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Helping the Hooch with water conservation at our Douglas County data center

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If you're familiar with the work of the Southern poet [Sidney Lanier](#), you'll know he [wrote](#) about the beauty of the Chattahoochee River in Georgia. "The Hooch," as it's known around here, starts up in the northeastern part of the state, runs through Atlanta and down into Alabama before emptying out into the Gulf of Mexico. Those of us who work in Google's Douglas County, Ga. data center have a special fondness for the Chattahoochee because it's an integral part of our ability to run a highly efficient facility.

Google's data centers use half the energy of a typical data center in part because we rely on [free cooling](#) rather than energy hungry mechanical chillers. In Douglas County, like at most of our facilities, we use evaporative cooling, which brings cold water into the data center to cool the servers, then releases it as water vapor through cooling towers.

A typical data center can use hundreds of thousands of gallons of water a day. When we first built the Georgia facility in 2007, the water we used came from

the local potable (drinking) water supply. But we soon realized that the water we used didn't need to be clean enough to drink. So we talked to the Douglasville-Douglas County Water and Sewer Authority (known locally as the WSA) about setting up a system that uses reuse water—also known as grey- or recycled water—in our cooling infrastructure. With this system in place, we're able to use recycled water for 100 percent of our cooling needs.

This video of the system includes never-before-seen footage of our Douglas County facility:

Smart water use in Google's Douglas County data center



Here's how it works: The WSA has a water treatment facility in Douglasville, Ga. that cleans wastewater from the local communities and releases it back into the Chattahoochee. We worked with the WSA to build a side-stream plant about five miles west of our data center that diverts up to 30 percent of the water that would have gone back into the river; instead we send it through the plant for treatment and then on to the data center. Any water that doesn't evaporate during the cooling process then goes to an Effluent Treatment Plant located on-site. There, we treat the water once again to disinfect it, remove mineral solids

and send it back out to the Chattahoochee—clean, clear and safe.



The Chattahoochee provides drinking water, public greenspace and recreational activities for millions of people. In fact, just two weeks ago it was the first river to be designated a National Water Trail in a new system [announced](#) by the Secretary of the Interior Ken Salazar—a system that encourages community stewardship of local waterways. We're glad to do our part in creating an environmentally sustainable economy along the shores of the Hooch.

Posted by Jim Brown, Data Center Facilities Manager



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