**Education and Interpretation are Fluid, Just Like Our Tides**

Using the art of interpretation we are able to connect to our communities. This is essential for building coastal resilience. In 2016, we completed the GTM Research Reserve’s first Interpretive Master Plan. The plan has provided a framework for how visitors intellectually and emotionally connect with the GTM Research Reserve, and how they find meaning in the Reserve’s landscape, experiences, objects, and people.

The plan has led to development on 31 updated interpretive panels that have been installed at our outdoor kiosks, four large digital interactive explorations, and six small digital interactions. Currently, two of these interactions are installed in the Visitor Center.

**Bringing Students Closer to Nature through Technology**

In an increasingly digital world, educators sometimes struggle to get students to put down their devices and get outside to explore the world of science in the natural environment. Instead of fighting technology, education staff members at the GTM Research Reserve have embraced it as an igniter to spark students’ interest in environmental science. “We are past the point of telling students to put down the devices,” said Kenneth Rainer, director of education. “It’s time to show them how to use it as a resource, as the powerful tool that it really is.”

Through the use of devices such as water quality probes, students are able to read measurements of various environmental elements. In addition, students can explore components and details of the estuarine water column—an area otherwise inaccessible—with underwater cameras. Data and video are transmitted to Google apps on iPads in the field. Driven by their strong attraction to the technology, students are more willing to engage with the science and environmental education offered at the reserve.

Article provided by [https://coast.noaa.gov/estuaries/](https://coast.noaa.gov/estuaries/).

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**Connect**

- 73,352 acres
- 4,745 visitors
- 43 public programs

**Prepare**

- 101 teachers trained
- 2,720 students engaged
- 12,355 student contact hours

**Improve**

- 82 education volunteers
- 1,729 volunteer hours

"I am greatly appreciative of all of the staff for their helpful suggestions and interactive activities that were great uses of material and time, and were thought producing for students to stay engaged. Thanks for all of the wonderful ideas!"

"We thought this was a well run camp! Our child loved the teachers and the content!"

Summer Camp Parent
National Estuarine Research Reserve Education

Change on the Ground in 2017

Connects
People to Estuaries

1 million+ ACRES of natural classrooms & living laboratories with

28 INTERPRETIVE CENTERS

29 RESEARCH RESERVES

ALASKA  PUERTO RICO  HAWAII

650,340 VISITORS learn about estuaries through Research Reserve outreach & education

Protect wildlife
Monitor water quality
Plant native species
Clean up the coasts

Prepares
the Next Generation

87,899 STUDENTS take learning out of the abstract & into the outdoors

3,079 TEACHERS are trained in the estuary & supported in the classroom

ESTUARY SCIENCE  LOCAL DATA  LAB WORK  FIELD INVESTIGATION

SKILLS BUILT

Observation
Asking research questions
Problem solving
Data driven decision making

Improves
the Environment

12,849 CITIZENS are trained & inspired to protect their coasts & estuaries

28 RESEARCH RESERVE EDUCATORS lead programs that foster coastal stewardship in communities in 23 states

Creating value through education
39,035 volunteer hours = $942,305*

*A value of a volunteer hour is calculated at $24.14 based on data from the Independent Sector.

cost.noaa.gov/estuaries