

CA Aquifer Expands

In what likely will cause aquifer envy across the rest of the parched Southwest, USGS scientists in California have determined that the aquifer under the San Gabriel Valley actually expanded in size in 2005 in response to near-record rainfall resulting in large amounts of recharge, reported the *Pasadena Star News*.

Geophysicists monitoring earthquake fault movements were able to use their instruments to measure surface motion due to groundwater recharge that occurred over a four-month period. The valley floor rose almost two inches in that period, and the margins of the basin expanded by about a half-inch, the scientists found, according to the *Star News* report.

According to the San Gabriel Basin Water Quality Authority, the basin holds nearly 2.8 trillion gallons of fresh water and supplies more than 90 percent of the water used by the valley, said the *Star News*. It contains more than twice as much water as needed to meet the needs of the entire valley, but contamination from rocket fuel, dry cleaning operations, and other industries limits its use.

Visit www.pasadenastarnews.com.

Contaminant Traces Found Throughout LA Groundwater

A survey of Los Angeles-area groundwater conducted by the USGS shows trace levels of contaminants throughout the San Fernando and San Gabriel valleys, reported the *Los Angeles Daily News*. The USGS investigation is part of a statewide survey sponsored by the California State Water Resources Control Board. It is designed to measure contaminants at levels of less than 1 part per billion in order to “characterize water quality long before problems arise,” USGS hydrologist Kenneth Belitz told the newspaper.

Samples from 35 groundwater wells in the area revealed traces of volatile

organic compounds in 33 of them, most commonly tetrachloroethylene (PCE), used in dry cleaning and manufacturing, reported the *Daily News*. Pesticides were detected in 31 wells. The samples were also tested for pharmaceuticals, but results were not yet available. A full report on the sampling results is planned for release by the end of the year.

Information on the USGS Groundwater Ambient Monitoring Assessment program is available at www.waterboards.ca.gov/gama. Also visit www.dailynews.com.

Data: More Water, Greater Basin Connection Along UT/NV Border

Discussing a new draft U.S. Geological Survey report on groundwater resources in Snake Valley along the Nevada-Utah border, Kimball Goddard, director of the USGS Nevada Water Science Center, told a Utah audience that there appears to be much more water than previously thought—130,000 acre-feet instead of less than 30,000 acre-feet, reported the *Salt Lake Tribune*. But the study also found that the connection between the Snake Valley Basin and other basins, particularly the adjacent Spring Valley to the west, appears to be greater as well, according to the newspaper. The final report on the Basin and Range Carbonate Aquifer System Study was scheduled to be released in summer 2007.

The seemingly good news of more water in Snake Valley was more than offset by indications that considerable flow occurs between the two basins, meaning pumping in Spring Valley could significantly impact Snake Valley water levels. The *Tribune* said Goddard also pointed out that the effects of pumping may not be observed for decades—a critical point that is often overlooked.

Utah and Nevada are negotiating a water-sharing agreement in light of the recent approval of Southern Nevada Water Authority’s plans to pump water from Spring Valley and transport it to southern Nevada (see page 12). A

representative of the Utah Department of Natural Resources commented at the meeting that the new USGS information underlines the importance of including the ability to revise the agreement in the future, said the *Tribune*.

Visit www.sltrib.com and www.nvgroundwaterproject.com/html/documents.html.

New River is Very Sick

New River, a small drainage that runs from Mexicali, Baja California (pop. 1.3 million) north through Calexico in California (pop. about 34,000) and eventually to the Salton Sea, is considered to be the most polluted river in the United States. Pollution comes from waste from Mexican manufacturing plants, agricultural runoff, and sewage waste, according to the City of Calexico New River Committee. Contaminants include about 100 biological contaminants, volatile organic compounds, heavy metals, pesticides, and toxins that can cause tuberculosis, encephalitis, polio, cholera, hepatitis, and typhoid.

Eric Reyes, executive director of the nonprofit Institute for Socioeconomic Justice in Calexico, is leading an effort to encase the river, which he sees as the only way to prevent river-related illness from spreading, reported the *Imperial Valley Press*. Reyes surveyed 200 West Calexico households, said the paper, and found that 11 percent of the households had at least one family member diagnosed with cancer, and more than 50 percent had members with chronic illnesses.

Miguel Figueroa, executive director of the New River Committee, told the *Press* that his organization has been conducting its own two-year study on the health effects of the river, the results of which were soon to be released. The New River Committee has been working for decades to address the state of the river but has been frustrated by lack of funding in Mexico, explosive population and industrial growth there, the reluctance of Mexico to accept offers of U.S.-

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backed grants of low-interest loans for wastewater improvements, and lack of support from the California legislature.

The *Press* said the California Environmental Protection Agency plans to “dump massive amounts of chlorine into the river,” but that such an effort would not treat the chemical contaminants.

Visit www.ivpress.com and www.calecticonewriver.com.

Wastewater Sludge to Produce LA Power

A new project in Los Angeles is planned to covert organic sludge byproducts from wastewater treatment into electricity in a

first-of-its-kind operation, reported the *Los Angeles Times*. The sludge will be injected into depleted oil and gas reservoirs more than a mile below the surface, where high temperatures and pressures will create “methane gas that will be captured to power fuel cells on the surface,” according to engineers interviewed by the *Times*.

The process will also sequester carbon dioxide that would normally be released into the air by the decaying organic material, which is now transported by truck and spread on city-owned agricultural fields in Kern County.

According to the *Times*, the project will cost \$3 million to \$4 million to build;

it will take three years to complete, although some elements are expected to become operational next spring; and it will generate 3.5 megawatts of electricity per year (enough for 3,000 homes).

The electricity will supply Port of Los Angeles-related facilities near the Terminal Island Water Reclamation Plant. The amount of energy necessary to inject the sludge into the reservoirs was not reported. The project will consume half of the solid waste now taken to Kern County, saving an estimated \$1.6 million annually in hauling costs.

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