Lake Tahoe benefits from Antarctic research by UC Davis

UC Davis engineering Professor Alex Forrest with the recovered underwater glider. Photo/UC Davis

By Kat Kerlin, UC Davis News Service

To outer space and the deep ocean, add “beneath the ice” to the list of rarely charted frontiers of science exploration.

There have been very few expeditions where robots dived beneath polar ice shelves to characterize and measure them. UC Davis engineering Professor Alexander Forrest recently returned from one of them.

Their mission? Deploy two robots, or autonomous underwater vehicles (AUV) – one to dive beneath the sea ice to map the bottom of the Nansen ice shelf, from which two Manhattan-sized icebergs broke last year. The other, a glider with wings named Storm Petrel, to patrol the front of the ice shelf for 10 days, looking for evidence of fresh water and capturing change over time.

When not swimming alongside polar ice, the Storm Petrel glider trades the ocean for freshwater. It’s currently settling in to its new home at Lake Tahoe. The UC Davis Tahoe Environmental Research Center plans to deploy it in the lake early this summer. The plan is for the glider to take continuous measurements, provide real-time information to TERC’s network of instrumented buoys, chase storm events, and ultimately help round out the picture of the processes and impacts affecting Lake Tahoe.

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