2010 George Melendez Wright Climate Change Youth Initiative

The 2010 pilot **internship** awards supported 13 interns in 13 different parks and offices. We plan to build upon the success of our first season for years to come. Project descriptions and park units participating in the 2010 program include:

Acadia National Park - Develop a curriculum-based climate change education program and podcast to share with visitors how climate change is affecting this park.

Colorado National Monument - Monitor springs and seeps and the rare plants and desert animals dependent on them in order to guide management decisions in the face of rising temperatures.

Crater Lake National Park - Design and build a photovoltaic array to showcase sustainable energy throughout the park.

Denver Service Center - Develop a database to insure the adaptability for years to come of native grass seeds to be replanted in parks.

Devils Postpile National Monument - Monitor pines, meadows, water flow, and microclimates to develop a big picture plan for how the park will adapt to changing conditions due to climate change.

Fire Island National Seashore - Map impacts of human created barriers to coastal landforms like dunes and marshes and their natural ability to adapt to sea level rise.

Great Smoky Mountains National Park - Develop education products for a high school audience including a video, citizen science field lesson, and an interactive on-line activity.

National Capitol Region - Engage and motivate urban youth to address climate change in their communities.

Rocky Mountain National Park - Collect data in an alpine environment to inform ecological monitoring in this fragile ecosystem, observing things like pika habitat, pine-beetle tree kill, and receding glaciers.

Russell Cave National Monument - Develop an educational program to compare prehistoric climate change in the archaeological record to current forecasts.

South Florida/Caribbean Network - Monitor mangrove and colonial bird nesting to assess the threat of sea level rise.

Voyageurs National Park - Investigate the temperature tolerance of moose and compare it to existing habitat temperatures in order to estimate their sensitivity to climate change.

Wilderness Stewardship Division - Conduct GIS mapping to evaluate resilience and ecological integrity of wilderness areas under climate change model predictions.

The 2010 pilot **fellowship** awards supported 22 scholars operating in several parks or federal areas. Project descriptions and park units participating in the 2010 program include:

Chiricahua National Monument- The indirect effects of climate change: Climate-induced top predator extinctions affect aquatic community structure in arid headwater streams

Grand Teton NP, Bandalier NM, Great Basin NP- Long-term vulnerability and risk assessment of a key habitat type throughout the western U.S.: cottonwood riparian areas

Haleakalā National Park- Variation in water stress at the upper limit of cloud forest along a secondary climate gradient, Haleakalā National Park

Point Reyes National Seashore-Community Responses to Global Change

Mt. Rainier National Park- Testing the limits: effects of climate and competition on conifer distributions at Mt. Rainier

Jean Laffite NP&P- Rainfall events in a hummocky terrain may release saltwater stress of baldcypress (Taxodium distichum L. Rich) in the Barataria wetland, Louisiana

Yukon Flats Wildlife Refuge- Ecosystem change in boreal wetlands and its relation to wetland birds

Great Smoky Mountains National Park- Modeling the past as a window to the future: A study of how climate fluctuations have influenced the distribution and demographic history of the montane salamander (Plethodon jordani)

John Day Fossil Beds NM- Mammal distribution and niche dynamics in relation to climate change during the Miocene, John Day Fossil Beds

Noatak National Park and Preserve- Climate Change and Subsistence Fisheries in Noatak, Alaska

Lassen Volcanic NP, Yosemite NP, and Sequoia National Park- Long-term trends in the avifauna of the Sierra Nevada: Community dynamics in three National Parks over a century of climate change

Multiple Parks with Pikas- Estimating climate-mediated stress in pikas, a sentinel species and key NPS vital sign

Denali National Park and Preserve- The Effects of Changing Climate on Denali Park Glaciers: a Case Study on the Kahiltna Glacier

Saguaro National Park- Using historic data to evaluate the effect of climate change on perennial vegetation in Saguaro National Park

Golden Gate National Recreation Area- Water Relations of Baccharis pilularis D.C. seedling establishment in a changing climate

Sequoia and Kings Canyon National Parks- Linking climate change to forest dynamics from seedling- to ecosystem-scales

Point Reyes National Park- Impacts of climate change on avian population dynamics: a bottom-up approach

Cape Cod, Fire Island , and Assateague National Seashores- Salt Marsh Phenology and Productivity in a Changing Climate

Point Reyes National Seashore- Climate Change Vulnerability Assessment: Point Reyes National Seashore

Glacier National Park- Building Knowledge at the Landscape Scale: Glacier National Park and Its Neighbors

Olympic National Park- Quantifying Shrinking Glaciers in Olympic National Park: Impact on Summer Stream Flow

Mt. Rainier National Park- Climate change and range shifts of subalpine and alpine meadows at Mount Rainier National Park

Did you know?

The George Melendez Wright programs are named in honor of an early 20th century National Park Service biologist whose contribution in elevating the role of science in the National Park Service is unparalleled. In 1929, as a park naturalist, Wright spearheaded the first wildlife survey ever conducted in the National Park Service, which aimed to determine original and current wildlife conditions, identify causes of adverse changes, and recommend actions that would restore park wildlife to its original status. The findings in this landmark survey helped formulate the first wildlife-management policies and instituted science as a vital ingredient in park management decisions. These internship and fellowship programs recognize and memorialize Wright's commitment to science-based decision-making and embrace his philosophy of protected area management that promotes ecosystem health and resilience.