

Katharine J. Mach

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EDUCATION

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

University of Miami

Associate Professor, Department of Environmental Science and Policy, Rosenstiel School of Marine and Atmospheric Science	2019-present
Faculty Scholar, Leonard and Jayne Abess Center for Ecosystem Science and Policy	2019-present

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)—————
101 in total, incl. 76 journal articles (* indicates student or postdoc first author)

- Berrang-Ford, Siders, Lesnikowski, Fischer, Callaghan Haddaway, **Mach**, Araos, Shah, Wannewitz, Doshi, Leiter, Matavel, Musah-Surugu, Wong-Parodi, Antwi-Agyei, Ajibade, Chauhan, Kakenmaster, Grady, Chalastani, Jagannathan, Galappaththi, Sitati, Scarpa, Totin, Davis, Hamilton, Kirchhoff, Kumar, Pentz, Simpson, Theokritoff, Deryng, Reckien, Zavaleta-Cortijo, Ulibarri, Segnon, Khavhagali, Shang, Zvobgo, Zommers, Xu, Williams, Villaverde Canosa, van Maanen, van Bavel, van Aalst, Turek-Hankins, Trivedi, Trisos, Thomas, Thakur, Templeman, Stringer, Sotnik, Sjoström, Singh, Siña, Shukla, Sardans, Salubi, Safaee Chalkasra, Ruiz-Díaz, Richards, Pokharel, Petzold, Penuelas, Pelaez Avila, Pazmino Murillo, Ouni, Niemann, Nielsen, New, Nayna Schwerdtle, Nagle Alverio, Mullin, Mullenite, Mosurska, Morecroft, Minx, Maskell, Marshall Nunbogu, Magnan, Lwasa, Lukas-Sithole, Lissner, Lilford, Koller, Jurjonas, Joe, Huynh, Hill, Hernandez, Hedge, Hawxwell, Harper, Harden, Haasnoot, Gilmore, Gichuki, Gatt, Garschagen, Ford, Forbes, Farrell, Enquist, Elliott, Duncan, Coughlan de Perez, Coggins, Chen, Campbell, Browne, Bowen, Biesbroek, Bhatt, Bezner Kerr, Barr, Baker, Austin, Arotoma-Rojas, Anderson, Ajaz, Agrawal, Abu (in press). A systematic global stocktake of evidence on human adaptation to climate change. *Nature Climate Change*.
- Troxler, T.G., A.C. Clement, Y. Arditi-Rocha, G. Beesing, M. Bhat, J. Bolson, C. Caban-Aleman, K. Castillo, M. Cruz, A. Dodd, S.D. Evans, A.L. Fleming, C. Genatios, J. Gilbert, A. Hernandez, C. Holder, M. Ilcheva, E. Kelly, J. Lombard, K.J. **Mach**, J.F. Murley, A. Knowles, J. Obeysekera, J. Posner, A. Sarwat, R. Silverstein, J.A. Stuart, M. Sukop, S. Wdowinski, and E. Wheaton (in press). A System for Resilience Learning: Developing a community-driven, multi-sector research approach for greater preparedness and resilience to long-term climate stresses and extreme events in the Miami metropolitan region. *Journal of Extreme Events*.
- Pereira, L.M., D.R. Morrow, V. Aquila, B. Beckage, S. Beckbesinger, L. Beukes, H.J. Buck, C.J. Carlson, O. Geden, A.P. Jones, D.P. Keller, K.J. **Mach**, M. Mashigo, J.B. Moreno-Cruz, D. Visioni, S. Nicholson, and C.H. Trisos (in press). From climate chaos to Bruce Willis: Making climate geoengineering scenarios more dynamic and creative for better decision-making. *Ecology and Society*.
- Nolan*, C.J., C.B. Field, and K.J. **Mach** (in press). Forests and climate: impacts, mitigation, and adaptation. Climate and Land Use 2030, Climate and Land Use Alliance.
- Araos*, M., K. Jagannathan, R. Shukla, I. Ajibade, E. Coughlan de Perez, K. Davis, J.D. Ford, E.K. Galappaththi, C. Grady, A.J. Hudson, E.T. Joe, C.J. Kirchhoff, A. Lesnikowski, G. Nagle Alverio, M. Nielsen, B. Orlove, B. Pentz, D. Reckien, A.R. Siders, N. Ulibarri, M. van Aalst, T.Z. Abu, T. Agrawal, L. Berrang-Ford, R. Bezner Kerr, S. Coggins, M. Garschagen, A. Harden, K.J. **Mach**, A.M. Nunbogu, P. Spandan, S. Templeman, L.L. Turek-Hankins, and the GAMI team (2021). Equity in human adaptation-related responses: A systematic global review. *One Earth* 4: 1-14 doi.org/10.1016/j.oneear.2021.09.001.
- Mach**, K.J., R. Salas Reyes, B. Pentz, J. Taylor, C.A. Costa, S.G. Cruz, K.E. Thomas, J.C. Arnott, R. Donald, K. Jagannathan, C.J. Kirchhoff, L.C. Rosella, and N. Klenk (2021). News media coverage of COVID-19 public health and policy information. *Humanities & Social Sciences Communications* 8: 220.
- Burnett*, M., and K.J. **Mach** (2021). A “precariously unprepared” Pentagon? Climate security beliefs and decision-making in the U.S. military. *Global Environmental Change* 7: 102345.
- Sitati, A., E. Joe, B. Pentz, C. Grayson, C. Jaime, E. Gilmore, E. Galappaththi, A. Hudson, G. Nagle Alverio, K.J. **Mach**, M. van Aalst, N. Simpson, P. Nayna Schwerdtle, S. Templeman, Z. Zommers, I. Ajibade, L.S. Safaee Chalkasra, P. Umunay, I. Togola, A. Khouzam, G. Scarpa, the Global Adaptation Mapping Initiative team, and E. Coughlan. Climate change adaptation in conflict-affected countries: A systematic assessment of evidence. *Discover Sustainability* 2:42.

- Thomas, A., E. Theokritoff, A. Lesnikowski, D. Reckien, K. Jagannathan, R. Cremades, D. Campbell, E.T. Joe, A. Sitati, C. Singh, A. Segnon, B. Pentz, J.I. Musah-Surugu, C.A. Mullin, K.J. **Mach**, L. Gichuki, E. Galappaththi, V.I. Chalastani, I. Ajibade, R. Ruiz-Diaz, C. Grady, M. Garschagen, J. Ford, K. Bowen, and the Global Adaptation Mapping Initiative team (2021). Global evidence of constraints and limits to human adaptation. *Regional Environmental Change* 21: 85 doi.org/10.1007/s10113-021-01808-9.
- Turek-Hankins*, L.L., E. Coughlan de Perez, G. Scarpa, R. Ruiz-Diaz, P.N. Schwerdtle, E.T. Joe, E.K. Galappaththi, E.M. French, S.E. Austin, C. Singh, M. Siña, A.R. Siders, M.K. van Aalst, S. Templeman, A.M. Nunbogu, L. Berrang-Ford, T. Agrawal, the Global Adaptation Mapping Initiative team, and K.J. **Mach** (2021). Climate change adaptation to extreme heat: A global systematic review of implemented action. *Oxford Open Climate Change* 1: kgab005.
(Coverage: Miami)
- Mach**, K.J., and A.R. Siders (2021). Reframing strategic, managed retreat for transformative climate adaptation. *Science* 372: 1294-1299.
(Coverage: Delaware, Miami, The Conversation, The Conversation (again), Atmos, eos, Science Alert, Green Report, NYTimes, WLRN Sundial)
- Jebari, J., O.O. Taiwo, T.M. Andrews, V. Aquila, B. Beckage, M. Belaia, M. Clifford, J. Fuhrman, D.P. Keller, K.J. **Mach**, D.R. Morrow, K.T. Raimi, D. Visioni, S. Nicholson, and C.H. Trisos (2021). From moral hazard to risk-response feedback. *Climate Risk Management* 33: 100324.
- Nolan*, C.J., C.B. Field, and K.J. **Mach** (2021). Constraints and enablers for increasing carbon storage in the terrestrial biosphere. *Nature Reviews Earth & Environment* 1-11, doi.org/10.1038/s43017-021-00166-8.
- Mach**, K.J., X.I. Cortada, N. Mignanelli, J. Owley, and I.A. Wright (2021). Climate mobility and the pandemic: art–science lessons for societal resilience. *World Art* 1-11, doi.org/10.1080/21500894.2021.1911839.
- Kraan*, C.M., M. Hino, J. Niemann, A.R. Siders, and K.J. **Mach** (2021). Evaluating and promoting equity in retreat through voluntary property buyouts. *Journal of Environmental Studies and Sciences* 1-12, doi.org/10.1007/s13412-021-00688-z.
- Nagle Alverio*, G., S.H. Hoagland, E. Coughlan de Perez, and K.J. **Mach** (2021). The role of international organizations in equitable and just planned relocation. *Journal of Environmental Studies and Sciences* 1-11, doi.org/10.1007/s13412-021-00698-x.
- 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.N. Schmidt, S. Seneviratne, S. Strongin, M. van Aalst, E. Totin, and C.H. Trisos (2021). A framework for complex climate change risk assessment. *One Earth* 4: 489-501.
- He*, X., B.P. Bryant, T. Moran, K.J. **Mach**, Z. Wei, and D.L. Freyberg (2021). Climate-informed hydrologic modeling and policy typology to guide managed aquifer recharge. *Science Advances* 7: eabe6025.
(Coverage: Stanford, Bloomberg, Courthouse News)
- Leal Filho, W., L.C. Stringer, E. Totin, R. Djalante, P. Pinho, K.J. **Mach**, L.R. Fernández Carril, J. Birkmann, R. Pandey, and F. Wolf (2021). Whose voices, whose choices? Pursuing climate resilient trajectories for the poor. *Environmental Science and Policy* 121: 18-23.
- Barkin, J.L., M. Buoli, C.L. Curry, S.A. von Esenwein, S. Upadhyay, M.B. Kearney, and K.J. **Mach** (2021). Effects of extreme weather events on child mood and behavior. *Developmental Medicine & Child Neurology* 1-6, DOI: 10.1111/dmcn.14856
- Mach**, K.J., and C.M. Kraan (2021). Science–policy dimensions of research on climate change and conflict. *Journal of Peace Research* 58:168-176, doi:10.1177/0022343320966774.
- Turek-Hankins*, L.L., M. Hino, and K.J. **Mach** (2020). Risk screening methods for extreme heat: implications for equity-oriented adaptation. *PLoS ONE* 15: e0240841.
(Coverage: EurekAlert!)
- 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 (2020). Directions for research on climate and conflict. *Earth's Future* 8:1-7, doi:10.1029/2020EF001532.

(Coverage: University of Miami)

- Reisinger, A., M. Howden, C. Vera, M. Garschagen, M. Hurlbert, S. Kreibiehl, K.J. **Mach**, K. Mintenbeck, B. O'Neill, M. Pathak, R. Pedace, H.-O. Pörtner, E. Poloczanska, M. Rojas Corradi, J. Sillmann, M. van Aalst, D. Viner, R. Jones, A.C. Ruane, and R. Ranasinghe (2020). The concept of risk in the IPCC Sixth Assessment Report: a summary of cross-Working Group discussions. Guidance for IPCC authors. IPCC, Geneva, Switzerland, 15 pp.
- Francis*, E.J., G.P. Asner, K.J. **Mach**, and C.B. Field (2020). Landscape scale variation in the hydrologic niche of California coast redwood. *Ecography* 43:1-11.
- Miller*, R.K., C.B. Field, and K.J. **Mach** (2020). Factors influencing adoption and rejection of fire hazard severity zone maps in California. *International Journal of Disaster Risk Reduction* 50:101686.
- Arnott*, J.C, K.J. **Mach**, and G. Wong-Parodi (2020). Editorial overview: the science of actionable knowledge. *Current Opinion in Environmental Sustainability* 42: A1-A5.
- Mach**, K.J., M.C. Lemos, A.M. Meadow, C. Wyborn, N. Klenk, J.C. Arnott, N.M. Ardoin, C. Fieseler, R.H. Moss, L. Nichols, M. Stults, C. Vaughan, and G. Wong-Parodi (2020). Actionable knowledge and the art of engagement. *Current Opinion in Environmental Sustainability* 42: 30-37.
- (Coverage: University of Miami)
- Jagannathan*, K., J.C. Arnott, C. Wyborn, N. Klenk, K.J. **Mach**, R.H. Moss, and K.D. Sjostrom (2020). Great expectations? Reconciling the aspiration, outcome, and possibility of co-production. *Current Opinion in Environmental Sustainability* 42: 22-29.
- Wong-Parodi, G., K.J. **Mach**, K. Jagannathan, and K.D. Sjostrom (2020). Insights for developing effective decision support tools for environmental sustainability. *Current Opinion in Environmental Sustainability* 42: 52-59.
- Miller*, R.K., C.B. Field, and K.J. **Mach** (2020). Barriers and enablers for prescribed burns for wildfire management in California. *Nature Sustainability* 3: 101-109.
- (Coverage: Nature Sustainability editorial, Nature Sustainability issue cover photo, Popular Science, Sacramento Bee, ZME Science, ARS Technica, Interesting Engineering, Stanford News)
- Feinstein, N.W., and K.J. **Mach** (2020). Three roles for education in climate change adaptation. *Climate Policy* 20: 317-322, doi:10.1080/14693062.2019.1701975.
- Mach**, K.J., C.M. Kraan, M. Hino, A.R. Siders, E.M. Johnston, and C.B. Field (2019). Managed retreat through voluntary buyouts of flood-prone properties. *Science Advances* 5: eaax8995.
- (Coverage: NPR, Science Friday, Inverse, FOXBusiness, Gizmodo, Grist, Vice, US News, New York Times, WLRN, Miami Herald, Sun Sentinel, Wired, EOS, Business Report, Bloomberg, AP, Anthropocene, phys.org, University of Miami)
- Siders*, A.R., M. Hino, and K.J. **Mach** (2019). The case for strategic and managed climate retreat. *Science* 365: 761-763.
- (Coverage: Cosmos, New York Times plus op-ed, International Business Times, Grist, Earth.com, The Sun, NZCity, ABC, The Times, Inverse.com, Yahoo, Science Daily, Harvard Magazine, Stanford Woods)
- Sanchez, D.L., P.A. Turner, E. Baik, C.B. Field, S.M. Benson, and K.J. **Mach** (2019). Rightsizing expectations for bioenergy with carbon capture and storage toward ambitious climate goals. In: *Bioenergy with Carbon Capture and Storage: Using Natural Resources for Sustainable Development*. Academic Press, London, UK, pp. 63-84.
- Mach**, K.J., C.M. Kraan, W.N. Adger, H. Buhaug, M. Burke, J.D. Fearon, C.B. Field, C.S. Hendrix, J.-F. Maystadt, J. O'Loughlin, P. Roessler, J. Scheffran, K.A. Schultz, and N. von Uexkull (2019). Climate as a risk factor for armed conflict. *Nature* 571: 193-197, doi:10.1038/s41586-019-1300-6.
- (Coverage: Stanford, Video Summary, Nature Editorial, Nature Blog, Washington Post, Inside Climate News, ClimateWire, ABC News, Think Progress, Cosmos, Ensia, Brussels Times, La Libre, Colorado Arts and Sciences Magazine, University of Denver, William & Mary, Exeter, CU Boulder Today, PRIO, IDW, ZME Science, Earth.com, Business Standard, Green Report, Silicon Republic, MIT Technology Review, News Click, CCMA, European Scientist, Daily Camera, Zee News, Tree Hugger, Digital Journal, Clean Energy Wire, Mirage, The Week, Orissa Post, Millennium Post, Xataka Ciencia, Dziennik Naukowy, Vrede, De Morgen, De Standaard, Het Laatste Nieuws, RTBF, Der Tagesspiegel, Der Standard, Deutschlandfunk, Stand News, Laboratory Equipment, Future of Life, eos)
- Hino*, M., S. Tiver Belanger, C.B. Field, A.R. Davies, and K.J. **Mach** (2019). High-tide flooding disrupts local economic activity. *Science Advances* 5: eaau2736.

(Coverage: Stanford, Video Summary, Brief, Science Friday, AAAS, Bloomberg, ClimateWire, Voice Of America, The Guardian, Inside Climate News, Think Progress, EOS, Spiegel, Wunderground, Courthouse News Service, Earth.com, LA Times)

- Anderson, C.M., K.J. **Mach**, and C.B. Field (2019). Environmental justice concerns in the use of offsets. *Frontiers in Ecology and the Environment* doi:10.1002/fee.2019.
- Lemos, M.C., J.C. Arnott, N.M. Ardoin, K. Baja, A.T. Bednarek, A. Dewulf, C. Fieseler, K.A. Goodrich, K. Jagannathan, N. Klenk, K.J. **Mach**, A.M. Meadow, R. Meyer, R. Moss, L. Nichols, K.D. Sjostrom, M. Stults, E. Turnhout, C. Vaughan, G. Wong-Parodi, and C. Wyborn (2018). To co-produce or not to co-produce. *Nature Sustainability* 1: 722-724.
- Clarke, L., L. Nichols, R. Vallario, M. Hejazi, J. Horing, A.C. Janetos, K.J. **Mach**, M. Mastrandrea, M. Orr, B.L. Preston, P. Reed, R.D. Sands, and D.D. White (2018). Sector interactions, multiple stressors, and complex systems. In: *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 638–668, doi:10.7930/NCA4.2018.CH17.
(Coverage: Scientific American)
- Anderson*, C.M., K.A. Kissel, C.B. Field, and K.J. **Mach** (2018). Climate change mitigation, air pollution, and environmental justice in California. *Environmental Science and Technology* 52: 10829-10838, doi:10.1021/acs.est.8b00908.
- Fang*, Z., P.T. Freeman, C.B. Field, and K.J. **Mach** (2018). Reduced sea ice protection period increases storm exposure in Kivalina, Alaska. *Arctic Science* 4: 525-537, dx.doi.org/10.1139/as-2017-0024.
- Lalonde, S.J., K.J. **Mach**, C.M. Anderson, E.J. Francis, D.L. Sanchez, C.Y. Stanton, P.A. Turner, and C.B. Field (2018). Forest management in the Sierra Nevada provides limited carbon storage potential: an expert elicitation. *Ecosphere* 9: e02321.
- Davis, S.J., N.S. Lewis, M. Shaner, S. Aggarwal, D. Arent, I.L. Azevedo, S.M. Benson, T. Bradley, J. Brouwer, Y.-M. Chiang, C.T.M. Clack, A. Cohen, S. Doig, J. Edmonds, P. Fennell, C.B. Field, B. Hannegan, B.-M. Hodge, M.I. Hoffert, E. Ingersoll, P. Jaramillo, K.S. Lackner, K.J. **Mach**, M. Mastrandrea, J. Ogden, P.F. Peterson, D.L. Sanchez, D. Sperling, J. Stagner, J.E. Trancik, C.-J. Yang, and K. Caldeira (2018). Net-zero emissions energy systems. *Science* 360: eaas9793.
(Coverage: Inside Climate News, Independent, UCI News, Carnegie Science, Stanford Q&A)
- Turner*, P.A., C.B. Field, D.B. Lobell, D.L. Sanchez, and K.J. **Mach** (2018). Unprecedented rates of land-use transformation in modelled climate change mitigation pathways. *Nature Sustainability* 1: 240-245.
- Sanchez*, D.L., N. Johnson, S.T. McCoy, P.A. Turner, and K.J. **Mach** (2018). Near-term deployment of carbon capture and sequestration from biorefineries in the United States. *PNAS* 115: 4875-4880.
(Coverage: Stanford, Washington Post, Nature Energy, Argus, Brief)
- Baik*, E., D.L. Sanchez, P.A. Turner, K.J. **Mach**, C.B. Field, and S.M. Benson (2018). Geospatial analysis of near-term potential for carbon-negative bioenergy in the United States. *PNAS* 115: 3290-3295.
(Coverage: Stanford Energy, E&E News, Carbon Brief, Phys.org)
- Turner*, P.A., K.J. **Mach**, D.B. Lobell, S.M. Benson, E. Baik, and C.B. Field (2018). The global overlap of bioenergy and carbon sequestration potential. *Climatic Change* 148: 1-10.
- Stanton*, C.Y., K.J. **Mach**, P.A. Turner, S.J. Lalonde, D.L. Sanchez, and C.B. Field (2018). Managing cropland and rangeland for climate mitigation: an expert elicitation on soil carbon in California. *Climatic Change* 147: 633-646.
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- (Coverage: *Stanford, Washington Post, Scientific American, NPR Take Two, Animation, Brief*)
Field, C.B., and K.J. **Mach** (2017). Rightsizing carbon dioxide removal. *Science* 356: 706-707.
(Coverage: *Stanford, E&E News, Climate Central, Washington Post, Fast Company, Center for Carbon Removal, Xinhua News, Futurity*)
- Hino*, M., C.B. Field, and K.J. **Mach** (2017). Managed retreat as a response to natural hazard risk. *Nature Climate Change* 7: 364-370.
(Coverage: *Stanford, Stanford Woods, MIT Tech Review, New Yorker, NPR On Point, Climate Central, Carbon Brief, E&E News, Co.Design, Cape Charles Mirror, Xinhua News, World Economic Forum, Alaska Public Radio, Houma Today, Global Citizen, Research Brief*)
- Mach**, K.J., M.D. Mastrandrea, P.T. Freeman, and C.B. Field (2017). Unleashing expert judgment in assessment. *Global Environmental Change* 44: 1-14.
- O'Neill, B., M. Oppenheimer, J. Birkmann, S. Hallegatte, B. Kopp, R. Licker, K.J. **Mach**, P. Marbaix, M. Mastrandrea, H. Poertner, J. Price, B. Scholes, K. Takahashi, J.-P. van Ypersele, R. Warren, and G. Yohe (2017). IPCC reasons for concern regarding climate change risks. *Nature Climate Change* 7: 28-37.
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- R.K. Pachauri, and L.A. Meyer (eds.). IPCC, Geneva, Switzerland, 151 pp. [Mach, K.J., Core Writing Team member]
- IPCC (2014). Summary for Policymakers. In: *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II, and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri, and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, pp. 1-31. [Mach, K.J., Core Writing Team member]
- IPCC (2014). Glossary [Mach, K.J., S. Planton, and C. von Stechow (eds.)]. In: *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II, and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri, and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, pp. 117-130.
- IPCC (2014). *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom, and New York, NY, USA, 1132 pp.
- IPCC (2014). *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Barros, V.R., C.B. Field, D.J. Dokken, M.D. Mastrandrea, K.J. Mach, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom, and New York, NY, USA, 688 pp.
- IPCC [Field, C.B., V.R. Barros, M.D. Mastrandrea, K.J. Mach, and 67 other drafting authors] (2014). Summary for Policymakers. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom, and New York, NY, USA, pp. 1-32.
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- Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)). Cambridge University Press, Cambridge, United Kingdom, and New York, NY, USA, pp. 169-194. [Mach, K.J., Contributing Author]
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- IPCC (2012). Summary for Policymakers. In: *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change* [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom, and New York, NY, USA, pp. 1-19. [Mach, K.J., Drafting Author]
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- IPCC (2012). *Workshop Report of the Intergovernmental Panel on Climate Change Workshop on Socio-Economic Scenarios* [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, V. Barros, C.B. Field, T. Zwicker, S. Schloemer, K. Ebi, M. Mastrandrea, K. Mach, and C. von Stechow (eds.)]. IPCC Working Group III Technical Support Unit, Potsdam Institute for Climate Impact Research, Potsdam, Germany, 51 pp.
- IPCC (2012). *Meeting Report of the Intergovernmental Panel on Climate Change Expert Meeting on Geoen지니어링* [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, C. Field, V. Barros, T.F. Stocker,

- Q. Dahe, J. Minx, K. **Mach**, G.-K. Plattner, S. Schlömer, G. Hansen, and M. Mastrandrea (eds.)). IPCC Working Group III Technical Support Unit, Potsdam Institute for Climate Impact Research, Potsdam, Germany, 99 pp.
- 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.
- Denny, M.W., W.W. Dowd, L. Bilir, and K.J. **Mach** (2011). Spreading the risk: small-scale body temperature variation among intertidal organisms and its implications for species persistence. *Journal of Experimental Marine Biology and Ecology* 400: 175-190.
- Mach**, K.J., S.K. Tepler, A.V. Staaf, J.C. Bohnhoff, and M.W. Denny (2011). Failure by fatigue in the field: a model of fatigue breakage for the macroalga *Mazzaella*, with validation. *Journal of Experimental Biology* 214: 1571-1585.
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- Helmuth, B., L. Yamane, K.J. **Mach**, S. Chhotray, P. Levin, and S. Woodin (2010). All climate change is local: understanding and predicting the effects of climate change from an organism's point of view. *Stanford Journal of Law, Science and Policy* 2: 18-35.
- Martone, P.T., M. Boller, I. Burgert, J. Dumais, J. Edwards, K. **Mach**, N. Rowe, M. Rueggeberg, R. Seidel, and T. Speck (2010). Mechanics without muscle: biomechanical inspiration from the plant world. *Integrative and Comparative Biology* 50(5): 888-907.
- Mastrandrea, M.D., C.B. Field, T.F. Stocker, O. Edenhofer, K.L. Ebi, D.J. Frame, H. Held, E. Kriegler, K.J. **Mach**, P.R. Matschoss, G.-K. Plattner, G.W. Yohe, and F.W. Zwiers (2010). Guidance Note for Lead Authors of the IPCC Fifth Assessment Report on Consistent Treatment of Uncertainties. Intergovernmental Panel on Climate Change (IPCC). Available at <<http://www.ipcc.ch>>.
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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

- Shi, L., K.J. **Mach**, S. Suh, and A. Brandt. A functionality-based life cycle assessment framework for information and communication technologies (ICT) products. Under revision for *Journal of Industrial Ecology*.
- Ulibarri, N., et al. A global assessment of policy tools to support climate adaptation. Under revision for *Climate Policy*.
- Miller, R.K., and K.J. **Mach**. Roles and experiences of non-governmental organizations in wildfire recovery. Under revision for *International Journal of Wildland Fire*.
- Moore, F.C., K. Lacasse, K.J. **Mach**, Y.A. Shin, L.J. Gross, B. Beckage. Feedbacks, tipping-points, and future emissions pathways in the coupled climate-social system. In review.
- Yona, L., R.B. Jackson, J.P. Garner, C.B. Field, and K.J. **Mach**. Assessing and improving forest soil carbon reporting. In review.
- Miller, R.K., L. Shi, and K.J. **Mach**. Trends in wildfire-related bills in California, 2001-2020. In review.
- Mach**, K.J. Reasons for Hope? Climate responses for equitable, long-term well-being. In review.
- Mach**, K.J. Climate science for judges: impacts module. In review.
- Begum, R.A., R. Lempert, E. Ali, T.A. Benjaminsen, T. Bernauer, W. Cramer, X. Cui, K.J. **Mach**, G. Nagy, N.C. Stenseth, R. Sukumar, and P. Wester. Chapter 1: point of departure and key concepts. In: IPCC Working Group II Sixth Assessment Report.
- Nalau, J., L. Rickards, T. Lissner, K.J. **Mach**, E.L.F. Schipper, C. Singh, W. Solecki, A. Thomas, and E. Totin. Cross-Chapter Box: Adaptation science. In: IPCC Working Group II Sixth Assessment Report.
- Trisos, C.H., et al. Cross-Chapter Box: Solar radiation modification. In: IPCC Working Group II Sixth Assessment Report.
- Adler, C., R. Lempert, A. Constable, M. Haasnoot, J. Lawrence, K. **Mach**, S. French, R. Kopp, C. Parmesan, M. Domínguez Aguilar, E. Gilmore, R. Bezner Kerr, A. Gameda, C. Tirado-von der Pahlen, D. Ley, and R. Mukerji. Cross-Chapter Box: Effective adaptation and decision-making under deep uncertainties. In: IPCC Working Group II Sixth Assessment Report.
- Chen, D., M. Rojas, B. Samset, and colleagues. Chapter 1: framing, context, methods. In: IPCC Working Group I Sixth Assessment Report. [**Mach**, K.J., Contributing Author]

AWARDS, HONORS, & FELLOWSHIPS

Piers Sellers Prize for world leading contribution to solution-focused climate research	2020
University of Miami RSMAS 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

Current

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.

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.

The Resilient305 Collaborative: advancing hyperlocal, replicable, impact-driven adaptation science through resilience learning
NOAA AdSci. Co-PI, UM subaward (\$80,000), 2021-2023.

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), 2021-2024.

Planning activities to support the Resilient305 Strategy and Collaborative
Miami Foundation and Florida International University. Co-PI, UM subaward (\$16,624), 2021.

Saint Mark's Episcopal School contract: sea-level rise advising for place-based learning
PI. Contract amount based on total time contributed. 2021-2022.

Previous

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

Integrated and Convergent Sea Level Adaptation for Urban and Rural Systems in the Gulf of Mexico Coastal Regions

Submitted to NSF SRS-RN Planning Grant, \$68,162. Co-PI, 2021-2022.

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)
Jalyse Cuff, Abess Graduate Program in Environmental Science and Policy (advisor)
Carla Dario, Abess Graduate Program in Environmental Science and Policy (committee member)
A.J. Hudson, 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 (committee member)
Nkosi Muse, Abess Graduate Program in Environmental Science and Policy (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 Bhalla-Ladd, RSMAS MPS in Tropical Marine Ecosystem Management (committee chair)
Juan Cervera*, Marine Ecosystems and Society MS (committee member)
Leah Ferger*, RSMAS MPS in Marine Conservation (committee chair)
Ben Gulmon, RSMAS MPS in Exploration Science (committee chair)
Patrick O'Donnell, RSMAS MPS in Climate and Society (advisor)
Jamal Wilson*, Abess/RSMAS MPS in Environment, Culture, and Media (committee member)

University of Miami undergraduate students

Addison Becker, RSMAS Marine Affairs (academic advisor)
Anna Frey, RSMAS Marine Affairs (academic advisor)
Jalen Mathis, RSMAS Marine Affairs (academic advisor)
Delaney Reynolds*, RSMAS Marine Science (committee member, senior thesis)

Bela Ricardo, RSMAS Marine Affairs (academic advisor)
Eliza Spain, RSMAS Marine Affairs (academic advisor)

Florida International University Ph.D. student

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

University of Toronto undergraduate research program student

William Lloyd, Laidlaw Scholars Programme

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 (advisor)

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]

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

The Science of Actionable Knowledge (MES511/611) , Instructor, University of Miami	2021-present
Interdisciplinary Environmental Research: Introduction to the Why and the How (MES603/ECS601) , Instructor, University of Miami	2020-present
Interdisciplinary Environmental Research: Introduction to the Why and the How (MES680/ECS601/ECS790) , Instructor, University of Miami	2019
Guest lectures for diverse undergraduate, graduate, law-school, and summer-program courses	2014-present

Examples:

- **University of Miami Courses:** Environmental Justice Clinic class (UM School of Law, 2020), RSMAS undergraduate faculty seminar series (2020), podcast storytelling (CCA 594/795 & JMM 592/692, 2020)
- **University of Michigan Course:** Climate change adaptation (2021)
- **Stanford University Courses:** 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

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 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*

<i>Society A, Studies in History and Philosophy of Modern Physics, and Weather, Climate and Society</i> and for the publisher <i>Oxford University Press</i>	Ongoing
Media interviews upon request for diverse climate change topics	Ongoing
Chapter Lead for U.S. Fifth National Climate Assessment	2021-present
Co-Editor in Chief for <i>Climate Risk Management</i>	2021-present
Member of University of Miami Resilience Academy Committee on Education	2021-present
Member of Undergraduate Teaching Innovation Committee, Rosenstiel School of Marine and Atmospheric Science, University of Miami	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
Member of Search Committee , IDSC-RSMAS faculty hires, University of Miami	2021-present
Member of Search Committee , Environmental Science and Policy faculty hires, Rosenstiel School of Marine and Atmospheric Science, University of Miami	2021-present
Member of John Templeton Foundation Humble Approach Initiative, "From Coronavirus to Climate Crisis: Facing the Challenge"	2021-present
Participant in SESYNC workshop, "Adaptation"	2021-present
Editorial Board Member for <i>Oxford Open Climate Change</i>	2020-present
Graduate Program Director , Department of Environmental Science and Policy (previously Marine Ecosystems and Society), Rosenstiel School of Marine and Atmospheric Science, University of Miami	2020-present
Member of Seminar Series Committee , Department of Environmental Science and Policy (previously Marine Ecosystems and Society), Rosenstiel School of Marine and Atmospheric Science, University of Miami	2020-present
Member of Climate Science Working Group for California CalTrans and Department of General Services	2020-present
Participant in SESYNC pursuit, "Putting people into climate models"	2019-present
Participant in SESYNC pursuit, "New scenarios and models for climate engineering"	2019-present
Advisory Committee Member for Stratospheric Controlled Perturbation Experiment (SCoPEX), Harvard University	2019-present
Lead Author for IPCC Sixth Assessment Report	2018-present
Advisory Board Member for the Aspen Global Change Institute	2018-present
Advisor , as part of Science Advisory Board, for Carbon180	2016-present
Expert interviews for US Government Accountability Office on climate risks and adaptation	2016-present
Chair of Search Committee , Lecturer in Marine Conservation, Department of Marine Ecosystems and Society, Rosenstiel School of Marine and Atmospheric Science, University of Miami	2021
Panel Reviewer for U.S. Department of Energy Office of Science	2021
Panel Reviewer for University of Miami Fellowship in the Arts & Humanities	2021
Advisory Committee Member for Columbia University conference on managed retreat	2020-2021
Associate Deputy Editor for <i>Climatic Change</i>	2017-2021
Advisory Board Member for Gates-funded workshop, "Tail risks of climate damages: an assessment of the evidence"	2020
Session Co-Organizer , "Long-talk: is It Working, and for Whom? Evaluation of DMDU engagements," Society for Decision Making under Deep Uncertainty Annual Meeting	2020
Advisory Board Member for Gates-funded workshop, "Tail risks of climate damages: an assessment of the evidence"	2020
Member of Search Committee , Lecturer in Marine Conservation, Department of Marine Ecosystems and Society, Rosenstiel School of Marine and Atmospheric Science, University of Miami	2020
Organizing Committee Member for University of Miami Climate Symposium 2020	2019-2020
Co-editor for <i>Current Opinion in Environmental Sustainability</i> special issue, "Advancing the science of actionable knowledge for sustainability"	2018-2020

Advisory Committee Member for Columbia University Conference, “At what point managed retreat? Resilience in the coastal zone”	2019
Review Panel Member for NAS Gulf Research Program thriving communities research-practice grant, “Enhancing coastal community resilience and well-being in the Gulf of Mexico region”	2019
Participant in SESYNC project, “Advancing the science of knowledge use: mechanisms, applications, and gaps”	2017-2019
Reviewer for National Academies’ report on climate assessments	2018
External Examiner for University of Melbourne PhD thesis: “Bioenergy with Carbon Capture and Storage: Sustainability, Challenges, and Potential” by N. Pour	2018
Lead Author for U.S. Fourth National Climate Assessment	2016-2018
Seminar Committee for Carnegie Science Global Ecology , Chair of Committee	2015-2016
Media Training for IPCC Authors in California, the Netherlands, and Denmark	2013-2014
Leopold Leadership Program Advanced Training , “Hitting your policy mark: leveraging networks and collective impact,” Washington, D.C.	2014
Seminar Committee for Carnegie Science Global Ecology , Member of Committee	2011-2012
Communicating Climate Change Science to Policymakers , Workshop Participant, Center for Ocean Solutions, Monterey, California	2010
Communication Partnership for Science and the Sea (COMPASS) Media Workshop , Participant, through the Center for Ocean Solutions, Moss Landing, California	2009
“What do policy makers need to know about climate change and the oceans?” Symposium , Event Organizer & Faculty-Panel Moderator, Monterey Research Institutions’ Network	2009
Leadership Laboratories , Participant, Stanford Graduate School of Business, California	2009
Communication Matters Workshop Series , Participant, Stanford University, California	2009
I-RITE/I-SPEAK: Science Communication , Participant, Stanford Graduate Summer Institute, California	2009
The Role of Marine Science in Public Policy , Workshop Participant, Stanford University, California	2007

MEDIA & OTHER INTERVIEWS

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

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/isgpforum/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/pris-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/uNFUNj4tmys>

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

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 Pittsburg, 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 CO₂ 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

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 CO₂ 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.

OTHER ACADEMIC PRESENTATIONS

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 and just 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.

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. 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. Ardoin, 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.

CO₂ 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

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

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

PUBLIC SCIENCE WRITING

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/>

RELEVANT WEBSITES

Google Scholar Citations:

https://scholar.google.com/citations?hl=en&user=HJxEu3cAAAAJ&view_op=list_works&sortby=pubdate

UM Climate Risks and Preparedness Research Group:

<https://climateprep.rsmas.miami.edu/index.html>

UM Profile: <https://people.miami.edu/profile/kmach@rsmas.miami.edu>

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