Watershed STEM Spotlight

Florida Gulf Coast University, Florida

Partnership with 21st Century Community Learning Center Sites

For this project, FGCU worked directly with one 21st Century Community Learning Center (21st CCLC) partner, a community-based organization operating the grant program at two sites. FGCU and 21st CCLC staff had previously worked together during stand-alone opportunities led by FGCU, but this grant allowed for longer-term engagement between them. High school students who were part of a school club called Youth Against Climate Change served as key partners in project implementation, participating in the same training as 21st CCLC staff and leading or co-leading a large part of activity implementation. FGCU viewed this partnership as a community of practice, with each partner bringing their strengths to the table. FGCU staff offered content knowledge; 21st CCLC staff managed the youth; and Youth Against Climate Change members served as near-peer mentors and facilitators.

About Florida Gulf Coast University (FGCU)

Florida Gulf Coast University (FGCU), located in Southwest Florida, is part of the State University System of Florida. Staff from the Center for Environment and Society, housed in FGCU's Water School, led program implementation, which focused on place-based climate education, climate change, and climate injustice, as well as connecting the public to nature to promote learning and actions that can lead to a healthy, resilient environment. The local watershed serves as an important framing for the work of the Center for Environment and Society because climate change impacts, such as extreme weather and a rising sea level, are acutely experienced in Florida with observable effects on the watershed.

- **Lee County, Fort Myers, Florida**
- **Estero Bay Watershed**
- **Approximately 115 middle school youth**
- **After-school and summer programs**
- **One 21st CCLC partner at two sites**

What Was the Project?

In FGCU's Watershed Education for Resilience in Southwest Florida project, youth engaged with physical models and simulations to observe and learn about the impacts of climate change on their local environment. Focusing on changes that youth could observe and were already experiencing in their own lives was important for making the project meaningful to youth. FGCU implemented both after-school and summer camp activities as part of their project. Specifically:

After-school activities: Over the eight-session program, which focused on topics such as habitat shift, extreme weather, sea-level rise, and saltwater intrusion, youth used and created models of Southwest Florida-specific impacts of climate change. For example, youth created physical models of coastlines, observed what happened when extreme weather caused flooding, and then redesigned their models to create more resilient coastlines.

Summer camp activities: Over the course of a week, youth engaged in activities like those of the after-school program. However, with the five-day structure of the summer camp, youth had the opportunity to spend more time on each topic and go on a field trip to a local barrier island where they could directly observe the impacts of climate change on the coastal environment.

All programs culminated with youth synthesizing and sharing what they learned with others through posters, videos, or live presentations.

Key Successes

This project allowed FGCU to engage approximately 115 middle school youth in environmental education activities. The involvement of high school students who were part of their school's Youth Against Climate Change club strengthened the project. These high school students co-led activities and served as mentors to the younger middle school youth, gaining skills in leadership and communication in the process.

21st CCLC staff also gained a new perspective on climate change and environmental education and how these topics can be incorporated into the 21st CCLC context. Some 21st CCLC staff were initially reluctant to engage much with the project because it was not their area of interest. Through continued participation they began to show an interest, even bringing books about climate change to activities.

Students on the beach during an afterschool program.
Photo: Jen Jones

"We just needed to figure out how to leverage the [Youth Against Climate Change] students that had passion, excitement, and interest to be the educators and let the 21st Century Community Learning partners do what they do best, which is remove barriers to effective programming and facilitate a deeper connection to the students they know best."

—Heather Skaza Acosta, Director, Whitaker Center for STEM Education

Over the course of a week, youth engaged in activities such as habitat shift, extreme weather, sea-level rise, and saltwater intrusion. *Photo: Jen Jones*

Lessons Learned

Over the course of the grant, FGCU staff learned how to best work within their 21st CCLC partner's systems and structures. Although FGCU had originally planned to train 21st CCLC staff to take on more of a facilitator role, they learned that this model did not fit with how their partner operated. Recruiting FGCU staff to lead implementation and involving students from the Youth Against Climate Change club as co-facilitators allowed FGCU to be responsive to the needs of their 21st CCLC partner. This led to the establishment of a strong relationship between FGCU, Youth Against Climate Change, and the 21st CCLC site.

Beyond the Grant

FGCU and their 21st CCLC partner plan to continue working together in the future through FGCU's Whitaker Center for STEM Education. Youth Against Climate Change will be key to the sustainability of this partnership, taking on even more responsibility leading on-site program implementation, which will allow FGCU to continue refining its activities and developing new ones. FGCU has created Watershed Education for Resilience in Southwest Florida curriculum kits and will continue to provide training to 21st CCLC staff and Youth Against Climate Change members to support implementation.

FGCU would like to grow in the future by developing and incorporating more outdoor learning experiences, such as school-yard surveys, which involve collecting and analyzing data directly from the schoolyard. FGCU is also looking to add more time for youth to learn about how environmental issues affect their local environment and to use this knowledge to develop action projects that are meaningful to them.

This project was funded under the Watershed STEM Education Partnership Grants program, a collaboration between NOAA, NAAEE, and the U.S. Department of Education to support enriching after-school programming at Nita M. Lowey 21st Century Community Learning Centers around the country. Learn more at: naaee.org/programs/eeblue/21CCLC.