

[Kristen Marberry](#) is currently a graduate student at Colorado School of Mines (CSM) where she is working on a MS degree in the Hydrologic Science and Engineering Program under Dr. John Bradford. Her research is primarily focused on characterizing the natural debris dam formed by the May 18th, 1980 Mount St.



Helens eruption which blocks Spirit Lake from its natural outlet, the Toutle River system. In this project, Kristen has been tasked with using geophysical methods (e.g. seismic; GPR) to characterize the subsurface layering of the pyroclastic flow material, debris avalanche, pre-eruption surface, and the location of the water table. This work is motivated by recent risk analyses regarding the potential for dam failure and she hopes that her research will help to improve the current geologic and hydrogeologic models used in the risk management decision making process.

Geophysics is a second career for Kristen. Previously, Kristen and her husband, Shane, owned a construction company where she worked as a jobsite foreman. Unfortunately, the Great Recession was not kind to the construction industry and lead Kristen to pursue a new career. While researching options, she found geophysics through an Everett Community College geology teacher named Steve Grupp who had previously graduated from CSM with a MS in geophysics. Once Kristen learned more about what geophysics was and the wide variety of career paths available, she knew that this was the path she wanted to pursue. As a result of her hard work and determination, Kristen recently completed her BS degree in Geophysics from CSM in May 2018!

Outside of her research, Kristen is an active member of the CSM's Society of Student Geophysicists (SSG). Between 2017 and 2018, Kristen served as president of this group and was awarded a 2018 SEG/Chevron Student Leadership Symposium grant for her leadership in organizing youth outreach events where they taught elementary-aged kids some basics about geophysics and how it can be used to "see" inside the earth. Over the past two summers, Kristen has also interned with the geophysics group at [Olson Engineering, Inc](#) where she worked on numerous field-based projects and deployed various geophysical techniques like seismic, EM, resistivity, and magnetics. Lastly, as a mother, Kristen is often presented with the unique challenge of balancing her education and parenting her two daughters, Dez and Paige. While she is often left wishing there were more hours in the day, the fact that she has such a loving, patient, and supportive family has helped to propel her to where she is today.

With her expected graduation in December 2019, Kristen has already begun to consider her plans post-graduation. Based on her internship experiences, Kristen is interested in pursuing work in the consulting industry. Since Kristen is particularly passionate about water access, quality, and remediation, she hopes to find a career where she can work on water-related problems and utilize geophysical methodologies.

For more information about near-surface applications of hydrogeophysical methods or to learn more about her research, please contact [Kristen Marberry](#).

Interested in being highlighted, or know a student who should be? Please email [Matthew Sirianni](#) for more information about the Student Spotlight. We are also seeking research highlights that showcase use of near-surface geophysics in other [AGU sections and focus groups](#). If you are interested in writing a short, one-page highlight, please contact [Kisa Mwakanyamale](#).