

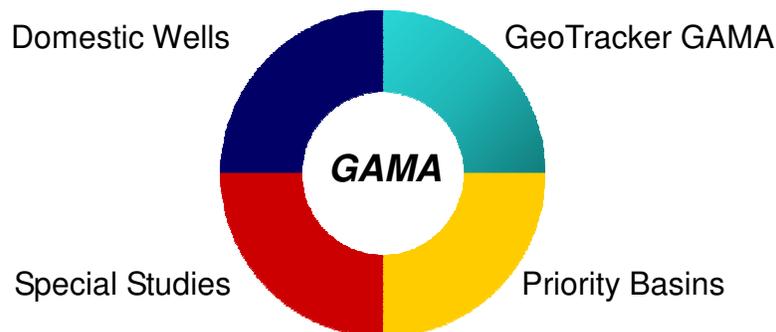
Groundwater Ambient Monitoring and Assessment Program

The Groundwater Ambient Monitoring and Assessment (GAMA) Program is California's comprehensive groundwater quality monitoring program. The main goals of GAMA are to improve statewide groundwater monitoring, and to increase the availability of groundwater quality information to the public.

Background

In 2000 the State Water Resources Control Board (State Water Board) created¹ an ambient monitoring program to understand better California's groundwater quality issues. The GAMA Program was later expanded², resulting in a publicly accepted plan to monitor and assess groundwater quality in basins that account for over 95% of the state's groundwater use. GAMA Program projects have analyzed thousands of water samples for hundreds of chemicals – many of the chemicals at ultra-low detection limits requiring state-of-the-art facilities and methods.

Current GAMA Projects



1. In response to the Supplemental Report of the 1999 Budget Act

2. Assembly Bill 599 - Groundwater Quality Monitoring Act of 2001 (Wat. Code, § 10780-10782.3).



Fact Sheet

Priority Basin Project

Approximately 31 million residents get their drinking water from a public water system that relies on groundwater. The GAMA Priority Basin Project assesses groundwater basins that account for over 95 percent of all groundwater used for public drinking. Monitoring and assessments are on a ten-year cycle, with trend monitoring more frequent. Common contaminants regulated by the California Department of Public Health (CDPH) and unregulated chemicals such as pharmaceuticals, chemicals of emerging concern, isotopes, and age-dating tracers are tested. To date, the U.S. Geological Survey (USGS) has sampled over 2,200 public supply wells and has developed a statistically based assessment of the quality of California's drinking water aquifers. A shallow-aquifer assessment element is to enhance the assessments. The USGS is project technical lead with analytical support from Lawrence Livermore National Laboratory (LLNL).

Domestic Well Project

The Domestic Well Project samples private wells from volunteer well owners on a county-by-county basis. Over 1,100 of the estimated 250,000 to 600,000 private wells in California have been sampled in Yuba, El Dorado, Tehama, Tulare, San Diego, and Monterey counties since 2002. This program has found that most of the well owners have not had their well sampled previously.

Analytical tests include common contaminants such as nitrate, trace metals, volatile organic compounds, pesticides, and radionuclides at no cost to the well owner. The well owners receive

the analytical test results and fact sheets, and the water quality data is placed on GeoTracker GAMA, maintaining the privacy of the well owners.

Special Studies Project

GAMA Special Studies, with LLNL as project lead, focuses on specific groundwater quality studies, using state of the art scientific techniques and methods that help researchers and public policy planners to understand better, how groundwater contamination occurs and behaves. Studies have included sources of nitrate, wastewater mixing, groundwater recharge, trace detection of pharmaceutical compounds and personal care products, using low-level anthropogenic compounds as tracers, and isotopic composition as a contamination source tool. In addition, LLNL has pioneered the use of tritium-helium groundwater age-dating techniques, which are critical in understanding groundwater sources and flow.

GeoTracker GAMA

GeoTracker GAMA groundwater information system integrates and displays water quality data on an on-line interactive, searchable map. Its analytical tools and reporting features help users assess groundwater quality and identify potential groundwater issues. GeoTracker GAMA contains over 125 million data records from different sources such as cleanup sites, well logs, CDPH public supply drinking water quality, water levels from Department of Water Resources, Department of Pesticide Regulation, USGS GAMA Priority Basin Project, GAMA Domestic Well Project, and the LLNL Special Studies Project.

For more information:

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Updated October 26, 2012