian, A., M. Hino, A.R. Siders, C. Samoray, and K.J. Mach. A nationwide analysis of community-level floodplain development outcomes and key influences. San Francisco, California.
- 2023 Schubert, J.E., D. Kahl, B.F. Sanders, and K.J. Mach. Assessment of First Street Foundation flood hazard data in a large urban region. San Francisco, California.
- 2023 Simpson, N., C. Trisos, and K.J. Mach. Adaptation to compound and cascading climate risks. San Francisco, California.
- 2023 Jagannathan, K., K.J. Mach, R. Vallario, J.R. Arnold, C. Brelsford, K.V. Calvin, A.N. Flores, J. Gao, D. Judi, C.E. Martín, F.C. Moore, R. Moss, E. Nance, B. Rashleigh, P.M. Reed, L. Shi, L.L. Turek-Hankins, D.L. McCollum, and F. Lipschultz. Chapter 18: Sector interactions, multiple stressors, and complex systems – Fifth National Climate Assessment. San Francisco, California.
- 2023 He, X., B.P. Bryant, T. Moran, K.J. Mach, Z. Wei, and D.L. Freyberg. Climate-informed hydrologic modeling and policy typology to guide managed aquifer recharge. San Francisco, California.

#### **American Public Health Association**

- 2023 Wells, A.J., D. Bass, D. Samano, M.A. Correa, L.L. Turek-Hankins, A. James, J. Lombard, K. Mach, D. McMillan. Perspectives from Southeastern Floridians living with spinal cord injury. Poster presentation. Atlanta, Georgia.

#### **Association of Collegiate Schools of Planning**

- 2023 Samoray, C., M. Hino, A.R. Siders, A. Agopian, and K.J. Mach. Housing amenity and affordability shape floodplain development. Chicago, Illinois.

#### **Inaugural Multisector Dynamics Workshop**

- 2023 Turek-Hankins, L.L., M. Cruz, N. Brown, N. Muse, A. Clement, and K.J. Mach. Multisector indoor heat risk in a chronically hot city. Poster presentation. Davis, California.

#### **Annual Meeting of the Society for Decision Making Under Deep Uncertainty**

- 2023 Seeteram, N., A. Carrère, R.E. Cerci, T. Chatterjee, A. Garner, R.M. Horton, K.J. Mach, and L. Shi. Evaluating climate risk reduction strategies within the U.S. housing sector. Delft, the Netherlands.
- 2023 Kraan, C.M., M. Haasnoot, and K.J. Mach. Practitioner perspectives on accommodation and retreat in response to climate change in the Netherlands. Delft, the Netherlands

#### **Paralyzed Veterans of America**

- 2023 McMillan, D.W., and K.J. Mach. Multifaceted approach to understanding, preparing for, and responding to subtropical and tropical climate hazards after Spinal Cord Injury. Orlando, Florida.

#### **Columbia Climate School and Earth Institute**

- 2023 Mach, K.J., J. Niemann, R. Donald, N.A. Seeteram, A.R. Siders, X.I. Cortada, A. Nyburg, J.

Owley, A. Roberti, and I.A. Wright. Practitioner perspectives on climate mobility in South Florida. At What Point Managed Retreat? Habitability and Mobility in an Era of Climate Change. New York City, New York.

2023 Mach, K.J. Putting retreat into context. Panel moderator. At What Point Managed Retreat? Habitability and Mobility in an Era of Climate Change. New York City, New York.

2023 Kraan, C.M., M. Haasnoot, and K.J. Mach. Practitioner perspectives on accommodation and retreat in response to climate change in the Netherlands. At What Point Managed Retreat? Habitability and Mobility in an Era of Climate Change. New York City, New York.

#### **NSF SRS Awardee Conference**

2023 Erkoc, M., R. Feagin, S. Kameshwar, K. Mach, and D. Mitsova. Integrated and convergent sea level adaptation for urban and rural systems in the Gulf of Mexico coastal regions: moving from line defense to territory defense. Poster presentation. Washington DC.

#### **University of Miami Climate and Health Symposium**

2023 Wells, A.J., D. Samano, M.A. Correa, L.L. Turek-Hankins, D. Bass, J. Lombard, K.J. Mach, and D. McMillan. Perspectives of Southeastern Floridians living with spinal cord injury (SCI): hurricane and associated flood preparedness and navigation. Poster presentation. Miami, Florida.

#### **American Geophysical Union**

2022 Agopian, A., M. Hino, A.R. Siders, and K.J. Mach. A national index of floodplain development to guide climate-smart growth. Chicago, Illinois.

2022 Mach, K.J., J. Niemann, R. Donald, N.A. Seeteram, A.R. Siders, X.I. Cortada, A. Nyburg, J. Owley, A. Roberti, and I.A. Wright. Practitioner perspectives on climate mobility in South Florida. Chicago, Illinois.

2022 Muse, N., D.M. Iwaniec, C. Wyczalkowski, and K.J. Mach. Heat exposure and resilience planning in Atlanta, Georgia. Chicago, Illinois.

2022 Niemann, J., A.R. Siders, M. Hino, A. Agopian, T. Doeffinger, L. Gerber-Chavez, J.-C. Huang, L. Lafferty, C. Samoray, C. Williams, and K.J. Mach. Where, why, and how local policies have shaped development in New Jersey floodplains. Poster presentation. Chicago, Illinois.

2022 Sanders, B.F., D. Kahl, J.E. Schubert, and K.J. Mach. New modeling points to a million people at risk of flooding in Los Angeles, vastly more than suggested by FEMA maps. How could that happen? Poster presentation. Chicago, Illinois.

2022 Seeteram, N.A., K. Ash, M. Bhat, E.P. Anderson, K. Grove, B.F. Sanders, J.E. Schubert, and K.J. Mach. An assessment of climate mobility pressures in response to dynamic sea-level rise. Chicago, Illinois.

#### **National Adaptation Forum**

2022 Agopian, A., M. Hino, A.R. Siders, and K.J. Mach. A national index of development and land use to guide climate-smart growth. Poster presentation. Baltimore, Maryland.

#### **Annual Meeting of the Society for Decision Making Under Deep Uncertainty**

2022 Seeteram, N.A., M. Bhat, B.F. Sanders, J.E. Schubert, and K.J. Mach. Examining preferences for sea-level rise adaptation and mobility in Miami-Dade County, FL, USA.

#### **72nd Annual International Communication Association Conference**

2022 Donald, R., and K.J. Mach. A framework for tracking emergent climate governance through local narratives. Paris, France.

#### **8th International Conference on Computational Social Science**

2022 Moore, F.C., K. Lacasse, K.J. Mach, Y.A. Shin, L.J. Gross, and B. Beckage. Determinants of emissions pathways in the coupled climate-social system.

#### **European Geosciences Union**

2022 Lesk, C., D. Csala, R. Krekeler, S. Sgouridis, A. Levesque, K. Mach, D. Horen Greenford, H.D. Matthews, and R. Horton. Mitigation and adaptation emissions embedded in the broader climate transition.

#### **Society for Environmental, Population, & Sustainability Psychology**

- 2022 Lacasse, K., F.C. Moore, K.J. Mach, Y.A. Shin, L.J. Gross, and B. Beckage. Putting people in climate models: identifying social, political, and technical feedback processes that drive future emissions. Division 34 of the American Psychological Association Online Conference.

**Western Political Science Association**

- 2022 Miller, R.K., L. Shi, and K.J. Mach. Trends in wildfire-related bills in California, 2001-2020.

**American Meteorological Society**

- 2022 Muse, N., D.M. Iwaniec, C. Wyczalkowski, and K.J. Mach. Heat exposure and resilience planning in Atlanta, Georgia. Virtual presentation, hybrid conference. Recipient of Outstanding Environment and Health Conference Oral Presentation Award.

**American Geophysical Union**

- 2021 Mach, K.J., A.R. Siders, J. Niemann, X.I. Cortada, R. Donald, A. Nyburg, J. Owley, N.A. Seeteram, and I.A. Wright. A framework for strategic, managed retreat with perspectives from South Florida. Virtual conference.
- 2021 Niemann, J., M. Hino, C.M. Kraan, A.R. Siders, and K.J. Mach. Evaluating goals and outcomes of voluntary buyouts: benefits and losses for whom? Virtual conference.
- 2021 Seeteram, N.A., E. Anderson, K. Grove, B.F. Sanders, J.E. Schubert, and K.J. Mach. Fish in the street and rivers in the concrete: resident perspectives on climate mobility in Miami-Dade County, FL, USA. Virtual conference.
- 2021 Turek-Hankins, L.L., E. Coughlan, and K.J. Mach. Societal preparedness for the multisector impacts of extreme heat. Virtual conference.

**Bratislava Conference on Earth System Governance**

- 2021 Nagle Alverio, G., S.H. Hoagland, E. Coughlan de Perez, and K.J. Mach. The role of international organizations in equitable planned relocation. Utrecht, the Netherlands.

**Columbia Climate School and Earth Institute**

- 2021 Mach, K.J. People before property: a high-level discussion of economics, tools, policy, and law. Panelist. Virtual conference, At What Point Managed Retreat? Resilience, Relocation, and Climate Justice.
- 2021 Niemann, J., M. Hino, C.M. Kraan, A.R. Siders, and K.J. Mach. Goals and outcomes of U.S. voluntary buyouts: a systematic, comparative literature and media analysis. Virtual conference, At What Point Managed Retreat? Resilience, Relocation, and Climate Justice.
- 2021 Kraan, C.M., E.M. Johnston, A.R. Siders, M. Hino, and K.J. Mach. Relocation outcomes for participants in U.S. property buyouts: a systematic, nationwide analysis. Virtual conference, At What Point Managed Retreat? Resilience, Relocation, and Climate Justice.
- 2021 Nagle Alverio, G., S.H. Hoagland, E. Coughlan de Perez, and K.J. Mach. The role of international organizations in equitable planned relocation. Virtual conference, At What Point Managed Retreat? Resilience, Relocation, and Climate Justice.
- 2021 Seeteram, N.A., K. Ash, B.F. Sanders, J. Schubert, and K.J. Mach. Resilience for whom? A climate mobility framework for equitable sea level rise adaptation. Virtual conference, At What Point Managed Retreat? Resilience, Relocation, and Climate Justice.
- 2021 Bower, E., C.M. Kraan, K.J. Mach, A.R. Siders, and G. Wong-Parodi. Interactive workshop: exploring divergent perspectives on just and equitable retreat. Facilitator. Virtual conference, At What Point Managed Retreat? Resilience, Relocation, and Climate Justice.

**Coastal Resilience Symposium**

- 2021 Mach, K.J., and A.R. Siders. Strategic, managed climate retreat for resilient adaptation pathways. Sub-tropical and Tropical Coastal Resilience: Social, Economic, and Physical Adaptations in South Florida and the Caribbean, virtual symposium.

**Graduate Climate Conference**

- 2020 Nagle Alverio, G., S.H. Hoagland, E. Coughlan de Perez, and K.J. Mach. A framework of equitable planned relocation. Seattle, Washington.

**American Geophysical Union**

- 2020 Mach, K.J., W.N. Adger, H. Buhaug, M. Burke, J.D. Fearon, C.B. Field, C.S. Hendrix, C.M. Kraan, J.-F. Maystadt, J. O'Loughlin, P. Roessler, J. Scheffran, K.A. Schultz, and N. von Uexkull. Climate as a risk factor for armed conflict: state of knowledge and directions for research. Virtual conference.
- 2020 Turek-Hankins, L.L., M. Hino, and K.J. Mach. Equity-oriented adaptation to extreme heat in California. Virtual conference.
- 2020 Seeteram, N.A., K. Ash, and K.J. Mach. Resilience for whom? A climate mobility framework for evaluating equity outcomes in climate change adaptation. Virtual conference.
- 2020 Simpson, N.P., K.J. Mach, A. Constable, J. Hess, R. Hogarth, M. Howden, J. Lawrence, R.J. Lempert, V. Muccione, B. Mackey, M.G. New, B. O'Neill, F. Otto, H.-O. Pörtner, A. Reisinger, D. Roberts, D. Schmidt, S. Seneviratne, S. Strongin, M. van Aalst, E. Totin, and C.H. Trisos. Assessing and responding to complex climate change risks. Virtual conference.
- 2020 Nolan, C.J., C.B. Field, and K.J. Mach. Constraints and enablers for increasing carbon storage in the terrestrial biosphere. Presentation available here: <https://www.youtube.com/watch?v=usCKFg5p9Ik&feature=youtu.be>. Virtual conference.
- 2020 Niemann, J., M. Hino, C.M. Kraan, A.R. Siders, and K.J. Mach. Goals and outcomes of U.S. voluntary buyouts: a systematic review. Poster presentation. Virtual conference.
- 2020 Moore, F.C., K. Lacasse, K.J. Mach, L.J. Gross, and B. Beckage. Linking social, political, and technical feedbacks to model tipping points in the climate-social system. Presentation available here: [https://video.ucdavis.edu/media/1\\_0q6j1dbp](https://video.ucdavis.edu/media/1_0q6j1dbp). Virtual conference.

#### **Annual Meeting of the Society for Decision Making Under Deep Uncertainty**

- 2020 Mach, K.J. Is it working and for whom? Evaluation of DMDU. Moderator and session organizer with R. Lempert and A. Meadow. Virtual conference.
- 2020 Wong-Parodi, G., K.J. Mach, K.A. Jagannathan, and K.D. Sjostrom. Insights for developing effective decision support tools for environmental sustainability. Virtual conference.
- 2020 Seeteram, N.A., K. Ash, and K.J. Mach. Resilience for whom? A climate mobility framework for evaluating equity outcomes in sea level rise adaptation decision making. Virtual conference.

#### **UCLA Climate Adaptation Research Symposium**

- 2020 Kraan, C.M., E.M. Johnston, A.R. Siders, M. Hino, and K.J. Mach. Relocation outcomes for participants in U.S. property buyouts: a nationwide analysis. Virtual conference.

#### **Ecological Society of America**

- 2020 Yona, L., R.B. Jackson, C.B. Field, and K.J. Mach. Assessing the evidence basis for forest soil carbon accounting. Virtual conference.

#### **Association for Environmental Studies and Sciences**

- 2020 Turek-Hankins, L.L., M. Hino, and K.J. Mach. Equity-oriented adaptation to extreme heat in California. Virtual conference.
- 2020 Seeteram, N.A., K.J. Mach, and E.P. Anderson. Resilience for whom? A climate mobility framework for evaluating equity outcomes. Virtual conference.

#### **American Geophysical Union**

- 2019 Miller, R.K., and K.J. Mach. Community stakeholder perspectives following the 2017 and 2018 wildfires in California. San Francisco, California.
- 2019 Jagannathan, K.A., J.C. Arnott, C. Wyborn, R.H. Moss, N. Klenk, K.J. Mach, and K.D. Sjostrom. Great expectations? Reconciling the aspirations, outcomes, and possibilities of co-production. San Francisco, California.
- 2019 Lemos, M.C., R.M. Meyer, K.J. Mach, A.M. Meadow, C. Wyborn, N. Klenk, J.C. Arnott, N.M. Ardoyn, R.H. Moss, M. Stults, C. Vaughan, and G. Wong-Parodi. Actionable knowledge and the art of engagement. San Francisco, California.
- 2019 G. Wong-Parodi, K.J. Mach, K.A. Jagannathan, and K.D. Sjostrom. Insights for developing effective decision support tools for environmental sustainability. San Francisco, California.

- 2019 Yona, L., R.B. Jackson, C.B. Field, and K.J. Mach. Assessing the evidence basis for forest soil carbon accounting. San Francisco, California.
- 2019 He, X., T. Moran, Z. Wei, B.P. Bryant, C.R.H. Wagner, K.J. Mach, and D.L. Freyberg. Quantifying changing characteristics of water available for groundwater recharge under climate change. San Francisco, California.

#### **At What Point Managed Retreat?**

- 2019 Kraan, C., K.J. Mach, M. Hino, A.R. Siders, E.M. Johnston, and C.B. Field. The landscape of voluntary property buyouts to manage flood risk in the United States. Columbia University, New York City, New York.

#### **National Adaptation Forum**

- 2019 Kraan, C., K.J. Mach, M. Hino, A.R. Siders, E.M. Johnston, Y.-L. Tsai, and C.B. Field. The landscape of voluntary property buyouts to manage flood risk in the United States. Madison, Wisconsin.
- 2019 Tiver Belanger, S., M. Hino, C.B. Field, A.R. Davies, and K.J. Mach. Not just a nuisance: the economic impact of high-tide flooding. Madison, Wisconsin.

#### **American Geophysical Union**

- 2018 Hino, M., C.B. Field, S. Tiver Belanger, A.R. Davies, and K.J. Mach. Measuring the impacts of high-tide floods on local economic activity. Washington DC.
- 2018 Miller, R.K., B. Cain, C.B. Field, and K.J. Mach. Community adoption and rejection of building code standards for wildfires. Washington DC.
- 2018 Francis, E.J., C.B. Field, G.P. Asner, and K.J. Mach. Landscape scale variation in redwood response to climate variability. Washington DC.
- 2018 Clarke, L., N. Bennett, M.I. Hejazi, J. Horing, A. Janetos, K. Lee, K. Lewis, K.J. Mach, M. Mastrandrea, L. Nichols, M. Orr, B.L. Preston, P.M. Reed, R. Sands, R. Vallario, and D.D. White. NCA4, chapter 17: sector interactions, multiple stressors, and complex systems. Washington DC.
- 2018 Tsai, Y.-L., L. Domine, A. Phatak, C.B. Field, K.J. Mach, and P.K. Kitanidis. Cloud removal in hyperspectral satellite images using deep learning. Washington DC.

#### **Adaptation Futures**

- 2018 Mach, K.J. An expert assessment of climate change and the risk of violent conflict. Cape Town, South Africa.
- 2018 Mach, K.J., and M. Hino. Early experiences with managed retreat. Session organizers and panelists. Cape Town, South Africa.

#### **American Geophysical Union**

- 2017 Mach, K.J., and C.B. Field. Towards the next generation of climate change assessment: learning from past experiences to inform a sustainable future. New Orleans, Louisiana.
- 2017 Baik, E., D.L. Sanchez, P.A. Turner, K.J. Mach, C.B. Field, and S.M. Benson. Geospatial analysis of near-term technical potential of BECCS in the U.S. New Orleans, Louisiana.
- 2017 Turner, P.A., C.B. Field, D.B. Lobell, D.L. Sanchez, and K.J. Mach. Unprecedented rates of land-use transformation in modeled climate change mitigation pathways. New Orleans, Louisiana.

#### **Society of American Foresters**

- 2017 Anderson, C.M., C.B. Field, and K.J. Mach. Forest offsets partner climate mitigation and conservation. Albuquerque, New Mexico.

#### **Ecological Society of America**

- 2017 Anderson, C.M., C.B. Field, and K.J. Mach. Forest offsets partner climate mitigation and conservation. Portland, Oregon.

#### **CO<sub>2</sub> Summit III: Pathways to Carbon Capture, Utilization, and Storage Deployment**

- 2017 Sanchez, D.L., N. Johnson, S. McCoy, and K.J. Mach. Near-term deployment of carbon capture and storage from biorefineries in the United States. Poster Presentation. Calabria, Italy.
- 2017 Baik, E., D.L. Sanchez, K.J. Mach, C.B. Field, and S.M. Benson. Geospatial analysis of BECCS deployment potential in the US. Poster Presentation. Calabria, Italy.

#### **National Adaptation Forum**

- 2017 Hino, M., C.B. Field, and K.J. Mach. Managed retreat: a global analysis of drivers, barriers, and outcomes. Saint Paul, Minnesota.

#### **American Association for the Advancement of Science**

- 2017 Mach, K.J. IPCC climate assessment and its impacts on environmental policy. Global Environmental Assessments and the Bridge to Environmental Policy, Boston, Massachusetts. (Coverage: Stanford University).

#### **American Geophysical Union**

- 2016 Mach, K.J. Negative emissions technologies: new developments and scientific challenges. Panelist. San Francisco, California.
- 2016 Mach, K.J., P.T. Freeman, M.D. Mastrandrea, and C.B. Field. How IPCC science-policy interactions shape its policymaker summaries. Poster presentation. San Francisco, California.
- 2016 Mach, K.J., M.D. Mastrandrea, P.T. Freeman, and C.B. Field. Unleashing expert judgment in the IPCC's Fifth Assessment Report. Poster presentation. San Francisco, California.
- 2016 Hino, M., C.B. Field, and K.J. Mach. Managed retreat: a global analysis of drivers, barriers, and outcomes. Poster presentation. San Francisco, California.
- 2016 Field, C.B., and K.J. Mach. Negative emissions: the need, the potential, and the risks. San Francisco, California. (Coverage: Scientific American).

#### **Our Common Future Under Climate Change**

- 2015 Mach, K.J., M.D. Mastrandrea, V.R. Barros, and C.B. Field. Key risks in the IPCC's Fifth Assessment Report: a basis for evaluating and responding to danger from climate change. Paris, France.
- 2015 Mastrandrea, M.D., K.J. Mach, P.T. Freeman, V.R. Barros, and C.B. Field. Treatment of uncertainties in the IPCC's Fifth Assessment Report: lessons learned for informing management of climate-related risks. Poster presentation. Paris, France.

#### **Society for Integrative and Comparative Biology**

- 2008 Mach, K.J. The eternal tug: fatigue failure of wave-swept macroalgae in conditions of repeated subcritical loading. Poster presentation. San Antonio, Texas.

#### **Western Society of Naturalists**

- 2009 Mach, K.J. Failure by fatigue in the red macroalga *Mazzaella*. Seaside, California.
- 2007 Mach, K.J. Failure by fatigue in wave-swept macroalgae. Ventura, California.

#### **Phycological Society of America**

- 2006 Mach, K.J. A slow death? Failure by fatigue in seaweeds. Juneau, Alaska.

#### **Hopkins Marine Station of Stanford University**

- 2004 Mach, K.J. Distribution and function of tower cells in the epiphytic bryozoan *Membranipora membranacea*.

#### **Bodega Marine Laboratory of University of California at Davis**

- 2004 Mach, K.J. Distribution and function of tower cells in the epiphytic bryozoan *Membranipora membranacea*.

## **FIELD RESEARCH EXPERIENCE**

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I have completed ecological and biomechanical research at the following marine stations:

<b>Hopkins Marine Station</b> , CA, Laboratory Technician and Ph.D. Student	2004-2010
<b>Friday Harbor Laboratories</b> , WA, Wainwright Fellow and Course Research Assistant	2007-2008
<b>Marine Science Center in Nahant</b> , MA, Undergraduate Honors Researcher	2003-2004
<b>Shoals Marine Laboratory</b> , ME, NSF REU Fellow and Leader of Earthwatch Volunteers	2002-2004

## PUBLIC SCIENCE WRITING

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### **New York Times**

“We need to rethink how to adapt to the climate crisis,” by K.J. Mach and G. Treuer. October 30, 2022.  
Available at <https://www.nytimes.com/2022/10/30/opinion/hurricanes-climate-adaptation.html>

### **The Conversation**

“A major new workplace safety initiative targets dangerous heat on the job, but what about chronic heat exposure?” by L. Turek-Hankins and K. Mach. October 1, 2021. Available at  
<https://theconversation.com/a-major-new-workplace-safety-initiative-targets-dangerous-heat-on-the-job-but-what-about-chronic-heat-exposure-168629>

### **New York Times**

“Is your town threatened by floods or fires? Consider a ‘managed retreat,’” by K.J. Mach and A.R. Siders. July 16, 2021. Available at <https://www.nytimes.com/2021/07/16/opinion/managed-retreat-climate-change.html>

### **The Conversation**

“As coastal flooding worsens, some cities are retreating from the water,” by A.R. Siders and K. Mach. July 16, 2021. Available at <https://theconversation.com/as-coastal-flooding-worsens-some-cities-are-retreating-from-the-water-164463>

### **The Conversation**

“‘Managed retreat’ can reinvent cities while protecting lives when climate change floods, burns or bakes the land,” by A.R. Siders and K. Mach. June 21, 2021. Available at  
<https://theconversation.com/managed-retreat-can-reinvent-cities-while-protecting-lives-when-climate-change-floods-burns-or-bakes-the-land-163052>

### **Scientific American**

“Climate change is central to California’s wildfires,” by R. Miller, K. Mach, and C. Field. October 29, 2020.  
Available at <https://www.scientificamerican.com/article/climate-change-is-central-to-californias-wildfires/>

### **Aspen Global Change Institute**

“The role of managed retreat in adapting to sea level rise,” by K.J. Mach and M. Hino. December 2018 Quarterly Research Review. Available at <https://www.agci.org/solutions/quarterly-research/2018-12-Retreat>

### **The Hill**

“We’ve failed to secure our coasts — we must build resilience before it’s too late,” by K. Mach. June 27, 2018. Available at <http://thehill.com/opinion/energy-environment/394241-weve-failed-to-secure-our-coasts-we-must-build-resilience-before>

### **Hoover Institution Press**

“Building Coastal Resilience for Greater US Security,” by R.-M. De Souza, C.B. Field, A.C. Hill, K.J. Mach, M.E. Parker, S. Strazisar, and L. Rosenbohm. June 19, 2018. Available at <https://www.hoover.org/research/building-coastal-resilience-greater-us-security>. (Coverage: Stanford Q&A, Wilson Center Q&A).

### **Vox**

“Abandon Florida? Not quite. But it’s time for a retreat from flood zones,” by M. Hino, K.J. Mach, and C.B. Field. September 14, 2017. Available at <https://www.vox.com/the-big-idea/2017/9/14/16304730/flooding-irma-houston-retreat-floodplains-buyouts>

### **New York Times**

“What climate scientists want you to see in the floodwaters,” by K. Mach and M. Hino. September 2, 2017. Available at <https://www.nytimes.com/2017/09/02/opinion/climate-hurricanes-flooding-harvey.html>

### **The Hill**



"Shoring up coastal infrastructure is long past due," by R.-M. De Souza, C. Field, A. Hill, and K. Mach. August 25, 2017. Available at <http://thehill.com/blogs/pundits-blog/energy-environment/347968-shoring-up-coastal-infrastructure-is-long-past-due>

**Stanford Woods Institute for the Environment**

"Adaptation in the climate response portfolio," by K. Mach. January 27, 2017. Available at <https://woods.stanford.edu/sites/default/files/files/PBrief-ClimateResponse-Mach.pdf>

"Climate change 2016: Eight ways the world has changed since the last IPCC report," by C.B. Field and K.J. Mach. November 2, 2016. Available in this report: <https://woods.stanford.edu/sites/default/files/files/Stanford-Climate-Series-Recommendations.pdf>

**World Economic Forum**

"What role will fossil fuels play in our low-carbon future?" by C. Field and K. Mach. December 10, 2015. Available at <https://www.weforum.org/agenda/2015/12/what-role-will-fossil-fuels-play-in-our-low-carbon-future/>

"What are the economic consequences of climate change?" by C. Field and K. Mach. November 16, 2015. Available at <https://www.weforum.org/agenda/2015/11/what-are-the-economic-consequences-of-climate-change/>

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**RELEVANT WEBSITES**

**Google Scholar Citations:**

[https://scholar.google.com/citations?hl=en&user=HJxEu3cAAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.com/citations?hl=en&user=HJxEu3cAAAAJ&view_op=list_works&sortby=pubdate)

**UM Climate Risks and Preparedness Research Group:** <https://climateprep.earth.miami.edu/index.html>

**UM Profile:** <https://people.miami.edu/profile/kxm1076@miami.edu>

**LinkedIn Profile:** <http://www.linkedin.com/pub/katharine-mach/19/6ab/a30>