



WHAT DOES CLIMATE CHANGE MEAN FOR GEORGIA?

Climate Change and the Southeast

- Temperatures have warmed by 2° F since 1970 in the Southeastern U.S. with an increasing number of days above 95° F and nights above 75° F.ⁱ
- Sea-level rise along parts of the U.S. East Coast may exceed the global average—projected to range from 1 to 4 feet by 2100—by 4 inches.ⁱⁱ

Georgia - Observed Climate Change Impacts

- Sea levels have risen by 8 inches since 1935 in Savannah.ⁱⁱⁱ
- Atlanta has seen more days with temperatures above 95° F and related deaths above the average.^{iv}
- Western sections of the state are struggling with less access to water. Droughts have already created water conflicts between Georgia and nearby states.^v

Georgia - Projected Climate Change Impacts

- Up to 20 percent of McIntosh County's residential land may be impacted by rising seas through the end of the century.^{vi}
- Tybee Island may suffer the loss of up to 50 percent of its residential land and 30 percent of commercially occupied land due to sea-level rise by 2110.^{vii} Given its current elevation, the only causeway leading to and from the island will be permanently inundated if waters rise by even a foot.^{viii}
- One study suggests odds of what is now considered a 100-year flood will be three times higher by 2030 given projections of sea-level rise.^{ix}
- Corn crop yields may drop by as much as 15 percent and wheat by as much as 20 percent in parts of the state by 2020. Row crops currently grown in southwest Georgia may shift into central Georgia as temperatures increase.^x If temperatures rise by 3° C, the result would be to push altitude-based ecological zones higher by 480 meters, potentially impacting the ecosystem in Georgia's Appalachian mountains.^{xi}
- Georgia may see 10—20 more days each year above 95° F in northern parts of the state and 40—50 more days in southern parts by 2041—2070.^{xii}

What Has Georgia Started Doing About It?

State Climate Change Policy

- Georgia does not have any state climate change policies or action plans.^{xiii} In fact, in 2010, the state legislature passed a resolution asking Congress *not* to adopt cap-and-trade laws.^{xiv}

Renewable Energy in the State

- In 2013, renewable sources accounted for 6 percent of Georgia's annual electricity generation.^{xv}
- In 2013, Georgia ranked 21st among all U.S. states in terms of the total electricity generated from renewable sources (in gigawatt hours). As of January 2014, it ranked 18th in terms of its total installed renewable capacity (in gigawatts).^{xvi}
- Georgia is one of the leading U.S. states in terms of electricity generation from biomass, ranking 17th in the country for this energy source in 2013.^{xvii}

Wind Power

- As of June 2013, Georgia did not have any wind power generation facilities within the state.^{xviii}
- However, the state does have significant onshore and offshore wind electricity generation potential, together estimated at 62,000 megawatts (MW), of which the vast majority is offshore potential.^{xix}
- Even without wind installations, the state still benefits from wind energy. It is home to 10 manufacturing facilities that build and assemble products for various segments of the wind energy supply chain.^{xx}

Solar Power

- Georgia is America's fastest growing market for solar energy. In 2013, it added over 90 MW of solar power, enough to power 8,405 homes. It ranked seventh in the country for new solar installed in 2013, and 15th in the country in terms of total installed solar capacity.^{xxi}
- An estimated \$189 million was invested in solar in Georgia in 2013, a 795-percent increase over 2012.^{xxii}
- In 2013, there were an estimated 146 companies working in the solar energy industry in Georgia.^{xxiii}
- Solar manufacturing, installation, and other solar-related industries support an estimated 2,600 jobs in Georgia. In 2013, the state ranked 16th amongst U.S. states in terms of total solar jobs.^{xxiv}

Adaptation

- The City of Atlanta is preparing a climate action plan. The main focus of such a plan is the buildings sector, but it also includes a target of planting 10,000 new trees.^{xxv}
- The University of Georgia is conducting ongoing research to help coastal communities prepare for hazards including sea-level rise, storm surges, flooding, and hurricanes.^{xxvi}

ⁱ National Climate Assessment Development Advisory Committee, United States Global Change Research Program, *National Climate Assessment – Draft for Public Review*, Chapter 17 – Southeast (January 2013), page 586.

<http://ncadac.globalchange.gov/download/NCAJan11-2013-publicreviewdraft-chap17-southeast.pdf>

ⁱⁱ Ibid

ⁱⁱⁱ University of Georgia, Georgia Sea Grant, "Sea Level Rise in Georgia," last accessed March 26, 2014.

http://georgiaseagrant.uga.edu/article/sea_level_rise_in_georgia/

^{iv} National Climate Assessment Development Advisory Committee, United States Global Change Research Program, *National Climate Assessment – Draft for Public Review*, Chapter 17 – Southeast (January 2013), page 586.

<http://ncadac.globalchange.gov/download/NCAJan11-2013-publicreviewdraft-chap17-southeast.pdf>

^v Ibid.

^{vi} Georgia Conservancy, "Sea Level Rise," last accessed March 26, 2014. <https://www.georgiaconservancy.org/blueprints/sea-level-rise.html>

^{vii} Ibid.

^{viii} NOAA Coastal Services Center, "Identifying Areas Vulnerable to Sea Level Rise in Georgia," last accessed March 26, 2014.

<http://www.csc.noaa.gov/digitalcoast/stories/tybee>

^{ix} Climate Central, "Facts and findings: Sea level rise and storm surge threats for Georgia," last accessed March 26, 2014.

<http://slr.s3.amazonaws.com/factsheets/Georgia.pdf>

^x Keith T. Ingram, Kirstin Dow, and Lynne Carter, *Southeast Region Technical Report to the National Climate Assessment* (July 23, 2012). http://downloads.usgcrp.gov/NCA/Activities/NCA_SE_Technical_Report_FINAL_7-23-12.pdf

^{xi} Ibid.

^{xii} National Climate Assessment Development Advisory Committee, United States Global Change Research Program, *National Climate Assessment – Draft for Public Review*, Chapter 17 – Southeast (January 2013). <http://ncadac.globalchange.gov/download/NCAJan11-2013-publicreviewdraft-chap17-southeast.pdf>

^{xiii} Center for Climate and Energy Solutions, "Climate Action Plans," last accessed March 2014. <http://www.c2es.org/us-states-regions/policy-maps/climate-action-plans>

^{xiv} National Conference of State Legislatures, "Climate Change: State Policy Update 2011," last accessed March 2014.

<http://www.ncsl.org/research/environment-and-natural-resources/climate-change-state-policy-update-2011.aspx>

^{xv} U.S. Energy Information Administration, "Electricity Data Browser," last accessed March 28, 2014.

<http://www.eia.gov/electricity/data/browser/>

^{xvi} U.S. Energy Information Administration, "Electric Power Monthly with Data for January 2014," March 21, 2014.

<http://www.eia.gov/electricity/monthly/>

^{xvii} U.S. Energy Information Administration, "Electricity Data Browser," last accessed March 28, 2014.

<http://www.eia.gov/electricity/data/browser/>

^{xviii} American Wind Energy Association, "State Wind Energy Statistics: Georgia," June 9 2013.

<http://www.awea.org/Resources/state.aspx?ItemNumber=5228>

^{xix} Southern Alliance for Clean Energy, "The Growing Wind Industry in Georgia," July 7, 2011.

<http://blog.cleanenergy.org/2011/07/07/the-growing-wind-industry-in-georgia/>

^{xx} American Wind Energy Association, "State Wind Energy Statistics: Georgia," June 9 2013.

<http://www.awea.org/Resources/state.aspx?ItemNumber=5228>

^{xxi} Solar Energy Industries Association, "2013 Top Ten Solar States," last accessed March 2014. <http://www.seia.org/research-resources/2013-top-10-solar-states>

^{xxii} Ibid.

^{xxiii} Solar Energy Industries Association, "State Solar Policy: Georgia Solar," last accessed March 2014. <http://www.seia.org/state-solar-policy/georgia>

^{xxiv} Solar Foundation, State Solar Jobs 2013, "Georgia," last accessed March 2014. <http://thesolarfoundation.org/solarstates#ga>

^{xxv} ICLEI, *20 Resilient Cities Responding to Climate Change and Extreme Weather* (2013).

<http://www.icleiusa.org/library/documents/earth-day-fact-sheet-2013-20-resilient-cities>

^{xxvi} Georgia Sea Grant, "Planning for Sea Level Rise," last accessed March 2014.

http://georgiaseagrant.uga.edu/article/planning_for_sea_level_rise/