**PROFESSIONAL DEVELOPMENT TOUR INFORMATION**

**Belle W. Baruch Institute of Coastal Ecology and Forest Science**

As more people and businesses move to South Carolina's coast, more natural lands are being converted to urban uses. Scientists at the Baruch Institute have studied the coastal environment for nearly 40 years, including the environmental impact of changing land-use patterns, coastal natural resource conservation, forestry, water quality and watershed management.

The research provides information to help public policy decision-makers manage growth issues so the state's coastal environment can be preserved for future generations. The Clemson scientists at Baruch have memoranda of understanding with public and private organizations that grants access to more than 80,000 acres of coastal lands for collaborative research and education programs.

The 16,000-acre Hobcaw Barony offers research opportunities for faculty and students in an ecological reserve of forests, high-salinity marsh estuaries, and brackish and freshwater marshes. Research is enhanced by cooperative programs with the US Environmental Protection Agency, US Geological Survey, US Department of Interior, US Fish and Wildlife Service, USDA-NRCS, Kennedy Waterfowl and Wetlands Center, SC Sea Grant, Andrew W. Mellon Foundation, US Forest Service, SCDHEC State Revolving Fund, Pee Dee Research and Education Endowment, Frances Bunnelle Foundation, and National Audubon Society.

**Coastal Research and Education Center**

The Coastal Research and Education Center conducts applied research, education and public service programs on vegetable and specialty crops.  The center includes 325 acres in addition to laboratories in the Department of Agriculture U.S. Vegetable Laboratory building.  Our research focus is developing sustainable, efficient and economical vegetable production and conventional and organic pest management.  The center offers instruction and research experience to graduate students and opportunities for collaboration with scientists.  The team consists of two horticulturists, a plant pathologist, a weed scientist and an entomologist.

The Coastal Research and Education Center shares a state-of-the-art research building with the [USDA ARS U.S. Vegetable Laboratory](https://www.ars.usda.gov/southeast-area/charleston-sc/vegetable-research/).  There is a total of 54,000 square feet of laboratory and office space as well as 16,000 square feet of greenhouses.  There are 22 laboratories, each approximately 600 square feet, some with specialized rooms with an additional 140 square feet.  Each of the 6 wings has a media preparation and/or heavy equipment room. The CREC experimental farm consists of 325 acres and provides 80 acres for research plots. All fields can be irrigated and most can be drip-irrigated using a computerized irrigation system.  Seven soil types of the southeastern coastal plains area are present on the center farm.  A pesticide storage, mixing and decontamination facility is included among the farm outbuildings.  Four greenhouses are available: a 1,000 square-foot glasshouse, a 1,000 square-foot plastic covered greenhouse, a 750 square-foot plastic house, and a 950 square-foot section in the USDA US Vegetable Laboratory glasshouse.  Dew chambers, reach-in growth chambers, and walk-in growth chambers are available in the 22,000 square-foot USDA head house.

**Restoration Institute** **Wind Turbine Testing Facility**

This is theworld’s largest wind-turbine drivetrain testing facility. It is capable of full-scale highly accelerated testing of advanced drivetrain systems for wind turbines in the 5 megawatt to 15 megawatt range with a 30 percent overload capacity. A drivetrain takes energy generated by a turbine’s blades and increases the rotational speed to drive the electrical generator, similar to the transmission in a car. As the wind energy market evolves, South Carolina is strategically positioned to serve as an industrial hub for this evolving industry.