



USDA-CSREES 2007 National Water Quality Conference

[A Web-Based Ground Water Quality Information Tool for Colorado](#)

A Ground water monitoring programs are often used to assess the extent of contamination from pesticides and nitrate-nitrogen from agricultural and other sources. Providing this information to the general public is essential to communicate current ground water quality conditions, build awareness of problem areas, and communicate potential health risks from impaired water. This awareness is also necessary to educate pesticide and fertilizer users about the real consequences of improper use and provide motivation to change behavior where water quality problems exist. The Colorado Agricultural Chemicals and Ground water Protection Program (GW Program) has been monitoring ground water since 1992 and has developed ground water sensitivity and vulnerability map products for pesticide and nitrate-nitrogen contamination. The results of this work are reported in fact sheets, annual reports, and verbally to various interest groups. However, until recently this information has not been made available in one centralized location that can be quickly and easily accessed. The overall goal of this project was to enhance the understanding of existing and potential contamination of Colorado ground water by resource managers, policy makers, and the general public. To accomplish this, we built a web-based ground water quality information tool. This web tool interactively queries water quality parameters from a linked database including nitrate-nitrogen, pesticides, and other inorganic constituents. The water quality information is searchable by water quality parameter, pesticide common name, pesticide type, watershed, county, conservation district, well type, region and sample year. The flow of the website provides water quality data from general to specific and allows users to obtain summaries and basic water quality statistics. The backend of the web server is an Access database and is connected to the server using ODBC and Webware for Python. Users of the ground water quality web site are also able to view water quality data and vulnerability and sensitivity maps at various scales using ARC-IMS technology. This tool allows general public users to quickly and easily assess ground water quality data to determine if there are real or potential contamination problems in their area. Government and private planners can determine where to best allocate ground water protection resources and allocate more time and resources to the management and protection of highly vulnerable areas, thereby efficiently utilizing limited ground water protection resources. Outcomes of the project include improved accessibility and knowledge of water quality data; improved use of resources to protect vulnerable ground water; a GIS tool for directing future ground water management efforts a multiple scales; and increased stakeholder awareness and involvement regarding any potential, as well as identified, ground water contamination.

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