

# Exploring Southwest Idaho's geologic past

BY JANELLE BROWN

**T**wo Boise State University graduate students are conducting geological studies in southwestern Idaho after receiving prestigious fellowships from the NASA Idaho Space Grant Consortium.

Brittany Brand, (right) a master's student in geology, and Gregg Beukelman, a Ph.D. student in geophysics, each received one-year \$6,000 fellowships as part of a statewide program to fund research endeavors involving space, aeronautics or other areas of research interest for NASA.

"These new fellowships are a sign of the growth and quality of our research programs at Boise State," says Clyde J. Northrup, chair of the university's geosciences department. "We're excited and pleased that our students were selected for these awards."

Brand's project involves studying an extinct volcano called Sinker Butte near Swan Falls Dam in southwestern Idaho.

One million years ago, Sinker Butte was an active "hydrovolcano" that erupted with terrific force from beneath a shallow lake. The lake eventually disappeared and the Snake River eroded the layers of rock from the eruptions until a near-perfect cross section was exposed. Brand is



been extensively studied, because in most locations, such as the ocean, they erode very quickly," says Brand, who plans to eventually pursue a Ph.D. in volcanology. "Sinker Butte is unusual in the fact that it is well preserved. This is because the lake under which it erupted dried out and vanished soon after the eruption ended. This kept the deposits from eroding away so quickly."

Beukelman's project involves using remote sensing data to identify fault characteristics on the Western Snake River Plain, which stretches across southwestern Idaho from Glens Ferry west to

Ontario, Ore.

By studying the satellite-generated maps, Beukelman can help reconstruct the plain's geologic history and identify faults that were created in the past 10,000 years and are thus considered to have the potential for further activity.

The studies will provide new information about the potential for earthquakes in southwestern Idaho, an area of interest for NASA. "The Western Snake River Plain is poorly understood due to the fact there's very little geologic information about it," says Beukelman. "We still have a lot to learn."

studying the rock layers in order to document the volcano's eruptive sequences.

Brand's project has the potential for cosmic applications. "The Sinker Butte volcano is very similar to volcanism on Mars, which may have also involved interactions with water," says Brand. "By using remote sensing, it should be possible to correlate the data we've collected here with similar locations on Mars."

The scope of Brand's project only involves characterizing the Sinker Butte site, but she's excited that the research could have much broader applications. "Hydrovolcanoes haven't

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