CAPITAL AREA GROUND WATER CONSERVATION COMMISSION

Capital Area Ground Water Conservation District

Watching out for A Treasured Earth Resource

Dedicated to the conservation, orderly development and protection of quality of ground water in the Capital Area

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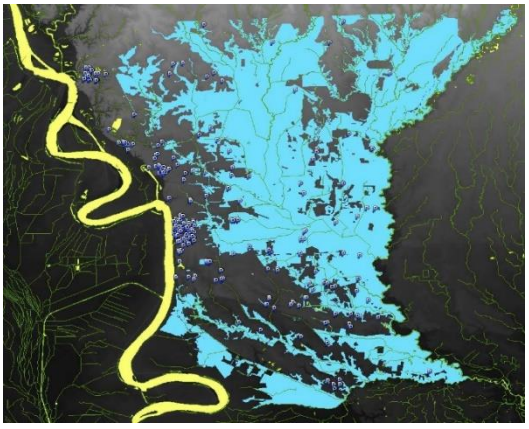
Capital Area Groundwater Resources Largely Unaffected by 1,000 Year Flood



East Baton Rouge Parish Area inundated by August 2016 flood
adapted from Frank T-C Tsai, LSU

The Louisiana Flood of 2016 was triggered by a complicated, slow-moving low-pressure weather system that dumped as much as two feet of rain on parts of East Baton Rouge, Livingston and St. Helena parishes in 48 hours. The record two-day rainfall in those areas had a 0.1 percent chance of occurring in any year, the equivalent of a "1,000-year rain", according to the Lower Mississippi River Forecast Center, based at the Slidell office of the National Weather Service.

Even though several of their pumping stations were flooded, Baton Rouge Water Company was able to keep clean, safe water flowing uninterrupted to the homes and businesses they serve.

Wells throughout the Industrial Sector were mostly unaffected. Industries participated in post-flood recovery operations. ExxonMobil, for example, donated $500,000 to support flood relief -- $400K to American Red Cross and $100K to the Greater Baton Rouge Food Bank. They also participated in a variety of flood- related volunteer projects and collected an employee supply drive for United Way.

Left – O'Neal Lane looking North, August 13, 2016 Right, Same vantage point 24 hours later.
Compliments of Bing.com.

Louisiana Board of Regents Industrial Ties Research Subprogram (ITRS) Project Update

Realizing how valuable an asset groundwater management is to the Capital Area Ground Water District, the Capital Area Ground Water Conservation Commission (CAGWCC) voted at its September 16, 2014 meeting to support a proposal to the Louisiana Board of Regents titled "Conjunctive Management of Baton Rouge Multi-Aquifer System for Saltwater Intrusion Mitigation," providing funding up to $20,000 a year for three years (with assistance from ExxonMobil and Georgia Pacific). The period of funding is from 6/1/2015 to 5/30/2018. CAGWCD was organized in 1975 to manage the underlying Southern Hills aquifer, which was designated a "sole- source aquifer" by the USEPA in 1988. The District was organized as a result of three main concerns about ground water: (1) declining water levels, (2) deterioration of water quality caused by encroaching saltwater and (3) subsidence of the land surface. All three problems are related to ground water pumpage for industrial and public-supply use.

We are now a year into the study. Progress on the project includes:

- Completed a Baton Rouge groundwater model including"400-foot" sand to "2,800-foot" sand
- Presented results to USACE ERDC and 2016 SSCET Conference, August, Mississippi
- A technical manuscript was submitted for publication and is currently under revision
- Completed estimation of historical electricity consumption (1975-2014) for well pumps in the model domain
- Completed estimation of flow rate across the Baton Rouge fault
- Completed estimation of groundwater storage changes w.r.t 1975
- Working on a saltwater intrusion model
- Working on saltwater intrusion mitigation methods using hydraulic controls

Commission votes to Support Additional Board of Regents Project

During the September 2016 meeting of the Capital Area Groundwater Conservation District Board of Commissioners it was decided to lend support to an additional groundwater management project being suggested to the Louisiana Board of Regents. The title of the new proposal is: Development of an Integrated Framework for Managing Sole Source Aquifer, Southeastern Louisiana.

The Project length will be three years (2017-2020). The study area is the Southern Hills regional aquifer system with a focus on Capital Area. The goal of the project is to develop an integrated framework that couples surface water and groundwater systems to address future groundwater sustainability and resilience.

Project objectives include:

- construct aquifer architecture,
- predict surface runoff and groundwater recharge,
- quantify surface water and groundwater interaction,
- predict groundwater level and quantity,
- evaluate aquifer responses under stresses of drought and climate change, and
- evaluate aquifer responses under the current practice and future pumping scenarios

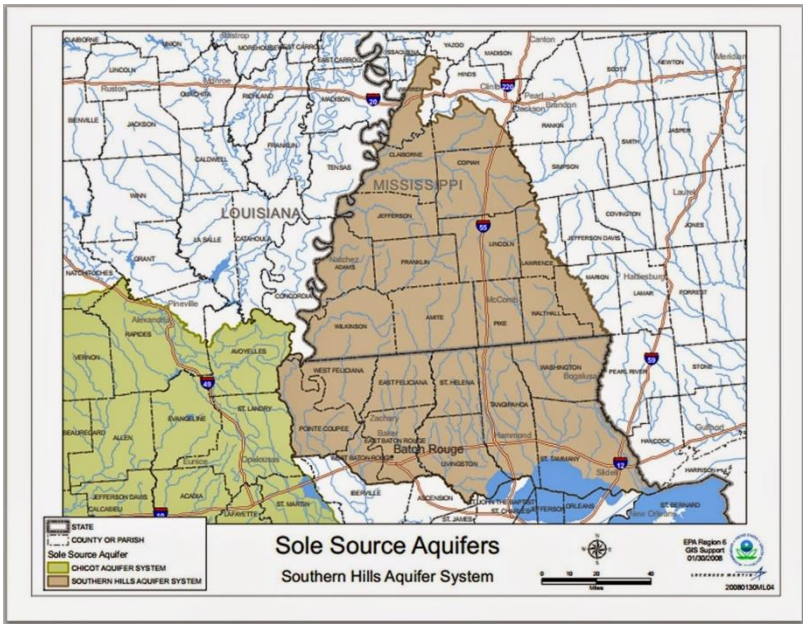
Expected outcomes

- Stratigraphy for the Southern Hills Aquifer
- Groundwater water budget for the Southern Hills Aquifer, including its recharge from and discharge to surface water
- Information of groundwater availability
- Recommend strategies to manage groundwater depletion, saltwater intrusion and land subsidence.

The Commission is currently working with users in the District to secure funding for the Project.

What is a Sole Source Aquifer?

On June 10, 1988, following a request by the Capital Area Groundwater Conservation District, the US Environmental Protection Agency (USEPA) designated the Southern Hills Aquifer System in southeast Louisiana and southwest Mississippi as a "Sole Source Aquifer."



So, what does that mean? USEPA defines a sole source aquifer (SSA) as one where:

- The aquifer supplies at least 50 percent of the drinking water for its service area
- There are no reasonably available alternative drinking water sources should the aquifer become contaminated

The SSA program is authorized by Section 1424(e) of the Safe Drinking Water Act of 1974 (Public Law 93-523, 42 U.S.C. 300 et. seq), which states:

"If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register.

After the publication of any such notice, no commitment for federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health, but a commitment for federal assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer."