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## USGS scientist to discuss two Sierra Nevada groundwater studies *Public invited to informational meeting May 27 in South Lake Tahoe*

A scientist with the U.S. Geological Survey (USGS) will present information next week on two large-scale studies of groundwater-quality in the Sierra Nevada – one that is just wrapping up, and another that is set to start this summer.

The meeting, conducted by the State Water Resources Control Board and the USGS, is set for 10 a.m. to 12 noon on Tuesday, May 27, at the U.S. Forest Service's Lake Tahoe Basin Management Unit, 35 College Drive (near Al Tahoe Boulevard), in South Lake Tahoe.

Maps, an agenda and other information are available at the State Water Board's Web site at <http://www.waterboards.ca.gov/gama/>.

Miranda Fram, supervisory research chemist for the USGS California Water Science Center, will discuss the nearly-finished Tahoe-Martis Valley study and the new Sierra Nevada-wide study. The studies are part of the State Water Resources Control Board's Groundwater Ambient Monitoring and Assessment (GAMA) Program.

The USGS is the lead for GAMA's Priority Basin Project, which monitors and assesses water quality in groundwater basins and selected hard-rock aquifers that are important sources of public water supply throughout California. With the voluntary cooperation of local water agencies and well owners, USGS is testing water from approximately 2,500 public-supply wells in California over a 7-year period.

The GAMA Priority Basin Project tests for hundreds of chemical constituents typically at concentrations well below regulatory levels. GAMA tests untreated well water and does not evaluate the quality of water delivered to consumers. After withdrawal from the ground, water for public systems is typically treated or mixed to ensure drinking water standards are met before consumers receive it.

Last summer, USGS researchers sampled drinking-water wells in the Martis Basin in Placer and Nevada counties, including the city of Truckee, and in the northern, western and southern portions of the Lake Tahoe Basin in Placer and El Dorado counties. Scientists also sampled water from mountain springs and drinking-water wells in the Tahoe and Martis watersheds outside groundwater basins. Fram will discuss some of the preliminary, unpublished results from that study. A full report on the data is expected to be published later this year.

Fram will also talk about the new Sierra Regional Study, which will survey water-quality throughout the Sierra Nevada, from Kern County in the south to Plumas County in the north. Portions of 23 of the 58 counties in California are within this study unit. Sampling of wells will start on June 23 and be finished by mid-October.

Besides the Tahoe study, the USGS has already conducted two other studies in the central and southern Sierra Nevada. As scientists gathered more data, they saw the need for a more comprehensive study that would look at water quality throughout the mountain range, Fram said.

“We decided it would be worthwhile to put more resources into the Sierra Nevada,” she said.

So far, the Sierra Nevada studies have turned up at least two important findings:

- Unlike in many of the groundwater basins studied in other areas of the state, naturally occurring constituents from the Sierra Nevada’s granitic, metamorphic and volcanic rocks have more of an effect on water quality than man-made chemicals. Natural constituents detected include arsenic and radon. “Naturally- occurring chemicals are much more of an issue in the Sierra Nevada than anthropogenic (human-caused) constituents,” Fram said.
- Many wells in the Sierra Nevada tap “old” groundwater -- water that recharged into the aquifers hundreds to thousands of years ago.

More information on the GAMA program is available at <http://www.waterboards.ca.gov/gama/> and <http://ca.water.usgs.gov/gama/>.

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*The USGS California Water Science Center (<http://ca.water.usgs.gov/>) operates project offices in Sacramento and San Diego where more than 130 scientists bring a broad range of disciplines to modern water-management issues. The center also has nine field offices where scientists and technicians gather hydrologic data on California's surface-water and ground-water resources.*