UArizona-Led Project Advances Indigenous Geoscience Education in the Grand Canyon

By Michael Pisetsky

Research, Innovation & Impact

**SUBHEADING**: With an NSF grant for nearly $150,000, UArizona and partner universities are developing partnerships with native tribes to advance informal geoscience education in the Grand Canyon.

The University of Arizona, the University of New Mexico (UNM), and Arizona State University (ASU), have received a $150,000 National Science Foundation grant to advance geoscience education among Indigenous tribes in the Grand Canyon.

The project, titled “Developing Partnerships Among Tribes, Geoscientists, and the National Park Service to Advance Informal Geoscience Learning at Grand Canyon,” is led by **Karletta Chief**, UArizona distinguished professor of university-outreach, and **Cherie DeVore**, assistant professor of chemical and environmental engineering. Chief and DeVore are both members of Indigenous communities themselves.

The NSF-funded project will be centered around listening sessions hosted between the researchers and members of native communities around the Grand Canyon, with the aim of bringing Indigenous perspectives to the forefront. The listening sessions will better equip the researchers to approach geoscience education in the area, respecting the spiritual and cultural significance of the region while also creating scientific place-based learning opportunities.

Their collaborators include UNM professor of geology Karl Karlstrom, UNM distinguished professor of Earth and planetary sciences Laura Crossey, and ASU professor of Earth and space exploration Steve Semken.

The current project is building on earlier NSF-funded work led by Karlstrom and Crossey titled “The Trail of Time,” which is an interactive walk along a trail at the Grand Canyon where each meter represents one million years in the canyon’s geological history. The trail features exhibits showing how the Grand Canyon formed.

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“The term ‘indigenizing’ is a way to center the perspectives of native tribes,” Chief said, “Their perspectives, values, and ideas focus our geoscience education.”

“This project will start conversations and build connections for future relationships with native tribes.” DeVore said, “With these relationships, we can develop culturally equitable and inclusive initiatives for space-based geoscience information in ways that incorporate various knowledges.”

“These parks can be incredibly exclusive, native peoples are forced to pay for access to culturally significant areas,” DeVore said “This also creates some animosity when it comes to the term ‘public land’, not all land is meant for everyone–specifically in these areas of cultural significance.”

The project serves as an example of how to “respectfully and ethically engage with indigenous communities,” Chief said, “We have to make sure the needs of these tribes will be met, in this way, the project can serve as an example for future projects done in the Grand Canyon.”

“There is so much dialogue that we are having about how to amplify indigenous voices in the trail of time,” Chief said, “This project is a way to build on these geoscience exhibits keeping indigenous communities in mind.”

“The effort to develop culturally equitable and inclusive knowledge and place-based learning is critical in garnering historically exclusive places for indigenous peoples,” DeVore said, “and is an opportunity to highlight indigenous ingenuity and learn about the human experience.”