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NEWS RELEASE
November 15, 2018

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Lake Powell Coring Study to Shed Light on Metals in Lake Sediments

Multi-agency Long-Core Study First of Its Kind at Lake Powell

SALT LAKE CITY, UTAH – Beginning this month, drill rigs will penetrate deep into the river deltas of Lake Powell to collect historical and recent data on metal concentrations in lake sediments. This collaborative effort between the Utah Department of Environmental Quality (DEQ), the U.S. Geological Survey (USGS), the National Park Service, and the Bureau of Reclamation (Reclamation) will provide scientists with critical information on the volume of sediment and distribution of metals within this sediment in the lake.

The month-long project will extract cylindrical, long-core samples at multiple locations along the river deltas entering Lake Powell. Scientists believe these sediment cores will reveal how flash floods, historic mining in the Upper Animas River, mine remediation activities, and spring runoff affected the timing, mass, and concentration of metals deposited into the lake's sediments over time. These chronological snapshots of metal deposition into sediments will help characterize triggering events, background conditions, and the types and volumes of metals released at different points in time.

"This study will help us understand whether human activities such as mining in the San Juan River watershed have impacted or pose a risk to the important recreational, aquatic life, and cultural resources of the San Juan River and Lake Powell," said Erica Gaddis, director of the Division of Water Quality. "This project is a great example of applying science to inform water resources management."

Important data will be collected about the concentration, distribution, and bioavailability (uptake by aquatic life) of metals in the sediments in Lake Powell. As in the past, the lake's deltas accumulate metals--including arsenic, cadmium, copper, mercury, lead, selenium, and zinc--from upstream sources. Scientists are concerned that the release of metals previously "locked" in sediments could impact or threaten water quality, human health, and aquatic life, especially during low lake levels associated with drought. These core-sample analyses are expected to provide information that will help resource managers make informed decisions about lake and watershed management and water quality.

"This is the first study to collect and characterize sediment through the full thickness of the San Juan and Colorado River deltas," said USGS scientist Scott Hynek. "Drilling long cores of sediment will allow USGS scientists to analyze metal concentrations from before the Glen Canyon Dam was constructed through the present day."

Preliminary findings are expected in early 2020. Funding for this study was provided by the Water Infrastructure Improvements for the Nation (WIIN) Act, DEQ, USGS, and Reclamation. For more information on the Lake Powell Coring Project, visit the DEQ website at https://deq.utah.gov/water-quality/san-juan-watershed-program.

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About DEQ

Established in 1991, the Utah Department of Environmental Quality's (DEQ) mission is to safeguard and improve Utah's air, land and water through balanced regulation. DEQ implements state and federal environmental laws and works with individuals, community groups and businesses to protect the quality of Utah's air, land and water. For more information, visit www.deq.utah.gov, follow DEQ on Facebook (utahdeq) and Twitter (UtahDEQ), or call 1-800-458-0145.