

# Protecting Georgia's Economy, Communities and Environment from Global Warming

Global warming is already affecting Georgia, and will continue to do so for decades to come. A successful comprehensive climate and energy bill will invest significant new revenue in protecting communities and local economies across America by creating jobs that protect wildlife and landscapes from the effects of global warming. The American Clean Energy and Security Act takes a critical first step, however, given the scale and duration of the threat, more funding will be needed.

## Critical Issues for Georgia:

- Decreasing water availability
- Rising sea level
- Damage to local economy
- Increasing storms and hurricanes

## Is Global Warming Affecting Natural Resources in Georgia?

Yes. Georgia is warming. Since mid-century, temperatures across the state have **risen approximately 1°F, and are expected to rise an additional 5.5°F by 2060.**<sup>1</sup> Already Georgia is experiencing shifts in precipitation patterns, resulting in more inland droughts and heavy storms along the coast.<sup>2</sup> These changes are significant, and the impacts are already being felt.

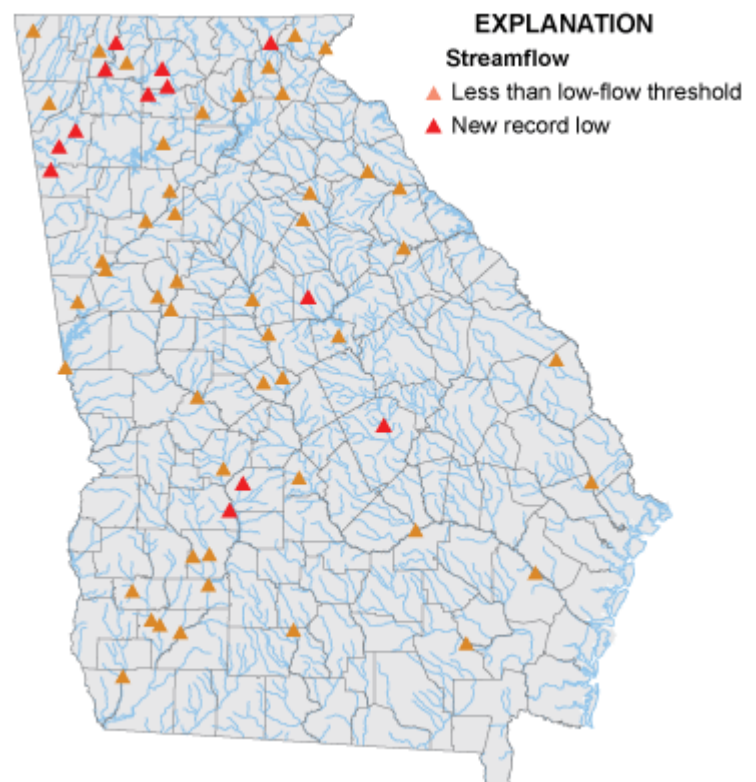
Across the U.S., more than 80% of plant and animal species studied are shifting their ranges in reaction to less than 1°F of average nationwide warming in the last century.<sup>3</sup> The Intergovernmental Panel on Climate Change predicts additional warming could result in **up to 30% of known species becoming extinct**, and the disappearance of more than one-fifth of the world's ecosystems.<sup>4</sup>

Additionally, sea level rise and coastal erosion are likely to have large impacts on Georgia's coastal communities and natural resources including forests, barrier islands and salt marshes. Billions of dollars in real estate, tens of thousands of residents and invaluable natural services are at risk.<sup>5</sup>

## Natural Resources Adaptation Funding Will:

- Create and protect jobs
- Preserve treasured landscapes
- Revive the rural economy
- Provide clean air and water for future generations

*River Monitoring Stations with Extreme Low Flow in August 2007*



## What is at Stake?

Changes brought on by global warming are disrupting the balance of natural resources and having significant impacts on communities and businesses across the state.

- **Water Availability and Local Businesses:** Decreasing water availability will place Georgia's economy and communities in competition not only with each other but with states across the South. Increasing evaporation and plant water losses will likely lead to saltwater intrusion into shallow aquifers, damaging drinking water resources.<sup>6</sup> Georgia's outdoor recreation industry is dependent on healthy wildlands. Businesses that support hunting, fishing, and wildlife watching are threatened by the effects of global warming, in turn threatening the stability of Georgia's \$7.6 billion outdoor recreation and tourism economies.<sup>7</sup>

**Economy at Risk:**  
**\$7.6 Billion**  
*Annual contribution of outdoor recreation to Georgia's economy*

- **Communities and Habitats:** Sea level rise and increasing numbers of hurricanes pose a serious threat to communities and habitats along Georgia's 100-mile coastline and barrier island system, The Golden Isles of Georgia. Behind these barrier islands lie 375,000 acres of salt marshes that provide homes for oysters and clams and serve as nursery grounds for young shrimp, crab, and fish. The marshes protect the shorelines from erosion and also act as a purification system by filtering out many pollutants added to the waters by human activities. Changes in rainfall would alter streamflow and flooding patterns of these wetlands, which are very sensitive to fairly small changes in water levels. Protecting and repairing the coastline from property damages and coastal erosion could cost up to \$1.3 billion by 2100.<sup>8</sup>



*Protecting Georgia's natural areas, such as Cumberland Island—and the valuable services they provide—from the effects of global warming will safeguard communities across the state.*

- **Agriculture:** The agriculture industry in Georgia contributes \$2 billion per year, and is threatened by temperature changes, drier climates, and sea level rise linked to global warming.<sup>9</sup> In late 2007, Georgia experienced an extreme drought costing \$1.3 billion in agricultural economic damage to crops such as peaches, cotton, and peanuts; if climate change triggers an additional crop shortage of 5%, the economic impacts could cost nearly \$110 million annually.<sup>10</sup>

## Protecting Natural Resources, Creating Jobs

Restoring ecosystem health helps ensure species have the best possible chance to adapt to the effects of global warming. Ecosystem adaptation projects, such as establishing wildlife corridors for animals migrating in search of needed habitat, are critical to the survival of many species and create long-term American jobs. **Investing now in natural resources is the most cost-effective way to protect our treasured landscapes and the clean water, clean air and jobs they provide.**

**Of the total allowance value generated from an energy and climate bill, at least 5% should be invested in protecting communities and local economies across America by protecting natural resources from the effects of global warming.** This funding will allow Georgia's wildlife and land management agencies, as well as the Land and Water Conservation Fund and the Forest Legacy Program, to ramp up important conservation projects.

This dedicated funding will allow scientists, engineers, construction crews, and others to be employed across Georgia:

- Repairing damaged watersheds to ensure clean water for communities by removing impediments and deteriorating structures, restoring eroding river banks, and repairing in-stream habitat.
- Acquiring land and establishing migration corridors to increase species' survival as climates change.
- Monitoring wildlife, habitat, and local climate and developing appropriate adaptation responses.
- Restoring native landscapes to increase resiliency in a warming world by removing unnecessary roads and barriers, constructing buffer strips along river corridors, and removing invasive species.



*Restoring river habitats protects ecosystems, jobs, and drinking water*

This work will protect and create American jobs—providing new skills and income to workers and their families across the state and revitalize rural economies.

## **Investing in Solutions for Families, Businesses and the Planet**

The risks to Georgia and the nation from global warming are significant—and require an extensive and sustained commitment to reducing heat-trapping pollution, protecting our natural resources, and the communities that rely on them. A cap-and-invest system that reduces pollution and auctions emission allowances will provide billions of dollars for combating the climate crisis.

Revenues from a cap-and-invest system must be directed to three primary solutions:

- **Invest at least 5% of the total allowance value generated in annual dedicated funding for natural resource protection** in order to create jobs while increasing resiliency across landscapes, protecting important natural services and safeguarding communities.
- **Offset increased energy costs for at-risk consumers** by allocating a percentage of allowance auction revenues to consumers through existing mechanisms.<sup>11</sup>
- **Invest in areas such as clean energy choices, job training, and business assistance**, which will aid businesses and communities in transitioning to a clean energy economy, while creating jobs and reducing heat-trapping pollution.

Georgia and the nation need your support for reducing carbon pollution and protecting communities by safeguarding our natural resources.

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Photo Credits: Thanks to U.S. Geological Survey for the map of Georgia river monitoring stations, U.S. EPA for the picture of Cumberland Island, and the State of Massachusetts for the river restoration picture.

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<sup>1</sup> The University of Washington and The Nature Conservancy. 2009. Climate Wizard. Available from: <http://www.climatewizard.org/index.html>

<sup>2</sup> Burkett, V., 2008: The northern Gulf of Mexico coast: human development patterns, declining ecosystems, and escalating vulnerability to storms and sea level rise. In: *Sudden and Disruptive Climate Change: Exploring the Real Risks and How We Can Avoid Them*. [MacCracken, M.C., F. Moore, and J.C. Topping (eds.)]. Publications, London [UK], and Sterling, VA, pp. 101-118.

<sup>3</sup> Sagarin, Raphael. 2002. "Historical Studies of Species' Responses to Climate Change." In: *Wildlife Responses to Climate Change: North American Case Studies*. Ed: Terry L. Root and Stephen H. Schneider. Island Press. Washington, DC.

<sup>4</sup> Intergovernmental Panel on Climate Change. 2007. "Summary for Policy Makers." In: *Climate Change 2007: Impacts, Adaptation and Vulnerability: Working Group II Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Pg 792.

<sup>5</sup> U.S. Environmental Protection Agency. *Climate Change and Georgia*. Data taken from the *Third Assessment Report of the Intergovernmental Panel on Climate Change (2001)*. Available from:

[http://yosemite.epa.gov/oar/globalwarming.nsf/UniqueKeyLookup/SHSUSBUM45/\\$File/ga\\_impct.pdf](http://yosemite.epa.gov/oar/globalwarming.nsf/UniqueKeyLookup/SHSUSBUM45/$File/ga_impct.pdf)

<sup>6</sup> Bates, B.C., Z.W. Kundzewicz, S. Wu, and J.P. Palutikof (eds.), 2008: *Climate Change and Water*. Technical paper of the Intergovernmental Panel on Climate Change. IPCC Secretariat, Geneva, pp. 210

<sup>7</sup> U.S. Fish and Wildlife Service, *National Survey of Fishing, Hunting, and Wildlife-Associated Recreation* (Washington, D.C.: U.S. FWS, 2006)

<sup>8</sup> U.S. Environmental Protection Agency. *Climate Change and Georgia*. Data taken from the *Third Assessment Report of the Intergovernmental Panel on Climate Change (2001)*. Available from:

[http://yosemite.epa.gov/oar/globalwarming.nsf/UniqueKeyLookup/SHSUSBUM45/\\$File/ga\\_impct.pdf](http://yosemite.epa.gov/oar/globalwarming.nsf/UniqueKeyLookup/SHSUSBUM45/$File/ga_impct.pdf)

<sup>9</sup> Bureau of Economic Analysis, *Regional Economic Accounts*, <http://www.bea.gov/regional/gsp/>; Georgia State Parks, Correspondence with Tommy Turk, Region 2 Manager, *FY 2007 Year End Report, Overall Comparison by Site*.

<sup>10</sup> Regional Economic Studies Institute, Calculations using modified IMPLAN™ economic model from the Regional Economic Studies Institute (RESI) of Towson University (PLACE: RESI, 2008)

<sup>11</sup> Stone, Chad and Hannah Shaw. 2009. "Extending "Climate Rebates" to Include Middle-Income Consumers." *Center on Budget and Policy Priorities*.