

# Opinion: Focusing on climate change at Lake Tahoe

By Geoff Schladow

Some of the most important questions we currently face at the UC Davis Tahoe Environmental Research Center relate to the impact of climate change on restoration efforts at Lake Tahoe. Our past studies suggest that climate change will reduce the extent of lake mixing, and in particular the mixing of oxygen, down to deep water. How true this really is remains an open question at Tahoe and lakes world-wide.

Starting in 2013 we will have the opportunity to start answering that question. A custom-designed thermistor and dissolved oxygen "chain" will be installed in 400 feet of water off the west shore of Lake Tahoe. This instrument chain will measure tiny fluctuations in temperature and oxygen over this entire depth, allowing us to understand how the wind and currents interact to produce mixing under continually varying conditions.

The instruments will take measurements every 10 seconds and the measurements will be instantly transferred to shore via a lake-bed cable. By having this real-time data, we will be able to observe the evolution of key mixing events as they happen and have the opportunity to dispatch boats to take a host of supplementary measurements. The data will also be used as the basis of real-time exhibits at TERC's education centers and at other locations such as the Tahoe Maritime Museum.



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How does TERC fund this kind of project? Part of the support for this cutting edge research is from a new initiative by the UC Center for Information Technology Research in the Interest of Society. Part is through philanthropic support that TERC receives from private donors who have a desire to invest in science to save Lake Tahoe. And part is through in-kind support provided by our many partners around the lake. In this case we are particularly grateful to Obexer's Boat Company, which is working with us to originate the lake-bed cable at their marina and providing the power to run the instruments.

All of these groups are essential to making science happen at Lake Tahoe and to keep the restoration efforts firmly based on science.

I want to thank all those who helped us with the many things we were able to accomplish this year. This ranges from our incredibly dedicated staff, our volunteer docents, the many students and interns that work through TERC, our partners in other research institutions and in the numerous Tahoe agencies, those who visit our education centers, and those of you who have helped fund our research and education programs and partnered with us in unique way.

*Geoff Schladow is director of the UC Davis Tahoe Environmental Research Center in Incline Village.*

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**Note:** Geoff Schladow will present the State of the Lake on Dec. 13 at 6pm at the Tahoe Center for Environmental Sciences

building, 291 Country Club Drive, Incline Village.