

Closed Basin Great Salt Lake Watershed Hydrochemical Cycle as an Educational Tool Among Underrepresented Ethnic Student Communities.

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Great Salt Lake (GSL) is a terminal lake located in the middle of a closed basin watershed. We have surveyed water chemistry in the entire watershed as part of the GETUP educational research project (Geoscience Education Targeting Underrepresented Populations) funded by the National Science Foundation. This program includes early high school outreach, early undergraduate research experiences, and community engaged learning. This presentation focuses on increasing awareness of natural processes among underrepresented ethnic communities by observing the hydrochemical cycle in the entire watershed. Students have collected water samples from GSL, local streams, springs, and the well field on Weber State University's (WSU) campus. Students then analyzed major elemental water chemistry supervised by faculty and more advanced mentor students in the Department of Earth and Environmental Sciences (EES) using lab facilities at WSU. The results of the monitoring program illustrate that naturally occurring geologic sources produce elevated concentrations of several trace elements, including mercury, manganese, and uranium. Shallow groundwater in addition is characterized by elevated arsenic concentration. The GSL water has high concentrations of aluminum, iron, manganese, lead, arsenic, and mercury. These results resonated very well with all participants by indicating very unique chemical features of the watershed and their influence on water quality. Exit surveys of the GETUP project indicate a significant increase of the students' awareness about naturally occurring and anthropogenic processes in the closed GSL watershed.

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