

# HOT IDEA: BOISE STATE TAKES THE LEAD ON NATIONAL GEOTHERMAL DATA SYSTEM

By Erin Ryan

Trapped within Earth's crust, extreme heat holds the key to an important source of alternative energy — geothermal. Unlike wind and solar, it is an unconditional constant, a base-load source that never goes offline. Existing direct and hydrothermal methods of tapping that renewable source produce no emissions and recycle all byproducts, leaving a carbon footprint so small it is almost immeasurable. Unfortunately, the International Energy Agency recently found that less than 1 percent of the world's energy is supplied by geothermal power.

The crux of the problem is data. Data are the underpinnings of science and engineering, the basis for investment decisions and crucial indicators for land and natural resource management. Plenty of geothermal data exists, but it has yet to be funneled into a system that would provide organized, widespread access.

Boise State geosciences professor Walter Snyder (bottom left) is helping address that need as director of the Geothermal Data Consortium, an innovative partnership of research institutions dedicated to establishing a national data system for geothermal energy. Boise State is the managing body and received a \$4.9 million grant from the U.S. Department of Energy (DOE) to build a National Geothermal Data System (NGDS).

"More than a database, it will be a data system," Snyder says. "It requires an incredibly broad range of data types and has to deliver information in a format that's useful to the public, schools, researchers, industry, financial institutions and state and federal agencies and lawmakers."

The project was proposed in response to the American Recovery and Reinvestment Act passed by Congress in February 2009. Based largely on proposals made by the Obama administration, it created new funding opportunities for diversifying the nation's energy portfolio. A comprehensive geothermal data system is essential to such a diversification, but building one will require considerable creativity, cooperation and work.

That's why Boise State will lead the GDC's team of major partners, including the Energy and Geosciences Institute (University of Utah), Geo-Heat Center (Oregon Institute of Technology), Stanford Geothermal Program (Stanford University), Great Basin Center for Geothermal Energy (University of Nevada, Reno), and Geoscience Information Network (led by the Arizona Geological Survey). The team will use the DOE funding over the next five years to establish a core database and services developed and housed at Boise State and a network that will link partner data sites through secure and strict protocols, facilitate the exchange of data and increase access by all interested parties. At the same time, the Intermountain West Geothermal Consortium, also led by Boise State and including several other GDC members, is working to reduce the risks of identifying geothermal resources, creating new energy jobs and educational pipelines, and improving public outreach.

"Boise State continues to play a leadership role nationally in geothermal energy development research," said Boise State Vice President for Research Mark Rudin, adding that U.S. Rep. Mike Simpson and U.S. Sen. Mike Crapo were instrumental in building awareness and support for the NGDS project on Capitol Hill. "The project recognizes Boise State's prominence in this research area and will impact the development and use of geothermal energy across the country."

"The interest in geothermal is just ratcheting up," Snyder says, "and Boise State is a national leader."

To learn more about the NGDS, visit [www.geothermaldata.org](http://www.geothermaldata.org).



John Kelly