

MAUREEN ELIZABETH RAYMO

Bruce C. Heezen Lamont Research Professor, Lamont Doherty Earth Observatory
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PERSONAL Born 1959, in Los Angeles, CA. Two children (now adults). Citizenship: USA

EDUCATION

1989 Ph.D. Geology, Columbia University, New York, NY (Advisor: William F. Ruddiman)
 1988 M. Phil. Geology, Columbia University, New York, NY
 1985 M.A. Geology, Columbia University, New York, NY
 1982 Sc.B. Geology, Brown University, Providence, RI

PROFESSIONAL POSITIONS

- Bruce C. Heezen Lamont Research Professor, Lamont Doherty Earth Observatory, 2015-present
- Adjunct Professor, Dept. Earth and Environmental Sciences, Columbia University, 2015-present
- Director, Lamont-Doherty Core Repository, Lamont-Doherty Earth Observatory, 2011-present
- Lamont Research Professor, Lamont-Doherty Earth Observatory, 2011-2015
- Research Professor, Dept. of Earth Sciences, Boston University, 2003-2011
- Research Associate Professor, Dept. of Earth Sciences, Boston University, 2000-2003
- Adjunct Scientist, Woods Hole Oceanographic Institute, 2001-2007
- Associate Professor, Dept. Earth, Atmospheric, and Planetary Sciences, MIT, 1997-2000
- Assistant Professor, Dept. Earth, Atmospheric, and Planetary Sciences, MIT, 1992-1997
- Assistant Professor, Dept. Geology and Geophysics, University of California, Berkeley, 1991-1992
- Adjunct Associate Research Scientist, Lamont-Doherty Geological Observatory, 1989-1994
- Associate Scientist, Geology Dept., University of Melbourne, Australia, 1989-1990

HONORS and FELLOWSHIPS

Doctor of Science *Honoris Causa*, The University of Lancaster, Great Britain, 2017 • Fellow, The Explorers Club, 2017 • Flint Lecturer, Yale University (first woman), 2017 • Elected, National Academy of Sciences, 2016 • Honorary Fellow, The Geological Society (of London), 2014 • Wollaston Medal of the Geological Society of London (first woman), 2014 • Milutin Milankovic Medal of the European Geosciences Union, 2014 • Sokol Science Lecturer, Montclair State University, 2014 • Montefeltro Medal of the Urbino Summer School in Paleoclimatology (first woman), 2012 • Fulbright-Nehru Fellowship, National Institute of Oceanography, India, 2011 • Fellow, American Geophysical Union, 2011 • London Quaternary Lectures, Royal Holloway, Univ. of London, 2008 • Fellow, American Association Advancement of Science, 2007 • Marjory Stoneman Douglas Lecturer, Wellesley College, 2007 • John Wesley Powell Memorial Lecture, AAAS, 2006 • Rochester Institute of Technology, College of Science Distinguished Speaker, 2006 • Emiliani Lecturer, American Geophysical Union, 2005 • John Simon Guggenheim Fellow, 2003 • Robert L. and Bettie P. Cody Award in Ocean Sciences, Scripps Institution of Oceanography (first woman), 2002 • *Discover* Magazine, 50 Most Important Women in Science, 2002 • Distinguished Visiting Lecturer, College of Sciences, Old Dominion University, 2002 • Mountain Research Center Distinguished Lecturer, Montana State University, 1996 • Joint Oceanographic Institutions/USSAC Distinguished Lecturer, 1994-1995 • Cecil and Ida Green Career Development Chair, MIT, 1993 • National Young Investigator Award, National Science Foundation, 1992 • Bausch and Lomb Science Award, 1978

SELECTED PROFESSIONAL COMMITTEES & ACTIVITIES (last 5 years)

- Co-Chief Scientist, IODP Expedition 382 “Iceberg Alley”, Southern Ocean, scheduled March-May 2019 • Invited Thought-Leader, North Pole Summit Cruise, Quark Expeditions, 2017 • Assoc. European Geochemistry “Science Innovation Award” Selection Committee, 2017 • Chair, Electorate Nominating Committee of the AAAS Section on Geology and Geography, 2016-2017 • Local Organizing Committee, Regional Sea Level Changes and Coastal Impacts, NYC, July 10-14, 2017 • Adventure Science Podcast Interview, 2017 • Invited Shipboard Scientist, “Students on Ice” Arctic Expedition, Baffin Island-Greenland, 2016 • Board of Directors, Think Like a Mountain, 2016-present • Audience Q+A with Baba Brinkman and his *Rap Guide to Climate Chaos*, Off-Broadway show, 2016 • Advisory Council, Climate Science Legal Defense Fund, 2016-present • Editorial Board, Stratigraphy and Timescales, 2015-present • MARUM Scientific Advisory Board Member, Center for Marine Environmental Sciences, University of Bremen Germany, 2015-present • Co-PI, U.S. Science Support Program of the IODP, based at LDEO 2015-2020 • Science Advisory Committee, Center for Climate and Life, Columbia University, 2015-present • Mayor’s Pier Building Committee, Piermont, NY, 2014-2015 • Scientific Steering Committee, International Conference on Paleooceanography XII, 2015-2016 • Scientific Steering Committee, Multiproxy Approach to the Reconstruction of the Pliocene Climate, Barcelona, 2014 • “Oceans Alive” VIP Sponsor Party, Special Guest Speaker, Florida Oceanographic Society, 2014 • Chair-Elect, Chair, and Past-Chair of the Section on Geology and Geography, AAAS, 2014-2017 • 2014-2017 Award Committee, EGU Milutin Milankovic Medal • AGU Paleooceanography and Paleoclimatology Section Fellows committee, AGU, 2013-2016 • Organizer, PLIOMAX workshop, LDEO, September 2013 • Emiliani Lecture/Award Committee, AGU, 2013-2015 • Subcommittee on Neogene Stratigraphy Corresponding Member, 2012-present • Co-Chair, Strategic Planning Committee, Lamont-Doherty Earth Observatory, 2012-2014 • Steering Committee, PALSEA, 2010-2015 • Lecturer, Urbino Summer School in Paleoclimatology, 2010, 2011, 2012, 2013, 2014; CIDER Summer Program, Solid Earth Dynamics and Climate, Berkeley, 2015

INVITED CONFERENCE LECTURES and KEYNOTE TALKS (last 5 years)

- Invited Speaker, PALSEA international workshop, Cancun, Mexico, Nov. 6-9th, 2017.
- Convocation Address, University of Lancaster, July 2017
- Invited Opening Session speaker, *International WCRP/IOC Conference on Regional Sea Level Changes and Coastal Impacts*, July 10-14, Columbia U., NY, 2017.
- Invited Speaker and panelist, Climate, CO₂ and Sea Level: Past is Prologue, in *“From Sea to Changing Sea: A Science Symposium about Oceans*, Radcliffe Institute for Advanced Study, Oct. 28, 2016.
- Invited Speaker, Sprigg Symposium, Australian Earth Science Convention, June 26th, 2016.
- Invited speaker, The Plate Tectonics Revolution at Lamont, 50 years of Discovery, May 24, 2016.
- Keynote Lecturer, CIDER workshop, Dec. 14th, 2014
- President’s Day Lecture, Geological Society of London, June 4th, 2014
- Milankovic Medal Lecture, EGU Annual Meeting, Vienna, May 1, 2014
- Invited speaker (two talks), Fall AGU, Dec. 2015.
- Keynote Speaker, GeoBerlin 2015, Berlin, Oct. 5, 2015.
- Invited Lecture, Pardee Symposium in honor of William Smith, GSA, Nov. 1, 2015.
- Invited Keynote Lecture, Northeast GSA, Bretton Woods, March 23rd, 2015
- Keynote Speaker, Revolutions in Quaternary Science, QSR@50 Conference, Jan. 8th, 2014.
- Invited Speaker, PALSEA2 meeting, Rome, October 22, 2013.
- Keynote Speaker, Goldschmidt Conference, Florence, Aug. 26th, 2013.
- Invited Speaker (two talks), Davos Atmosphere and Cryosphere Assembly DACA-13, July 8-12th, 2013.
- Invited Speaker, Planet Under Pressure Conference, London, UK, March 26-29th, 2012.
- Invited Speaker, SLALOM Intl. Conf. on Sea Level Observations, Athens, Greece, March 19-22nd, 2012.

Plus dozens of public lectures to general audiences and students including museums, corporate organizations, NYC “Salons”, community non-profits, intern programs, and university colloquia.

PUBLICATIONS (student/post-doc coauthors in bold)

H-index = 55 on Google Scholar with total citations >20,000. According to Google Scholar:

- 6th highest cited researcher in Earth Science
- 4th highest cited researcher in Sea Level
- 6th highest cited researcher in Marine Geology
- 5th highest cited researcher in Paleoclimatology

Most cited publications: *** (n > 1000), ** (n > 100)

TWELVE SIGNIFICANT PAPERS OF LAST TEN YEARS

- Eshel, G., A. Shepon, **S. Gilutz, D. Giddings**, M. Raymo, and R. Milo, 2017, How much “sustainable” beef can the U.S. produce? *Nature Ecology and Evolution*, v. 2, p. 81-85. (This paper arose from a directed study I lead with MA students in the School of International and Public Affairs at Columbia University).
- Raymo, M.E., R. Kozdon, D. Evans, L. Lisiecki, and **H. Ford**, 2017, The accuracy of mid-Pliocene $\delta^{18}\text{O}$ based ice volume and sea level reconstructions, *Earth Science Reviews*, v. 177, p. 291-302.
- Rovere, A.**, E. Casella, **D. Harris, T. Lorscheid**, N. Nanadasena, **B. Dyer, M. Sandstrom**, P. Stocchi, W. D’Andrea, and M. Raymo, 2017, North Atlantic “superstorms” during the last Interglacial? Modeling paleo waves and the transport of giant boulders. *PNAS*, v. 114, 12144-12149.
- Shakun, J. D.**, M. E. Raymo, and D. W. Lea, 2016, An early Pleistocene Mg/Ca- $\delta^{18}\text{O}$ record from the Gulf of Mexico: Evaluating ice sheet size and pacing in the 41-kyr world, *Paleoceanography*, v. 31, p. 1011-1027, DOI: 10.1002/2016PA002956
- Ford, H.**, S. Sosdian, Y. Rosenthal, and M. E. Raymo, 2016, Gradual and abrupt changes during the Mid-Pleistocene Transition, *Quat. Sci. Revs.*, v. 148, p. 222-233; doi:10.1016/j.quascirev.2016.07.005
- ** Dutton, A., A. E. Carlson, A. J. Long, G. A. Milne, P.U. Clark, R. DeConto, B. Horton, S. Rahmstorf, and M.E. Raymo, 2015, Magnitude, rates and sources of sea-level rise associated with polar ice-sheet retreat during past warm periods, *Science*, v. 349, DOI: 10.1126/science.aaa4019
- Rovere, A.**, M.E. Raymo, J.X. Mitrovica, P.J. Hearty, M.J. O’Leary, and J.D. Inglis, 2014, The Mid-Pliocene sea-level conundrum: glacial isostasy, eustasy and dynamic topography, *EPSL*, v. 387, p. 27-33.
- ****O’Leary, M.**, P. Hearty, W. Thompson, M. E. Raymo, J. Mitrovica, and J. Webster, 2013, Ice sheet collapse following a period of stable eustatic sea level during MIS5e, *Nature Geoscience*, v. 6, 796-800, doi:10.1038/ngeo1890.
- ** Abe-Ouchi, A., F. Saito, K. Kawamura, M. E. Raymo, J. Okuno, K. Takahashi, and H. Blatter, 2013, 100-kyr glacial cycles from ice sheet-climate system with hysteresis driven by insolation, *Nature*, v. 500, p. 190-193.
- ** Raymo, M. E. and J. X. Mitrovica, 2012, Collapse of polar ice sheets during the stage 11 interglacial, *Nature*, v. 483, p. 453-456, doi:10.1038/nature10891.
- ** Raymo, M. E., J. X. Mitrovica, M. J. O’Leary, R. M. DeConto, and P. J. Hearty, 2011, Departures from eustasy in Pliocene sea-level records, *Nature Geoscience*, v. 4, p. 328-332, doi:10.1038/NGEO1118. (see accompanying News and Views).
- *** Hansen, J., M. Sato, P. Kharecha, D. Beerling, R. Berner, V. Masson-Delmotte, M. Pagani, M. Raymo, D. L. Royer, and J. C. Zachos, 2008, Target atmospheric CO₂: where should humanity aim? *Open Atmospheric Science Journal*, v. 2, p. 217-231, doi: 10.2174/1874282300802010217.

TWELVE EARLIER SIGNIFICANT PAPERS

- ** Raymo, M. E., **L. Lisiecki**, and **K. Nisancioglu**, 2006, Plio-Pleistocene ice volume, Antarctic climate, and the global $\delta^{18}\text{O}$ record, *Science*, v. 313, p. 492, doi: 10.1126/science.1123296.
- *** **Lisiecki, L.E.** and M.E. Raymo, 2005, A Plio-Pleistocene stack of 57 globally distributed benthic $\delta^{18}\text{O}$ records, *Paleoceanography*, 20, PA1003, doi:10.1029/2004PA001071. DATA
- ** Raymo, M.E., D.W. Oppo, B.P. Flower, D.A. Hodell, J. McManus, **K.A. Venz**, K.F. Kleiven, and K. McIntyre, 2004, Stability of North Atlantic water masses in face of pronounced climate variability during the Pleistocene, *Paleoceanography*, v. 19, PA2008, doi:10.1029/2003PA000921.
- ** Raymo, M.E. and **K.H. Nisancioglu**, 2003, The 41 Kyr world: Milankovitch's other unsolved mystery, *Paleoceanography*, v. 18, 10.1029/2002PA000791.
- ** Raymo, M.E., K. Ganley, **S. Carter**, D. W. Oppo, J. McManus, 1998, Millennial-scale climate instability during the early Pleistocene epoch. *Nature*, v. 392, p. 699-702.
- ** Raymo, M.E., D.W. Oppo, and W. Curry, 1997, The mid-Pleistocene climate transition: a deep sea carbon isotope perspective. *Paleoceanography*, v. 12, p. 546-559.
- ** Raymo, M.E., 1997, The timing of major climate terminations. *Paleoceanography*, v. 12, p. 577-585.
- ** Raymo, M.E., B. Grant, **M. Horowitz**, and G. H. Rau, 1996, Mid Pliocene warmth: stronger greenhouse and stronger conveyor. *Marine Micropaleontology*, v. 27, p. 313-326 (One of the top ten most highly cited papers in *Marine Micropaleontology* on the occasion of its 100th published volume).
- ** Raymo, M.E., 1994, The initiation of Northern Hemisphere glaciation. *Annual Reviews of Earth and Planetary Science*, v. 22, p. 353-383.
- *** Raymo, M.E. and W.F. Ruddiman, 1992, Tectonic forcing of late Cenozoic climate. *Nature*, v. 359, p. 117-122.
- ** Raymo, M.E., W.F. Ruddiman, N.J. Shackleton, and D. Oppo, 1990, Evolution of Atlantic-Pacific $\delta^{13}\text{C}$ gradients over the last 2.5 m.y., *Earth and Planetary Science Letters*, v. 97, p. 353-368.
- ** Raymo, M.E., W.F. Ruddiman, and P.N. Froelich, 1988, Influence of late Cenozoic mountain building on ocean geochemical cycles. *Geology*, v. 16, p. 649-653.