SHADE

EMBRACING A NEW VISION FOR THE FUTURE

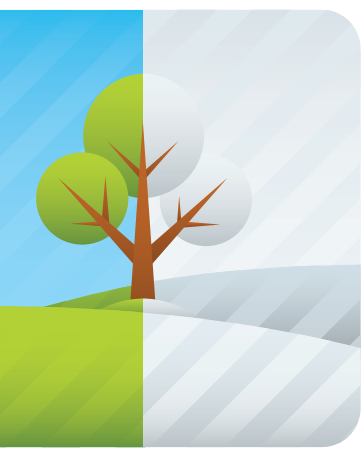
NEEDED NOW
Regional-Scale Conservation

HOW TREES IMPACT
Climate Change

URBAN and COMMUNITY FORESTRY
The Nature/ Human Connection

SHADE

EMBRACING A NEW VISION FOR THE FUTURE



On the Cover: Life is good for children when communities combine the best of urban living with the benefits of nature. Playing near the banks of Augusta's Savannah River are Jordan Carr, Kelly Shay, Ben Adkins and Will Adkins.

Georgia Urban Forest Council (GUFC)

MISSION

To sustain Georgia's green legacy by helping communities grow healthy trees.

VISION

To be a broad-based leadership resource in promoting the importance of trees throughout Georgia by leveraging user-friendly technology, influencing the policy-making process and providing cutting-edge programming.

ACKNOWLEDGMENTS

US Forest Service
Georgia Forestry Commission
Georgia Urban Forest Council

CONTACT INFO

GUFC
Mary Lynne Beckley
Executive Director
315 W. Ponce de Leon Avenue, Suite 554
Decatur, GA 30030
1-800-994-4832
www.gufc.org

Georgia Forestry Commission
Susan Reisch
Urban & Community Forestry Coordinator
P.O. Box 819
Macon, GA 31202-0819
1-800-GA-TREES
www.gatrees.org

DESIGN & PRODUCTION

JAM Communications, Inc.
770 Weatherly Lane
Atlanta, GA 30328
404-406-7134

DISCLAIMER STATEMENT

Funds for this project were provided by the Urban & Community Forestry Financial Assistance Program administered by the Georgia Forestry Commission.

AROUND THE STATE

Coastal Bryan Tree Foundation Plants Trees in Park

Arborist Jerry Holcomb gives instructions to high school volunteers.

Bryan County's new county park is showing off its new trees. In March 2008, the Coastal Bryan Tree Foundation (CBTF) planted 41 trees in the park — and then planted additional trees in the Fall for a total of 100. According to Wendy Bolton of the CBTF, "This is the first time we've 'branched out' to the county, and we're excited to be working with them. In fact, we've now been approached about planting trees in the north end of the county. CBTF is quite honored that the county government values our organization by expressing an interest in partnering to make all of our county a better place by planting trees."

Creating Tree Canopies and Conserving Water in Columbus

Trees Columbus is working in partnership with Jackson Burgin, Inc. to plant canopy trees in the parking lot of an in-town commercial site and establish a storm water and air-conditioning condensate collection and pumping system for irrigating the trees. Trees Columbus received a GUFC Tree Legacy Grant to help fund this innovative pilot project. *Pictured above:* Trees Columbus Assistant Director Ashley Smith and Executive Director Dorothy McDaniel during a nursery visit to choose trees for planting.

Over 100 Volunteers Plant Trees

The Savannah Tree Foundation held a community volunteer tree planting in November 2008 at the Pooler Recreation Complex in Pooler. Over 100 volunteers showed up to plant 200 trees in just under two hours, despite incredibly difficult and labor-intensive conditions including muddy, water-filled holes. It was STF's biggest tree planting event to date.

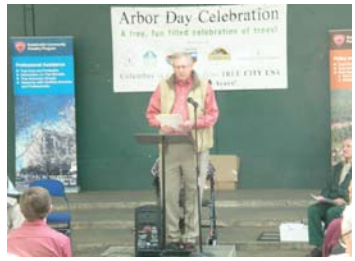
Senator Hooks Receives Grand Award

In October 2008, the Georgia Urban Forest Council awarded Georgia State Senator George Hooks with the 2008 Grand Award for Outstanding Elected Official.

Senator George Hooks of Americus received the 2008 Outstanding Elected Official Grand Award for his work in "re-greening" Americus.

Senator Hooks and his family reach back five generations in Americus. Observing tree loss in his community, the senator became a hands-on tree steward and personally inventoried and mapped all the Americus cemetery trees. Identifying planting opportunities, he spearheaded the planting of 424 trees in 2003 and 2004. A new canopy was emerging when, in March 2007, a powerful tornado slammed into Americus. Senator Hooks began to work with the city and GEMA to remove the storm-damaged trees. Next, he formed a Re-Greening Committee to guide replanting of Oak Grove Cemetery and Americus city parks Reese Park and Joyce Myers Park. This project received a GUFC Tree Legacy grant to assist in funding. His work to nurture Americus' urban forest is truly a legacy that will benefit generations to come.

Columbus Hosts Arbor Day Celebration



Columbus Mayor Jim Wetherington speaks at the state Arbor Day event.

With the theme "Connect and Collaborate! Working Together for a Healthy Urban Forest," Georgia's official Arbor Day state event was held in February 2008 in Columbus. The gathering commemorated Georgia's 117th Arbor Day and Columbus' 30th Anniversary as Tree City USA. The City of Columbus hosted the ceremony in beautiful, tree-filled Lakebottom Park. Arbor Day recognizes the importance of trees to our quality of life, our environment and our state. Columbus, with its diverse, committed and historic partnerships and well-cared-for trees, made this the perfect place to celebrate.

Attendees from Georgia and around the nation gathered in Augusta for the 18th Annual GUFC Conference and Awards Luncheon, held Oct. 29-31, 2008. The theme, "Clean Water, Clean Air — Community Trees and a Healthy Ecosystem," offered exciting opportunities for discussion and exploration.

AT THE Conference

1. Scott Jones, arborist for Columbus Consolidated Government; and Dorothy McDaniel, executive director of Trees Columbus; **2.** Paul Buchanan, Dalton Tree Board; **3.** Wesley Langdale, chairman, Georgia Forestry Commission Board of Directors; Cliff Knight, recipient of the 2008 Outstanding Student Grand Award; Kris Thomas, 2008 GUFC president; and Robert Farris, director, Georgia Forestry Commission.

The United States encompasses 13 of the 15 global ecoregions, making it the most ecologically diverse country in the world.

4. A conference general session at the Augusta Marriott; **5.** Eric King, chairman, GUFC Awards Committee; **6.** Christine Rodick, coordinator, Initiative for Watershed Excellence, River Basin Center, School of Ecology, The University of Georgia; **7.** Susan Reisch, urban forestry coordinator, Georgia Forestry Commission; Scott Souder, forester with Georgia Power; and Marcia Bansley, executive director of Trees Atlanta; **8.** Ed Macie, urban forest specialist, US Forest Service; Dudley Hartel, center manager, Urban Forestry South, Athens; and Marcia Bansley; **9.** Gary White, community forester, Georgia Forestry Commission; **10.** Tom Blalock, Harlem Tree Board; and Diane Houston, Savannah Tree Foundation; **11.** Wesley Langdale; Gail Lutowski, director, Mary Kahrs Warnell Forest Education Center and recipient of the 2008 Outstanding Education Grand Award; Kris Thomas and Robert Farris; **12.** Dr. Robert O. Teskey, University of Georgia's Warnell School of Forestry and Natural Resources; and Jerry Walker, Griffin Tree Board; **13.** Dan Whitehead of Moon's Tree Farm with an attendee in the exhibit hall.

A Framework for RECONCILIATIO

In Genesis, Man was instructed to "fill the earth and subdue it; have dominion over the fish of the sea, over the birds of the air, and over every living thing that moves on the earth."

No one can fault Man for not following instructions.

In fact, Man has done such a good job subduing the earth, he's on a course toward destroying it: Human development is warming the climate. Sprawling cities and connecting interstates and rail have fragmented natural areas into disconnected pockets. Humans' insatiable desire to consume has stripped the earth of forests, natural resources and wildlife. "With less and less wild and undeveloped space for natural processes to continue, the environment is losing its resilience," writes Michael Gallis, an urban strategist and owner of Michael Gallis & Associates, in *American Forests* (August 2006).

Thankfully, mankind is not completely clueless. As residents on this globe, we understand that if we destroy the natural environment, the civilization that relies upon it will die alongside it, a la Easter Island. However, attempts to repair the damage have been piecemeal. Save the rainforest. Protect the manatee. Clean up our rivers and streams. The result is a disparate, unconnected array of efforts, none of which comes close to getting to the root of the problem.

Clearly, we need to try a bold, new path — one that reconciles human development with the environment. American Forests, the nation's oldest citizen's conservation organization, is proposing a new framework that does just that. "It doesn't have all the answers, but it puts everything in a new conceptual framework, so we can start getting our arms around the issues," says Gary Moll, vice president of the Urban Ecosystems Center at American Forests.

This new framework reflects a broader way of thinking. It calls for recognizing the environment for what it is — a system. A living system, continuous and interactive, that needs to be maintained and managed like any other system — transportation system, urban system, economic system. "This is a very different concept from saving the environment by saving the pieces," says Moll. "We think that approach is very wrong. Unless we try to solve environmental challenges within the context of a system, we'll address only part of the problem."

To begin to understand this proposed framework, we must understand its components — the natural system and the human network — as well as considering how they interact.

The natural system and the human network

The **ENVIRONMENT** is a seamless, interactive system that wraps the earth, according to Moll and Gallis.

It is continuous. The air that blows through your city is part of a global pattern of moving air currents.

It is interactive. Water flowing down a river picks up silt and deposits it in the delta. The fertile soil gives rise to plants, which attract wildlife.

It is everywhere. It's not just in the park or the national forests. It's the air that you breathe, the water you drink and the ground on which you stand.

It is living. Nature grows, sustains itself and renews itself.

The **HUMAN NETWORK** is the system of communication, transportation and trade that people have built to

ARTWORK BY MICHAEL GALLIS & ASSOCIATES

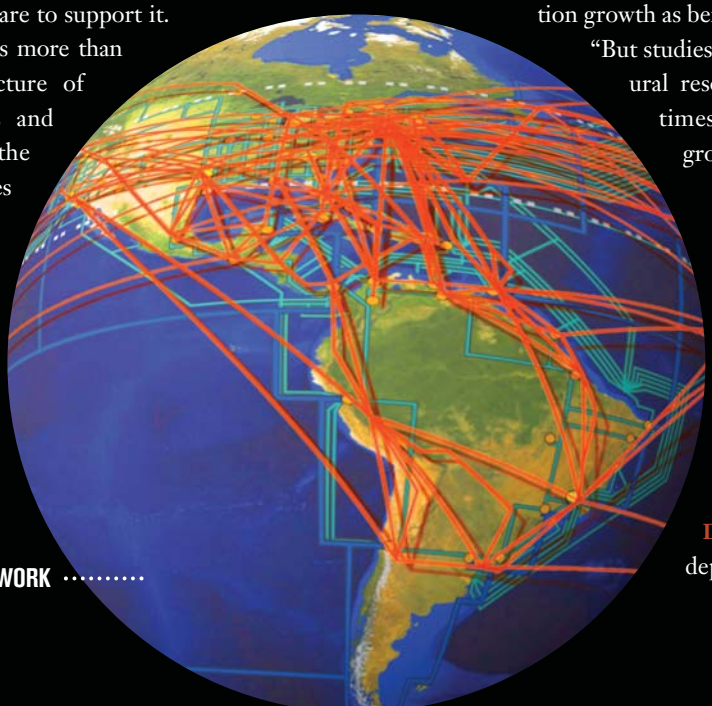
THE NATURAL SYSTEM

N

fuel our lifestyle. It is global, wholly man-made and the foundation of civilization. Every U.S. metropolitan area uses this global network to conduct business and support a local economy. Each community builds a local framework of business and physical infrastructure of buildings, transportation systems, education and health care to support it.

But the network is more than its physical infrastructure of roads, shipping lanes and airlines. It includes the vast stream of resources and products that travel through these avenues to be consumed in ever-growing cities.

This human network is the "Johnny-come-lately,"



THE HUMAN NETWORK

beginning a mere 200 million years ago, while the natural system has been around for some 4.5 billion years. "If the earth's existence was a time clock of 24 hours, then people come onto the scene about one second before midnight," says Moll. "But in that tiny bit of time, we have inflicted dramatic and abrupt changes on the natural system."

The two systems collide

At the base of every environmental issue — whether it's tree canopy, water pollution, biodiversity or invasive species — lies a fundamental competition and collision between the two systems, between the natural network and the human network, according to Gallis and Moll. In the early days of the human network, this competition was not apparent. Resources appeared vast and, indeed, limitless. Today, the pendulum has swung to the other extreme — people's desire for things to consume has outstripped nature's ability to supply it. "We all think of population growth as being the problem," says Moll. "But studies have shown that use of natural resources is going up at four times the rate of population growth."

When nature and humans collide, it is nature that "takes it on the chin," and the impact lands in these five categories:

FRAGMENTATION The network fractures nature, carving it up into unconnected pockets of space.

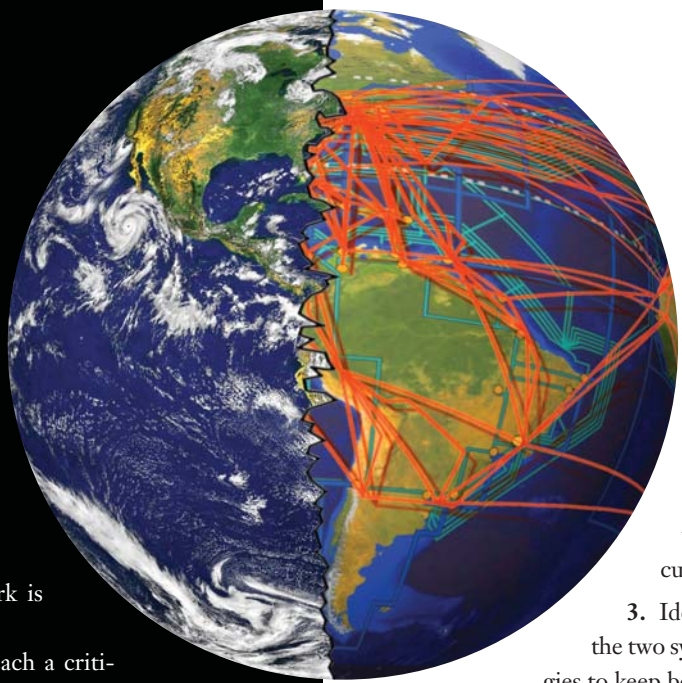
DEPLETION The network depletes nature, stripping it of

both renewable and non-renewable resources.

POLLUTION The network pollutes nature, fouling the land, water and air with man-made chemicals.

EROSION The network erodes nature, transforming natural landscapes into urban and suburban uses.

EXTINCTION The network is making nature extinct.



When these impacts reach a critical point, nature shuts down. "In various places and islands around the world, we've seen civilizations use up all their resources, and that's the end for them," says Moll. "That has happened in individual places, but it has never happened worldwide. If we don't make changes, however, that's where we're heading."

Where do we go from here?

Since humans control only one of the systems on the planet — the human network — and since that is the network that's destroying the natural system, it's clear the human network has to change. It will continue to grow, but Man must adopt a new way of thinking about it, so we can rebuild the natural system as we build the network.

"What has happened so far is that the human system has been evolving and the natural system has been devolving," says Moll. "We have to find a way for the two systems to co-evolve. We have to manage the human network so that the performance achieved is higher in its efficiencies and lower in its impact."

Local leaders and agency planners can make a start. Here are steps they need to take:

1. Break loose of the artificial political boundaries or think outside the box. Embrace a new framework:

- Visualize your community as a region, not a political place.
- Recognize your region is part of a global network.

GIS (Geographic Information Systems) is a critical tool for defining the region, which needs to include major natural areas, such as watersheds.

2. Identify the systems that make up that region. ***Natural system data*** will identify land, water and air systems, while ***human network data*** will identify transportation, education, medical, cultural and governance.

3. Identify the interaction of the two systems and develop strategies to keep both systems whole.

4. Engage a regional decision-making body. Present data about the two systems, discuss the problem and determine a strategy for moving forward.

Urban forest councils, local conservation groups and national organizations such as American Forests can only get the ball rolling. For true success, the business leaders and institutions will have to be part of the solution. The federal government can, and should, help put these systems back together again, so that we can rebuild the nation. This successfully occurred in 1905, when Teddy Roosevelt formalized the federal government's involvement in the conservation movement.

Gary Moll

Michael Gallis

"All of our environmental departments started about 100 years ago when the issues were totally different," says Moll. "We had abundant resources and very little capital. Now we have a tremendous amount of capital and almost no resources, so we need to think about these things very differently. We've got to get the two sides together by working with other groups — business people as well as the environmentally concerned. We need to learn new tactics and build strategic partnerships. It worked a century ago. It can work today."

FOCUS ON THE
Piedmont Crescent

If we're going to start thinking about development and environmental issues within the context of two systems — the natural system and the human network — we need the tools to be able to see those systems and analyze their impacts upon each other.

Enter a team of experts who have developed a cutting-edge conceptual model and a visual language. This new approach makes it possible to analyze the interaction of the two systems in a way that accurately reflects their complex reality, yet is simple enough to provide a foundation for crafting effective policy.

The team was composed of American Forests staff; Michael Flaxman, assistant professor of Urban Technologies and Information Systems at Massachusetts Institute of Technology; and Michael Gallis & Associates.

To further develop and test their new framework, the group focused its first effort on the Piedmont Crescent region. Stretching from Birmingham, Alabama, up into southern Virginia, the Piedmont region lies between the Appalachian mountains and the coastal plains. The team chose this region because of its unparalleled biodiversity and its accelerating urban growth.

"The southern Appalachians were never glaciated, so this region contains a large number of species that exists nowhere else," says Gary Moll, vice president of the Urban Ecosystems Center at American Forests. "For example, the Great Smoky Mountains National Park, which is just over 80 square miles, has more tree species than in all of northern Europe — more than 10,000 species."

Humans began to alter this natural landscape as they settled this fertile land. As towns grew into cities — Atlanta, Charlotte and Richmond — and farms gave way to suburbs, the rate of change accelerated.

To assess the interaction between the natural system and the human system, the team compiled GIS (Geographic Information Systems) maps of everything people have done to the land — rail systems, utility rights of way, geopolitical boundaries, urban land uses, utility systems and more. They also compiled maps of the natural systems — watersheds, rivers and forests.

"I had more than 150 maps on my wall," says Moll. "We combined these to make a tremendous series of overlays that could show us how the two systems fit together."

To understand how the region fits into larger systems, the team also constructed maps on the global scale and the American scale. And they further zeroed in on a small part of the Piedmont Crescent — the Catawba River watershed — to help them understand the complexity of the interaction of the two systems.

The composite maps produced some shocking information. "We are in this a lot deeper than we ever thought we were," says Moll. "We had no idea forest fragmentation is as extensive as it is. We have lost our natural corridors. Systems have begun to break down, and we are losing the functionality of the natural system much more thoroughly than we thought.

"Once we saw this, we realized the problem is much bigger than what the Forest Service or state forestry agencies can address," continues Moll. "This is going to require a dialogue between planning commissions and federal agencies, such as the departments of commerce and transportation. We can't fix this alone."

Going for the BIG PICTURE

From an airplane, look down and you'll see swaths of forests, winding rivers, concrete enclaves of cities, a spiderweb of roads. What you won't see are the lines dividing all these things into the distinct political boundaries of states, counties and towns.

Yet, resources are managed within these separate islands of political domain. "We have always thought and operated in political space, dividing all these natural systems by artificial lines," says Gary Moll, vice president of the Urban Ecosystems Center at American Forests.

The results have been piecemeal, localized conservation efforts that tend to produce unconnected pockets of natural areas. This fragmentation and disjointed management of natural areas has degraded the environment's ability to perform its basic functions — filtering the water, cooling temperatures, purifying the air — in short, making the world habitable for us humans.

Consider the Atlanta area. "Using trees, grass and natural areas for nonstructural storm water treatment, it's amazing how much money a city can save," says Moll. "Conversely, the 10-county Atlanta area has lost about two-thirds of its overall tree cover, which has required the city to invest $2 billion in storm water facilities."

More and more conservationists — and perhaps a few politicians — are recognizing the need for a much broader landscape-scale approach to environmental efforts. With landscape-scale, or regional-scale, conservation, the lens is dialed back to look at the individual space or species or project within the context of the bigger picture. Instead of working to preserve a particular park, it focuses on preserving the connections among ecosystems to maintain important environmental infrastructure, such as wildlife corridors for animal movement and intact watersheds for the natural flow and storage of water.

"It's like focusing on canopy cover as opposed to a neighborhood tree planting program," says Ed Macie, an urban forest specialist with the US Forest Service. "The latter is a very tangible and positive thing, and it connects with folks on a community level. But when you focus on tree canopy, you get into the benefits of the cooling effects, air quality and storm water runoff. Community responses tend to produce localized results. The responses that are made in the context of larger issues across the landscape have a greater relevance in the long term."

The need for embracing landscape-scale conservation is even

Brad Calvert (left), principal planner, Atlanta Regional Commission, and Ed Macie, urban forest specialist, US Forest Service, discussed regional-scale conservation at the recent GUFC Conference.

greater in the context of the current political and economic climate. With economic bail-out programs siphoning off what discretionary funds are available, conservation groups are going to have to fight hard to convince federal and state officials to fund their programs. "The only way we can really compete is to be able to say that our national resource programs serve the national interest," says Macie. "We have to be able to explain how the welfare of the country would suffer if urban forests didn't exist."

Conservationists can bolster their arguments by pointing to some success stories. In the West, a coalition of non-governmental organizations is working to establish a network of wildlife corridors connecting the large wildlife parks and reserves that already exist. The Yellowstone to Yukon Conservation Initiative (Y2Y) is an animal highway stretching nearly 2,000 miles.

Closer to home, Orlando leaders are looking beyond Disney and discovering the value of the area's natural richness. As the only area in the United States where tropical ecologies overlap temperate ones, the Orlando area hosts incredible biodiversity. "Orlando leaders worked [with experts] to develop a regional approach," says Moll. "They have eight counties signed on, and they now are thinking of things in context of the entire region. As a result, they are keeping their natural areas intact and building their communities so they are high-efficiency and low-impact." (For more information, visit www.myregion.org.)

Georgia can point to its own success story. The Trust for Public Land's Chattahoochee River Land Protection Campaign began in 1997 with a goal of preserving a green corridor along the river. To date, the campaign has successfully protected 150 miles along the river by working with 9 cities, 11 counties, 12 conservation groups and 4 regional, state and federal agencies, according to Brad Calvert, principal planner with the Atlanta Regional Commission. The ultimate goal is to create a near-continuous 200-mile green corridor along the river from the headwaters in the north Georgia mountains in Helen, to Columbus, Georgia in the south. Building on such a success, the Atlanta Regional Commission has teamed with the Georgia Conservancy and the Trust for Public Land to create a regional greenspace strategy. "We are one of the fastest-growing areas of the country, so the pressures on conservation are considerable," says Calvert. "It became clear we needed a coordinated regional effort."

During the last several years, the ARC has worked with local governments and other organizations that own or manage greenspace to identify priority areas for conservation — whether it be for water quality reasons or wildlife habitat — in a 20-county area. They have created a comprehensive database of public and priority greenspace that is accessible to the public online at www.atlantaregional.com/greenspace.

Next year, thanks to a state mandate, every region in Georgia will be following suit, identifying priority conservation areas, developing a coordinated strategy to protect them and to link them with other protected areas. "The rules are written to stress developing partnerships between local governments, conservation groups, land trusts, state agencies and federal agencies," says Calvert. "These sorts of partnerships are crucial to landscape-scale conservation efforts, so our mantra for the coming years will be 'partnership, partnership, partnership.'"

A Forerunner to Landscape-Scale Conservation

The landscape-scale approach to environmental issues is not new in the U.S. After all, it was back in 1921 when forester and conservationist Benton Mackaye proposed the idea of a thousand-mile footpath in an article titled "An Appalachian Trail: A Project in Regional Planning." Mackaye believed the pace of urban and industrial life on the East Coast was harmful, so he envisioned a network of planned wilderness communities in the mountains where people could retreat to renew themselves. These communities would all be linked by a trail that ran from the highest point in New England to the highest point in the South. The wilderness communities never caught on, but the idea of a trail through the Appalachian wilderness did, and today thousands of people enjoy the beauty of the Appalachian Trail.

Trees Play a Role in CLIMATE CHANGE

Robert Teskey isn't interested in debating the validity of global warming. "The earth is warming. There's no doubt about it. Period," says the professor of forest biology at the Warnell School of Forestry and Natural Resources at the University of Georgia.

What he is interested in is how climate change will influence tree growth in urban areas and whether or not urban trees can help mitigate climate change. Here's a look at his predictions.

Global warming will impact urban trees not only through higher temperatures, but also through increased levels of carbon dioxide (CO_2) and ozone and through increased intensity of storms. The effect of some of these factors can be reduced by choosing the right tree, Teskey points out.

In general, rising temperatures stress trees. So if you plant a tree in the more southerly end of its range, climate change could stress it quite a bit. But if you choose a tree nearer the northern end of its range, rising temperatures could increase its growth.

Rising CO_2 levels are good news for urban trees all around — carbon dioxide makes trees grow more quickly. Rising ozone levels, on the other hand, damage trees. However, species vary in their sensitivity to ozone. Ozone-sensitive species include red maples, ashes, pines, sycamores and yellow poplars. Species that are relatively insensitive to ozone include holly, hemlock, many oaks, some pines and sugar maples.

The factor that will have the greatest impact on urban trees is an increase in storm intensity, Teskey says. "Increased water and air temperatures will increase the intensity of storms everywhere," he explains. "We won't necessarily have more storms, but the ones we do have will be more destructive. That means we can expect more tree blow-downs and associated destruction. Urban tree management efforts will need to increase to keep the urban environment safe."

The flip side of the equation is how trees can — or cannot — impact global warming by sequestering carbon dioxide, absorbing ozone and providing shade to cool temperatures. Teskey focuses on carbon dioxide first, since rising levels of CO_2 emissions are perhaps the biggest contributor to global warming and since trees absorb and store it. Trees in the Atlanta area, for example, collectively store about 118,000 tons of CO_2 per year. That sounds like great news, until you consider that there are 317,000 cars in Atlanta, each emitting about seven tons of CO_2 each year — which means trees absorb only about 5% of the CO_2 emitted by cars in Atlanta.

> Trees can play an important role in urban areas by reducing temperatures and mitigating the urban heat island effect.

"We just don't have enough plants on the earth to cope with how many emissions we are putting in by burning fossil fuels," says Teskey.

Ozone is another matter. Trees can either help lower ozone levels or make them worse. As with carbon dioxide, trees absorb ozone from the atmosphere. However, there is more ozone than trees can deal with. In Atlanta, which has a 33% tree cover, the amount of ozone directly taken out of the atmosphere by trees is actually less than 1%. The same is true with nitrogen oxide and particulates.

However, trees can play an important role in urban areas by reducing temperatures and mitigating the urban heat island effect. Lower temperatures equal lower levels of ozone, and vice versa. In the Atlanta area, for example, studies have estimated a 20% loss in tree cover will lead to a 14% increase in ozone concentration.

Trees can also play the villain in the ozone drama. That's because trees emit volatile organic compounds (VOCs), which combine with nitrogen oxide emitted by cars to create ozone. In the Atlanta area, trees are responsible for 50% of all VOCs in the area. But, as with ozone sensitivity, species differ in the amount of VOCs they emit. High VOC emitters include sweet gums, willow oaks, pines, poplars, beech and sycamore — all trees found in abundance in Georgia. Trees that emit few VOCs include ashes, box elder, ginko, maples, elms and red buds.

"So the key to effective ozone cleanup is to have trees for the cooling effect benefits, but to pick species that emit the least amount of VOCs," says Teskey. "Overall, trees can play a role in mitigating climate change — primarily by reducing temperatures — but it's important to pick the right trees."

Planned Community EMBRACES NATURE

Just across the Savannah River from downtown Augusta, a new urbanist community is springing up in North Augusta, S.C. At completion, Hammond's Ferry will be a planned community populated with homes, retail space and offices — with a strong focus on fostering pedestrian traffic over the vehicular variety.

The development is currently in phase one, with 60 homes occupied and one restaurant (a bread café) and one business (a spa) in operation. Ultimately the development will boast more than 700 homes and up to 40,000 square feet of retail and 30,000 square feet of professional space.

Hammond's Ferry is being created by a public-private partnership between the city of North Augusta and Leyland Alliance, a New York-based development company. It will be a so-called "traditional neighborhood development," harkening back to communities of years gone by, with sidewalks, front porches, a wide diversity in types of housing and a blurring of the lines between residential and business.

"We're building the homes much closer together than you see in many developments today, and that's to foster a sense of community," says Bobbie Bagwell, site manager

Charming neighborhoods, shopping, nature trails and a riverfront – it all comes together at Hammond's Ferry in North Augusta.

for Hammond's Ferry. "When you go out on your porch, you're likely to see your neighbor sitting on his porch, and you'll be close enough to have a conversation. At the end of one block of homes might be a restaurant on one corner and a store on the other, with residential loft space overhead."

Another key feature of traditional neighborhoods is a discernible town center, a small one of which is in place now, but plans call for a downtown district to be built within the next five to six years. The homes, which range in price from lower $300,000s up to $1.2 million, will all be within walking distance to the neighborhood's downtown, as well as the retail and office spaces.

Years ago, the 200-acre plot that will become Hammond's Ferry may have seemed an unlikely spot for such a development. In the early part of the century, much of this land housed industry, such as brick works and pottery factories. These businesses thrived until the 1920s and '30s, when flooding due to land-use changes upstream forced them to close their doors. The land was abandoned from the 1930s on.

Then a few years ago, long after dams had eliminated the risk of floods, leaders in North Augusta recognized they had a unique opportunity in this parcel of riverfront land. And the idea for Hammond's Ferry was born.

Immediately, the developers pondered what to do about the property's biggest flaw — the stagnant ponds left from the holes carved years ago when the brick works strip-mined the area for clay to make bricks. "We sat down with people from the Southeastern Natural Sciences Academy (a natural resources management nonprofit) and decided to turn a liability into an asset," says Bagwell. "We decided to turn those stagnant ponds into a 20-acre wetland park."

They created a treatment system to correct the water problems, and developers worked to divert storm water run-off into the ponds. "Only 10% to 15% of the storm water from Hammond's Ferry enters the Savannah River," says Bagwell. "And the water that does enter is treated to remove sediment and volatile chemicals. We are doing everything we can to have very little impact on the Savannah River."

Today, raised nature trails covered with crushed red brick left over from the brick works meander through the ponds, along with boardwalks and an observation deck. Developers hope this mini-ecosystem — a stone's throw from the downtown area — will lure schoolchildren, bird watchers and nature lovers.

In addition to the ponds, developers faced another obstacle to overcome. High-tension power lines that feed downtown Augusta cut across the property. What could they do with that 100-foot easement under the power lines? "We decided to create another aspect of a sustainable community by bringing in a farmer to create an organic farm," says Bagwell.

Blue Clay Farm will be 1.5 acres when it is complete. It already sells its organic produce to chefs in Augusta, but the farm eventually hopes to offer residents a "subscription." Subscribers would get a fresh bag of produce on their doorstep on a regular basis.

While Hammond's Ferry developers have been creative in overcoming the existing flaws of the property, they are equally energetic about promoting its asset — the riverfront. A wide buffer strip along the river has been preserved in its natural state to prevent bank erosion. A wide paved riverfront trail draws walkers, runners and cyclists to enjoy their own little piece of heaven.

"The Savannah River is a large part of what makes this community so special," says Bagwell. "So we want to do everything we can to protect the river, and we want to make sure our residents can fully enjoy it."

The People Factor

Volunteers make a difference! Case in point: These three Georgians who are dedicated to urban forestry and to the goals of the Marietta Tree Keepers.

Will Goodman, Holly Walquist and Jim Morris enjoy a shady spot in Historic Marietta.

HOLLY WALQUIST helped start the Marietta Tree Keepers in 2002, and she's been the organization's chairperson ever since. "I am a tree hugger from way back, and I felt it was important for our community to start addressing the loss of tree canopy," says Walquist.

So despite running her own business communications firm and serving as a council person for the City of Marietta, Walquist carves out time for the Marietta Tree Keepers. "It's completely rewarding," she says. "My favorite part is watching the community come out, whether it's an educational program or a planting. We'll get groups of kids who have never planted a tree before. And to hear them come back year after year and say, 'I remember that tree we planted here.' Hopefully they'll be our future stewards."

When **JIM MORRIS** moved to Marietta from San Francisco, he went to the top of Kennesaw Mountain and looked down. "You could not see the city of Marietta at all, other than a few church steeples," recalls Morris. "All you saw were trees. It got my attention."

So Morris, a retired senior judge, got involved with the Marietta Tree Keepers. One of his favorite programs is a new "Sip and Stroll." Residents of a neighborhood bring a beverage of their choice and then stroll through streets with an arborist, who points out problem trees, gives tips for pruning and answers homeowners' questions. "The arborist talked about succession planting to replace aging trees, what you can do to sustain your trees during the drought and signs of stress in trees," says Morris. "It was fun, and everyone learned a lot, too."

As a professional landscape architect, **WILL GOODMAN** has been an invaluable asset to the Marietta Tree Keepers. He develops design and installation plans for many of the group's projects. But as a member of the Marietta School Foundation and of Rotary, Goodman also helps build partnerships. For example, when the Foundation purchased and remodeled an old fire station near the middle school, they left the landscape completely bare. With money and labor donated from Rotary, Goodman organized an attractive landscape installation on the property.

He also works closely with the City of Marietta to make sure its tree ordinance is as sound as it can be. "It's actually a pretty good ordinance," says Goodman. "But it's not well enforced. That's what we've been trying to work on with the city."

As the Georgia Urban Forest Council celebrates its 20th year, two of its founders, Ed Macie and Sharon Dolliver, answer questions about its inception, its growth and its future. Macie, an urban forest specialist with the US Forest Service, was the council's first president and Dolliver, recently retired communications chief for the Georgia Forestry Commission, served as its first secretary. Kim Coder, a professor at UGA's Warnell School of Forestry, was GUFC's first vice president.

Looking Back...and TO THE FUTURE

How did GUFC get started and what was its original mission?

Dolliver: Ed was the visionary. He was the one who recognized the need for the council so we could all work together.

Macie: Very early in my profession I saw a growing recognition that grassroots advocacy groups were going to play a key and critical role in the future of urban forestry. I thought if we could form one in Georgia, we would get a jump on the other states.

The mission was primarily about networking and advocacy. It was a way for forestry professionals to get together, talk about what we do and learn from each other. It was also a way to build a state platform for advocacy.

How has the organization grown over the past 20 years?

Dolliver: When the state forester at that time called the original group together, we sent out nine invitations. Now we have close to 300 members. But even more important, we have had tremendous growth in our diversity. Today we have landscape architects, nurseries, city arborists, state and local representatives. That diversity has really strengthened the organization.

How has urban forestry, in general, evolved?

Macie: Evolution is a good word to describe it. Back in the early days, urban forestry was more about managing

GUFC Earns Seal of Excellence

A round of applause for GUFC, which has been awarded the Standards for Excellence Institute's Seal of Excellence for successfully completing the Standards for Excellence certification program.

Standards for Excellence are based on fundamental values such as honesty, integrity, fairness, respect, trust, responsibility, and accountability. GUFC's programs and services, management, fundraising and financial practices were examined in-depth before the certification was awarded. GUFC is one of the first organizations — and currently the only organization in Georgia — to be certified under the national Standards accreditation program, which began in 2006. This program provides a model for how the best-managed and most responsibly governed nonprofits operate.

Past-president Sarah Visser, who was instrumental in the application process, says, "The Standards for Excellence program supports the highest level of nonprofit management. By achieving this designation, the Georgia Urban Forest Council is ideally positioned to expand our programs and organization in ways that will meaningfully impact our mission."

Mary Lynne Beckley, executive director of GUFC, adds, "Undergoing the application and review process for Standards for Excellence certification was extremely beneficial to us, because it helped us examine every policy, procedure and system within our organization. We learned what we were doing right and what we needed to improve upon. We now know that we are striving to be the very best nonprofit that we can be — and we are proud as an organization to have made this outstanding accomplishment."

"GUFC has the pieces in place…we are starting to pique public interest."

— Ed Macie

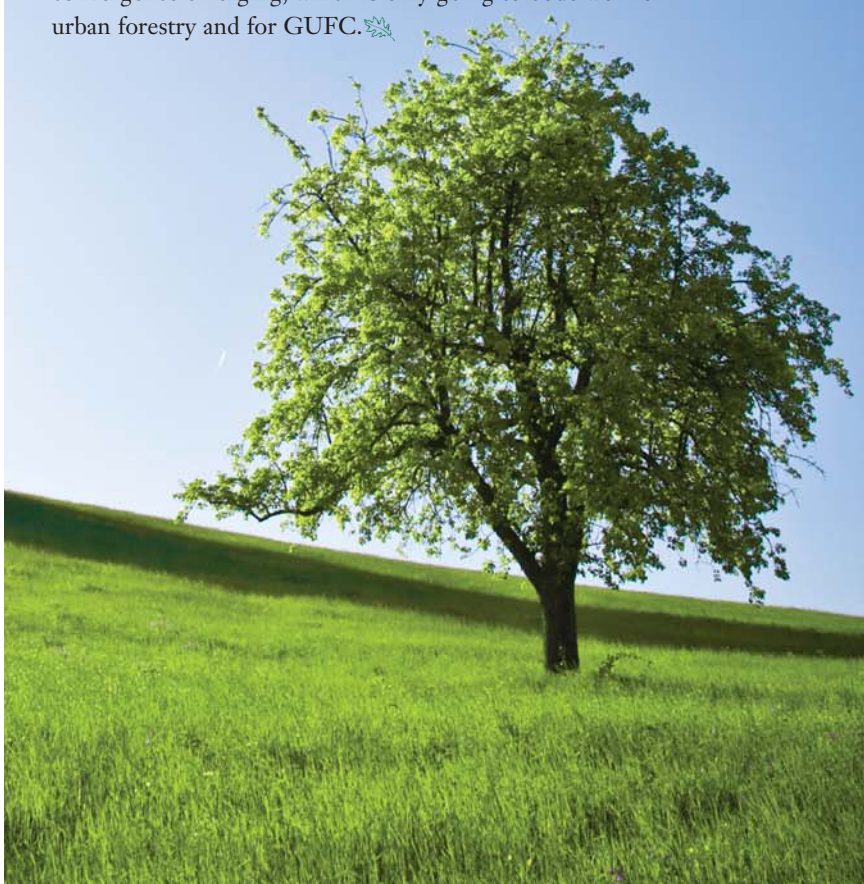
street trees and taking calls about sick backyard trees. We've moved quickly toward managing trees as a resource. I've seen tremendous advances in technology, an explosive growth in tree ordinances and improved local policy. Now we are having a dialogue on a scale of resource management across state lines. It's quantum growth, really.

What sets GUFC apart from other forest councils?

Dolliver: It was among the first councils formed in the U.S., and it is recognized across the nation as one of the leaders. We've enjoyed the full weight of the Georgia Forestry Commission behind us in support and we have an incredibly committed group of professionals who have been career-long supporters. We have an annual conference and we bring in experts from outside the state, so we can keep everyone on the cutting edge of what's happening in urban forestry.

What do you see for the future of GUFC?

Macie: GUFC has the pieces in place — an altruistic, committed group of people, great technology and well-trained professionals. We are starting to pique the public interest. I see this harmonic convergence emerging, which is only going to bode well for urban forestry and for GUFC.



EDUCATE and INFORM

The Georgia Urban Forest Council's mission is to "sustain Georgia's green legacy by helping communities grow healthy trees." 2008 GUFC President **Kris Thomas** explains how groups like GUFC need to continue to educate on all levels and connect with the decision-makers.

SHADE: What knowledge is still needed to improve our urban forests and ensure healthy ecosystems?

KT: I think the knowledge exists and is being used locality by locality. The problem lies in the fact there isn't a unifying trend in local, regional and statewide planning and development to maintain a goal of percentage canopy cover in areas under developmental pressure. Arborists, foresters, landscape architects, Georgia Forestry Commission and tree boards more often than not are the last ones contacted for professional advice.

SHADE: How can we tackle this problem?

KT: We have so many technological tools at our disposal – from Global Imaging to Silva Cells – that we can apply in order to advance tree cover in every situation. We need to keep advancing in the geopolitical jurisdictions, just as we have advanced technologically in tree BMP's. The man-built environment must come closer to the natural world to coexist, or we will accelerate loss of ecosystems and extinctions at an even greater rate than we currently are.

SHADE: What are the first steps?

KT: Tree ordinances in every jurisdiction should be the first tool in the box. Each county should adopt a tree ordinance and join a regional approach to ensure healthy water and healthy air, as trees are the primary mitigation factor for filtration. We need to use our knowledge and expertise to mold public pressure for a better city, county, region, state, Southeast U.S. and national urban forest. We, as professionals, should try to take advantage of every opportunity to become more knowledgeable in our fields, so when tested we reach a potential that impresses the value we represent for our communities. GUFC offers continuing education that is timely and cutting-edge, giving each of us that opportunity to be the best in the industry.

SHADE: Who needs this knowledge?

KT: Working as a city arborist, I'm surprised that the average citizen takes the urban forest for granted. This is my immediate task: to make my constituency aware of the benefit, value and rewards our urban forest returns. This means convening with officials I've never approached before – utility president, college president, Chamber of Commerce director, GDOT engineers, state representatives and senators, newspaper editor, broadcast media. We have i-Tree and other inventory tools to quantify our findings. Aerial photos and GIS can support data. Leadership starts at the top, so that is where we need to activate our pursuit of change. We must incorporate storm water engineers, area planners, soil scientists and college professors to support us and help in finding solutions to our problems. The facts are overwhelming; it is our responsibility to reconnect the masses with trees as a positive benefit for a healthy urban environment.

Smart Forestry Links

American Forests
www.americanforests.org

Atlanta Regional Commission
www.atlantaregional.com/greenspace

Coastal Bryan Tree Foundation
www.coastalbryantreefoundation.org

Hammond's Ferry
www.hammondsferry.com

Marietta Tree Keepers
www.mariettaga.gov/committees/treekeepers/default.aspx

Michael Gallis & Associates
www.mgallis.com

Orlando Regional Project
www.myregion.org

Savannah Tree Foundation
www.savannahtreefoundation.com

Trees Columbus
www.treescolumbus.org

Trust for Public Land — Georgia
www.tpl.org/georgia

US Forest Service
www.fs.fed.us

Yellowstone to Yukon Conservation Initiative
www.y2y.net

Georgia Urban Forest Council
www.gufc.org

Georgia Forestry Commission
www.gatrees.org

www.urbanforestrysouth.org

GUFC
315 W. Ponce de Leon Avenue
Suite 554
Decatur, GA 30030
1-800-994-4832
www.gufc.org

Non-Profit Org.
U.S. Postage
PAID
Decatur, GA
Permit No. 300