Kathleen (Kat) Huybers

University of Washington
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EDUCATION

University of Washington, Department of Earth and Space Sciences, Seattle, WA
PhD, 2014

University of Washington, Department of Earth and Space Sciences, Seattle, WA
MS, Geophysics, 2007

University of San Francisco, Department of Mathematics, San Francisco, CA
BS, 2003

TEACHING EXPERIENCE, HIGHER EDUCATION

University of Washington, Department of Atmospheric and Climate Science, Seattle, WA
Assistant Teaching Professor
SEPTEMBER 2024 - present
Courses taught:

- Global Warming: Understanding the Issues (ATM S 111)
- Climate and Climate Change (ATM S 211)
- Exploring the Atmospheric Sciences (ATM S 220)

University of Washington, Department of Atmospheric Sciences, Seattle, WA
Lecturer
JANUARY 2019 - AUGUST 2024
Courses taught:

- Global Warming: Understanding the Issues (ATM S 111)
  - In-person: 6 quarters; Online/hybrid: 9 quarters
- Climate and Climate Change (ATM S 211)
  - In-person: 1 quarter; online 1 quarter

Pacific Lutheran University, Department of Geosciences and Department of Environmental Studies, Tacoma, WA

Visiting Assistant Professor

AUGUST 2014 - JUNE 2017

Courses taught:

- Conservation of Natural Resources: 3 semesters
- Global Climate Change: 1 semester
- Environmental Methods of Investigation: 4 semesters
- Computer-Aided Mapping and Analysis (GIS): 1 semester
- Capstone: Senior Seminar: 1 semester

Colorado College, Department of Environmental Science, Colorado Springs, CO

Co-Instructor

APRIL 2011

Course taught: Global Climate Change

SELECTED AWARDS AND FELLOWSHIPS

Outstanding Teaching Award

University of Washington College of the Environment

2022-2023 ACADEMIC YEAR

- Nominations are evaluated on evidence of a high standard of effort, dedication, and conduct in the education of students.
- Award given to one faculty member within the college each year.

Teaching Technology Fellowship

University of Washington Center for Teaching and Learning

JULY 13-17, 2020

- Fellowship program to support instructors as they design a fully online or hybrid course. (also noted in Recent Workshops Attended, below.)

RESEARCH EXPERIENCE

University of Utah, Department of Geography, Salt Lake City, UT

Postdoctoral Researcher

SEPTEMBER 2017 - 2021

- Project title: Precipitation and Glacier Change in High Mountain Asia over the Modern Era
- Mentor: Summer Rupper

University of Washington, Department of Earth and Space Sciences, Seattle WA

PhD Thesis

JANUARY 2010 - JUNE 2014

- Advisers: Gerard Roe, Howard Conway
- Project title: Relationships Between Climate and Geophysical Processes: What Climate Histories Can Be Inferred from Glaciers, Lakes, and Ice Streams?
  - Macro-Scale Stability of the West Antarctic Ice Sheet
  - Lake Level Variability in a Closed Basin System Colleagues
  - Geometric Influences on Glacier Length Fluctuations Colleagues

Other Research

2013 -2015

- Collaborators: Nathan Steiger, Hansi Singh, Dargan Frierson, Eric Steig.
- Project title: What Would Happen to the General Circulation of the Atmosphere if the West Antarctic Ice Sheet Collapsed?

Master's Project

SEPTEMBER 2005 - JUNE 2007

- Advisers: Gerard Roe, Bernard Halley
- Project title: Glacier Variations in Response to Interannual Climate Variations

Field Work

- Foundation Ice Stream, West Antarctica.
  - Project Title: Last Glacial Maximum and Deglaciation Chronology for the Foundation Ice Stream and Southeast Weddell Sea Embayment.
  - Advisers: Greg Balco, Claire Todd
  - December–January, 2010/2011 and 2011/2012.
- Summit Station, Greenland
  - Project Title: Isotopic Ratios in Gas-Phase HNO_3 and Snow Nitrate at Summit, Greenland.
  - Advisers: Eric Steig and Julia Jarvis
  - March – April 2006 and July 2007.

Summit Station, Greenland CH2MHill, Polar Field Services & National Oceanic and Atmospheric Administration, Earth System Research Laboratory

Science Technician

FEBRUARY - APRIL 2008; NOVEMBER 2008 - JUNE 2009

- Maintained and fixed instruments, and collected and reported data at a remote field location.

CURRENT PROFESSIONAL AND SERVICE ACTIVITIES

Leader of the Environment Faculty Fellows Program

University of Washington College of the Environment

JANUARY 2023 TO PRESENT

- The program provides early-career faculty with evidence-based knowledge and skills to be effective and time-efficient instructors.
- We meet over lunch every two weeks throughout the autumn and winter quarters, and twice in the spring.
- Participants receive support throughout the academic year, as they design, implement, update, and troubleshoot their course design and delivery.

Teaching Support Team Member

University of Washington College of the Environment

SEPTEMBER 2020 TO PRESENT

- We work with faculty and TAs within the college, providing structured training programs, one-to-one assistance, and workshops/materials that respond to the needs of the college's instructors.
- Recent and Current Projects:
    - Workshop, Winter 2024: Navigating Changes to Poll Everywhere
    - Spring 2024: Developed Peer Evaluation resources for the College of Environment
    - Summer 2024: Hosting a one-day self-motivated retreat for faculty to work on course improvements.

Scientific Advisor and Educator

EarthGen (through UW EarthLab)

AUGUST 2020 TO PRESENT

- EarthGen is a non-profit organization that supports K-12 students and teachers with resources and classes. The ClimEd program trains teachers in the science of climate change, its local impacts, and potential solutions, providing them with the tools needed to bring climate science into their classrooms.
- I co-develop multi-modal training seminars for K-12 educators throughout Washington State and facilitate 5-10 seminars each year.

Recent Professional Development Workshops Attended

Climate and Environmental Justice Course Development Workshop

University of Washington Program on Climate Change

WINTER 2021

Faculty participants gained experience in adding climate/environmental justice topics into their courses.

Teaching Technology Fellowship Institute

University of Washington Center for Teaching and Learning

JULY 2020

Faculty participants learned best practices for teaching online courses.

Publications and Presentations

Peer-Reviewed Publications

- **Huybers, K.** Roe, G.H., and Conway, H. (2017) Basal topographic controls on the stability of the West Antarctic Ice Sheet: lessons from Foundation Ice Stream, *Annals of Glaciology* 58(75pt2), 193-198.
- Balco, G., Todd, C. **Huybers, K.**, Campbell, S., Vermeulen, M., Hegland, M., Goehring, B.M., and Hillebrand, T. (2016) Cosmogenic-nuclide exposure ages from the Pensacola Mountains adjacent to the Foundation Ice Stream, Antarctica. *American Journal of Science*, 316(6).
- **Huybers, K**. Rupper, S., and Roe, G.H. (2015) Response of closed basin lakes to interannual climate variability, *Climate Dynamics,* 46, 3709-3723.
- Steig, E.J., **Huybers, K.**, Singh, H.A., Steiger, N.J., Ding, Q., Frierson, D.M., Popp, T., and White, J.W. (2015) Influence of West Antarctic Ice Sheet collapse on Antarctic surface climate. *Geophysical Research Letters*, 42(12), 4862-4868.
- Campbell, S., Balco, G., Todd, C., Conway, H. **Huybers, K**., Simmons, C., and Vermeulen, M. (2013) Radar- detected englacial stratigraphy in the Pensacola Mountains, Antarctica: implication for recent changes in ice flow and accumulation, *Annals of Glaciology,* 54(63), 91-100.
- **Huybers, K**. and Roe, G.H. (2009) Spatial patterns of glaciers in response to spatial patterns in regional climate, *Journal of Climate, 22*(17), 4606-4620.

Selected Presentations

- December 2018, Oral Presentation, *Understanding the rate of mass loss for debris-covered glaciers in High Mountain Asia.* American Geophysical Union Fall Meeting, Washington, D.C.
- October 2018, Oral Presentation, *Response of the Great Salt Lake, Lake Bonneville, and intermediate shorelines to interannual climate variability.* Lake Bonneville Geologic Conference Salt Lake City, UT.
- December 2014, Poster Presentation, *The global and local climatic response to the collapse of the West Antarctic Ice Sheet*. American Geophysical Union Fall Meeting, San Francisco, CA.