



**Project summary:** Enabling climate-smart decisions for agriculture and forestry in Puerto Rico and the US Virgin Islands

**Description:** This project is a collaboration among the USDA Caribbean Climate Hub, Cooperative Extension at the University of the Virgin Islands and the University of Puerto Rico, Winrock International, and the Climate Science Alliance to generate and deliver region- and sector-specific information on climate change science, observed trends, expected future scenarios, and adaptation and mitigation solutions. It is funded by the National Institute of Food and Agriculture (NIFA) to provide workshops and training in Spanish and English to increase the level of climate-smart decision-making by farmers, ranchers, forest land managers, and the people and agencies that provide advice, technical expertise, and incentives. The **goal** of the project is to help reduce the effects and vulnerabilities to climate change and extreme climate events and develop relationships and connections to foster further knowledge development and technology transfer of climate-smart solutions in Puerto Rico and US Virgin Islands. Project activities focus on learning, action, and evaluation.

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**LEARNING.** We will share the latest science about climate change observations and what to expect in our region as well as best climate adaptation and mitigation practices in key agriculture and forestry sectors.

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### **Climate Change-focused OneUSDA Workshops for Farmers and Forest Managers**

**Description:** Workshops in English and Spanish to highlight local examples and key tools and resources to address climate change in land management and climate communication. **Leads:** USDA Caribbean Climate Hub, Caribbean Green Technology Center, Cooperative Extension at University of the Virgin Islands and University of Puerto Rico. **Contact:** William Gould | [william.a.gould@usda.gov](mailto:william.a.gould@usda.gov)

### **Climate Kids Caribbean Pilot Project**

**Description:** The Climate Kids-Caribbean Pilot Project will include bilingual tools and resources about regionally specific climate science and climate-smart agriculture, and an associated K-12 teacher training so that teachers in Puerto Rico and the Virgin Islands can continue to provide the knowledge and tools to K-12 children in the future. **Lead:** Climate Science Alliance. **Contact:** Amber Pairis | [apairis@climatesciencealliance.org](mailto:apairis@climatesciencealliance.org)

### **Eco Game - Caribbean Region**

**Description:** The Eco Game is an interactive and fun half-day, role-playing game focused on agricultural adaptation, climate change and resilience where players gain critical thinking and decision-making skills through experiential learning. Players represent local communities or sectors and experience the impacts their natural resource management decisions have on water security, greenhouse gas (GHG) emissions, yields, livelihoods, and long-term resilience to climate change. **Lead:** Winrock International. **Contact:** Jon Winsten | [jwinsten@winrock.org](mailto:jwinsten@winrock.org)

### **Climate Change Literacy Module for USDA and University Extension Staff**

**Description:** A multimedia learning module in English and Spanish on the most recent science related to climate trends, projections, and vulnerabilities, as well as information relevant to the planning and

delivery of USDA programs and climate-related communications to farmers and land managers, and key USDA programs and assistance options that address climate change to be made available in AgLearn, the USDA's Department-wide system for managing training records. **Lead:** USDA Caribbean Climate Hub, Caribbean Green Technology Center, Cooperative Extension at University of the Virgin Islands and University of Puerto Rico. **Contact:** William Gould | [william.a.gould@usda.gov](mailto:william.a.gould@usda.gov)

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**ACTION.** We will develop and deliver tools, materials, and activities that support the adoption of climate-smart and cost-effective practices that reduce GHG emissions, sequester carbon, and support sustainable agriculture and forestry that is resilient to climate extremes and climate change.

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### **Dairy-focused Educational Modules**

**Description:** Educational modules focused on climate resilience in the dairy sector, covering these topics: 1) Feeding and grazing management for mitigation and profits 2) Adaptation strategies for dairy cattle heat stress 3) Soil Health and Manure Management 4) Energy. **Lead:** University of Puerto Rico-Mayagüez Campus, Winrock International. **Contact:** Guillermo Ortiz Colón | [guillermo.ortiz@upr.edu](mailto:guillermo.ortiz@upr.edu)

### **Soil Health Learning Network**

**Description:** A peer-to-peer learning network and demonstration activities for farmers to improve soil health as a means to reduce net GHG emissions, increase resilience to drought and flooding, and improve land productivity and profits. **Lead:** WinRock International and the USDA Caribbean Climate Hub. **Contact:** Jon Winsten | [jwinsten@winrock.org](mailto:jwinsten@winrock.org)

### **Climate-smart Reforestation Planning Workshops**

**Description:** A workshop series on climate-smart reforestation planning for strategic reforestation in the context of climate change for federal, state and private forest land managers and landowners, nursery and greenhouse owners, agricultural extension agents and extension master gardeners. Workshops will cover various stages, from the nursery to mature forest. **Lead:** Cooperative Extension at the University of the Virgin Islands and the University of Puerto Rico. **Contact:** Michael Morgan | [mmorgan@uvi.edu](mailto:mmorgan@uvi.edu) and Dania Rivera Ocasio | [dania.rivera@upr.edu](mailto:dania.rivera@upr.edu)

### **Climate Adaptation and Preparedness**

**Description:** Materials and workshops designed to help underserved communities understand and plan climate adaptation strategies. The materials will facilitate the adoption of USDA programs and recommended best practices to help address existing needs with greater awareness of effects of climate change. **Lead:** Cooperative Extension/Caribbean Green Technology Center, University of the Virgin Islands. **Contact:** Christina Chanes | [christina.chanes@uvi.edu](mailto:christina.chanes@uvi.edu)

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**EVALUATION.** We will evaluate the effectiveness of communication and the impact of knowledge sharing on the implementation of practices that reduce carbon emissions, increase carbon sequestration, reduce vulnerabilities to climate change and extreme events, and increase the resilience of working lands and rural communities to climate change.

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### **Evaluation of Project Activities**

**Description:** Evaluate the effectiveness of climate literacy training, the impact of knowledge sharing on the implementation of practices, and synthesize and document the overall effectiveness and impact of the project in peer reviewed literature and communications to stakeholders and participants. **Lead:** USDA Caribbean Climate Hub. **Contact:** William Gould | [william.a.gould@usda.gov](mailto:william.a.gould@usda.gov)