



Climate Risks in the Caribbean

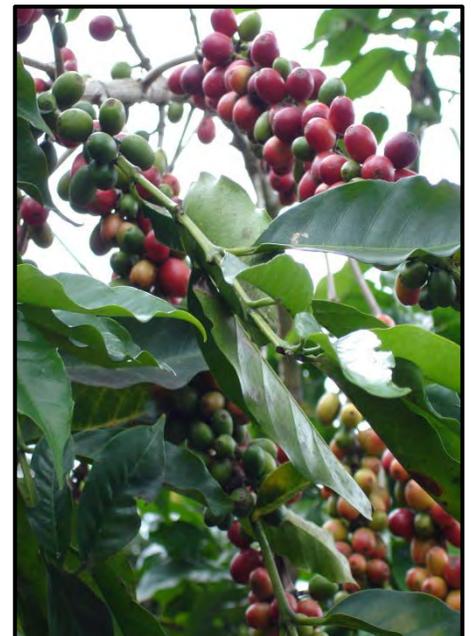
What type of agricultural production is in the Caribbean?

Coffee, bananas, plantains, tropical fruits, ornamentals, beans, root crops, poultry, cattle, dairy products, wood for fencing and artisanal uses are some of the principal products of agriculture and forestry in the region. A large segment of production is for subsistence use. Agriculture and forestry production in Puerto Rico and the US Virgin Islands are below capacity for a variety of reasons. Improving food security, rural standard of living, territorial economies, and preserving culture are all good reasons to increase this capacity. Food prices have been rising around the Caribbean, but price volatility has hampered investment in agriculture.

How are climate change and weather variability affecting Caribbean producers?

Climate change directly affects agriculture and forestry in the Caribbean, but climate change in other regions can also impact agriculture. Global and local factors influence land owner decisions and farming success. Climate change in diverse regions affects supply and demand, value, agricultural economics, the state of agriculture and forestry, food security and the culture of rural life.

- Climate change represents a threat to vulnerable food security in the Caribbean. We may find new vulnerabilities to pests and introduced species affecting people, livestock, wildlife and plants.
- Prime agricultural lands and the most populous areas are predominantly coastal. Sea level rise and alteration of coastal hydrology are critical issues requiring engagement of many agencies and organizations.
- Population densities in Puerto Rico and the US Virgin Islands are among the highest in the US. Space for agriculture is limited and the need to expand capacity is high. Unemployment and poverty levels are among the highest in the US and climate change represents an additional threat to rural economies.
- Working lands are a contributor to the ecosystem services provided by open space, including clean water, habitat and biodiversity.



What is USDA doing about it?

The USDA has established a Southeast Regional Caribbean Climate Sub Hub located in Río Piedras, Puerto Rico. This multi-agency effort is led by Dr. William Gould, Research Ecologist with the Forest Service [International Institute of Tropical Forestry](#). The Caribbean Climate Sub Hub is one of seven regional hubs and three subsidiary hubs nationwide – the network of Climate Change Hubs will work with USDA to deliver science-based knowledge and practical information to farmers, ranchers, and forest landowners that will help them to adapt to climate change and weather variability by coordinating with local and regional partners in federal and state agencies, universities, NGO's, and the public.

The Hub will provide:

- Technical support for land managers to respond to drought, heat stress, floods, pests, fire and changes in growing season.
- Regional assessments and forecasts for hazard and adaptation planning.
- Outreach and education for land managers on ways to mitigate risks and thrive despite change.

Building on success stories

Collaborative problem solving: Federal, Commonwealth and Territorial partners have a long history of collaboration among agencies and with the public on natural resource issues in the region. The USDA Caribbean Climate Hub will be co-located with the [Caribbean Landscape Conservation Cooperative](#) and share resources and information related to climate change.

Useful climate projections: The US Forest Service, Climate Science Centers, US Fish and Wildlife Service, US Geological Survey and University partners are developing downscaled climate projections for the US Caribbean at a 2 km resolution. This will enable researchers and landowners to better assess potential climate impacts at a local scale.

Vulnerability assessments: Hub partners have linked regional vulnerability assessments and government action. A recent State of the Climate report on coastal vulnerabilities has led to concrete executive orders by the Governor of Puerto Rico in response to climate change. The Caribbean sub hub will build on these linkages and expand vulnerability assessments to the agricultural community.

Need more information?

USDA Subsidiary Hub Leader

William Gould, Research Ecologist
US Forest Service International
Institute of Tropical Forestry
1201 Calle Ceiba, San Juan, PR
(787) 764-7790
wgould@fs.fed.us

USDA Subsidiary Hub Partners

Edwin Almodovar, Caribbean Area Director,
Natural Resource Conservation Service. 654 Plaza, Suite
604, 654 Muñoz Rivera Ave., Hato Rey, PR 00918-4123.
(787) 766-5206, edwin.almodovar@pr.usda.gov
Ricardo Goenaga, Director, USDA-ARS,
Tropical Agriculture Research Station, 2200 P. A. Campos
Ave., Suite 201, Mayagüez, Puerto Rico 00680-5470.
(787) 831-3435, ricardo.goenaga@ars.usda.gov.