

REMARKS BY GEORGIA TECH PRESIDENT G. WAYNE CLOUGH
1st Annual Mega-City Water Forum Opening Luncheon, May 1, 2006

It is a great pleasure to welcome you to Georgia Tech's Global Learning and Conference Center for the first annual Mega-City Water Forum.

Over the past several years I had the privilege of chairing an initiative of the National Academy of Engineering called The Engineer of 2020. We began by gathering a large group of the nation's leading engineers, technology experts, and thinkers to imagine what the future might look like. And as part of the discussion, we voted on 100 critical issues our nation and our world might face in the coming decades. The problem receiving the most votes as the most pressing was the availability of fresh water.

In 2003, the United Nations issued a 600-page water development report, which projected that within the next 20 years, virtually every nation in the world will face some type of water problem. Of the world's 6 billion people, one billion already have little access to clean water, and two billion live in conditions of water scarcity.

Those numbers will increase as the world population grows to 8 billion by 2025. Within the next quarter century, between one-half and two-thirds of humanity will live with severe fresh water shortages.

Water consumption around the world has been doubling every 20 years – increasing twice as fast as the rate of population growth – and the world's growing urbanization has magnified the problem. Not only do cities require large amounts of water in a concentrated area, but urbanization also creates a permanent loss of water. Surface water disappears, as wetlands, ponds, and lakes are filled in to make way for buildings, streets, and parking decks. And, instead of being absorbed into the ground to replenish aquifers, rainwater flows off of impervious surfaces like roofs and pavements into storm sewers that carry it away. As a result, the underground water table drops.

There is clearly a pressing need for all of us to be more deliberate and collaborative in our use of this precious natural resource, and Georgia Tech is pleased to be a participant in encouraging and engaging that discussion. Just last Monday, the Georgia Water Resources Institute, which is based here at Georgia Tech, hosted a forum on planning for the future use of our state's water resources. And we are pleased to have all of you here today to focus on strategies for water resource management in large urban areas.

The Georgia Water Resources Institute was created when Congress passed a law requiring a water institute like this in each state, and Georgia Tech was the obvious home for it. The GWRI is an integral part of our School of Civil and Environmental Engineering, which conducts wide-ranging water-related research and offers master's and Ph.D. degree programs specifically in environmental fluid mechanics and water resources.

Water is also a very important consideration in the management of our own campus. We have created many green spaces where rainwater can be absorbed into the ground. And our newest campus buildings are designed to capture the rainwater that falls on their roofs. Across the northern end of our campus, we are planning an area of natural vegetation, streams, and wetlands that we call the Eco-Commons. The Eco-Commons will restore several natural waterways, and in the process engineer them into a system to collect and manage rainwater run-off for irrigating our campus. Our goal is to reduce both the water that we draw from the city water system and the waste we send to the city sewers.

Our School of Public Policy is also engaged in the discussion of managing water resources, providing policy expertise for the ongoing water negotiations among Georgia, Alabama, and Florida over shared rivers and watersheds, and consulting on water-related issues here in Metro Atlanta.

Atlanta is located in the Piedmont region of Georgia – a plateau that stretches across the state between the Appalachian Mountains to the north and the coastal plain to the south. The Piedmont contains about two-thirds of the state's population, and it is the fastest growing part of the state. But its underlying rock geology does not accommodate underground aquifers. Its rivers rise either within the region itself or just to the north of it, so that both the rivers and the basins they drain tend to be small. As a result, it lacks abundant water resources, and its rapid population growth is a strain.

What's more, Metro Atlanta includes parts of five different river basins, and the local water systems that serve the region often straddle more than one river basin. We have multiple instances of water being drawn out of one river basin and discharged into a different river basin, and this is growing trickier as supplies become tighter. So in many respects, metro Atlanta is a poster child for the need to develop an integrated approach to water resource management, which is the theme of this forum.

Atlanta's water and sewer system has also suffered from decades of neglect, and within the past decade it reached an untenable situation. Ancient pipes were too small for the volume of sewage they were expected to carry. Cracks allowed sewage to seep out while improper connections allowed storm water in, further overloading the system. Every major rainfall overwhelmed the inadequate sewage treatment facilities, sending untreated sewage into the Chattahoochee River.

These problems were brought into focus by a lawsuit over the pollution of the Chattahoochee River. It was filed by an unusual coalition of federal and state enforcement agencies with an environmental group, which was indicative of the extreme degree to which Atlanta was failing to meet its obligations. The result was a series of consent decrees in the late 90s, outlining improvements the city had to make and setting deadlines for making them.

By the time Shirley Franklin took the oath of office as mayor of Atlanta in January of 2002, neglected sewers were costing the city \$20,000 a day in fines, and court deadlines were looming. So she asked me for help, and we put together an independent panel of national experts, which I chaired, to evaluate the options and recommend a course of action.

During that time, I came to appreciate both the difficulty of Shirley Franklin's job and her skill in doing it. Numerous solutions to the sewer problems were being touted – some realistic, others fanciful. She not only had to choose the most feasible solution quickly to meet court deadlines, but she also had to work with city, state, and federal governments to find the \$3 billion it would take to fix the problem.

She was a straight shooter throughout the process. She did not side-step any issues, but spoke openly and sought our honest technical advice. And in the process, she took what began as a court-ordered sewer project and broadened it into a comprehensive, long-term water plan that will turn the city into a leader. Today, a \$4 billion Clean Water Atlanta program is well underway that will not only modernize the sewer system, but also rebuild drinking water infrastructure.

Please join me in welcoming Atlanta Mayor Shirley Franklin...