

# Robert E. Kopp

## Curriculum Vitae

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### Education

Ph.D. (Geobiology), California Institute of Technology, 2007  
M.S. (Geobiology), California Institute of Technology, 2005  
Student, Agouron Geobiology Summer Course, USC Wrigley Institute, 2004  
S.B. (Geophysical Sciences with General and Departmental Honors), University of Chicago, 2002

### Professional Experience

#### Current Appointments

2021- Co-Director, University Office of Climate Action, Rutgers, the State University of New Jersey  
2017- Professor of Earth & Planetary Sciences, School of Arts and Sciences, Rutgers–New Brunswick

#### Previous Appointments

##### Rutgers University–New Brunswick

2017-2021 Director, Rutgers Institute of Earth, Ocean, and Atmospheric Sciences  
2011-2017 Associate Director, Rutgers Energy Institute  
2014-2017 Associate Professor of Earth & Planetary Sciences, School of Arts and Sciences  
2011-2014 Assistant Professor of Earth & Planetary Sciences, School of Arts and Sciences

##### Other Institutions

2009-2011 AAAS Science & Technology Policy Fellow, Office of Climate Change Policy & Technology, Office of Policy & International Affairs, U.S. Department of Energy  
2007-2009 Science, Technology & Environmental Policy Postdoctoral Fellow, School of Public & International Affairs and Department of Geosciences, Princeton University  
2002-2007 Graduate Research Fellow, Geological and Planetary Sciences, California Institute of Technology  
1999-2002 Undergraduate Research Assistant, Geophysical Sciences, University of Chicago

#### Current Affiliations

2021- Director, Megalopolitan Coastal Transformation Hub ([coastalhub.org](http://coastalhub.org))  
2017- Member, Board on Atmospheric Sciences and Climate, National Academies of Sciences, Engineering, and Medicine  
2016- Co-Director, Coastal Climate Risk and Resilience Graduate Program ([c2r2.rutgers.edu](http://c2r2.rutgers.edu)), Rutgers–New Brunswick  
2015- Co-Director, Climate Impact Lab ([impactlab.org](http://impactlab.org))

##### Rutgers University Institute Faculty Affiliation

2014- Rutgers Institute of Earth, Ocean, and Atmospheric Sciences  
2011- Rutgers Climate Institute  
2011- Rutgers Energy Institute  
2018- Rutgers Global Health Institute

##### Rutgers University Graduate Program Faculties

2012- Graduate Program in Atmospheric Sciences  
2012- Graduate Program in Oceanography  
2011- Graduate Program in Earth and Planetary Sciences  
2013- Graduate Program in Statistics  
2012- Graduate Program in Planning and Public Policy (Associate)

#### Previous Affiliations

- 2018-2021 Lead Author, Working Group 1, Sixth Assessment Report, UN Intergovernmental Panel on Climate Change (IPCC)
- 2016-2017 Lead Author, Vol. 1: Climate Science Special Report, US Fourth National Climate Assessment
- 2013-2014 Lead Scientist, *American Climate Prospectus: Economic Risks in the United States* (Independent risk assessment for the Risky Business Project)
- 2011-2015 Faculty Affiliate, Rutgers Institute of Marine and Coastal Sciences

## Honors and Awards

- American Geophysical Union (AGU) Fellow 2017
- American Geophysical Union (AGU) James B. Macelwane Medal 2017
- Rutgers–New Brunswick Chancellor’s Scholar 2015–2020
- Leopold Leadership Fellow 2015–2016
- International Union for Quaternary Research (INQUA) Sir Nicholas Shackleton Medal 2015
- AGU Editor’s Citation for Excellence in Refereeing, *Earth’s Future* 2014
- William Mitchell College of Law Expert Witness Training Academy 2014
- American Geophysical Union (AGU) William Gilbert Medal 2012
- Kavli Fellow 2012
- AGU Editor’s Citation for Excellence in Refereeing, *Geophysical Research Letters* 2011
- Award for Special Service, U.S. Department of Energy 2010
- AAAS Science & Technology Policy Fellow 2009-2011
- White House Fellows Program Regional Semi-Finalist 2009
- Harrison Brown Memorial Moore Graduate Research Fellow, California Institute of Technology 2002-2006
- National Science Foundation Graduate Research Fellow 2002-2005
- Prize for Excellence, Sigma Xi (University of Chicago chapter) 2002
- Student Marshal, University of Chicago Class of 2002 2001-2002
- Junior Phi Beta Kappa 2001

## Professional Service

### Scientific Assessment and Advisory Experience

- International
- 2018-2021 Lead Author, Working Group 1, IPCC Sixth Assessment Report
- 2018 Advisory and Review Board Member, Climate Tipping Points Study, PESETA III Project, European Commission Joint Research Centre
- 2017-2018 Contributing Author, IPCC Special Report on Oceans and Cryosphere
- 2017 Scoping Meeting Participant, IPCC Sixth Assessment Report
- 2012-2014 Contributing Author, Working Groups 1 and 2, IPCC Fifth Assessment Report
- 2012 Advisory and Review Board Member, Climate Tipping Points Study, PESETA II Project, European Commission Joint Research Centre
- 2009 US Dept. of Energy Advisor to U.S. Delegation to the 31st Plenary of the IPCC
- 2008 Scientific Assessment Panel advising the Delta Committee of the Dutch Cabinet
- National
- 2021 Reviewer, National Academies Report on *Next Generation Earth Systems Science at the National Science Foundation*
- 2020 Reviewer, National Academies Report on *Global Change Research Needs and Opportunities for 2022-2031*
- 2016-2017 Lead Author, Vol. 1: Climate Science Special Report, US Fourth National Climate Assessment
- 2015-2017 Committee Member, National Academies Project on Assessing Approaches to Updating the Social Cost of Carbon
- 2009-2010 Technical Advisor, White House Interagency Working Group on the Social Cost of Carbon
- 2008-2009 Princeton School of Public & International Affairs Workshop on Black Carbon, consulting for Office of Air and Radiation, Environmental Protection Agency

### State and Local

- 2019 Chair, Science and Technical Advisory Panel on Sea-Level Rise and Coastal Storm Risk, Rutgers University on behalf of the New Jersey Department of Environmental Protection
- 2019-2021 Member, Greater Boston Research Advisory Group
- 2018 Sea-Level Rise Expert Group Member, Maryland Climate Change Commission
- 2018 Working Group on Climate Change Impacts Member, Port Authority of New York and New Jersey
- 2017 Sea-Level Rise Expert Group Member, New York City Panel on Climate Change
- 2017 Sea-Level Rise Expert Panel Author, California Ocean Protection Council
- 2016 Sea-Level Rise Expert Committee Member, Fourth California Climate Change Vulnerability and Adaptation Assessment
- 2015-2016 Working Group Member, Sea-Level Rise Working Group, Boston Research Advisory Group
- 2015-2016 Chair, Science and Technical Advisory Panel on Sea-Level Rise and Coastal Storm Risk, New Jersey Climate Adaptation Alliance
- 2014 External Reviewer, New Hampshire Coastal Risks and Hazards Commission Scientific Advisory Panel
- 2014 External Reviewer, New York City Panel on Climate Change
- 2013 Sea-Level Rise Expert Group Member, Maryland Climate Change Commission

#### Journals

- 2022- Editor (Coasts, Cryosphere, and Sea Level), *Earth's Future*
- 2020- Editorial Board, *Mitigation and Adaptation Strategies for Global Change*
- 2016-2022 Associate Deputy Editor, *Climatic Change*
- 2016-2021 Editorial Board Member, *Current Climate Change Reports*
- 2013-2018 Editorial Advisory Board Member, AGU *Eos*

#### Professional Society

- 2021- Member, Scientific Committee on Antarctic Research (SCAR) Research Programme on Instabilities and Thresholds in Antarctica (INSTANT)
- 2021 Member, Panel for Government Funding of Science Position Statement Revision, American Geophysical Union
- 2019 Member, Panel for Climate Change Position Statement Revision, American Geophysical Union
- 2019- Advisory Committee Member, "How We Respond," American Association for the Advancement of Science
- 2016-2018 Advisory Group Member, AGU Sharing Science Program
- 2011-2015 AAAS Science & Technology Policy Fellowship Application Reader

#### Conferences, Workshops, and Seminar Series

- 2017 AGU Ocean Sciences Meeting 2018 Program Committee
- 2014 Discussion Leader, Department of Energy Integrated Modeling Workshop
- 2013 Co-Convener, DIMACS Workshop on "Geological data fusion: Tackling the statistical challenges of interpreting past environmental change"
- 2012-2017 Organizer, Rutgers Energy Institute Energy Policy Seminar Series
- 2012 Session Co-Chair, "Geomicrobiology and the magnetic signature of biogenic iron minerals" Ninth Santa Fe Conference on Rock Magnetism, Santa Fe, NM
- 2010-2011 Co-Organizer, DOE/EPA Workshops on "Improving the Assessment and Valuation of Climate Change Impacts for Policy and Regulatory Analysis"
- 2010 Session Convener, "Incorporating Climate Change Impacts into Policy Analysis," American Geophysical Union Fall Meeting
- 2008-2009 Organizer, Princeton Environmental Institute Energy Group Seminar Series
- 2008 Organizer, Princeton University Environmental Geology and Geochemistry Seminar Series
- 2005 Session Convener, "Biogeomagnetism: Processes and Products", American Geophysical Union Fall Meeting
- 2004-2006 Committee Member, Caltech Y Social Activism Speakers Series

#### University Service

2019-2021	Co-Chair, President's Task Force on Carbon Neutrality and Climate Resilience, Rutgers University
	<u>Rutgers University Committee Membership</u>
2021-2022	Earth and Planetary Sciences Faculty Search Committee
2020-	New Jersey Climate Change Resource Center Faculty Advisory Board
2017-2018	Marine Social Science and Policy Faculty Search Committee
2016-2018	Bloustein School of Planning & Public Policy Dean Search Committee
2014-2017	Graduate Program on Atmospheric Sciences Nominations Committee
2014-2016	Institute of Earth, Ocean and Atmospheric Sciences Faculty Advisory Committee
2014-2016	Sustainability Committee
2014-2016	Henry Rutgers Earth, Ocean, and Atmospheric Sciences Professorship Search Committee
2013-	Rutgers Climate Institute Internal Advisory Board
2013	Strategic Planning Committee on "Understanding and Creating a Sustainable World"
2013-2014	Department of Earth & Planetary Sciences Faculty Search Committee
2011-2012	Department of Earth & Planetary Sciences Faculty Search Committee
2012-2013	Rutgers Climate & Society Initiative Internal Advisory Board
	<u>External Service to Other Universities</u>
2019	Juror, "Designing a Green New Deal" Landscape Architecture/Planning Studio, Weitzman School of Design, University of Pennsylvania
2018-	External Advisory Board Member, LandscapeU NSF Research Traineeship, Pennsylvania State University

**Journal Referee:** *AGU Advances; AMBIO; Climate of the Past; Climate Research; Climatic Change; Earth and Planetary Science Letters; Earth System Dynamics; Earth's Future; Ecological Economics; Energy Policy; Environmental Microbiology; Environmental Research Letters; European Biophysics Journal; Geobiology; Geochemistry, Geophysics, Geosystems (G3); Geology; Geophysical Journal International; Geophysical Research Letters; Geoscientific Model Development; Global Environmental Change; Global and Planetary Change; Journal of Applied Physics; Journal of Climate; Journal of Geophysical Research: Biogeosciences; Journal of Geophysical Research: Oceans; Journal of Marine Science and Engineering; Journal of the Royal Society: Interface; Landscape Ecology; Natural Hazards; Nature; Nature Climate Change; Nature Communications; Nature Geoscience; Nature Energy; NPJ Climate and Atmospheric Science; Ocean Science; Palaeogeography, Palaeoclimatology, Palaeoecology (Paleo3); Paleoceanography; PLOS One; Proceedings of the National Academy of Sciences; PNAS Nexus; Progress in Physical Geography; Quaternary Science Reviews; Reviews of Geophysics; Risk Analysis; Science; Science Advances; Science of the Total Environment; Weather, Climate and Society*

**Grant Referee:** NASA Postdoctoral Program; National Science Foundation (Antarctic Glaciology; Antarctic Integrated System Science; Decision, Risk, and Management Sciences; Geophysics; Marine Geology and Geophysics; Paleoclimate; Paleo Perspectives on Climate Change); Mississippi-Alabama Sea Grant Consortium; Netherlands Organization for Scientific Research (NWO); Royal Society University Research Fellowship; Sigma Delta Epsilon/Graduate Women in Science; South African National Research Foundation; Swiss National Science Foundation; U.K. Natural Environment Research Council; U.S. Department of Energy

**Member:** American Association for the Advancement of Science, American Geophysical Union, Geological Society of America

## Publications

### Working papers and manuscripts in review

1. Carleton, T., A. Jina, M. Delgado, M. Greenstone, T. Houser, S. Hsiang, A. Hultgren, R. E. Kopp, K. E. McCusker, I. Nath, J. Rising, A. Rode, H. K. Seo, A. Viaene, J. Yuan, and A. T. Zhang (2022). Valuing the Global Mortality Consequences of Climate Change Accounting for Adaptation Costs and Benefits. *Quarterly Journal of Economics* **accepted**.

2. Hermans, T. H. J., C. A. Katsman, C. C. M. Camargo, G. G. Garner, R. E. Kopp, and A. B. A. Slangen (in press). The Effect Of Wind Stress On Seasonal Sea-level Change On the Northwestern European Shelf. *Journal of Climate*.
3. Majewski, J., A. Meltzner, A. Switzer, T. Shaw, T. Li, S. Bradley, J. Walker, R. Kopp, D. Samanta, D. H. Natawidjaja, B. Suwargadi, and B. Horton (in press). Extending instrumental sea-level records using coral microatolls, an example from Southeast Asia. *Geophysical Research Letters*. doi: 10.1029/2021GL095710.
4. Ashe, E. L., N. S. Khan, L. T. Toth, A. L. Dutton, and R. E. Kopp (accepted). A statistical framework for integrating non-parametric proxy distributions into geological reconstructions of relative sea level. *Advances in Statistical Climatology, Meteorology and Oceanography*.
5. Rasmussen, D. J., S. Kulp, R. E. Kopp, M. Oppenheimer, and B. H. Strauss (accepted). Popular extreme sea level metrics can better communicate impacts. *Climatic Change*.
6. Walker, J. S., R. E. Kopp, C. M. Little, and B. P. Horton (accepted). Time of emergence of modern rates of sea-level rise. *Nature Communications*.
7. Rasmussen, D. J., R. E. Kopp, and M. Oppenheimer (in review). Coastal flood protection megaprojects in an era of sea-level rise: politically feasible strategies or Army Corps fantasies? *Journal of Water Resources Planning and Management*.

#### Journal articles

1. Kopp, R. E. and M. Humayun (2003). Kinetic model of carbonate dissolution in Martian meteorite ALH84001. *Geochimica et Cosmochimica Acta* **67**(17), 3247–3256. doi: 10.1016/S0016-7037(02)01114-6.
2. Weiss, B. P., S. S. Kim, J. L. Kirschvink, R. E. Kopp, M. Sankaran, A. Kobayashi, and A. Komeili (2004a). Magnetic tests for magnetosome chains in Martian meteorite ALH84001. *Proceedings of the National Academy of Sciences* **101**(22), 8281–8284. doi: 10.1073/pnas.0402292101.
3. Weiss, B. P., S. S. Kim, J. L. Kirschvink, R. E. Kopp, M. Sankaran, A. Kobayashi, and A. Komeili (2004b). Ferromagnetic resonance and low temperature magnetic tests for biogenic magnetite. *Earth and Planetary Science Letters* **224**, 73–89. doi: 10.1016/j.epsl.2004.04.024.
4. Kopp, R. E., J. L. Kirschvink, I. A. Hilburn, and C. Z. Nash (2005). The Paleoproterozoic snowball Earth: A climate disaster triggered by the evolution of oxygenic photosynthesis. *Proceedings of the National Academy of Sciences* **102**(32), 11131–11136. doi: 10.1073/pnas.0504878102.
5. Kobayashi, A., J. L. Kirschvink, C. Z. Nash, R. E. Kopp, D. A. Sauer, L. E. Bertani, W. F. Voorhout, and T. Taguchi (2006). Experimental observation of magnetosome chain collapse in magnetotactic bacteria: sedimentological, paleomagnetic, and evolutionary implications. *Earth And Planetary Science Letters* **245**, 538–550. doi: 10.1016/j.epsl.2006.03.041.
6. Kopp, R. E., C. Z. Nash, A. Kobayashi, B. P. Weiss, D. A. Bazylinski, and J. L. Kirschvink (2006). Ferromagnetic resonance spectroscopy for assessment of magnetic anisotropy and magnetostatic interactions: A case study of mutant magnetotactic bacteria. *Journal of Geophysical Research* **111**, B12S25. doi: 10.1029/2006JB004529.
7. Kopp, R. E., B. P. Weiss, A. C. Maloof, H. Vali, C. Z. Nash, and J. L. Kirschvink (2006). Chains, clumps, and strings: Magnetofossil taphonomy with ferromagnetic resonance spectroscopy. *Earth and Planetary Science Letters* **247**(1–2), 10–25. doi: 10.1016/j.epsl.2006.05.001.
8. Liang, M.-C., H. Hartman, R. E. Kopp, J. L. Kirschvink, and Y. L. Yung (2006). Production of hydrogen peroxide in the atmosphere of a Snowball Earth and the origin of oxygenic photosynthesis. *Proceedings of the National Academy of Sciences* **103**(50), 18896–18899. doi: 10.1073/pnas.0608839103.
9. Suzuki, Y., R. E. Kopp, T. Kogure, A. Suga, K. Takai, S. Tsuchida, N. Ozaki, K. Endo, J. Hashimoto, and Y. Kato (2006). Sclerite formation in the hydrothermal-vent “scaly-foot” gastropod—possible control of iron sulfide biomineralization by the animal. *Earth and Planetary Science Letters* **242**(1), 39–50. doi: 10.1016/j.epsl.2005.11.029.
10. Kopp, R. E., T. D. Raub, D. Schumann, H. Vali, A. V. Smirnov, and J. L. Kirschvink (2007). Magnetofossil spike during the Paleocene-Eocene thermal maximum: Ferromagnetic resonance, rock magnetic, and electron microscopy evidence from Ancora, New Jersey, United States. *Paleoceanography* **22**, PA4103. doi: 10.1029/2007PA001473.
11. Maloof, A. C., R. E. Kopp, J. P. Grotzinger, D. A. Fike, T. Bosak, H. Vali, P. M. Poussart, B. P. Weiss, and J. L. Kirschvink (2007). Sedimentary iron cycling and the origin and preservation of magnetization in

- platform carbonate muds, Andros Island, Bahamas. *Earth and Planetary Science Letters* **259**(3–4), 581–598. doi: 10.1016/j.epsl.2007.05.021.
12. Kirschvink, J. L., R. E. Kopp, T. D. Raub, C. T. Baumgartner, and J. W. Holt (2008). Rapid, precise, and high-sensitivity acquisition of paleomagnetic and rock-magnetic data: Development of a low-noise automatic sample changing system for superconducting rock magnetometers. *Geochemistry Geophysics Geosystems* **9**(5), Q05Y01. doi: 10.1029/2007GC001856.
  13. Kirschvink, J. L. and R. E. Kopp (2008). Palaeoproterozoic ice houses and the evolution of oxygen-mediating enzymes: the case for a late origin of photosystem II. *Philosophical Transactions of the Royal Society B: Biological Sciences* **363**(1504), 2755–2765. doi: 10.1098/rstb.2008.0024.
  14. Kopp, R. E. and J. L. Kirschvink (2008). The identification and biogeochemical interpretation of fossil magnetotactic bacteria. *Earth-Science Reviews* **86**(1–4), 42–61. doi: 10.1016/j.earscirev.2007.08.001.
  15. Schumann, D., T. D. Raub, R. E. Kopp, J.-L. Guerquin-Kern, T.-D. Wu, I. Rouiller, A. V. Smirnov, S. K. Sears, U. Lücken, S. M. Tikoo, R. Hesse, J. L. Kirschvink, and H. Vali (2008). Gigantism in unique biogenic magnetite at the Paleocene–Eocene Thermal Maximum. *Proceedings of the National Academy of Sciences* **105**(46), 17648–17653. doi: 10.1073/pnas.0803634105.
  16. Kopp, R., D. Schumann, T. Raub, D. Powars, L. Godfrey, N. Swanson-Hysell, A. Maloof, and H. Vali (2009). An Appalachian Amazon? Magnetofossil evidence for the development of a tropical river-like system in the mid-Atlantic United States during the Paleocene-Eocene thermal maximum. *Paleoceanography* **24**(4), PA4211. doi: 10.1029/2009PA001783.
  17. Kopp, R. E., F. J. Simons, J. X. Mitrovica, A. C. Maloof, and M. Oppenheimer (2009). Probabilistic assessment of sea level during the last interglacial stage. *Nature* **462**(7275), 863–867. doi: 10.1038/nature08686.
  18. Morrow, D. R., R. E. Kopp, and M. Oppenheimer (2009). Toward ethical norms and institutions for climate engineering research. *Environmental Research Letters* **4**, 045106. doi: 10.1088/1748-9326/4/4/045106.
  19. Kopp, R. E. and D. L. Mauzerall (2010). Assessing the climatic benefits of black carbon mitigation. *Proceedings of the National Academy of Sciences* **107**(26), 11703–11708. doi: 10.1073/pnas.0909605107.
  20. Kopp, R. E., J. X. Mitrovica, S. M. Griffies, J. Yin, C. C. Hay, and R. J. Stouffer (2010). The impact of Greenland melt on local sea levels: a partially coupled analysis of dynamic and static equilibrium effects in idealized water-hosing experiments. *Climatic Change* **103**, 619–625. doi: 10.1007/s10584-010-9935-1.
  21. Katsman, C., A. Sterl, J. Beersma, H. van den Brink, J. Church, W. Hazeleger, R. Kopp, D. Kroon, J. Kwadijk, R. Lammersen, J. Lowe, M. Oppenheimer, H. Plag, J. Ridley, H. von Storch, D. Vaughan, P. Vellinga, L. Vermeersen, R. van de Wal, and R. Weisse (2011). Exploring high-end scenarios for local sea level rise to develop flood protection strategies for a low-lying delta—the Netherlands as an example. *Climatic Change* **109**(3), 617–645. doi: 10.1007/s10584-011-0037-5.
  22. Kousky, C., R. E. Kopp, and R. M. Cooke (2011). Risk premia and the social cost of carbon: A review. *Economics* **5**, 2011–21. doi: 10.5018/economics-ejournal.ja.2011-21.
  23. Eom, J., K. Calvin, L. Clarke, J. Edmonds, S. Kim, R. Kopp, P. Kyle, P. Luckow, R. Moss, P. Patel, and M. Wise (2012). Exploring the future role of Asia utilizing a Scenario Matrix Architecture and Shared Socio-economic Pathways. *Energy Economics* **34**, S325–S338. doi: 10.1016/j.eneco.2012.03.012.
  24. Kopp, R. E. (2012). Palaeoclimate: Tahitian record suggests Antarctic collapse. *Nature* **483**(7391), 549–550. doi: 10.1038/483549a.
  25. Kopp, R. E., A. Golub, N. O. Keohane, and C. Onda (2012). The Influence of the Specification of Climate Change Damages on the Social Cost of Carbon. *Economics* **6**, 2012–13. doi: 10.5018/economics-ejournal.ja.2012-13.
  26. Kopp, R. E. and B. K. Mignone (2012). The U.S. Government’s Social Cost of Carbon Estimates after Their First Two Years: Pathways for Improvement. *Economics* **6**, 2012–15. doi: 10.5018/economics-ejournal.ja.2012-15.
  27. Hay, C. C., E. Morrow, R. E. Kopp, and J. X. Mitrovica (2013). Estimating the sources of global sea level rise with data assimilation techniques. *Proceedings of the National Academy of Sciences* **110**, 3692–3699. doi: 10.1073/pnas.1117683109.

28. Kodama, K., R. Moeller, D. Bazylinski, R. Kopp, and A. Chen (2013). The mineral magnetic record of magnetofossils in recent lake sediments of Lake Ely, PA. *Global and Planetary Change* **110C**, 350–363. doi: 10.1016/j.gloplacha.2013.03.012.
29. Kopp, R. E. (2013). Does the mid-Atlantic United States sea level acceleration hot spot reflect ocean dynamic variability? *Geophysical Research Letters* **40**, 3981–3985. doi: 10.1002/grl.50781.
30. Kopp, R. E. and B. K. Mignone (2013). Circumspection, reciprocity, and optimal carbon prices. *Climatic Change* **120**(4), 831–843. doi: 10.1007/s10584-013-0858-5.
31. Kopp, R. E., F. J. Simons, J. X. Mitrovica, A. C. Maloof, and M. Oppenheimer (2013). A probabilistic assessment of sea level variations within the last interglacial stage. *Geophysical Journal International* **193**(2), 711–716. doi: 10.1093/gji/ggt029.
32. Marten, A. L., R. E. Kopp, K. C. Shouse, C. W. Griffiths, E. L. Hodson, E. Kopits, B. K. Mignone, C. Moore, S. C. Newbold, S. Waldhoff, and A. Wolverton (2013). Improving the assessment and valuation of climate change impacts for policy and regulatory analysis. *Climatic Change* **117**, 433–438. doi: 10.1007/s10584-012-0608-0.
33. Miller, K. G., R. E. Kopp, B. P. Horton, J. V. Browning, and A. C. Kemp (2013). A geological perspective on sea-level rise and its impacts along the U.S. mid-Atlantic coast. *Earth's Future* **1**, 3–18. doi: 10.1002/2013EF000135.
34. Siddall, M., R. C. A. Hindmarsh, W. G. Thompson, A. Dutton, R. E. Kopp, and E. J. Stone (2013). Sea level variations during the last interglacial. *PAGES news* **21**(1), 36–37.
35. Chen, A., V. Berounsky, M. Chan, M. Blackford, C. Cady, B. Moskowitz, P. Kraal, E. Lima, R. Kopp, G. Lumpkin, B. Weiss, P. Hesse, and N. Vella (2014). Magnetic properties of uncultivated magnetotactic bacteria and their contribution to a stratified estuary iron cycle. *Nature Communications* **5**, 4797. doi: 10.1038/ncomms5797.
36. Hay, C., J. X. Mitrovica, N. Gomez, J. R. Creveling, J. Austermann, and R. E. Kopp (2014). The sea-level fingerprints of ice-sheet collapse during interglacial periods. *Quaternary Science Reviews* **87**, 60–69. doi: 10.1016/j.quascirev.2013.12.022.
37. Kemp, A. C., C. E. Bernhardt, B. P. Horton, R. E. Kopp, C. H. Vane, W. R. Peltier, A. D. Hawkes, J. P. Donnelly, A. C. Parnell, and N. Cahill (2014). Late Holocene sea- and land-level change on the U.S. southeastern Atlantic coast. *Marine Geology* **357**, 90–100. doi: 10.1016/j.margeo.2014.07.010.
38. Kopp, R. E., R. M. Horton, C. M. Little, J. X. Mitrovica, M. Oppenheimer, D. J. Rasmussen, B. H. Strauss, and C. Tebaldi (2014). Probabilistic 21st and 22nd century sea-level projections at a global network of tide gauge sites. *Earth's Future* **2**, 383–406. doi: 10.1002/2014EF000239.
39. Revesz, R. L., P. H. Howard, K. Arrow, L. H. Goulder, R. E. Kopp, M. A. Livermore, M. Oppenheimer, and T. Sterner (2014). Global warming: Improve economic models of climate change. *Nature* **508**, 173–175. doi: 10.1038/508173a.
40. van de Plassche, O., A. J. Wright, B. P. Horton, S. E. Engelhart, A. C. Kemp, D. Mallinson, and R. E. Kopp (2014). Estimating tectonic uplift of the Cape Fear Arch (southeast-Atlantic coast, USA) using reconstructions of Holocene relative sea level. *Journal of Quaternary Science* **29**(8), 749–759. doi: 10.1002/jqs.2746.
41. Creveling, J. R., J. X. Mitrovica, C. C. Hay, J. Austermann, and R. E. Kopp (2015). Revisiting tectonic corrections applied to Pleistocene sea-level highstands. *Quaternary Science Reviews* **111**, 72–80. doi: 10.1016/j.quascirev.2015.01.003.
42. Engelhart, S. E., M. Vacchi, B. P. Horton, A. R. Nelson, and R. E. Kopp (2015). Sea-level history of the Pacific coast of North America since the Last Glacial Maximum. *Quaternary Science Reviews* **113**, 78–92. doi: 10.1016/j.quascirev.2014.12.001.
43. Hay, C. C., E. D. Morrow, R. E. Kopp, and J. X. Mitrovica (2015). Probabilistic reanalysis of 20th century sea-level rise. *Nature* **517**, 481–484. doi: 10.1038/nature14093.
44. Khan, N. S., E. Ashe, T. A. Shaw, M. Vacchi, J. Walker, W. Peltier, R. E. Kopp, and B. P. Horton (2015). Holocene relative sea-level changes from near-, intermediate-, and far-field locations. *Current Climate Change Reports* **1**, 247–262. doi: 10.1007/s40641-015-0029-z.
45. Kopp, R. E., C. C. Hay, C. M. Little, and J. X. Mitrovica (2015). Geographic variability of sea-level change. *Current Climate Change Reports* **1**, 192–204. doi: 10.1007/s40641-015-0015-5.

46. Kopp, R. E., B. P. Horton, A. C. Kemp, and C. Tebaldi (2015). Past and future sea-level rise along the coast of North Carolina, United States. *Climatic Change* **132**, 693–707. doi: 10.1007/s10584-015-1451-x.
47. Little, C. M., R. M. Horton, R. E. Kopp, M. Oppenheimer, G. A. Vecchi, and G. Villarini (2015). Joint projections of US East Coast sea level and storm surge. *Nature Climate Change* **5**, 1114–1120. doi: 10.1038/nclimate2801.
48. Little, C. M., R. M. Horton, R. E. Kopp, M. Oppenheimer, and S. Yip (2015). Uncertainty in 21st century CMIP5 sea-level projections. *Journal of Climate* **28**, 838–852. doi: 10.1175/JCLI-D-14-00453.1.
49. Mitrovica, J. X., C. C. Hay, E. D. Morrow, R. E. Kopp, M. Dumberry, and S. Stanley (2015). Reconciling past and present changes in Earth rotation with 20th century global sea-level rise: Resolving Munk's enigma. *Science Advances* **1**, e1500679. doi: 10.1126/sciadv.1500679.
50. Nikitina, D., A. C. Kemp, S. E. Engelhart, B. P. Horton, D. F. Hill, and R. E. Kopp (2015). Sea-level change and subsidence in the Delaware estuary in the last ~ 2200 years. *Estuarine, Coastal and Shelf Science* **164**, 506–519. doi: 10.1016/j.ecss.2015.08.012.
51. Buchanan, M. K., R. E. Kopp, M. Oppenheimer, and C. Tebaldi (2016). Allowances for evolving coastal flood risk under uncertain local sea-level rise. *Climatic Change* **137**, 347–362. doi: 10.1007/s10584-016-1664-7.
52. Dura, T., S. Engelhart, M. Vacchi, B. P. Horton, R. E. Kopp, R. W. Peltier, and S. Bradley (2016). The role of Holocene relative sea-level change in preserving records of subduction zone earthquakes. *Current Climate Change Reports* **2**, 86–100. doi: 10.1007/s40641-016-0041-y.
53. Düsterhus, A., A. Rovere, A. E. Carlson, N. L. M. Barlow, T. Bradwell, A. Dutton, R. Gehrels, F. D. Hibbert, M. P. Hijma, B. P. Horton, V. Klemann, R. E. Kopp, D. Sivan, L. Tarasov, and T. E. Törnqvist (2016). Palaeo sea-level and ice-sheet databases: problems, strategies and perspectives. *Climate of the Past* **12**, 911–921. doi: 10.5194/cp-12-911-2016.
54. Hay, C. C., J. X. Mitrovica, E. Morrow, R. E. Kopp, P. Huybers, and R. B. Alley (2016). Earth rotation changes since -500 CE driven by ice mass variations. *Earth and Planetary Science Letters* **448**, 115–121. doi: 10.1016/j.epsl.2016.05.020.
55. Hayhoe, K. and R. E. Kopp (2016). What surprises lurk within the climate system? *Environmental Research Letters* **11**, 120202. doi: 10.1088/1748-9326/11/12/120202.
56. Kopp, R. E., A. C. Kemp, K. Bitterman, B. P. Horton, J. P. Donnelly, W. R. Gehrels, C. C. Hay, J. X. Mitrovica, E. D. Morrow, and S. Rahmstorf (2016). Temperature-driven global sea-level variability in the Common Era. *Proceedings of the National Academy of Sciences* **113**, E1434–E1441. doi: 10.1073/pnas.1517056113.
57. Kopp, R. E., R. Shwom, G. Wagner, and J. Yuan (2016). Tipping elements and climate-economic shocks: Pathways for integrated assessment. *Earth's Future* **4**, 346–372. doi: 10.1002/2016EF000362.
58. Lin, N., B. P. Horton, R. E. Kopp, and J. P. Donnelly (2016). Hurricane Sandy's flood frequency increasing from year 1800 to 2100. *Proceedings of the National Academy of Sciences* **113**, 12071–12075. doi: 10.1073/pnas.1604386113.
59. Liu, J., G. A. Milne, R. E. Kopp, P. U. Clark, and I. Shennan (2016). Sea-level constraints on the amplitude and source distribution of Meltwater Pulse 1A. *Nature Geoscience* **9**, 130–134. doi: 10.1038/ngeo2616.
60. Rasmussen, D. J., M. Meinshausen, and R. E. Kopp (2016). Probability-weighted ensembles of U.S. county-level climate projections for climate risk analysis. *Journal of Applied Meteorology and Climatology* **55**, 2301–2322. doi: 10.1175/JAMC-D-15-0302.1.
61. Bittermann, K., S. Rahmstorf, R. E. Kopp, and A. C. Kemp (2017). Global mean sea-level rise in a world agreed upon in Paris. *Environmental Research Letters* **12**, 124010. doi: 10.1088/1748-9326/aa9def.
62. Buchanan, M. K., M. Oppenheimer, and R. E. Kopp (2017). Amplification of flood frequencies with local sea level rise and emerging flood regimes. *Environmental Research Letters* **12**, 064009. doi: 10.1088/1748-9326/aa6cb3.
63. Garner, A. J., M. E. Mann, K. A. Emanuel, R. E. Kopp, N. Ling, R. B. Alley, B. P. Horton, R. M. DeConto, J. P. Donnelly, and D. Pollard (2017). Impact of climate change on New York City's coastal flood hazard: Increasing flood heights from the preindustrial to 2300 CE. *Proceedings of the National Academy of Sciences* **114**, 11861–11866. doi: 10.1073/pnas.1703568114.



64. Hay, C. C., E. D. Morrow, R. E. Kopp, and J. X. Mitrovica (2017). On the robustness of Bayesian fingerprinting estimates of global sea-level change. *Journal of Climate* **30**, 3025–3038. doi: 10.1175/JCLI-D-16-0271.1.
65. Hsiang, S., R. Kopp, A. Jina, J. Rising, M. Delgado, S. Mohan, D. J. Rasmussen, R. Muir-Wood, P. Wilson, M. Oppenheimer, K. Larsen, and T. Houser (2017). Estimating economic damage from climate change in the United States. *Science* **356**(6345), 1362–1369. doi: 10.1126/science.aal4369.
66. Khan, N. S., E. Ashe, B. P. Horton, A. L. Dutton, R. E. Kopp, G. Brocard, S. E. Engelhart, D. F. Hill, W. Peltier, C. H. Vane, and F. N. Scatena (2017). Drivers of Holocene sea-level change in the Caribbean. *Quaternary Science Reviews* **155**, 13–36. doi: 10.1016/j.quascirev.2016.08.032.
67. Kopp, R. E., R. M. DeConto, D. A. Bader, R. M. Horton, C. C. Hay, S. Kulp, M. Oppenheimer, D. Pollard, and B. H. Strauss (2017). Evolving understanding of Antarctic ice-sheet physics and ambiguity in probabilistic sea-level projections. *Earth's Future* **5**, 1217–1233. doi: 10.1002/2017EF000663.
68. Kopp, R. E., A. L. Dutton, and A. E. Carlson (2017). Centennial- to millennial-scale sea-level change during the Holocene and Last Interglacial periods. *Past Global Changes Magazine* **25**(3), 148–149. doi: 10.22498/pages.25.3.148.
69. Meltzner, A. J., A. D. Switzer, B. P. Horton, E. Ashe, Q. Qiu, D. F. Hill, S. L. Bradley, R. E. Kopp, E. M. Hill, J. M. Majeski, D. H. Natawidjaja, and B. W. Suwargadi (2017). Half-metre sea-level fluctuations on centennial timescales from mid-Holocene corals of Southeast Asia. *Nature Communications* **8**, 14387. doi: 10.1038/ncomms14387.
70. Miller, K. G., R. Baluyot, J. D. Wright, R. E. Kopp, and J. V. Browning (2017). Closing an early Miocene astronomical gap with Southern Ocean  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  records: Implications for sea-level change. *Paleoceanography* **32**, 600–621. doi: 10.1002/2016PA003074.
71. Miller, K. G., J. V. Browning, P. J. Sugarman, D. H. Monteverde, D. C. Andreasen, C. Lombardi, J. Thornburg, Y. Fan, and R. E. Kopp (2017). Lower to mid-Cretaceous Sequence Stratigraphy and Characterization of  $\text{CO}_2$  Storage Potential in the Mid-Atlantic U.S. Coastal Plain. *Journal of Sedimentary Research* **87**, 609–629. doi: 10.2110/jsr.2017.33.
72. O'Neill, B. C., M. Oppenheimer, R. Warren, S. Hallegatte, R. E. Kopp, H. O. Pörtner, R. Scholes, J. Birkmann, W. Foden, R. Licker, K. J. Mach, P. Marbaix, M. Mastrandrea, J. Price, K. Takahashi, J.-P. van Ypersele, and G. Yohe (2017). IPCC Reasons for Concern regarding climate change risks. *Nature Climate Change* **7**, 28–37. doi: 10.1038/nclimate3179.
73. Garcia-Artola, A., P. Stéphan, A. Cearreta, R. E. Kopp, N. S. Khan, and B. P. Horton (2018). Holocene sea-level database from the Atlantic coast of Europe. *Quaternary Science Reviews* **196**, 177–192. doi: 10.1016/j.quascirev.2018.07.031.
74. Garner, A. J., J. L. Weiss, A. Parris, R. E. Kopp, R. M. Horton, J. T. Overpeck, and B. P. Horton (2018). Evolution of 21st Century Sea-level Rise Projections. *Earth's Future* **6**, 1603–1615. doi: 10.1029/2018EF000991.
75. Horton, B. P., R. E. Kopp, A. J. Garner, C. C. Hay, N. S. Khan, K. Roy, and T. A. Shaw (2018). Mapping sea-level change in time, space and probability. *Annual Reviews of Environment and Resources* **43**, 481–521. doi: 10.1146/annurev-environ-102017-025826.
76. Horton, B. P., I. Shennan, S. Bradley, N. Cahill, M. Kirwan, R. E. Kopp, and T. A. Shaw (2018). Predicting marsh vulnerability to sea-level rise using Holocene relative sea-level data. *Nature Communications* **9**, 2687. doi: 10.1038/s41467-018-05080-0.
77. Hsiang, S. M. and R. E. Kopp (2018). An economist's guide to climate change science. *Journal of Economic Perspectives* **32**(4), 3–32. doi: 10.1257/jep.32.4.3.
78. Johnson, C. S., K. G. Miller, J. V. Browning, R. E. Kopp, N. S. Khan, Y. Fan, S. D. Stanford, and B. P. Horton (2018). The Role of Sediment Compaction and Groundwater Withdrawal in Local Sea-Level Rise, Sandy Hook, New Jersey, USA. *Quaternary Science Reviews* **181**, 30–42. doi: 10.1016/j.quascirev.2017.11.031.
79. Kemp, A. C., A. J. Wright, R. J. Edwards, R. L. Barnett, M. J. Brain, R. E. Kopp, N. Cahill, B. P. Horton, D. J. Charman, A. D. Hawkes, T. D. Hill, and O. van de Plassche (2018). Relative sea-level change in Newfoundland, Canada during the past ~3000 years. *Quaternary Science Reviews* **201**, 89–110. doi: 10.1016/j.quascirev.2018.10.012.

80. Meijles, E. W., P. Kiden, H.-J. Streurman, J. van der Plicht, P. C. V. W. R. Gehrels, and R. E. Kopp (2018). Holocene relative sea-level changes in the Wadden Sea area, northern Netherlands. *Journal of Quaternary Science* **33**(8), 905–923. doi: 10.1002/jqs.3068.
81. Mitrovica, J. X., C. C. Hay, R. E. Kopp, C. Harig, and K. Latychev (2018). Quantifying the Sensitivity of Sea Level Change in Coastal Localities to the Geometry of Polar Ice Mass Flux. *Journal of Climate* **31**, 3701–3709. doi: 10.1175/JCLI-D-17-0465.1.
82. Rasmussen, D., K. Bittermann, M. K. Buchanan, S. Kulp, B. H. Strauss, R. E. Kopp, and M. Oppenheimer (2018). Coastal flood implications of 1.5°C, 2.0°C, and 2.5°C temperature stabilization targets in the 21st and 22nd century. *Environmental Research Letters* **13**, 034040. doi: 10.1088/1748-9326/aaac87.
83. Ross, M. E., A. M. Vicedo-Cabrera, R. E. Kopp, L. Song, D. S. Goldfarb, J. Pulido, S. Warner, S. L. Furth, and G. E. Tasian (2018). Assessment of the combination of temperature and relative humidity on kidney stone presentations. *Environmental Research* **162**, 97–105. doi: 10.1016/j.envres.2017.12.020.
84. Vacchi, M., S. E. Engelhart, D. Nikitina, E. L. Ashe, W. R. Peltier, K. Roy, R. E. Kopp, and B. P. Horton (2018). Postglacial relative sea-level histories along the eastern Canadian coastline. *Quaternary Science Reviews* **201**, 124–146. doi: 10.1016/j.quascirev.2018.09.043.
85. Yuan, J., W. Li, R. E. Kopp, and Y. Deng (2018). Response of subtropical stationary waves and hydrological extremes to climate warming in boreal summer. *Journal of Climate* **31**, 10165–10180. doi: 10.1175/JCLI-D-17-0401.1.
86. Ashe, E. L., N. Cahill, C. C. Hay, N. Khan, A. Kemp, S. Engelhart, B. P. Horton, A. Parnell, and R. E. Kopp (2019). Statistical modeling of rates and trends in Holocene sea level. *Quaternary Science Reviews* **204**, 58–77. doi: 10.1016/j.quascirev.2018.10.032.
87. Bamber, J. L., M. Oppenheimer, R. E. Kopp, W. Aspinall, and R. M. Cooke (2019). Ice sheet contributions to future sea level rise from structured expert judgement. *Proceedings of the National Academy of Sciences* **116**, 11195–11200. doi: 10.1073/pnas.1817205116.
88. Capron, E., A. Rovere, J. Austermann, Y. Axford, N. L. M. Barlow, A. E. Carlson, A. de Vernal, A. Dutton, R. E. Kopp, J. F. McManus, L. Menviel, B. L. Otto-Bliesner, A. Robinson, J. D. Shakun, P. C. Tzedakis, and E. W. Wolff (2019). Challenges and Research Priorities to Understand Interactions between Climate, Ice Sheets and Global Mean Sea Level during Past Interglacials. *Quaternary Science Reviews* **219**, 308–311. doi: 10.1016/j.quascirev.2019.06.030.
89. Ciscar, J.-C., J. Rising, R. E. Kopp, and L. Feyen (2019). Assessing future climate change impacts in the EU and the USA: insights and lessons from two continental-scale projects. *Environmental Research Letters* **14**, 084010. doi: 10.1088/1748-9326/ab281e.
90. Gornitz, V., M. Oppenheimer, R. Kopp, P. Orton, M. Buchanan, N. Lin, R. Horton, and D. Bader (2019). New York City Panel on Climate Change 2019 Report Chapter 3: Sea Level Rise. *Annals of the New York Academy of Sciences* **1439**(1), 71–94. doi: 10.1111/nyas.14006.
91. Gregory, J., S. Griffies, C. Hughes, J. Lowe, J. Church, I. Fukumori, N. Gomez, R. Kopp, F. Landerer, R. Ponte, D. Stammer, M. Tamisiea, and R. van de Wal (2019). Concepts and terminology for sea level—mean, variability and change, both local and global. *Surveys in Geophysics* **40**, 1251–1289. doi: 10.1007/s10712-019-09525-z.
92. Hall, J. A., C. P. Weaver, J. Obeysekera, M. Crowell, R. M. Horton, R. E. Kopp, J. Marburger, D. C. Marcy, A. Parris, W. V. Sweet, and W. C. Veatch (2019). Rising Sea Levels: Helping Decision-Makers Confront the Inevitable. *Coastal Management* **47**(2), 127–150. doi: 10.1080/08920753.2019.1551012.
93. Jevrejeva, S., T. Frederikse, R. E. Kopp, G. Le Cozannet, L. P. Jackson, and R. S. W. van de Wal (2019). Probabilistic sea level projections at the coast by 2100. *Surveys in Geophysics* **40**, 1673–1696. doi: 10.1007/s10712-019-09550-y.
94. Kopp, R. E., E. A. Gilmore, C. M. Little, J. Lorenzo Trueba, V. C. Ramenzoni, and W. V. Sweet (2019). Usable Science for Managing the Risks of Sea-Level Rise. *Earth's Future* **7**, 1235–1269. doi: 10.1029/2018EF001145.
95. Shwom, R. L. and R. E. Kopp (2019). Long-term risk governance: When do societies act before crisis? *Journal of Risk Research* **22**, 1374–1390. doi: 10.1080/13669877.2018.1476900.
96. Wrathall, D. et al. (2019). Meeting the challenge of future migration from global sea-level change. *Nature Climate Change* **9**, 898–903. doi: 10.1038/s41558-019-0640-4.

97. Baranes, H. E., J. D. Woodruff, S. A. Talke, R. E. Kopp, R. D. Ray, and R. M. DeConto (2020). Tidally driven interannual variation in extreme sea level probabilities in the Gulf of Mexico. *Journal of Geophysical Research* **125**, e2020JC016291. doi: 10.1029/2020JC016291.
98. Frederikse, T., M. K. Buchanan, E. Lambert, R. E. Kopp, M. Oppenheimer, D. Rasmussen, and R. S. W. van de Wal (2020). The role of emission scenarios and Antarctica in 21st century extreme water level changes. *Nature Communications* **11**, 390. doi: 10.1038/s41467-019-14049-6.
99. Gilford, D. M., E. L. Ashe, R. E. Kopp, R. M. DeConto, D. Pollard, and A. Rovere (2020). Could the Last Interglacial Constrain Projections of Future Antarctic Ice Mass Loss and Sea-level Rise? *Journal of Geophysical Research-Earth Surface* **125**(10), e2019JF005418. doi: 10.1029/2019JF005418.
100. Gornitz, V., M. Oppenheimer, R. Kopp, R. Horton, D. Bader, P. Orton, and C. Rosenzweig (2020). Enhancing New York City's Resilience to Sea Level Rise and Increased Coastal Flooding. *Urban Climate* **33**, 100654. doi: 10.1016/j.uclim.2020.100654.
101. Hamlington, B. D., A. S. Gardner, E. Ivins, J. T. Lenaerts, J. Reager, D. S. Trossman, E. D. Zaron, S. Adhikari, A. Arendt, A. Aschwanden, et al. (2020). Understanding of Contemporary Regional Sea-level Change and the Implications for the Future. *Reviews of Geophysics*, e2019RG000672. doi: 10.1029/2019RG000672.
102. Hawley, W. B., C. C. Hay, J. X. Mitrovica, and R. E. Kopp (2020). A Spatially Variable Time Series of Sea Level Change due to Artificial Water Impoundment. *Earth's Future*. doi: 10.1029/2020EF001497.
103. Li, D., J. Yuan, and R. E. Kopp (2020). Escalating Global Exposure to Compound Heat-Humidity Extremes with Warming. *Environmental Research Letters* **15**, 064003. doi: 10.1088/1748-9326/ab7d04.
104. Lorie, M., J. E. Neumann, M. C. Sarofim, R. Jones, R. M. Horton, R. E. Kopp, C. Fant, C. Wobus, J. Martinich, M. O'Grady, et al. (2020). Modeling Coastal Flood Risk and Adaptation Response under Future Climate Conditions. *Climate Risk Management*, 100233. doi: 10.1016/j.crm.2020.100233.
105. Miller, K., J. Browning, W. Schmelz, R. Kopp, G. Mountain, and J. Wright (2020). Cenozoic sea-level and cryospheric evolution from deep-sea geochemical and continental margin records. *Science Advances* **6**, eaaz1346. doi: 10.1126/sciadv.aaz1346.
106. Rasmussen, D. J., M. K. Buchanan, R. E. Kopp, and M. Oppenheimer (2020). A flood damage allowance framework for coastal protection with deep uncertainty in sea-level rise. *Earth's Future* **8**, e2019EF001340. doi: 10.1029/2019EF001340.
107. Vicedo-Cabrera, A., D. S. Goldfarb, R. E. Kopp, L. Song, and G. E. Tasian (2020). Sex Differences in the Temperature-Dependence of Kidney Stone Presentations: a Population-Based Aggregated Case-Crossover Study. *Urolithiasis* **48**, 37–46. doi: 10.1007/s00240-019-01129-x.
108. Walker, J. S., N. Cahill, N. S. Khan, T. A. Shaw, D. Barber, K. G. Miller, R. E. Kopp, and B. P. Horton (2020). Incorporating temporal and spatial variability of salt-marsh foraminifera into sea-level reconstructions. *Marine Geology* **429**, 106293. doi: 10.1016/j.margeo.2020.106293.
109. Yuan, J., M. L. Stein, and R. E. Kopp (2020). The evolving distribution of relative humidity conditional upon daily maximum temperature in a warming climate. *Journal of Geophysical Research* **125**, e2019JD032100. doi: 10.1029/2019JD032100.
110. Bates, P. D., N. Quinn, C. C. Sampson, A. M. Smith, O. E. J. Wing, J. Sosa, J. Savage, G. Olcese, G. J.-P. Schumann, L. Giustarini, and et al. (2021). Combined modelling of US fluvial, pluvial and coastal flood hazard under current and future climates. *Water Resources Research* **57**(2), e2020WR028673. doi: 10.1029/2020WR028673.
111. DeConto, R. M., D. Pollard, R. B. Alley, I. Vellicogna, E. Gassons, N. Gomez, S. Rogstad, D. M. Gilford, E. L. Ashe, R. E. Kopp, D. Li, and A. L. Dutton (2021). The Paris Climate Agreement and future sea-level rise from Antarctica. *Nature* **593**, 83–88. doi: 10.1038/s41586-021-03427-0.
112. Desmet, K., R. Kopp, S. A. Kulp, D. K. Nagy, M. Oppenheimer, E. Rossi-Hansberg, and B. H. Strauss (2021). Evaluating the economic cost of coastal flooding. *American Economic Journal: Macroeconomics* **13**(2), 444–486. doi: 10.1257/mac.20180366.
113. Dura, T., A. J. Garner, R. Weiss, R. E. Kopp, S. E. Engelhart, R. C. Witter, R. W. Briggs, C. S. Mueller, A. R. Nelson, and B. P. Horton (2021). Changing impacts of Alaska-Aleutian subduction zone tsunamis in California under future sea-level rise. *Nature Communications* **12**, 7119. doi: 10.1038/s41467-021-27445-8.

114. Garner, A. J., R. E. Kopp, and B. P. Horton (2021). Evolving Tropical Cyclone Tracks in the North Atlantic in a Warming Climate. *Earth's Future* **9**, e2021EF002326. doi: 10.1029/2021EF002326.
115. Harvey, T. C., B. D. Hamlington, T. Frederikse, R. S. Nerem, C. G. Piecuch, W. C. Hammond, G. Blewitt, P. R. Thompson, D. P. S. Bekaert, F. W. Landerer, J. T. Reager, R. E. Kopp, H. Chandanpurkar, I. Fenty, D. Trossman, J. S. Walker, and C. Boening (2021). Ocean mass, sterodynamic effects, and vertical land motion largely explain US coast relative sea level rise. *Communications Earth & Environment* **2**(1), 233. doi: 10.1038/s43247-021-00300-w.
116. Kopp, R. E. (2021b). Land-Grant Lessons for Anthropocene Universities. *Climatic Change* **165**, 28. doi: 10.1007/s10584-021-03029-9.
117. Rasmussen, D. J., R. E. Kopp, R. L. Shwom, and M. Oppenheimer (2021). The Political Complexity of Coastal Flood Risk Reduction: Lessons for Climate Adaptation Public Works in the U.S. *Earth's Future* **9**(2), ee2020EF001575. doi: 10.1029/2020EF001575.
118. Rode, A., T. Carleton, M. Delgado, M. Greenstone, T. Houser, S. Hsiang, A. Hultgren, A. Jina, R. E. Kopp, K. E. McCusker, I. Nath, J. Rising, J. Simcock, and J. Yuan (2021). Estimating a Social Cost of Carbon for Global Energy Consumption. *Nature* **598**, 308–314. doi: 10.1038/s41586-021-03883-8.
119. Schmelz, W. J., M. K. G., R. E. Kopp, G. S. Mountain, and J. V. Browning (2021). Influence of Mantle Dynamic Topographical Variations on US Mid-Atlantic Continental Margin Estimates of Sea-level Change. *Geophysical Research Letters* **48**, e2020GL090521. doi: 10.1029/2020GL090521.
120. Strauss, B., P. Orton, K. Bittermann, M. K. Buchanan, R. E. Kopp, S. Kulp, C. Massey, H. de Moel, and S. Vinogradov (2021). Economic Damages from Hurricane Sandy Attributable to Sea Level Rise Caused by Anthropogenic Climate Change. *Nature Communications* **12**, 2720. doi: 10.1038/s41467-021-22838-1.
121. Tebaldi, C., R. Ranasinghe, M. Vourdoukas, D. J. Rasmussen, B. Vega-Westhoff, E. Kirezci, R. E. Kopp, R. Sriver, and L. Mentaschi (2021). Extreme sea levels at different global warming levels. *Nature Climate Change* **11**(9), 746–751. doi: 10.1038/s41558-021-01127-1.
122. Vacchi, M., K. Joyse, R. E. Kopp, N. Marriner, D. Kaniewski, and A. Rovere (2021). Climate pacing of millennial sea-level change variability in the central and western Mediterranean. *Nature Communications* **12**, 4013.
123. Walker, J. S., R. E. Kopp, T. A. Shaw, N. Cahill, N. S. Khan, D. C. Barber, E. L. Ashe, M. J. Brain, J. L. Clear, D. R. Corbett, and B. P. Horton (2021). Common Era Sea-Level Budgets along the U.S. Atlantic Coast. *Nature Communications* **12**(1), 1841. doi: 10.1038/s41467-021-22079-2.
124. Wang, F., C. J. Sanders, I. R. Santos, J. Tang, M. Schurech, M. L. Kirwan, R. E. Kopp, K. Zhu, X. Li, J. Yuan, et al. (2021). Global blue carbon accumulation in tidal wetlands increases with climate change. *National Science Review* **8**, nwaa296. doi: 10.1093/nsr/nwaa296.
125. Yuan, J. and R. E. Kopp (2021). Emulating ocean dynamic sea level by two-layer pattern scaling. *Journal of Advances in Modeling Earth Systems* **13**, e2020MS002323. doi: 10.1029/2020MS002323.

## Reports and Book Chapters

1. Katsman, C. A., J. A. Church, R. E. Kopp, D. Kroon, M. Oppenheimer, H. P. Plag, S. Rahmstorf, J. Ridley, H. von Storch, and D. G. Vaughan (2008). “High-end projection for local sea level rise along the Dutch coast in 2100 and 2200”. In: *Exploring high-end climate change scenarios for flood protection of the Netherlands*. Ed. by P. Vellinga, C. Katsman, A. Sterl, and J. J. Beersma. The Netherlands: KNMI/Alterra, pp.15–81.
2. Bice, K. L., A. G. Eil, B. Habib, P. L. Heijmans, R. E. Kopp, J. P. Nogues, F. L. Norcross, M. Sweitzer-Hamilton, A. Whitworth, and D. L. Mauzerall (2009). *Black Carbon: A review and policy recommendations*. Princeton, NJ: Woodrow Wilson School of Policy & International Affairs. <http://goo.gl/UXh6Qe>.
3. Interagency Working Group on the Social Cost of Carbon, United States Government (2010). “Appendix 15a. Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866”. In: *Final Rule Technical Support Document (TSD): Energy Efficiency Program for Commercial and Industrial Equipment: Small Electric Motors*. U.S. Department of Energy. <http://go.usa.gov/3fH>.
4. Boesch, D. F., L. Atkinson, W. Boicourt, J. Boon, D. Cahoon, R. Dalrymple, T. Ezer, B. Horton, Z. Johnson, R. Kopp, M. Li, R. Moss, A. Parriss, and C. Sommerfield (2013). *Updating Maryland's Sea-level Rise Projections. Special Report of the Scientific and Technical Working Group to the Maryland Climate Change Commission*. Cambridge, MD: University of Maryland Center for Environmental Science, 19 pp. <http://www.umces.edu/sea-level>.

5. Eom, J., R. Moss, J. Edmonds, K. Calvin, B. Bond-Lamberty, L. Clarke, J. Dooley, S. H. Kim, R. E. Kopp, P. Kyle, P. Luckow, P. Patel, A. Thomson, M. Wise, and Y. Zhou (2013). "Scenarios of future socio-economics, energy, land use and radiative forcing". In: *Engineering Response to Global Climate Change: Planning a Research and Development Agenda*. Ed. by R. G. Watts. Second Edition. Boca Raton: CRC Press, pp.81–138.
6. Kopp, R. E., S. M. Hsiang, and M. Oppenheimer (2013). Empirically calibrating damage functions and considering stochasticity when integrated assessment models are used as decision tools. In: *Impacts World 2013 Conference Proceedings*. Potsdam, Germany: Potsdam Institute for Climate Impact Research, pp.834–843. doi: 10.2312/pik.2013.001.
7. Masson-Delmotte, V., M. Schulz, A. Abe-Ouchi, J. Beer, A. Ganopolski, J. G. Rouco, E. Jansen, K. Lambeck, J. Luterbacher, T. Naish, T. Osborn, B. Otto-Bliesner, T. Quinn, R. Ramesh, M. Rojas, X. Shao, and A. Timmermann (2013). "Information from Paleoclimate Archives". In: *Climate Change 2013: the Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Ed. by T. F. Stocker, D. Qin, G.-K. Plattner, M. Tignor, S. K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, and P. Midgley. Cambridge, UK: Cambridge University Press, pp.383–464.
8. Morrow, D. R., R. E. Kopp, and M. Oppenheimer (2013). "Political legitimacy in decisions about experiments in solar radiation management". In: *Climate Change Geoengineering: Philosophical Perspectives, Legal Issues, and Governance Frameworks*. Ed. by W. C. G. Burns and A. Strauss. Cambridge, UK: Cambridge University Press, pp.146–167.
9. Arent, D., R. Tol, E. Faust, J. P. Hella, S. Kumar, K. M. Strzepek, F. L. Tóth, and D. Yan (2014). "Key Economic Sectors and Services". In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Ed. by C. B. Field, V. R. Barros, D. Dokken, K. Mach, M. Mastrandrea, T. Bilir, M. Chatterjee, K. Ebi, Y. Estrada, R. Genova, B. Girma, E. Kissel, A. Levy, S. MacCracken, P. Mastrandrea, and L. White. Cambridge, UK: Cambridge University Press, pp.659–708.
10. Houser, T., R. Kopp, S. Hsiang, R. Muir-Wood, K. Larsen, M. Delgado, A. Jina, P. Wilson, S. Mohan, D. J. Rasmussen, M. Mastrandrea, and J. Rising (2014). *American Climate Prospectus: Economic Risks in the United States*. New York: Rhodium Group, 197 pp. <http://www.climateprospectus.org/>.
11. Oppenheimer, M., M. Campos, R. Warren, J. Birkmann, G. Luber, B. O'Neill, and K. Takahashi (2014). "Emergent Risks and Key Vulnerabilities". In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Ed. by C. B. Field, V. R. Barros, D. Dokken, K. Mach, M. Mastrandrea, T. Bilir, M. Chatterjee, K. Ebi, Y. Estrada, R. Genova, B. Girma, E. Kissel, A. Levy, S. MacCracken, P. Mastrandrea, and L. White. Cambridge, UK: Cambridge University Press, pp.1039–1099.
12. Warren, R., N. Arnell, S. Brown, T. Kjellstrom, R. Kopp, R. Nicholls, and J. Price (2014). *Post-IPCC assessment of climate impacts using existing scenarios — advances in understanding*. Report 1. AVOID 2 WPB.1a. [http://avoid-net-uk.cc.ic.ac.uk/downloads/avoid2/AVOID2\\_WP.B.1a\\_report.v1\\_final.pdf](http://avoid-net-uk.cc.ic.ac.uk/downloads/avoid2/AVOID2_WP.B.1a_report.v1_final.pdf).
13. Douglas, E. et al. (2016). *Climate Change and Sea Level Rise Projections for Boston: the Boston Research Advisory Group Report*. Boston, MA: Climate Ready Boston, 54 pp. <http://climateready.boston.gov/findings>.
14. Kopp, R., A. Broccoli, B. Horton, D. Kreeger, R. Leichenko, J. A. Miller, P. Orton, A. Parris, D. Robinson, C. Weaver, M. Campo, M. Kaplan, M. Buchanan, J. Herb, L. Auermuller, and C. Andrews (2016). *Assessing New Jersey's Exposure to Sea-Level Rise and Coastal Storms: Report of the New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel*. New Brunswick, NJ: Rutgers University. doi: 10.7282/T3ZP48CF.
15. National Academies of Sciences, Engineering, and Medicine (2016). *Assessment of Approaches to Updating the Social Cost of Carbon: Phase 1 Report on a Near-Term Update*. Washington, DC: The National Academies Press, 74 pp. doi: 10.17226/21898.
16. Strauss, B. H., R. E. Kopp, W. V. Sweet, and K. Bittermann (2016). *Unnatural Coastal Floods: Sea Level Rise and the Human Fingerprint on U.S. Floods Since 1950*. Climate Central Research Report, 16 pp. <http://goo.gl/n0oqjn>.
17. Behar, D., R. Kopp, R. DeConto, C. Weaver, K. White, K. May, and R. Bindshadler (2017). "Planning for Sea Level Rise: An AGU Talk in the Form of a Co-Production Experiment Exploring Recent Science". <https://www.wucaonline.org/assets/pdf/pubs-agu-consensus-statement.pdf>.

18. Griggs, G., J. Árvai, D. Cayan, R. DeConto, J. Fox, H. A. Fricker, R. E. Kopp, C. Tebaldi, and E. A. Whiteman (Apr. 2017). *Rising seas in California: An update on sea-level rise science*. California Ocean Science Trust, 71 pp.
19. Hayhoe, K., J. Edmonds, R. E. Kopp, A. N. LeGrande, B. M. Sanderson, M. F. Wehner, and D. J. Wuebbles (2017). "Climate models, scenarios, and projections". In: *Climate Science Special Report: Fourth National Climate Assessment, Volume I*. Ed. by D. J. Wuebbles, D. W. Fahey, K. A. Hibbard, D. J. Dokken, B. C. Stewart, and T. K. Maycock. Washington, DC, USA: U.S. Global Change Research Program. Chap. 4, pp. 133–160. doi: 10.7930/J0WH2N54.
20. Kopp, R. E., D. R. Easterling, T. Hall, K. Hayhoe, R. Horton, K. E. Kunkel, and A. N. LeGrande (2017). "Potential surprises – compound extremes and tipping elements". In: *Climate Science Special Report: Fourth National Climate Assessment, Volume I*. Ed. by D. J. Wuebbles, D. W. Fahey, K. A. Hibbard, D. J. Dokken, B. C. Stewart, and T. K. Maycock. Washington, DC, USA: U.S. Global Change Research Program. Chap. 15, pp. 411–429. doi: 10.7930/J0GB227J.
21. National Academies of Sciences, Engineering, and Medicine (2017). *Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide*. The National Academies Press, 394 pp. doi: 10.17226/24651.
22. Sweet, W. V., R. Horton, R. E. Kopp, A. N. LeGrande, and A. Romanou (2017). "Sea level rise". In: *Climate Science Special Report: Fourth National Climate Assessment, Volume I*. Ed. by D. J. Wuebbles, D. W. Fahey, K. A. Hibbard, D. J. Dokken, B. C. Stewart, and T. K. Maycock. Washington, DC, USA: U.S. Global Change Research Program. Chap. 12, pp. 333–363. doi: 10.7930/J0VM49F2.
23. Sweet, W. V., R. E. Kopp, C. P. Weaver, J. Obeysekera, R. Horton, E. R. Thieler, and C. Zervas (2017). *Global and Regional Sea Level Rise Scenarios for the United States*. Technical Report NOS CO-OPS 083. National Oceanic and Atmospheric Administration. <https://goo.gl/YUehx6>.
24. Wuebbles, D. J., D. R. Easterling, K. Hayhoe, T. Knutson, R. E. Kopp, J. P. Kossin, K. E. Kunkel, A. N. LeGrande, C. Mears, W. V. Sweet, P. C. Taylor, R. S. Vose, and M. F. Wehner (2017). "Our globally changing climate". In: *Climate Science Special Report: Fourth National Climate Assessment, Volume I*. Ed. by D. J. Wuebbles, D. W. Fahey, K. A. Hibbard, D. J. Dokken, B. C. Stewart, and T. K. Maycock. Washington, DC, USA: U.S. Global Change Research Program. Chap. 1, pp. 35–72. doi: 10.7930/J08S4N35.
25. Boesch, D., W. Boicourt, R. Cullather, T. Ezer, G. E. Galloway Jr., Z. Johnson, K. Kilbourne, M. Kirwan, R. Kopp, S. Land, M. Li, W. Nardin, C. Sommerfield, and W. Sweet (2018). *Updating Maryland's Sea-level Rise Projections. Special Report of the Scientific and Technical Working Group to the Maryland Climate Change Commission*. Cambridge, MD: University of Maryland Center for Environmental Science, 32 pp. <http://www.umces.edu/sea-level>.
26. Morrow, D. R., R. E. Kopp, and M. Oppenheimer (2018). "Research ethics and geoengineering". In: *Geoengineering our Climate?: Ethics, Politics and Governance*. Ed. by J. J. Blackstock and S. Low. London: Earthscan, pp.187–189. <http://tinyurl.com/morrow2013>.
27. Hess, H., M. Delgado, A. Hamidi, T. Houser, R. Kopp, I. Bolliger, S. Hsiang, and M. Greenstone (2019). *New Jersey's Rising Coastal Risk*. Tech. rep. Rhodium Group. <https://rhg.com/research/new-jersey-flooding-hurricanes-costs-climatechange/>.
28. Kopp, R. E. et al. (2019). *New Jersey's Rising Seas and Changing Coastal Storms: Report of the 2019 Science and Technical Advisory Panel*. Tech. rep. Trenton, New Jersey: Rutgers, The State University of New Jersey. Prepared for the New Jersey Department of Environmental Protection. doi: 10.7282/t3-eeqr-mq48.
29. Ferraro, C., R. Jordan, R. E. Kopp, S. L. Bond, J. Gong, C. J. Andrews, L. M. Auermuller, J. Herb, and J. McDonnell (2020). "Training Students to Improve Coastal Resilience". In: *Preparing Students for Community-Engaged Scholarship in Higher Education*. Ed. by A. S. Zimmerman. Hershey, PA: IGI Global, pp.347–360.
30. Levy, R., T. R. Naish, N. R. Golledge, R. Bell, P. Stocchi, R. Kopp, S. Hreinsdóttir, A. F. Boyes, and J. Arnold (Aug. 2020). *Sea-Level Projections for New Zealand's Scott Base Rebuild*. GNS Science Report 2020/13. Institute of Geological and Nuclear Sciences. doi: 10.21420/TVST-WA08.
31. Arias, P. A. et al. (2021). "Technical Summary". In: *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Ed. by V. Masson-Delmotte, P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J. B. R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou. Cambridge University Press.

32. Fox-Kemper, B., H. T. Hewitt, C. Xiao, G. Aalgeirsdóttir, S. S. Drijfhout, T. L. Edwards, N. R. Golledge, M. Hemer, R. E. Kopp, G. Krinner, A. Mix, D. Notz, S. Nowicki, I. S. Nurhati, L. Ruiz, J.-B. Sallée, A. B. A. Slangen, and Y. Yu (2021). "Ocean, Cryosphere, and Sea Level Change". In: *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Ed. by V. Masson-Delmotte, P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J. B. R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou. Cambridge University Press.
33. IPCC (2021). "Summary for Policymakers". In: *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Ed. by V. Masson-Delmotte, P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J. B. R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou. Cambridge University Press.

### Books

1. Houser, T., S. Hsiang, R. Kopp, and K. Larsen (2015). *Economic Risks of Climate Change: An American Prospectus*. New York: Columbia University Press, 376 pp.

### Journal Volumes

1. Tol, R., S. Waldhoff, and R. E. Kopp, eds. (2012). *The Social Cost of Carbon*. Economics special issue. <http://www.economics-ejournal.org/special-areas/special-issues/the-social-cost-of-carbon>.
2. Marten, A., K. Shouse, and R. E. Kopp, eds. (2013). *Improving the Assessment and Valuation of Climate Change Impacts for Policy and Regulatory Analysis*. Climatic Change special issue vol. 117, issue 3. <http://link.springer.com/journal/10584/117/3/page/1>.

### Theses

1. Kopp, R. E. (2002). "Evidence for Antarctic alteration of Martian meteorite ALH84001". Senior thesis in Geophysical Sciences (M. Humayun, advisor). Chicago, IL: University of Chicago.
2. Kopp, R. E. (2007). "The Identification and Interpretation of Microbial Biogeomagnetism". Ph.D. thesis in Geobiology (J. L. Kirschvink, advisor). Pasadena, CA: California Institute of Technology.

### Popular Publications

1. Kopp, R. E. and J. L. Kirschvink (2004). "The world's worst climate disaster". In: *Miracle Planet II: The Evolution of Our World*. [Published in Japanese]. Tokyo: NHK (Japan Broadcasting Corporation).
2. Kirschvink, J. L. and R. E. Kopp (ghostwriter) (2006). Red Earth, White Earth, Green Earth, Black Earth. *Engineering & Science* 4, 10–20.
3. Kopp, R. and B. Strauss (2012). Rising seas a real threat to New Jersey. *Newark Star-Ledger* (July 10). <http://tinyurl.com/ckmmjl9>.
4. Strauss, B. and R. Kopp (2012). Rising seas, vanishing coastlines. *New York Times Sunday Review* (Nov. 25). <http://nyti.ms/TcArGg>.
5. Kopp, R., J. Buzan, and M. Huber (2015). The deadly combination of heat and humidity. *New York Times Sunday Review* (June 7). <http://nyti.ms/1JyXkk7>.
6. Kopp, R. (2016a). Managing climate risk in Trump's America. *The Conversation* (November 9). <https://goo.gl/OWovmZ>.
7. Kopp, R. (2016b). Trump's energy plan poses climate threat to U.S. economy. *The Conversation* (June 23). <https://goo.gl/nOadXV>.
8. Hayhoe, K. and R. Kopp (Dec. 2017). AmGeophysicalU-AMA r/Science Ask Me Anything. *The Winnower* 4, e151213.32636. doi: 10.15200/winn.151213.32636.
9. Horton, R., K. Hayhoe, R. Kopp, and S. Doherty (2017). The Climate Risks We Face. *New York Times* (Nov. 6). <https://nyti.ms/2hLb7MS>.
10. Kopp, R. (2017a). How bad could Trump's Paris Agreement withdrawal be? A scientist's perspective. *The Conversation* (June 1). <https://goo.gl/EvRo1X>.
11. Kopp, R. (2017b). New York 2140: A novelist's vision of a drowned city that still never sleeps. *The Conversation* (March 5). <https://goo.gl/PxVWYK>.

12. Garner, A. J., R. E. Kopp, B. P. Horton, M. E. Mann, R. B. Alley, K. A. Emanuel, N. Lin, J. P. Donnelly, A. C. Kemp, R. M. DeConto, and D. Pollard (2018). New York City's evolving flood risk from hurricanes and sea level rise. *US CLIVAR Variations/CLIVAR Exchanges* **16**(1), 30–35.
13. Kopp, R. E. (2018). *Sea-level rise will likely render atolls uninhabitable in the lifetime of the Marshall Islands' youth – but not in the next two decades*. Tech. rep. Climate Impact Lab. <http://www.impactlab.org/news-insights/sea-level-rise-will-likely-render-atolls-uninhabitable-in-the-lifetime-of-the-marshall-islands-youth-but-not-in-the-next-two-decades/>.
14. Mitrovica, J., C. Hay, and R. Kopp (2018). All Sea Level is Local. *Bulletin of the Atomic Scientists* **74**(3), 142–147. doi: 10.1080/00963402.2018.1461935.
15. Horton, B. P., R. E. Kopp, A. Dutton, and T. A. Shaw (May 2019). Geological Records of Past Sea-Level Changes as Constraints for Future Projections. *Past Global Changes Magazine* **27**(1), 28–29. doi: 10.22498/pages.27.1.28.
16. Kopp, R. (2019). Climate research needs to change to help communities plan for the future. *The Conversation* (April 5). <https://bit.ly/2I7jmSz>.
17. Kopp, R. E. (2020a). To stabilize the climate, we must fix democracy first. *New Jersey Star Ledger* (October 26). <https://www.nj.com/opinion/2020/10/to-stabilize-the-climate-fix-democracy-opinion.html>.
18. Kopp, R. E. (2020b). “Sea Level Rise, 1970–2070: A View from the Future”. In: *Earth 2020: An insider's guide to a rapidly changing planet*. Ed. by P. D. Tortell. Cambridge, UK: Open Book Publishers. doi: 10.11647/OBP.0193.16.
19. Kopp, R. (2021). IPCC climate report: Profound changes are underway in Earth's oceans and ice – a lead author explains what the warnings mean. *The Conversation* (August 9). <https://bit.ly/3jBwM9G>.
20. Kopp, R. E. (May 2021a). Climate grant universities could mobilize community climate action. *Eos* **102**. doi: 10.1029/2021EO158178.

## Presentations

### Invited Academic Presentations

1. R. E. Kopp, B. P. Weiss, S. S. Kim, and J. L. Kirschvink (2004). Ferromagnetic resonance spectroscopy in the hunt for magnetofossils. Institute for Rock Magnetism Santa Fe 6, Santa Fe, NM, June 2004.
2. R. E. Kopp, C. Z. Nash, B. P. Weiss, A. C. Maloof, A. Kobayashi, H. Vali, and J. L. Kirschvink (2006). Identifying magnetotactic bacteria and their fossils with ferromagnetic resonance. Southern California Geobiology Symposium, Riverside, CA, April 2006.
3. R. E. Kopp, C. Z. Nash, B. P. Weiss, A. C. Maloof, A. Kobayashi, H. Vali, and J. L. Kirschvink (2006). Identifying magnetotactic bacteria and their fossils with ferromagnetic resonance. Goldschmidt Conference, Melbourne, Australia, Abstract No. 206.00, August 2006.
4. R. E. Kopp (2006). Developing tools for unlocking Earth history from a magnetotactic bacterium's perspective. University of Johannesburg Geology department seminar, Johannesburg, South Africa, September 2006.
5. R. E. Kopp, A. C. Maloof, B. P. Weiss, and J. L. Kirschvink (2006). Assessing the source of magnetization in sediments with rock magnetism and ferromagnetic resonance spectroscopy. Geological Society of America Annual Meeting, Philadelphia, PA, Paper No. 164-6, October 2006.
6. R. E. Kopp (2008). Tracing biological magnetism in sediments: from modern bacteria to ancient global warming. Rutgers University Earth & Planetary Sciences department seminar, New Brunswick, NJ, February 2008.
7. R. E. Kopp (2008). Tracing biological magnetism in sediments: from modern bacteria to ancient global warming. MIT Chemical Oceanography and Biogeochemistry seminar, Cambridge, MA, February 2008.
8. R. E. Kopp (2008). A magnetic mystery: the transformation of the iron cycle under severe global warming in the initial Eocene. Lafayette College Geology department seminar, Easton, PA, February 2008.
9. R. E. Kopp, D. Schumann, T. D. Raub, J. L. Kirschvink, and H. Vali (2008). Magnetic microbes and the transformation of the iron cycle under severe global warming in the initial Eocene. Twelfth International Symposium on Microbial Ecology, Cairns, Australia. August 2008.



10. R. E. Kopp (2010). Probabilistic assessment of local and global sea level during the Last Interglacial stage. Harvard ClimaTea seminar, Cambridge, MA, March 2010.
11. R. E. Kopp (2010). New approaches in domestic and international climate policy. Princeton Environmental Institute Energy Group seminar, Princeton, NJ, April 2010.
12. R. E. Kopp (2010). Department of Energy Office of Policy & International Affairs and Climate Change Technology Program impacts activities and needs. Energy Modeling Forum Workshop on Climate Change Impacts and Integrated Assessment, Snowmass, CO, July 2010.
13. R. E. Kopp, F. J. Simons, J. X. Mitrovica, A. C. Maloof and M. Oppenheimer (2010). Last Interglacial Sea Level: A Bayesian approach to integrating geological data and physical models. PALSEA Workshop, Bristol, UK, September 2010.
14. R. E. Kopp, J. X. Mitrovica, S. M. Griffies, J. Yin, C. C. Hay and R. J. Stouffer (2010). Dynamic and static equilibrium sea level effects of Greenland Ice Sheet melt: An assessment of partially-coupled idealized water hosing experiments. American Geophysical Union Fall Meeting, San Francisco, CA, December 2010.
15. R. E. Kopp (2011). Incorporating Deep Time and the Long Now into policy and regulatory analysis: Lessons from a social cost of carbon assessment. University of Chicago Department of Geophysical Sciences, Chicago, IL, May 2011.
16. R. E. Kopp (2011). Macroeconomic rebound, Jevons? paradox, and economic development. Carnegie Mellon University Center for Environmental Decision Making Workshop on "Energy Efficiency and the Rebound Effect," Washington, DC, June 2011.
17. R. E. Kopp (2011). Searching for the geographic fingerprints of past and future sea level change amid uncertainty. PALSEA Workshop, Cambridge, MA, August 2011.
18. R. E. Kopp (2011). Searching for the geographic fingerprints of past and future sea level change amid uncertainty. Princeton University Department of Geosciences Solid Earth Brown Bag, Princeton, NJ, October 2011.
19. R. E. Kopp (2012). Reflections on two years of climate and energy policy in the Obama administration. Princeton Environmental Institute Energy Group seminar, Princeton, NJ, February 2012.
20. R. E. Kopp (2012). The sea level response to climate change: What can the past tell us about the future? Rutgers Physics Department Colloquium, Piscataway, NJ, February 2012.
21. R. E. Kopp (2012). The sea level response to climate change: What can the past tell us about the future? Lafayette College Department of Geology and Environmental Geosciences, Easton, PA, February 2012.
22. R. E. Kopp (2012). Interpreting the noisy geological record of ancient sea level changes. Rutgers Statistics Department Colloquium, Piscataway, NJ, April 2012.
23. R. E. Kopp (2012). Climate change regulation and benefit-cost analysis: Opportunities and challenges. Princeton Science, Technology and Environmental Policy seminar, Princeton, NJ, September 2012.
24. R. E. Kopp (2012). Interpreting the noisy geological record of ancient sea level changes. American Museum of Natural History Earth & Planetary Sciences Department seminar, New York, NY, September 2012.
25. R. E. Kopp (2012). Interpreting the noisy geological record of ancient sea level changes. NOAA Geophysical Fluid Dynamics Laboratory seminar, Princeton, NJ, October 2012.
26. R. E. Kopp (2012). Interpreting the noisy geological record of ancient sea level changes. Caltech Yuk Lunch Seminar, Pasadena, CA, October 2012.
27. R. E. Kopp (2012). The role of geoengineering among climate solutions. US Kavli Frontiers of Science Symposium, Irvine, CA, November 2012. <http://vimeo.com/58042026>.
28. R. E. Kopp (2012). Balancing benefits and costs in a 4°C world: the need for and challenges of natural-social science dialogue. American Geophysical Union Fall Meeting, San Francisco, CA, December 2012.
29. R. E. Kopp (2012). Climate change risk in benefit-cost analysis: Key sensitivities for the social cost of carbon and optimal emissions trajectories. Society for Risk Analysis Annual Meeting, San Francisco, CA, December 2012.

30. R. E. Kopp (2013). Interpreting the noisy historical and geological records of sea level change: What can the past tell us about the future? Carnegie Mellon University Climate and Energy Decision Making Seminar, Pittsburgh, PA, January 2013.
31. R. E. Kopp (2013). Bayesian inference on sea level and ice volume history during past interglacials. DIMACS Workshop on "Geological data fusion: Tackling the statistical challenges of interpreting past environmental change," Piscataway, NJ, January 2013.
32. R. E. Kopp (2013). Interpreting the noisy geological record of ancient sea level changes: What can the Quaternary tell us about ice sheet stability? CLIVAR WGOMD - SOP Workshop on Sea Level Rise, Ocean/Ice Shelf Interactions and Ice Sheets, Hobart, Australia, February 2013.
33. R. E. Kopp (2013). Interpreting the noisy geological record of ancient sea level changes: What can the Quaternary tell us about ice sheet stability? Penn State Geosciences Colloquium/Frontiers of Cyberscience Lecture, State College, PA, April 2013.
34. R. E. Kopp (2013). Interpreting the noisy geological record of ancient sea level changes: What can the Quaternary tell us about ice sheet stability? Lamont-Doherty Biology & Paleo Environment Seminar, Palisades, NY, April 2013.
35. R. E. Kopp (2013). Interpreting the noisy geological record of ancient sea level changes: What can the Quaternary tell us about ice sheet stability? NASA Goddard Institute for Space Studies Seminar, New York, NY, May 2013.
36. R. E. Kopp, S. M. Hsiang, and M. Oppenheimer (2013). Empirically calibrating damage functions and considering stochasticity when integrated assessment models are used as decision tools. Impacts World 2013, Potsdam, Germany, May 2013, doi:10.2312/pik.2013.001.
37. R. E. Kopp (2013). Uncertainties and risks of regional sea-level change: Past, present and future. Energy Modeling Forum Workshop on Climate Change Impacts and Integrated Assessment, Snowmass, CO, July 2013. <https://emf.stanford.edu/ccia-2013-agendas-and-presentations>
38. R. E. Kopp (2013). Regionalizing sea-level rise projections for urban planning. DIMACS/CCIADA Workshop on Urban Planning for Climate Events, Piscataway, NJ, September 2013. <http://dimacs.rutgers.edu/Workshops/Urban/Slides/SeaLevelTalk.pdf>
39. R. E. Kopp (2013). Frontiers in the assessment of climate change damages for benefit-cost analysis. Institute for Policy Integrity Fifth Annual Cost-Benefit Analysis and Issue Advocacy Workshop, New York, NY, October 2013. <https://www.youtube.com/watch?v=SA13Ug3tkvk>
40. R. E. Kopp (2013). Local and global impacts of climate change and extreme weather. Schwartz Center for Economic Policy Analysis, New School for Social Research, New York, NY, November 2013. <http://youtu.be/R8NXVVP4SWQ>
41. R. E. Kopp, C. C. Hay and J. X. Mitrovica (2013). Quantifying uncertainty in the level, rates and sources of interglacial sea-level change. American Geophysical Union Fall Meeting, San Francisco, CA, December 2013.
42. R. E. Kopp, C. C. Hay, E. Morrow, J. X. Mitrovica, B. P. Horton, and A. C. Kemp (2013). Sea-level variability in tide-gauge and geological records: An empirical Bayesian analysis. American Geophysical Union Fall Meeting, San Francisco, CA, December 2013.
43. R. E. Kopp (2014). Uncertainties and risks of regional sea-level change: Past, present and future. Pardee Center for the Longer-Range Future, Boston University, Boston, MA, February 2014. <http://goo.gl/ZTyNFb>
44. R. E. Kopp (2014). Uncertainties and risks of regional sea-level change: Past, present and future. Department of Earth Sciences, University of New Hampshire, Durham, NH, February 2014.
45. R. E. Kopp (2014). Probabilistic projections of future sea-level change and their implications for flood risk management. Eastern Coastal Infrastructure and Climate Change: Science, Impacts, Planning, and Response, Crystal City, VA, February 2014.
46. R. E. Kopp (2014). A pathway toward characterizing climate risks across space and time: An example of sea-level change and flood risk. Resources for the Future First Wednesday Seminar: Limits to Securitization – the Future of Insurance, Washington, DC, June 2014. <http://goo.gl/jQsqFw>

47. T. Houser, S. M. Hsiang, and R. E. Kopp (2014). A Discussion of the Independent Risk Assessment for *Risky Business: The Economic Risks of Climate Change in the United States*. Resources for the Future, Washington, DC, June 2014. <http://goo.gl/4lGbOl>
48. R. E. Kopp (2014). *American Climate Prospectus: Economic Risks in the United States*. Energy Modeling Forum Workshop on Climate Change Impacts and Integrated Assessment, Snowmass, CO, July 2014.
49. R. E. Kopp (2014). Sea-level rise and extreme events: Insights from the *American Climate Prospectus*. Energy Modeling Forum Workshop on Climate Change Impacts and Integrated Assessment, Snowmass, CO, July 2014. <https://emf.stanford.edu/events/climate-change-impacts-integrated-assessment-xx-ccia>
50. R. E. Kopp (2014). Assessing the economic risks of extreme weather in a changing climate. Climate Engineering Conference 2014, Berlin, August 2014. <https://emf.stanford.edu/events/climate-change-impacts-integrated-assessment-xx-ccia>
51. R. E. Kopp (2014). Panelist, Systemic Risk in Global Agriculture Princeton-Columbia Joint Conference. Princeton University, Princeton, NJ, October 2014. <http://risk.princeton.edu/archive.html#agconf>
52. R. E. Kopp (2014). Panelist, conference on the Economic and Financial Risks of a Changing Climate. Resources for the Future, Washington, DC, November 2014.
53. R. E. Kopp (2014). The Risk Perspective of the *American Climate Prospectus*. European Commission Joint Research Council Global Risk Conference, Seville, Spain, December 2014. <http://goo.gl/P0A4sQ>
54. R. E. Kopp (2014). Empirically calibrated damages: Insights from the *American Climate Prospectus*. Princeton Environmental Institute Climate Futures Initiative Integrated Assessment Modeling Workshop, Princeton, NJ, December 2014.
55. R. Kopp, T. Houser, S. Hsiang, K. Larsen, A. Jina, M. Delgado, R. Muir-Wood, D. J. Rasmussen, J. Rising, M. Mastrandrea, and P. Wilson (2014). Climate risks over space and time: Insights from the *American Climate Prospectus*. Society for Risk Analysis Annual Meeting, Denver, CO, December 2014.
56. C. C. Hay, E. Morrow, R. Kopp, and J. X. Mitrovica (2014). A Revised Estimate of 20th Century Global Mean Sea Level. American Geophysical Union Fall Meeting, San Francisco, CA, December 2014.
57. K. Gordon, T. Houser, R. Kopp, S. Hsiang, K. Larsen, A. Jina, M. Delgado, R. Muir-Wood, D. J. Rasmussen, J. Rising, M. Mastrandrea, and P. Wilson (2014). *Risky Business and the American Climate Prospectus: Economic Risks of Climate Change in the United States*. American Geophysical Union Fall Meeting, San Francisco, CA, December 2014.
58. B. P. Horton, A. C. Kemp, and R. E. Kopp (2014). Common Era Sea-Level Change. American Geophysical Union Fall Meeting, San Francisco, CA, December 2014.
59. A. Jina, S. Hsiang, R. Kopp, D. J. Rasmussen, and J. Rising (2014). Putting climate impact estimates to work: the empirical approach of the *American Climate Prospectus*. American Geophysical Union Fall Meeting, San Francisco, CA, December 2014.
60. R. E. Kopp, M. Delgado, R. M. Horton, T. Houser, C. M. Little, R. Muir-Wood, M. Oppenheimer, D. J. Rasmussen, R. H. Strauss, C. Tebaldi, and P. Wilson (2014). Probabilistic projections of future sea-level change and their implications for flood risk management: Insights from the *American Climate Prospectus*. American Geophysical Union Fall Meeting, San Francisco, CA, December 2014.
61. J. X. Mitrovica, C. C. Hay, R. E. Kopp, and E. Morrow (2014). The Sea Level Fingerprints of Global Change. American Geophysical Union Fall Meeting, San Francisco, CA, December 2014.
62. R. E. Kopp (2015). Uncertainties and risks of regional sea-level change: Past, present and future. University of Connecticut Marine Sciences Seminar, Groton, CT, January 2015.
63. R. E. Kopp (2015). Uncertainties and risks of regional sea-level change. FEMA Technical Mapping Advisory Council, Subcommittee on Future Conditions. Webinar, April 2015.
64. R. E. Kopp (2015). Panelist, New Economics of Coastal Climate Change Adaptation. Urban Coast Institute and Center for the Blue Economy, Washington, DC, April 2015.
65. R. E. Kopp (2015). Panelist, Next American Economy project. Roosevelt Institute, New York, NY, May 2015.

66. R. E. Kopp (2015). Piecing together sea-level change in the Quaternary and the Anthropocene. International Union for Quaternary Research Congress, Nagoya, Japan, July 2015.
67. R. E. Kopp (2015). Climate change: current status and future risks. Aspen Institute Program on the World Economy, Aspen, CO, August 2015.
68. R. E. Kopp (2015). Sea-level rise: Assessing the risks, estimating the costs. Energy Policy Institute at Chicago (EPIC) seminar, University of Chicago, Chicago, IL, September 2015. [http://youtu.be/bagRtnY\\_Xm8](http://youtu.be/bagRtnY_Xm8)
69. R. E. Kopp (2016). Uncertainties and risks of sea-level change: Past, present and future. Hong Kong University of Science and Technology, Hong Kong, January 2016.
70. R. E. Kopp, R. Shwom, G. Wagner, J. Yuan (2016). Tipping elements, tipping points, and economic catastrophes: The state of knowledge. Climate Damages and Tipping Points Workshop, Arizona State University, Phoenix, AZ, January 2016.
71. R. E. Kopp (2016). Treatment of uncertainty in climate change risk assessments. NAS Workshop on Methods for Characterizing Risk in Climate Change Assessments, Washington, DC, March 2016. <http://goo.gl/azyHx3>
72. R. E. Kopp (2016). Global sea-level change, past and future. Rising Seas & Extreme Events Symposium, University of Delaware, Newark, DE, April 2016.
73. R. E. Kopp (2016). Economic Risks of Climate Change: *An American Prospectus*, and the path to a global assessment. EPRI ENV-VISION, Washington, DC, May 2016.
74. R. E. Kopp (2016). Probabilistic sea-level rise projections for the Chesapeake Bay. Remote presentation to Chesapeake Bay Program Climate Resiliency Working Group, May 2016.
75. R. E. Kopp (2016). Assessing the risks of sea-level rise. Scripps Institution of Oceanography, La Jolla, CA, July 2016.
76. R. E. Kopp (2016). Assessing the risks of sea-level rise. Stanford University Department of Earth System Science, Stanford, CA, October 2016.
77. R. E. Kopp (2016). Regional sea-level projections: What drives uncertainty where? American Geophysical Union Fall Meeting, San Francisco, CA, December 2016.
78. R.E. Kopp (2017). Assessing the risks of sea-level rise. U.S. Naval Academy Oceanography Department, Annapolis, MD, January 2017.
79. R.E. Kopp (2017). Assessing the risks of sea-level rise. ExxonMobil, Clinton, NJ, February 2017.
80. R.E. Kopp (2017). Assessing the risks of sea-level rise. Rutgers University–Newark Department of Earth & Environmental Sciences, Newark, NJ, March 2017.
81. R.E. Kopp (2017). Challenges and opportunities for benefit-cost IAMs: Lessons from the National Academies' social cost of carbon project. Workshop on Climate Policy and Integrated Assessment Modelling, Princeton, NJ, March 2017.
82. R.E. Kopp (2017). Challenges of projecting local sea-level changes. American Physical Society March Meeting, New Orleans, LA, March 2017.
83. R.E. Kopp (2017). Inspecting the dice: The probabilistic current in sea-level rise projections. International WCRP/IOC Conference: Regional Sea Level Changes and Coastal Impacts, New York, NY, July 2017.
84. R.E. Kopp (2017). Coastal risks in an age of sea-level change. Montclair State University Sustainability Seminar Series, Montclair, NJ, October 2017.
85. R.E. Kopp (2017). Sea-level rise and coastal risk. National Academies of Sciences Division of Earth and Life Studies, Washington, DC, October 2017.
86. R.E. Kopp (2017). Current approaches to assessing risks of sea-level rise. Society for Risk Analysis Annual Meeting, Arlington, VA, December 2017.
87. R.E. Kopp (2017). The Climate Science Special Report: Rising Seas and Changing Oceans. American Geophysical Union Fall Meeting, New Orleans, LA, December 2017. <https://youtu.be/fDJP5RgKkj4?t=43m37s>

88. R.E. Kopp (2017). Probabilistic mapping of past and future sea-level change. American Geophysical Union Fall Meeting, New Orleans, LA, December 2017. <https://youtu.be/3BFnCOBtCC4?t=1h1m30s>
89. R.E. Kopp (2018). Coastal risks in an age of sea-level change. Roosevelt Institute Next American Economy Project Seminar, New York, NY, January 2018.
90. R.E. Kopp (2018). Coasts in times of sea-level rise. Yale School of Forestry & Environmental Studies, New Haven, CT, January 2018. <https://youtu.be/GN3vE6pPRzY>
91. R.E. Kopp (2018). Coasts in times of sea-level rise. Rutgers University-New Brunswick Chancellor's Colloquium, New Brunswick, NJ, February 2018.
92. R. E. Kopp (2018). Managing climate risk: Rising seas and coastal flooding as a case study. Princeton Science, Technology and Environmental Policy seminar, Princeton, NJ, March 2018.
93. R. E. Kopp (2019). Paleo sea level: Statistical approaches and implications for future change. Syracuse University Department of Earth Sciences, Syracuse, NY, April 2019.
94. R. E. Kopp (2019). Mapping sea-level change in time, space, and probability. New York Scientific Data Summit, New York, NY, June 2019.
95. R. E. Kopp (2019). Antarctic instability, uncertain sea-level rise, and implications for coastal flood risk. At What Point Managed Retreat?, New York, NY, June 2019.
96. R. E. Kopp (2019). Sea-level rise uncertainty. NAS Committee to Advise the USGCRP. Washington, DC, July 2019. (Remote presentation)
97. R. E. Kopp (2019). Sea-level rise and coastal adaptation. Graduate studio on design and the Green New Deal. Weitzman School of Design, University of Pennsylvania. Philadelphia, PA, Sept. 2019.
98. R. E. Kopp (2019). Coasts in times of sea-level rise. University of Texas Institute of Geophysics, Austin, TX, October 2019. (Remote presentation)
99. R. E. Kopp (2019). Climate change and Pacific island states. Executive Analytic Exchange on the Republics of Fiji, Kiribati, and Nauru, the Kingdom of Tonga, and Tuvalu, US Department of State. Washington, DC, November 2019.
100. R. E. Kopp (2019). Usable science for managing the risks of sea-level rise: A brief review. Workshop on WCRP Grand Challenge and Climate Services. Orléans, France, November 2019. (Remote presentation)
101. R. E. Kopp (2019). An update on sea level in AR6. WCRP Grand Challenge Meeting on Regional Sea-level Change and Coastal Impacts. Orléans, France, November 2019. (Remote presentation)
102. R. E. Kopp (2020). Linking climate science, economics, and Big Data to estimate climate change impacts and endogenous adaptation. NOAA Geophysical Fluid Dynamics Laboratory. Princeton, NJ, January 2020.
103. R. E. Kopp (2020). Usable science for managing the risks of sea-level rise. NASA Goddard Institute for Space Studies. New York, NY, February 2020.
104. R. E. Kopp (2020). Sea-level science on the frontier of usability. AAAS Annual Meeting. Seattle, WA, February 2020.
105. R. E. Kopp (2020). Assessing the risks of sea-level rise and coastal storms. Roosevelt Institute Next American Economy Project Seminar, New York, NY, March 2020.
106. R. E. Kopp (2020). High-end sea-level rise and deep uncertainty. WCRP High-End Sea-Level Workshop, Virtual, September 2020.
107. R. E. Kopp (2020). Usable science for managing the risks of sea-level rise. Geological Society of America Annual Meeting, Virtual, October 2020.
108. R. E. Kopp (2020). Linking climate science, economics, and Big Data to estimate climate change impacts and endogenous adaptation. Rutgers University Department of Physics, Virtual, November 2020.
109. R. E. Kopp (2021). Confronting Coastal Risk in an Age of Rising Sea Levels. Vassar College Pauline Newman '47 Distinguished Lecture in Science, Technology, and Society, Virtual, March 2021.
110. R. E. Kopp (2021). Challenges in sea-level projections: A perspective informed by IPCC AR6. WCRP/PALSEA/IAG Seminar, Virtual, March 2021.

111. R. E. Kopp (2021). Boundary objects and the communication of sea-level rise information. Climate Information for Adaptation Workshop, Caltech, Virtual, May 2021.
112. R. E. Kopp (2021). Usable sea-level projections. Scripps Polar Seminar, Scripps Institution of Oceanography, Virtual, May 2021.
113. R. E. Kopp (2021). Land grant lessons for Anthropocene universities: Toward a national Climate Grant University program. National Extension Climate Initiative seminar, Virtual, July 2021.
114. R. E. Kopp, T. L. Edwards, and G. G. Garner (2021). Emulation and integration in ocean, cryosphere, and sea level projections. CONSTRAIN online workshop: The role of climate emulators in the AR6 assessment, Virtual, September 2021.
115. R. E. Kopp (2021). Usable sea-level projections. Department of Environmental Sciences Seminar, Rutgers University, Virtual, September 2021.
116. R. E. Kopp (2021). Confronting Coastal Risk in an Age of Sea-Level Rise. Rockefeller University Insight Lecture, Virtual, November 2021.
117. R. E. Kopp (2022). Revisiting the Social Cost of Carbon. ASSA Annual Meeting, Virtual, January 2022.

#### Congressional and Legislative Testimony and Briefings

1. "The Impacts of Climate Change on New Jersey's Coasts," New Jersey State Assembly Committee on Environment and Solid Waste, Trenton, NJ, March 22, 2018.
2. "The State of Climate Science and Why It Matters," U.S. House of Representatives Committee on Science, Space, and Technology, Washington, DC, February 13, 2019.
3. Joint Hearing of the New Jersey State Senate Environment and Energy Committee and the General Assembly Environment and Solid Waste Committee, Trenton, NJ, April 25, 2019.
4. "Future Climate: What we know, what we don't," Science on the Hill panel convened by *Scientific American* and the National Academies of Science, Engineering, and Medicine, Virtual, June 18, 2020. <https://bit.ly/2YbqNPi>
5. "Briefing on the IPCC's Sixth Assessment Report," U.S. House of Representatives Select Committee on the Climate Crisis, Virtual, September 1, 2021. <https://youtu.be/jJhCQpGvTfA>
6. "Road to Glasgow: Understanding the IPCC Report," U.S. Congressional briefing convened by the ICCF Group, Virtual, September 29, 2021.

#### Selected Public Presentations

1. "Echoes of Ancient Times: Climate Change in Earth's Past and Our Future", Liz Levin & Company Leadership Salon Series, Boston, MA, February 2008.
2. "Melting Ice Sheets in Earth's Past and Our Future", Philadelphia Geological Society, Philadelphia, PA, January 2010.
3. Panelist on "Jobs and the Environment," U.S. EPA/Rutgers University conference on "Greening New Jersey Communities from the Ground Up," New Brunswick, NJ, October 2011.
4. "Solar Energy in the Global Energy System: Flows, Needs, Status, and Drivers," Siemens Solar Exchange East 2012, Piscataway, NJ, May 2012.
5. Panelist, Rutgers University Earth Day Film Festival, New Brunswick, NJ, April 2013.
6. Panelist, Putting a Price on Carbon: The Social Cost of Carbon and U.S. Climate Policy, Bard Center of Environmental Policy and Pace Law School, White Plains, NY, May 2013.
7. "Rising Tide: what can the past tell us about future sea-level change?", Rutgers University Geology Museum Open House, New Brunswick, NJ, January 2014.
8. Panelist, Environmental New Jersey and NJPIRG Student Chapter Solar Panel Roundtable, New Brunswick, NJ, December 2014.
9. Panelist, Climate Leadership Conference, Arlington, VA, February 2015.
10. "Economic Risks of Climate change: An American Prospectus," North Jersey Public Policy Network talk, Hackensack, NJ, September 2015.

11. "Food for Tomorrow: Risks of a Changing Climate," *New York Times* Food for Tomorrow Conference, Stone Barns, NY, October 2015. <https://youtu.be/8n6eYsQ4e08>.
12. Panelist, Conference on Sustainable, Responsible, Impact Investing. Colorado Springs, CO, November 2015.
13. Panelist, NJPIRG New Jersey Solar Summit, New Brunswick, NJ, December 2015.
14. "Climate Change: Economic risks to Maryland", NAIOP Maryland Commercial Real Estate Policy Conference, Towson, MD, December 2015.
15. "Coasts in Times of Sea-Level Rise", Rutgers University Institute of Earth, Ocean, and Atmospheric Sciences public lecture, New Brunswick, NJ, Oct. 2016. <https://youtu.be/4pcnkokIXpQ>
16. "Coasts in Times of Sea-Level Rise," HBCU Climate Change Conference, New Orleans, LA, March 2017.
17. Panelist, "Kim Stanley Robinson's *New York 2140*", Rutgers University, New Brunswick, NJ, April 2017. <https://youtu.be/MxpzGg022do>
18. "Probabilities and deep uncertainties in sea-level rise projections," Water Utility Climate Alliance webinar, May 2017.
19. "The Shore in an age of sea-level rise," C-Change Conversations, Princeton, NJ, June 2017.
20. "Frontiers in sea-level rise projections: Local effects, probabilities, and deep uncertainties," Canadian Climate Forum webinar on sea-level rise, June 2017.
21. Panelist, "What Markets Can Learn from Modeling Value at Risk from Climate Change", CFA Society of New York conference "Climate Change is a Given – How to Drive Value and Manage Risk," October 2017.
22. "New Jersey in a Warming World: What's At Stake," New Jersey Mayors' Climate Summit, New Brunswick, NJ, February 3, 2018.
23. "Rising Seas in California," testimony to California Ocean Protection Council, Sacramento, CA, March 14, 2018. <https://goo.gl/vyybU5>
24. "New Jersey in a Warming World: What's At Stake," Bloustein Trenton Public Policy Lecture, Trenton, NJ, April 10, 2018.
25. "Climate Risk in New Jersey: A Scientific Update," New Jersey Coastal Resilience Summit: Charting a Course for the Future, Long Branch, NJ, October 8, 2018.
26. "Managing Coastal Risk in an Age of Sea-Level Rise," Princeton Plasma Physics Lab Science on Saturday, Princeton, NJ, March 2, 2019. <https://www.pppl.gov/events/science-saturday-managing-coastal-risk-age-sea-level-rise>
27. "Managing coastal risk in an age of sea-level rise," Syracuse University Environment, Sustainability and Policy and Geoffrey O. Seltzer Lecture, Syracuse, NY, April 15, 2019.
28. "Understanding and managing the risks of climate change," Panel on Climate Disasters and Green New Deal, New School for Social Research, New York, NY, September 3, 2019. <https://youtu.be/wBjgfRy1ANE?t=2527>
29. "Understanding and managing the risks of climate change," A Panel Discussion on Sustainability and Climate Change: Global Aspects of Rutgers Research and Engagement, Rutgers University, New Brunswick, NJ, December 20, 2019.
30. "Sea Level Rise in New Jersey," New Jersey Climate Change Resource Center Summer Climate Academy, Virtual, June 3, 2020. <https://youtu.be/xgN71gsFQwQ>
31. "Greenhouse Gas Emissions and Future Sea-Level Rise," Southeast Florida's 2019 Unified Sea Level Projection: The Foundations, Virtual, June 18, 2020.
32. "Understanding and managing the risks of climate change," Wootton High School Green People, Virtual, November 6, 2020.
33. "Confronting Coastal Risk in an Age of Rising Sea Levels," Wagner Free Institute of Science of Philadelphia, Virtual, December 16, 2020. <https://youtu.be/QXGAfTjtqfE>

34. "The Cost of Climate Change," New Jersey Climate Change Resource Center Summer Academy, Virtual, June 24, 2021. <https://youtu.be/GlTwun2v1u0>
35. "Confronting Coastal Risk in an Age of Rising Sea Levels." Seminole State College, Virtual, October 20, 2021.

#### Selected Media Appearances

1. Featured in: Maryland Sea Grant (2013), Forecasting sea level rise for Maryland. July 2013. <http://youtu.be/RCc3C89qxOM>.
2. "The economic impact of climate change," *Radio Times with Marty Moss-Coane*, WHYY, July 1, 2014. <http://goo.gl/DfPnc9>.
3. "Sudden heat," *Radio Ecoshock*, June 24, 2015. <https://goo.gl/e3TWX8>.
4. Featured in: New Jersey Climate Adaptation Alliance (2015), Climate Change and the Jersey Shore. November 2015. <https://youtu.be/zZn5Xh5FD88>
5. "New report blames most rising seas on humans — but this scientist remains hopeful," *PRI's The World*, February 23, 2016. <http://goo.gl/RuhXl3>
6. "Rising sea levels," *Radio Times with Marty Moss-Coane*, WHYY, February 29, 2016. <http://goo.gl/zWLUsw>
7. "The Climate Is Changing while Politics Stays the Same," *To The Point*, KCRW, April 4, 2016. <http://goo.gl/KGfk2Z>
8. "Episode 45: Climate Science Part 3 – Paleoclimate," Energy Transition Show, June 14, 2017. <http://xenetwork.org/ets/episodes/episode-45-paleoclimate/>
9. "Do we need to be 'scared straight' on climate change?," *To The Point*, KCRW, July 14, 2017. <https://goo.gl/C3eBZF>
10. "Rising Sea Levels Put Coastal Cities At Risk," *The Real News*, July 20, 2017. <https://goo.gl/CPdo3U>
11. "Will the Federal Climate Change Report Alter the Debate?," Knowledge@Wharton, November 10, 2017. <http://knowledge.wharton.upenn.edu/article/new-federal-climate-change-report/>
12. "Blunt assessment from climate scientist Robert Kopp: NJ's coastline could disappear quickly," interview in *Newark Star-Ledger*, November 13, 2017. <https://goo.gl/MCYLNA>
13. "Dr. Robert Kopp on the Latest Climate Report," Planet Watch Radio, January 8, 2018. <http://planetwatchradio.com/dr-robert-kopp-latest-climate-report-pw006/>
14. "Climate change: the talks, the costs, and the consequences," *Radio Times with Mary Cummings-Jordan*, WHYY, November 30, 2018. <https://goo.gl/H2Q4oa>
15. "Where Will Climate Change Impact The US? Everywhere," *Science Friday*, November 30, 2018. <https://goo.gl/JVgHNp>
16. "Off Topic: 'Fact has become a political issue'," interview in *E&E News*, November 30, 2018. <http://bit.ly/2Qtj9px>
17. "Demystifying Sea Level Rise, with Robert Kopp of Rutgers University," *Resources Radio*, January 24, 2019. <https://bit.ly/2Ibxmvp>
18. "As new report warns of rapidly rising seas, officials push for action on climate change," *NJTV News*, December 20, 2019. <https://bit.ly/35PRhXP>
19. "Sea Level and Social Cost of Carbon with Bob Kopp," *Climate Now*, April 27, 2021. <https://bit.ly/3b5iria>
20. "From Fires to Floods to Sea Level Rise, Human-Induced Climate Crisis Is Severely Disrupting Earth," *Democracy Now*, August 9, 2021. <https://youtu.be/NJz-kn.wcLU>
21. "The new U.N. climate report," *Radio Times*, WHYY, August 11, 2021. <https://bit.ly/3CJi5ds>
22. *The Lurie Daniel Favors Show*, SiriusXM 126 Urban View, August 12, 2021.
23. "The future of our oceans," *A Public Affair*, WORT, August 27, 2021. <https://bit.ly/2WvJVca>



24. "IPCC Report," *Top of Mind with Julie Rose*, BYU Radio, September 8, 2021. <https://bit.ly/3nghmuU>
25. "Making Sense of the IPCC Report," *Energy 360°*, Center for Strategic and International Studies, October 11, 2021. <https://apple.co/2D718fr>
26. Panelist, "New Jersey Decides 2021: Election Conversations – Climate change and clean energy," NJ Spotlight, October 12, 2021. <https://bit.ly/3BDSQZ1>

## Grants

1. PI for "Integrated Climate/Economic Modeling for Domestic and International Regulatory Analysis", Pacific Northwest National Laboratory, 11/1/2011–9/30/2014.
2. PI for "Collaborative Research: P2C2 – Statistical estimation of past ice sheet volumes from paleo-sea level records," National Science Foundation ARC-1203415, 7/1/2012–6/31/2016.
3. PI for "Development of historically-calibrated sea-level rise projections for risk management along the New Jersey shore," New Jersey Sea Grant Consortium Project #6410-0012, 2/1/2014–1/31/2017.
4. Co-PI for "Collaborative Research: EaSM-3: Regional decadal predictions of coupled climate-human systems," National Science Foundation OCE-1419584, 9/1/2014–8/31/2018.
5. Co-PI for "Collaborative Research: Sea-Level Variability in the Common Era," National Science Foundation OCE-1458904, 4/1/2015–3/31/2018.
6. PI for "Global Climate Prospectus: Physical Projections," Rhodium Group, 10/15/2015–6/30/2024.
7. PI for "Integrated Assessment of Climate Change, Tipping Points and Economic Catastrophes: A Scoping Analysis", Environmental Defense Fund, 11/1/2015–12/31/2016.
8. Co-PI for "Communicating about flood risks to real estate market segments in New Jersey", New Jersey Sea Grant, 2/1/2016–1/31/2019.
9. PI for "NRT: Coastal Climate Risk & Resilience," National Science Foundation DGE-1633557, 9/1/2016–8/31/2022.
10. Co-PI for "Investigating Changing Flood Risks for the U.S. Atlantic Coast," Community Foundation of New Jersey, 9/1/2016–8/31/2018.
11. PI for "Collaborative Research: P2C2 – Reconstructing rates and sources of sea-level change over the last ~ 150 thousand years from a new coral database," National Science Foundation OCE-1702587, 6/15/2017–11/31/2020.
12. PI for "Collaborative Research: PREEVENTS Track 2: Thresholds and envelopes of rapid ice-sheet retreat and sea-level rise: reducing uncertainty in coastal flood hazards," National Science Foundation ICER-1663807, 8/1/2017–7/31/2022.
13. PI for "Sea Level Change Science Team: Improving sea level projection and risk analysis linking physics & observations," National Aeronautics and Space Administration 80NSSC17K0698 (subaward from the University of California, Irvine), 9/19/2017–9/30/2021.
14. PI for "Collaborative Research: P2C2 – Connecting Common Era climate and sea level variability along the Eastern North American coastline," National Science Foundation OCE-1804999, 6/1/2018–5/31/2021.
15. PI for "Collaborative Research: Multi-Proxy Sea-Level Reconstructions And Projections In The Middle Pacific Ocean," National Science Foundation OCE-1831450, 6/1/2018–5/31/2021.
16. PI for "Collaborative Research: How Robust Are Common-Era Sea-Level Reconstructions?," National Science Foundation OCE-2002437, 6/1/2020–5/31/2023.
17. PI for "Integrating NASA Sea-Level Science into Usable Sea-Level Projections for Coastal Risk Assessment and Resilience Action," National Aeronautics and Space Administration (subaward from NASA JPL, task 105393.509496.02.08.13.31), 8/1/2020–7/31/2024.
18. PI for "Improved Integrated Assessment of Regional Sea Level Rise and Risk," National Aeronautics and Space Administration 80NSSC20K1724 (subaward from NASA GISS) , 8/20/2020–8/19/2024.
19. PI for "Common Era Sea-Level Budgets," Earth Observatory of Singapore, 12/1/2020–11/30/2022.

20. PI for “Large-scale CoPe: Megalopolitan Coastal Transformation Hub (MACH): Researching complex interactions between climate hazards and communities to inform governance of coastal risk,” National Science Foundation ICER-2103754, 8/1/2021–7/31/2026.

## Students and Postdocs

### Graduate Advisees/Co-advisees

1. Erica Ashe, Rutgers University, Ph.D. '18 in Statistics and Biostatistics (2013-2018)
2. Maya Buchanan, Princeton University, Ph.D. '17 in Public Policy (2014-2017)
3. Kristen Joyse, Rutgers University, Ph.D. candidate in Earth & Planetary Sciences and Coastal Climate Risk & Resilience (2016-2022)
4. D. J. Rasmussen, Princeton University, Ph.D. '20 in Public Policy (2015-2020)
5. Laura Geronimo, Rutgers University, Ph.D. candidate in Planning & Public Policy and Coastal Climate Risk & Resilience (2019-)

### Committee member for

1. Ronidell Baluyot, Rutgers University, M.S. '13 in Geological Sciences (2012-2013)
2. Shankar Chandramowli, Rutgers University, Ph.D. '15 in Public Policy (2013-2015)
3. Joseph Majkut, Princeton University, Ph.D. '14 in Atmosphere & Ocean Sciences (2014)
4. Chris Johnson, Rutgers University, Ph.D. '19 in Geological Sciences (2018-2019)
5. Megan Lickley, MIT, Ph.D. '20 in Earth & Planetary Sciences (2018-2020)
6. Ian Bolliger, UC-Berkeley, Ph.D. '20 in Energy & Resources Group (2019-2020)
7. John Schmelz, Rutgers University, Ph.D. '21 in Earth & Planetary Sciences (2019-2021)
8. Ashlyn Spector, Rutgers University, M.S. '22 in Earth & Planetary Sciences (2020-2022)
9. Sarah Tannenbaum, Rutgers University, Ph.D. candidate in Atmospheric Sciences (2020-)
10. Joseph Lockwood, Princeton University, Ph.D. candidate in Geosciences (2021-)
11. Grainne O'Neill, Rutgers University, Ph.D. candidate in Atmospheric Sciences (2021-)

### External reviewer for

1. Robert Bierkandt, Universität Potsdam, Dr. rer. nat. '16 in Physics
2. Ethan Coffel, Columbia University, Ph.D. '18 in Earth & Environmental Sciences

### Student projects supervised

1. Sonia Tikoo, California Institute of Technology, B.S. '08 in Geobiology (research project, 2006-2007)
2. Rachel Barr, Princeton University, Ph.D. candidate in Public Policy (independent study, 2012)
3. Corie Hlavaty, Rutgers University, B.S. '13 in Geological Sciences (senior thesis, 2012-2013)
4. Kinan Tadmori, Rutgers University, B.S. '15 in Biological Sciences/Environmental Policy (research project, 2012-2013)
5. Andrew Wang, Rutgers University, B.S. '13 in Mechanical Engineering (research project, 2012-2013)
6. Zeal Shah, Rutgers University, B.S. '15 in Mechanical Engineering (research project, 2013-2014)
7. Emily Zee, Rutgers University, B.S. '16 in Mechanical Engineering (research project, 2013-2014)
8. Rachel DiSciullo, Rutgers University, B.S. '17 in Mechanical Engineering (research project, 2015-2016)
9. Christina Williamson, Pomona University (summer undergraduate research experience, 2016)

### Student projects co-advised

1. Jean Liu, University of Toronto, M.S. '13 in Earth Sciences (2012-2013)
2. Eric Morrow, Harvard University, Ph.D. '14 in Earth & Planetary Sciences (2012-2014)
3. Kendra McKoy, Rutgers University, M.S. candidate in Geological Sciences (2012-2015)
4. Cuong Tran, Rutgers University, Ph.D. '18 in Computer Science (2013-2015)
5. Chintan Dalal, Rutgers University, Ph.D. '17 in Computer Science (2013-2016)

### Postdoctoral mentees

1. Eric Morrow, Rutgers University (2014-2015); now Managing Director, Data Science & AI at BMO Financial Group
2. Carling Hay, Harvard University (2012-2017)/Rutgers University (2014-2017); now Director, Climate and Social Impact Analytics at ICE Data Services
3. Jiacan Yuan, Rutgers University (2015-2018); now faculty at Fudan University
4. Andra (Reed) Garner, Rutgers University (2016-2018); now faculty at Rowan University
5. Gregory Garner, Rutgers University (2018-2019); now Climate Change Impact Data Scientist at Gro Intelligence
6. Daniel Gilford, Rutgers University (2018-2021); now climate scientist at Climate Central
7. Dawei Li, Rutgers University (2018-2019); now faculty at Shanghai Jiao Tong University
8. Laura Reynolds, Rutgers University (2018-2020); now faculty at Worcester State
9. Erica Ashe, Rutgers University (2018-2021); now faculty at Rutgers University
10. Meredith Fish, Rutgers University (2020-2021); now Senior Data Scientist (Climate Analytics) at McKinsey & Company
11. D. J. Rasmussen, Princeton University (2020-2021); now Consultant, Advanced Technology and Research at Arup
12. Jennifer Walker, Rutgers University (2019-)
13. Robert Fofrich, Rutgers University (2022-)

### Teaching

#### Rutgers University

- 01:460:203 *Building and Maintaining a Habitable Planet*, fall 2013–2016, spring 2020–2021
- 16:460:571 / 16:107:571 / 34:970:663 *Climate Change Risk Analysis*, spring 2016, 2021 (co-taught with Prof. Enrique Curchitser)
- 16:218:601/16:960:691 *Statistics of the Earth System*, fall 2018 (co-taught with Prof. Michael Stein)
- 16:218:502 *Transdisciplinary Perspectives on Coastal Climate Risk and Resilience*, fall 2018 (co-taught with Dr. Carrie Ferraro)
- 33:833:640:02 *Policy Practicum: Opportunities to Incorporate the Social Cost of Carbon into New Jersey State level policies*, spring 2018 (co-taught as subject expert; course led by Prof. Andrea Hetling)
- 16:218:502 *Transdisciplinary Perspectives on Coastal Climate Risk and Resilience*, spring 2017, fall 2017 (co-taught with Prof. Rebecca Jordan and Dr. Carrie Ferraro)
- 11:090:101 *Byrne [First-Year] seminar on Manufacturing Uncertainty: The Climate Denial Machine*, fall 2016 (co-taught with Prof. Rachael Shwom)
- 16:460:629 / 33:833:685 *Graduate seminar on Assessing and Governing Long-Term Risks*, spring 2015 (co-taught with Prof. Rachael Shwom)
- 16:460:629 / 33:833:685 *Graduate seminar on Assessing the Economic Risks of Climate Change*, spring 2014 (co-taught with Prof. Enrique Curchitser)
- 01:566:143 *Energy and Climate Change*, fall 2015, co-instructor
- 16:460:611 *Joint Rutgers-Princeton Graduate Seminar: Geological constraints on climate sensitivity*, spring 2013 (co-taught with Prof. John Higgins)
- 01:090:252 *School of Arts & Sciences Honors Program Interdisciplinary Seminar: The Evolution of the Global Energy System—From Earth's Deep Past to Civilization's Future*, fall 2012
- 16:460:613 *Graduate seminar on Major Transitions in the Evolution of the Global Carbon Cycle*, spring 2012 (co-taught with Prof. Dennis Kent)
- 11:546:196 *School of Environmental & Biological Sciences Honors Seminar: State of the Planet*, instructor for week on energy issues, spring 2012

**California Institute of Technology**

- *Ge 11b: Earth and Biosphere* (undergraduate) and *Ge 104: Introduction to Geobiology* (graduate), teaching assistant for Prof. Joseph Kirschvink, winter 2005 and winter 2006
- Geological & Planetary Sciences division field trip to Yellowstone National Park and surrounding areas, co-coordinator, summer 2005
- *Ge 124: Paleomagnetism and Magnetostratigraphy*, teaching assistant for Prof. Joseph Kirschvink, spring 2005
- *Ge 136: Regional Field Geology of the Southwestern U.S.*, coordinated Colorado Plateau weekend field trip classes for Prof. Joseph Kirschvink, spring 2005
- Geological & Planetary Sciences division field trip to Western Australia, co-coordinator, summer 2004
- *Ge 136: Regional Field Geology of the Southwestern U.S.*, coordinated southwestern Utah weekend field trip classes for Prof. Joseph Kirschvink, spring 2004
- *ACM 118: Methods in Applied Statistics and Data Analysis*, teaching assistant for Prof. Tapio Schneider, fall 2003