

ORIANA ELIZABETH HOLTZ CHAFE

LAWRENCE BERKELEY NATIONAL LABORATORY
CLIMATE AND ECOSYSTEM SCIENCES DIVISION
BIOSPHERE-ATMOSPHERE INTERACTIONS

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EDUCATION

- University of California, Santa Cruz** 2007-2011
- BA Environmental Studies** • Ecological Restoration and Climate Change Ecology
Environmental Studies Departmental Honors, Dean's Honors
- BA Studio Art** • Photography and Intermedia

EMPLOYMENT HISTORY

Research Associate • Lawrence Berkeley National Laboratory

Barrow, AK • Nome, AK • July 2013 – Present

- Conduct field research for the Next-Generation Ecosystem Experiments (NGEE Arctic)
- Measure tundra CO₂ and CH₄ trace gas fluxes
- Measure surface albedo and energy fluxes using portable instruments
- Collect air and soil gas samples for elemental and isotopic analysis
- Monitor abiotic and biotic environmental conditions
- Maintain *in-situ* experiments and provide general field support

Restoration Ecologist and Program Manager • Sierra Streams Institute

Nevada City, CA • January 2013 – November 2015

- Planned, permitted, and implemented watershed restoration projects
- Conducted surface water quality, watershed health, vegetation, and wildlife surveys
- Collected, entered, analyzed, and summarized environmental monitoring data
- Managed, implemented, and documented grant-funded project tasks

Junior Specialist • University of California, Berkeley

Sequoia National Park, CA • June 2012 – August 2012

- Surveyed subalpine meadow composition in remote wilderness areas of the Sierra Nevada
- Located focal meadows, established research plots, and mapped study sites
- Identified forb, graminoid, and conifer species
- Quantified species diversity and abundance across a variety of environmental gradients

Seasonal Field Assistant • University of California Natural Reserve System

Younger Lagoon Reserve, Santa Cruz, CA • January 2012 – June 2012

- Led coastal habitat restoration program, served as interim Reserve Restoration Steward
- Managed undergraduate internship program and supervised student employee work crews
- Monitored surface and groundwater levels in wetland and upland habitats

- Conducted biological monitoring and performed topographic surveys of coastal habitats
- Collected and processed seed, propagated and installed native plants, controlled invasive species

Student Field Assistant • University of California Natural Reserve System

Younger Lagoon Reserve, Santa Cruz, CA • March 2011 – October 2011

- Managed reserve natural resources and implemented coastal habitat restoration
- Organized public stewardship events, mentored undergraduate interns, and supervised student employee work crews
- Implemented coastal habitat restoration projects, controlled invasive species, installed native plants, and conducted biological monitoring

CERTIFICATIONS

Wilderness First Responder • Adult and Child CPR • Wilderness Medicine Institute 2012

PRESENTATIONS AND POSTERS

“Microtopographic controls on methane production, oxidation, and emissions across polygon tundra gradients.”
Vaughn, L.J.S., Conrad, M., Bill, M., Curtis, J.B., **Chafe, O.**, and M.S. Torn. Interagency Arctic Research Policy Committee (IARPC Collaborations) Public Webinar: “Funding Effective Interdisciplinary Collaborations: NGEE as a Case Study,” June 2016.

“Soil carbon inputs and ecosystem respiration: a field priming experiment in Arctic coastal tundra.”
Vaughn, L.J.S., Zhu, B., Bimüller, C., Curtis, J.B., **Chafe, O.**, Bill, M., Abramoff, R.Z., and M.S. Torn. Poster presented at the Department of Energy Environmental Systems Science PI Meeting, Potomac, MD, April 2016.

“Could 4 degrees warming change arctic tundra from carbon sink to carbon source?”
Torn, M.S., Abramoff, R.Z., **Chafe, O.**, Curtis, J.B., Smith, L.J., and S.D. Wulfschleger. American Geophysical Union Fall Meeting, San Francisco, CA, December 2015.

“Methane production, oxidation, and emissions across Arctic ice wedge polygon features.”
Smith, L.J., Conrad, M.E., Bill, M., Curtis, J.B., **Chafe, O.**, and M.S. Torn. Mark Waldrop lab seminar, USGS Menlo Park, CA, September 2015.

“Process-level measurements of methane production, oxidation, and efflux across geomorphic and geochemical gradients in Arctic polygon tundra.”
Smith, L.J., Conrad, M.E., Torn, M.S., Bill, M., Curtis, J.B., **Chafe, O.**, and R.C. Porras. Poster presented at the Department of Energy Program Review, Rockville, MD, August 2015.

“Process-level measurements of methane production, oxidation, and efflux across geomorphic gradients in Arctic polygon tundra.”
Smith, L.J., Conrad, M.E., Torn, M.S., Bill, M., Curtis, J.B., **Chafe, O.**, and M.S. Hahn. Poster presented at the American Geophysical Union Annual Meeting, San Francisco, CA, December 2014.

“Multi-scale controls on CH₄ and CO₂ in Barrow, Alaska: evidence from stable isotopes.”
Smith, L.J., Throckmorton, H., Conrad, M.E., Bill, M., Curtis, B., **Chafe, O.**, and M.S. Torn. NGEE-Arctic science talk, October 2014.

“Radiocarbon measurements to assess soil carbon vulnerability in Arctic coastal tundra.”

Smith, L.J., Torn, M.S., Conrad, M.E., Curtis, J.B., Porras, R.C., and **O. Chafe**. Poster presented at the Department of Energy Terrestrial Ecosystem Science and Subsurface Biogeochemical Research Joint Investigators Meeting, Potomac, MD, May 2014.

“Climate forcing across multiple scales and landscape types within the Arctic Tundra ecosystem.”

Curtis, J.B., Torn, M.S., Sloan, V.L., Liebig, J., Hahn, M.S., Raz-Yaseef, N., Altmann, G.L., Wulschleger, S.D., Norby, R.J., Wilson, C.J., Siegrist, J., and **O. Chafe**. American Geophysical Union Annual Meeting, San Francisco, CA, December 2013.

“Soil carbon vulnerability in Arctic coastal tundra: seasonal and spatial variations in ¹⁴C-CO₂.”

Smith, L.J., Torn, M.S., Conrad, M.E., Curtis, J.B., **Chafe, O.**, Porras, R.C., and M.S. Hahn. American Geophysical Union Annual Meeting, San Francisco, CA, December 2013.

“Soil carbon vulnerability in Arctic coastal tundra: seasonal and spatial variations in ¹⁴C-CO₂.”

Smith, L.J., Torn, M.S., Conrad, M.E., Curtis, J.B., **Chafe, O.**, and R.C. Porras. Poster presented at the NGEE-Arctic All-Hands Meeting, San Francisco, CA, December 2013.

“Methods of exotic vegetation removal in coastal grassland restoration: Impacts upon native grass seedling physiology.”

Chafe, O. and C. Thompson. University of California, Santa Cruz Department of Environmental Studies Undergraduate Research Poster Symposium, Santa Cruz, CA, June 2011.

ACADEMIC EXPERIENCE

Graduate-level coursework:

- Interdisciplinary Research Design in Environmental Studies

Undergraduate-level coursework:

- Field Research on Coastal Habitat Restoration
- Environmental Field Methods
- Plant Physiological Ecology
- Climate Change Ecology
- Restoration Ecology
- Freshwater and Wetland Ecology
- Statistical Methods for Environmental Sciences
- The Physical and Chemical Environment
- Elements of Field Geology
- California Geology
- Environmental Studies Research Seminar
- Ecology and Society
- General Ecology
- The Oceans
- Life in the Sea