Leaves of Change

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In this Issue

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Research

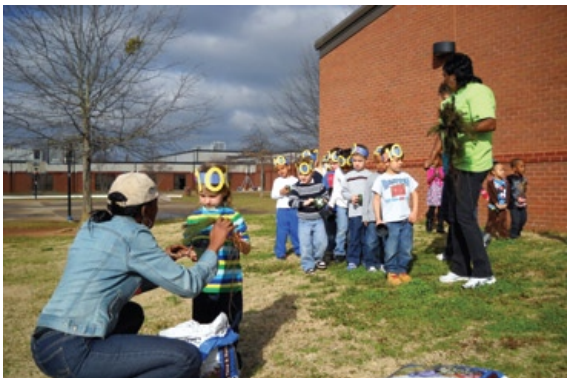
Perceptions and Attitudes Toward Climate Change in the Southeast

THERE IS no debate that a *scientific consensus* exists on the issue of climate change. Scientists have documented that human sources of greenhouse gases are increasing in the atmosphere, and this is leading to a general warming of the global climate and changes in local weather patterns when measured over long periods. The recently released Third National Climate Assessment provided a detailed picture how climate change is occurring and the ways that it is already affecting every corner of the United States, and especially the South.

Nonetheless, we are far from arriving at a *social consensus* on the existence or causes of climate change. Despite mounting scientific evidence, a large proportion of the U.S. population remains skeptical of climate science and the claims made by climate scientists. It has become clear that views and attitudes toward climate change are shaped more by cultural and political values than by any sort of objective weighing of evidence.

Sara Hitchner

John Schelhas and Kate Dunbar discuss climate change with a community group in Norcross, GA.



Sara Hitchner

Cassandra Johnson takes part in an Arbor Day tree planting in Atlanta, GA. These kinds of activities help elementary school students become more aware of their local environment.

A recent SRS-4952 research project published in the book, *International Perspectives on Climate Change*, focused on how people's views of climate change are influenced by factors such as political and religious affiliation, race and ethnicity, economic status, environmental context, media exposure, and sense of community and place. The project broke from the broad-scale surveys that dominate most descriptions of attitudes towards climate change by using qualitative methods, interviews and focus groups, to explore the beliefs of specific communities in detail.

"Qualitative studies can help us understand the nature of beliefs and what is behind them," says **John Schelhas**, SRS-4952 research forester. "You can look in-depth at how

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people respond to questions and get a broader view of the thought process."

The researchers worked with community members in three communities in and around Atlanta. The Cascade Road area is a primarily urban community in Southwest Atlanta that is predominantly African-American. The city of Norcross is a suburb of Atlanta, and has a high population of Latino residents. Jasper County is rural and predominantly white.

Interestingly, residents across all three sites described similar changes in weather patterns over their lifetimes. Participants described rising temperatures, weather and seasonal unpredictability, increased drought, and more frequent severe storms.

However, there were predictable disagreements regarding belief in the scientific concept of climate change. Almost all participants expressed some belief in climate change, and seemed comfortable using the basic terms of climate science, making reference to the greenhouse effect, ozone layer, and greenhouse gases. They also described potential effects such as melting glaciers and sea level rise, which they linked with fossil fuel consumption.

Cascade participants said that their information regarding climate change came from their church, newspapers, the internet, and television. Many cited the work of Al Gore as influencing their views on climate change.

In rural Jasper County the results were much more mixed, with many participants expressing skepticism of standard scientific explanations of climate change. Like many in Cascade, the beliefs in Jasper County had strong political associations; in this case, the participants said that their beliefs were shaped by information gleaned from conservative talk radio and news programs that supported skeptical views of climate change. For many in Jasper, climate change was just another part of other distasteful social, ethical, and economic ideologies and policies prevalent in more urban and politically liberal communities, including environmentalism, animal rights, social welfare, and economic regulation.

"People were aware of what scientists were saying about climate change in all three sites, but knowledge did not always influence their attitude toward climate change," says David Himmelfarb, a researcher with the Center for Integrative Conservation Research. "Political ideology, media exposure, religion, and personal experience made-up the social filter for attitudes and perceptions of climate change."

Participants in all three sites mostly felt it was beyond the ability of individual actions to affect climate change. Most felt that the biggest culprits were large-scale industrial carbon emitters. For low-income participants, even those who believed the science, climate change was far down the list of issues they were concerned about.

"Participants in Cascade gave very normalized responses, 'it's a shame,' 'somebody should do something about it,' etc., but compared to other issues, it was not really seen as important," says **Cassandra Johnson**, SRS-4952 social scientist and project leader. "Climate is episodic. There might be a heat wave that generates a lot of concern, but then it doesn't happen again for a few years, and the issue fades into the background."

In Cascade and Norcross, jobs and economic opportunities were seen as much more serious concerns. Climate change believers in Jasper County were concerned about potential impacts on agricultural production, but skeptics felt that recent increases in temperature were part of a normal cycle that had been going on "for 10,000 years." They also felt that climate was something outside of human control. "I don't think that it's a thing we should be concerned about at this point… We don't call the shots. I don't think we can change it," said one farmer in Jasper County.

The fact that climate change skeptics were aware of the science but chose to not believe it calls into question the potential for education to change

Sara Hitchner

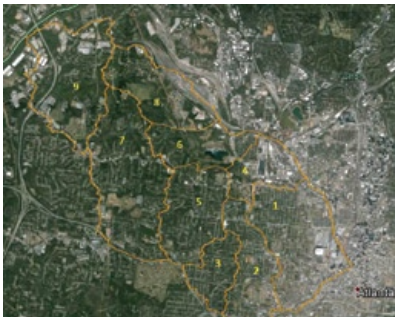
A volunteer helps revitalize historic English Avenue Elementary School in Atlanta, GA. These kinds of community activities are important indicators of community resilience to climate change and other natural disasters.

people's minds on an issue that is already characterized by a strong partisan divide. "There needs to be a local conversation about climate change," says Schelhas. "It has to be discussed in ways that translate the larger global abstract concept of climate change into the local context – how are you going to be prepared for drought, unexpected freezes, and floods."

Himmelfarb says that the research may point a way forward in increasing adaptive capacity of these communities to respond to climate change. "This issue is so polarized that if you just mention the term climate change it immediately triggers right/left, conservative/liberal reactions, but if you start by talking about changes in local weather and the local environment, a different dialogue is established," says Himmelfarb. "You need to understand what people perceive, what they are going through, and how they respond." He said that how communities respond to current crisis in their communities – tornadoes in Jasper, crime in Cascade, and weather-related job shutdowns in Norcross can help in designing local policy to help these communities adjust to the coming challenges of climate change.

For more information about this research contact John Schelhas, (706) 559-4260, **jschelhas@fs.fed.us**.

The Proctor Creek Watershed Urban Waters Project



THE HEADWATERS of the Proctor Creek watershed are located in downtown west Atlanta and drain into the Chattahoochee River. The communities that are located within this watershed are economically distressed and overburdened with frequent flooding and sewer overflows. Consequently this watershed was selected as an area for a pilot project by the Urban Waters Federal Partnership, which is a partnership of federal agencies that was formed to revitalize urban waters and the communities that surround them. In an effort to improve water quality and restore the watershed's ecosystem, the USDA Forest Service is using i-Tree tools to better understand the current state of Proctor Creek's natural resources and to propose urban forest management strategies.

Using data from i-Tree Canopy, Eco and Hydro, Urban Forestry South's Eric Kuehler and Dudley Hartel were able to estimate stormwater runoff volumes and pollution loading in one of the nine catchments (or sub-watershed) of the Proctor Creek watershed that includes downtown Atlanta. Using i-Tree Hydro, Kuehler and Hartel were able to estimate that if there was an increase in tree canopy cover from the current 24.5% to 37 % (the average tree canopy cover for the entire watershed), the total flow of stormwater runoff would decrease by 12 million gallons annually and pollution loading would decrease by 5% annually. There would be even greater improvements if the stormwater running off impervious surfaces (that drain directly into Proctor Creek by storm drains) was allowed to infiltrate into the soil by incorporating green infrastructure management practices such as bio-swales.

For more information visit: **www.urbanwaters.gov/pdf/ProctorCreekBackgrounder.pdf** To learn more about the i-Tree suite of tools visit: **www.itreetools.org**

The Urban Waters Federal Partnership

THE URBAN WATERS FEDERAL PARTNERSHIP aims to reconnect urban communities, particularly those that are overburdened or economically distressed, with their waterways by improving coordination among federal agencies and collaborating with community-led revitalization efforts to improve our Nation's water systems and promote their economic, environmental and social benefits. Specifically, the Urban Waters Federal Partnership is:

- breaking down federal program silos to promote more efficient and effective use of federal resources through better coordination and targeting of federal investments.
- recognizing and building on local efforts and leadership, by engaging and serving community partners.
- working with local officials and effective community-based organizations to leverage area resources and stimulate local economies to create local jobs.
- learning from early and visible victories to fuel long-term action.

For more information visit: **www.urbanwaters.gov/index.html**

Camp Kids in the Woods

THE FIRST ever Camp Kids in the Woods took place at Westwood Middle School in Gainesville, FL, April 25-26, 2014, with 55 sixth graders participating. The campout is part of the Kids in the Woods program, which is a partnership between Westwood, the US Forest Service-InterfaceSouth, the University of Florida's School of Forest Resources and Conservation, Camp Crystal Lake, the City of Gainesville Parks, Recreation and Cultural Affairs, and the Alachua County Environmental Protection Department. Camp Crystal Lake led the coordination of the camp out.

The camp out activities began with students putting up their own tents. After dinner, students participated in evening group games. Once the sky was black, the students rotated through three activities: a night hike in Loblolly Woods Nature Park, a campfire complete with s'mores, and star gazing courtesy of the Alachua Astronomy Club.

The next morning students were up at 7 am and were treated to breakfast before packing up their belongings and heading home.

One of the main objectives of the Kids in the Woods program is for students to become more aware and connected to their local environment through participation in outdoor learning experiences, such as this school camp out.

Hollie Greer

Sixth grade Westwood Middle School students participated in a camp out on school grounds.

For more information about the Kids in the Woods program visit: **www.interfacesouth.org/projects/kids-in-the-woods/connecting-kids**, **www.kidsinwoods-interfacesouth.org/** or contact Annie Hermansen-Báez, **ahermansen@fs.fed.us**.

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Upcoming Events

Date	Description	Location	Contact
Second Wednesdays of the month	**Urban Forest Connections Webinar Series**	Online	www.fs.fed.us/research/urban-webinars
October 13–14, 2014	**i-Tree Hydro Workshop**	Northern Virginia Community College, Sterling, VA	Eric Kuehler, ekuehler@fs.fed.us
November 3–4, 2014	**Society of Municipal Arborists Annual Conference**	Charlotte, NC	www.arborday.org/shopping/pcf/2014/event-sma.cfm
November 5–6, 2014	**2014 Partners in Community Forestry Conference**	Charlotte, NC	www.arborday.org/shopping/pcf/2014/
November 23–25, 2014	**Southeast Regional Division American Association of Geographers Fall Meeting**	Athens, GA	www.aag.org/cs/events/event_detail?eventId=1074

This issue and past issues can be found online at:
www.interfacesouth.org/products/leaves

Note: InterfaceSouth and Urban Forestry South are the science delivery centers associated with the USFS Southern Research Station work unit, SRS-4952: Integrating Human and Natural Systems in Urban and Urbanizing Environments (**http://www.srs.fs.usda.gov/humanandnaturalsystems**), and the USFS Southern Region. They are collectively called the Centers for Urban and Interface Forestry. InterfaceSouth focuses on interface forestry issues while Urban Forestry South focuses on urban forestry issues.