Kayley Butler, Ph.D. Student

University of Southern California
3620 South Vermont Ave, KAP 223
Los Angeles, CA

kayleybu@usc.edu
www.linkedin.com/in/kayley-butler

EDUCATION

University of Southern California, Los Angeles, CA August 2020–Present
Doctorate of Philosophy in Environmental Engineering, Masters of Science in Environmental Engineering
- Cumulative GPA – 3.90

Pepperdine University, Malibu, CA August 2016–May 2020
Bachelor of Science in Physics, Minor in Sustainability
- Cumulative GPA – 3.622

PROFESSIONAL EXPERIENCE

Ph.D. Student, University of Southern California, Los Angeles, CA August 2020–Present
Ph.D. Student Research Assistant
- Analyze heat mitigation strategies for two suburban neighborhoods during extreme heat events using ENVI-met computational fluid dynamics modelling to determine impacts to outdoor temperatures and physiological health
- Conduct problem identification within model validation utilizing energy balance equations
- Manage a team of two masters students to conduct model building
- Collaborate with Lawrence Berkeley Lab Building Technology & Urban Systems Division to compile a heat resilience toolkit for disadvantaged communities in Fresno, CA
- Present weekly updates to three stakeholders involved in heat resilience toolkit and community outreach

Natural Science Department, Pepperdine University, Malibu, CA January 2019–May 2020
Space Physics Undergraduate Research Assistant
- Analyzed and categorized thirty years of solar-terrestrial interaction by reconciling ground observation data from Longyearben, Norway and NASA satellite data from earth's magnetopause
- Searched for evidence of magnetic reconnection alongside NASA Goddard Space Flight Center, possible triggers for expansions and contractions of earth's auroral oval, and evidence of pressure variations
- Facilitated an undergraduate research team of five to present a conference poster at the Fall 2019 American Geophysical Union Conference as lead researcher

SKILLS & CERTIFICATIONS

- LEED Green Associate
- Microsoft Certified- Office Suite 2010
- Proficient in Python and ENVI-met modelling system
- Familiar with IDL, R, and MATLAB programs

LEADERSHIP & INVOLVEMENT

- American Geophysical Union Member
- U.S. Green Building Council Los Angeles Member
- USC Women in Science and Engineering Mentorship Program

PRESENTATIONS

Butler K, Ban-Weiss G, Liu Y, Bruce A. Heat Mitigation Strategy Impacts on Thermal Comfort and Local Temperature at the Micrometeorological Scale. American Geophysical Union (AGU) Fall Meeting. New Orleans. December 16, 2021.

Butler K, Fasel GJ, Lau J, Mascot A, Hickmann L, Kim M, Mann JC, Merritt A, Nguyen AK, Oneto S, Zhou Xixiao, Sigernes F, Lorentzen DA. Dayside auroral oval shifts due to enhanced solar wind dynamic pressure. American Geophysical Union (AGU) Fall Meeting. San Francisco. December 13, 2019.

Fasel GJ, Nguyen AK, Lau J, Lee L, Mann JC, **Butler K**, Sigernes F, Lorentzen DA. East-west brightening in poleward-moving auroral forms and the interplanetary magnetic field B_y-component. American Geophysical Union (AGU) Fall Meeting. San Francisco. December 13, 2019.