

APPENDIX VII. Thesis and Dissertations authored by GREF Fellows.

- Ainsworth, Elizabeth A., PhD 2003: “Intra-specific and intra-plant variation in acclimation of photosynthesis to rising atmospheric carbon dioxide concentration.” Advisor - Stephen P. Long, University of California-Irvine.
- Allison, Steven D., PhD 2005: “Microbial enzyme effects on soil carbon and nutrient turnover.” Advisor - Peter M. Vitousek, Stanford University.
- Alvarez-Aviles, Laura, PhD 2008: “Investigating the ionic composition of snow, aerosols, sea ice, and frost flowers to understand production of reactive halogens and deposition of mercury in the Arctic.” Advisor - William R. Simpson, University of Alaska-Fairbanks.
- Kevin J. Anchukaitis, PhD 2007: “A stable isotope dendroclimatology approach to reconstructing climate variability from tropical montane cloud forests.” Advisor - Michael N. Evans, University of Arizona.
- Andrew P. Ault, PhD 2010: “Investigations into the impact of transported particles on air pollution and climate using aerosol time-of-flight mass spectrometry.” Advisor - Kimberly Prather, University of California-San Diego.
- Adam P. Bateman, PhD 2011: “Chemical composition and photochemical evolution of limonene secondary organic aerosol studied using high resolution electrospray ionization mass spectrometry.” Advisor – Surgey Nizkorodov, University of California-Irvine.
- Sean T. Berthrong, PhD 2009: “The effect of afforestation on soil microbes and biogeochemistry across multiple scales.” Advisor – Rob Jackson, Duke University.
- Heidi M. Bialk, PhD 2006: “Covalent cross coupling of sulfonamide antimicrobials with model humic components and humic substances.” Advisor – Joel Pederson, University of Wisconsin-Madison.
- Marcia L. Branstetter, PhD 2001: “Development of a parallel river transport algorithm and applications to climate studies.” Advisor – James S. Famiglietti, University of Texas-Austin.
- Eben N. Broadbent, PhD 2012: “Tropical forests across temporal and spatial scales.” Advisors – Gregory Asner and Christopher Field.
- Derek P. Brown, PhD 2011: “Characteristics of atmospheric humidity derived from reanalysis and stable isotopic analysis from space.” – Advisor David C. Noone, University of Colorado at Boulder.
- Posy E. Busby, PhD 2012; “Causes and ecological consequences of fungal disease in cottonwoods.” Advisor – Rodolfo Dirzo, Stanford University
- Christopher B. Busch, PhD 2006: “Technological changes in southeastern Mexico: Implications for land use, deforestation, and climate change policy.” Advisors – Michael Hanemann and David Zilberman.
- Anne T Case Hanks, PhD 2008: “Formaldehyde instrument development and boundary layer sulfuric acid: Implications for photochemistry.” Advisor – Greg Huey, Georgia Institute of Technology.
- Joseph C. Castro, PhD 2009: “The effect of elevated carbon dioxide and ozone on soybean development, leaf anatomy, and productivity.” Advisor – Stephen Long.
- Elsa E. Cleland, PhD 2005: “The influence of multiple interacting global changes on the structure and function of a California annual grassland ecosystem.” Advisor – Harold Mooney, Stanford University.
- Craig B. Clements, MS 2001: “Cold air pool evolution and dynamics in a mountain basin. University of Utah” Advisor – John Horel, University of Utah.
- Craig b. Clements, PhD 2007: “Fire-atmosphere interactions during grass fires.” Advisor – Shiyuan Zhang, University of Houston.
- Torreon N. Creekmore, PhD 2009: “The regional aerosol radiative and hydrological effects over the Mid-Atlantic corridor.” Advisor – Everette Joseph, Howard University.

- Melissa A. Cregger, PhD 2012: “Microbial community structure and ecosystem function in a changing world.” Advisor – Aimee Classen, University of Tennessee.
- Molly S. Cross, PhD 2006: “Ecosystem responses to climate warming-induced plant species loss in a sub-alpine meadow in the Colorado Rocky Mountains.” Advisor – John Harte.
- Luis A. Cuadra-Rodriguez, PhD 2011: “Design and development of a droplet mass spectrometer.” Advisor – Gayfree B. Ellison.
- Elizabeth E. Dahl, PhD 2005: “Photochemical production of oceanic alkyl nitrates.” Advisor – Eric Saltzman.
- Allison Drake, MSc 2005: “Climate change, invasive grasses, wildfire and the potential for major ecosystem change in southwest North America.” Advisor – Jonathan Overpeck, University of Arizona.
- Dabrina D. Dutcher, PhD 2011: “Biofuel combustion: A single particle approach including new tandem measurements.” Advisor – Peter McMurry, University of Minnesota.
- Emma Christina Farmer, MA 2000: “Estimating tropical Atlantic thermocline shape using oxygen isotopes in planktonic foraminifers.” – Advisor Peter B. deMenocal.
- Emma Christine Farmer, PhD 2005: “Tropical Atlantic climate change from Mg/Ca and oxygen isotopes in planktonic foraminifers.” – Advisor Peter B. deMenocal.
- Emily V. Fischer, PhD 2010: “Importing O₃ precursors and aerosols to the North American free troposphere: An analysis of peroxyacetyl nitrate and aerosol observations at Mt. Bachelor.” Advisor – Daniel Jaffe, University of Washington.
- Jennifer M. Fraterrigo, PhD 2005: “Influence of land-use change on the long-term persistence of forest understory herbs in the southern Appalachian highlands.” Advisor – Monica Turner, University of Wisconsin-Madison.
- Holly K. Gibbs, PhD 2008: “Shifting pathways of tropical land use and their implications for carbon emissions.” Advisor: Jonathan Foley, University of Wisconsin-Madison.
- Elizabeth R. Gibson, PhD 2007: “Mineral dust aerosol chemistry and climate.” Advisor – Vicki Grassian, University of Iowa.
- Kelly M. Gillespie, PhD 2010: “Regulation of soybean antioxidant system under expected climate changes in open-field conditions.” Advisor – Elizabeth Ainsworth (former GREF Fellow), University of Illinois at Urbana-Champaign.
- Sarah E. Gilman, PhD 2003: “Factors controlling the northern geographic range limit of the intertidal limpet, *Collisella Scabra*.” Advisor – Richard Grosberg.
- Wendy S. Gordon, PhD 2003: “Climate change hydrology and ecological models: Intercomparison and validation.” Advisors – Norma Fowler and James Famiglietti, The University of Texas at Austin.
- Nancy Grumet Prouty, PhD 2004: “Multitracer, multisite record of climate change from the Indian Ocean.” Advisor – Robert Dunbar, Stanford University.
- Christopher W. Habeck, PhD 2010: “Global environmental change and interactions between mammals and plants.” Advisor – Rick Lindroth, University of Wisconsin-Madison.
- Meredith G. Hastings, PhD 2004: “Studies of reactive nitrogen in the atmosphere using global modeling and stable isotope measurements.” Advisor - Daniel Sigman, Princeton University.
- Paul A.T. Higgins, PhD 2003: “Ecosystem responses and feedbacks to abrupt climate change.” Advisor – Steven Schneider, Stanford University.
- Rachel C. Hoffman, PhD 2004: “Heterogeneous studies of atmospheric pollutants, nitric acid, nitrogen pentoxide, and hydroxide radicals, with sodium chloride, sodium nitrate, and synthetic sea salt using multiple analytical methods.” Advisor – Barbara Finlayson-Pitts, University of California-Irvine.
- Amanda S. Holden, MS 2008: “Estimating contributions of primary biomass combustion to fine particulate matter at sites in the western United States.” Advisor – Jeffrey Collett Jr.

- Emily B. Hollister, PhD 2008: “Land use and land cover change: The effects of woody plant encroachment and prescribed fire on biodiversity and ecosystem carbon dynamics in a southern Great Plains mixed grass savannah.” Advisor - Thomas Boutton, Texas A&M University.
- Tara W. Hudiburg, PhD 2012: “Analysis of the regional carbon balance of Pacific Northwest Forests under changing climate, disturbance, and management for bioenergy” Advisor – Beverly Law, Oregon State University.
- Colleen M. Iverson, PhD 2008: “Forest responses to rising atmospheric CO₂: Causes and consequences of increased fine-root production in a CO₂-enriched sweetgum plantation.” Advisor – Aimee Classen, University of Tennessee.
- Carrie Jensen Christiansen, PhD 2010: “The atmospheric oxidation of short lived halocarbons: Ab initio studies.” Advisor Joseph Francisco, Perdue University.
- Lara M. Kueppers, PhD 2003: “Forest carbon cycling along an elevation gradient: The influence of species and climate.” Advisor John Harte, University of California-Berkeley.
- Anita Lee, PhD 2006: “Ecosystem scale fluxes of total and speciated monoterpenes: Implications of gas- and particle-phase atmospheric chemistry.” Advisor – Alan Goldstein, University of California-Berkeley.
- Julia D. Liao, PhD 2004: “Woodland development and soil carbon and nitrogen dynamics and storage in a subtropical savannah ecosystem.” Advisor – Thomas Boutton, University of California-Berkeley.
- Michael S. Long, PhD 2010: “Atmospheric chemistry mechanism reduction in the 3-D NCAR Community Atmosphere Model.” Advisor – William Keene, University of Virginia.
- Katherine R.M. Mackey, PhD 2010: “On the response of marine phytoplankton to changing nutrient and light conditions.” Advisor – Adina Payton, Stanford University.
- Erica Marin-Spiotta, PhD 2006: “Controls on above and below ground carbon storage during reforestation of abandoned tropical pastures: Controls on soil carbon turnover.” Advisor – Wendee Silver, University of California-Berkeley.
- Monica Martinez-Aviles, PhD 2007: “On the atmospheric degradation of very short lived brominated compounds and their reservoir species.” Advisor – Joseph Francisco, Perdue University.
- Michael D. Mastrandrea, PhD 2004: “Dangerous climate change: Probabilistic integrated assessment, ecosystem impacts, and abrupt climate change.” Advisor – Stephen Schneider, Stanford University.
- Gavin R. McMeeking, PhD 2008: “The optical, chemical, and physical properties of aerosols and gases emitted by the laboratory combustion of wildland fuels.” Advisor – Sonia Kreidenweis, Colorado State University.
- Dylan B. Millet, PhD 2003: “Characterizing emission sources, chemistry, and lifetimes of VOCs and particulates using in-situ measurements.” Advisor – Allen Goldstein, University of California-Berkeley.
- Richard H. Moore, PhD 2011: “Using measurements of CCN activity to characterize the mixing state, chemical composition, and droplet growth kinetics of atmospheric aerosols to constrain the aerosol indirect effect.” Advisor – Athanasios Nenes, Georgia Institute of Technology.
- Christopher M. Moy, PhD 2010: “Late quaternary geological records of paleoclimate and paleoenvironmental change from southernmost South America.” Advisor – Robert Dunbar, Stanford University.
- Kevin E. Mueller, PhD 2011: “The influence of trees on soil biogeochemistry.” Advisors – David Eissenstat and Katherine Freeman, Pennsylvania State University.
- Susan M. Natali, PhD 2008: “Effects of elevated CO₂ on trace metal cycling in plants and soils.” Advisors – Manuel Lerdau and Sergio Sanudo-Wilhelmy, State University of New York at Stony Brook.
- Sarah L.O'Brien, PhD 2010: “Controls on soil carbon accrual in restored perennial grasslands.” Advisor – Miguel Gonzalez-Meler, University of Illinois at Chicago.
- Neil A. Pederson, PhD 2005: “Climatic sensitivity and growth of southern temperate trees in the eastern US: Implications for the carbon cycle.” Advisors – Edward Cook and Gordon Jacoby, Columbia University.

- Shannon L. Pelini, PhD 2009: “The biogeography of adaptation and its implication for range shifts under climate change.” Advisor – Jessica Hellman, University of Notre Dame.
- Jennifer Pett-Ridge, PhD 2005: “Rapidly fluctuating redox regimes frame the ecology of microbial communities and their biogeochemical function in a humid tropical soil.” Advisor – Mary Firestone, University of California-Berkeley.
- Sarah A. Placella, PhD 2011: “Gene expression by microbial communities in response to soil wet-up: Microbial resuscitation strategies, nitrifier response dynamics, and nitrous oxide pulses.” – Advisor Mary Firestone, University of California-Berkeley
- Heather U. Price, PhD 2004: “Photochemical processing of long range transported Eurasian pollution in the northeast Pacific troposphere.” Advisor – Daniel Jaffe, University of Washington.
- Cynthia A. Randles, PhD 2007: “Impacts of carbonaceous aerosols on climate: Examination of the sensitivity of simulated regional climates to absorbing and scattering aerosols.” – Advisor V. Ramaswamy, Princeton University.
- Rose M. Ravelo, MS 2008: “On the proton affinities of nitrates and nitrites: A computational study on their implications for measuring branching ratios and the R group’s effect on the protonation site.” Advisor - Joseph Francisco, Perdue University.
- Kevin A. Reed, PhD 2012: “An exploration of tropical cyclone simulations in NCAR’s Community Atmosphere Model.” Advisor – Christiane Jablonowski, University of Michigan.
- Erika L. Roesler Harding, PhD 2012: “Representing the fate of springtime Arctic clouds.” Advisors - Richard Rood and Derek Posselt, University of Michigan.
- Nicole J. Schiffer, PhD 2012: “Observational and modeling studies of moisture sources, synoptic variability, and precipitation in the North American monsoon.” Advisor – Steve Nesbit, University of Illinois at Urbana-Champaign.
- Tania Schoennagel, PhD 2003: “The influence of fire interval and climate on successional patterns in Yellowstone National Park.” Advisors – Monica Turner and Donald Waller, University of Wisconsin-Madison.
- Mackenzie L. Smith, PhD 2012: “The connection between microphysical morphology and atmospheric particle phase transitions.” Advisor – Scot Martin, Harvard University.
- Mari E. Titcomb Lee, PhD 2012: “New particle formation: Sulfuric acid and amine chemical nucleation.” Advisor – Peter McMurry, University of Minnesota.
- Amy J. Wagner, PhD 2009: “Oxygen and carbon isotopes and coral growth in the Gulf of Mexico and Caribbean Sea as environmental and climate indicators.” Advisor – Niall Slowey, Texas A&M University.
- Erin P. Hokanson Wagner, MS 2006: “The effects of solar penetration on a coupled general circulation model.” Advisor – Zhengyu Liu, University of Wisconsin-Madison.
- Eric J. Ward, PhD 2012: “Improving models of forest carbon and water cycling: Revisiting assumptions and incorporating variability.” Advisor – Ram Oren, Duke University.
- Lois Jean Wardell, PhD 2002: “Volcanic carbon dioxide and trace metal emissions from Mt. Erebus, Antarctica, and White Island, New Zealand: Contribution and implications to global atmospheric budgets.” – Advisor – Philip Kyle, New Mexico Tech.
- Cynthia A. Werner, PhD 2002: “CO₂ emissions in Yellowstone , USA, and Solfatara Volcano, Italy: Use of eddy covariance and mass flux modeling.” Advisor – Susan Brantley, Pennsylvania State University.
- Brent J. Williams, PhD 2008: “Speciated organic composition of atmospheric aerosols: Development and application of a thermal desorption aerosol gas chromatograph (TAG).” Advisor – Allen Goldstein, University of California-Berkeley.

- Shelby Winiecki, PhD 2004: “A case study addressing the influence of the urban boundary layer on UVB transmission.” Advisor – John Frederick, University of Chicago.
- Victoria E. Wittig, PhD 2008: “Impacts of elevated carbon dioxide and tropospheric ozone on the growth and productivity of trees.” Advisor – Stephen Long, University of Illinois at Urbana-Champaign.
- Wendy H. Yang, PhD 2010: “Quantification of and controls on dinitrogen and nitrous oxide fluxes from terrestrial ecosystems.” Advisor – Whendee Silver, University of California-Berkeley.
- Esther B. Zeledon, PhD 2010: “The effect of war and its aftermath on land use and land cover in Jinotega, Nicaragua.” Advisor – Maggi Kelly, University of California-Berkeley.
- John M. Zobitz PhD 2007: “Mathematical approaches to partition net ecosystem exchange of carbon dioxide in a high-elevation subalpine forest.” Advisor – David Bowling, University of Utah.