**Proposal ID:**

**Proposal Title:** Improving Long-term Records of High-Resolution Satellite-derived Lake Surface Temperature for Global and Regional Climate Studies

**Principal Investigator: Erik T. Crosman**

**Statement of Diversity, Inclusion, and Broader Impacts**

The proposed project will result in data that will benefit society as a whole by providing improved quantitative lake temperature data that will in turn lead to improved scientific understanding and forecasting of weather, climate change, and the many important applied scientific applications that require accurate lake temperature data. In terms of NOAA’s long term climate goals to serve the general public, this proposal will advance climate intelligence and resilience through providing a data set useful for addressing (1) weather and climate extremes, (2) Climate impacts on water resources, and the (3) sustainability of marine ecosystems.

The PI has carefully read NOAA’s Diversity and Inclusion Strategic Plan 2017-2019 <http://www.eeo.noaa.gov/d&i/NOAA%20Diversity%20and%20Inclusion%20Strategic%20Plan.pdf> and will work to further the aims and ideals set forth in that plan.

In the search for the primary graduate student to assist with this study, effort will be made to ensure that this position is listed on large research opportunity emails lists and websites, to ensure equal opportunities for participation of women, persons with disabilities, and underrepresented minorities.

As part of this study, rigorous public outreach activities will be conducted. The PI will work with the VP for research office at the University of Utah to make sure recently published work is communicated via social media. An undergraduate student from the University of Utah Department of Atmospheric sciences will also be recruited during this study to conduct their senior capstone projects using the data from this study. The PI will also prepare Presentations to local school groups and other educational entities. The PI has a strong working collaborative relationship with the Great Salt Lake Institute <https://www.westminstercollege.edu/campus-life/centers-and-institutes/great-salt-lake-institute> and outreach will be made to the GSL Institute and the Friends of the Great Salt Lake (<http://www.fogsl.org/> ), using the remote sensing lake temperature climatology of this particular lake to reach this local but broad community. In addition, we will work with the College of Mines and Earth Sciences Outreach and Diversity program to present this research to junior through high school students. The outreach lectures will focus on explaining the importance of global climate change to all ecosystems and living creatures on the earth, and that through remote sensing of lakes we are effectively ‘taking the temperature’ of the earth’s surface.