Florida State University

Planning Grant: Climate modeling and outreach activities

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Co-PIs: Steve Cocke, David Zierden, James O'Brien, Julie Harrington
Students (name/degree sought): Cristina Collier / B.S. Meteorology (completed May 2010)

Description:
The objective of the planning grant is to develop at least one external funding proposal that focuses on areas of climate modeling and/or climate outreach that support the activities of the IESES. The focus of our activities has centered on evaluating the potential offshore wind resource in the northeastern Gulf of Mexico and elsewhere in Florida's waters. Preliminary research has been completed using observations from instrumented Air Force towers and buoys in the waters around Florida. The existence of wind power capacity has been identified at the assessed locations. Due to the sparseness of in-situ wind data in the region, a numerical modeling approach will need to be pursued to develop a wind climatology with sufficient spatial and temporal scales to further define the offshore wind power capacity.

A vast portion of the work conducted focused on outreach and education. When we began our project, the idea of offshore wind power in Florida was not even on the radar of the Florida Legislature or the renewable energy sector at large. We worked to raise the visibility of offshore wind as an energy resource for Florida by attending meetings, connecting with the wind power industry in Florida, and briefing two members of the Florida Legislature and presenting to the Florida Energy and Climate Commission. As a result of these connections, we submitted a preliminary proposal to Siemens Wind Power and have developed a network of colleagues both within FSU and the private sector that are interested in further developing Florida's offshore wind resource.

Budget: $15,000
Universities: FSU
External Collaborators: Mark Powell (National Oceanographic and Atmospheric Administration)

Progress Summary

The preliminary research confirms the existence of an offshore wind resource; however, the winds are not as strong as they are in regions where offshore development is underway on the U. S. East Coast. There continues to be a need for a more detailed wind resource assessment and the work of this IESES project has stimulated interest at the National Renewable Energy Laboratory to complete the coastal wind resource maps. Once a good resource assessment is complete, more effort will be needed in the areas of marine spatial planning, economics, and engineering to build a case for which regions have economically viable wind. There will be a need for technological improvements in turbine technology to produce at lower wind speeds.

Dave Cartes, IESES Director with Mark Powell of NOAA who is a co-PI on the Climate Modeling and Outreach Activities.

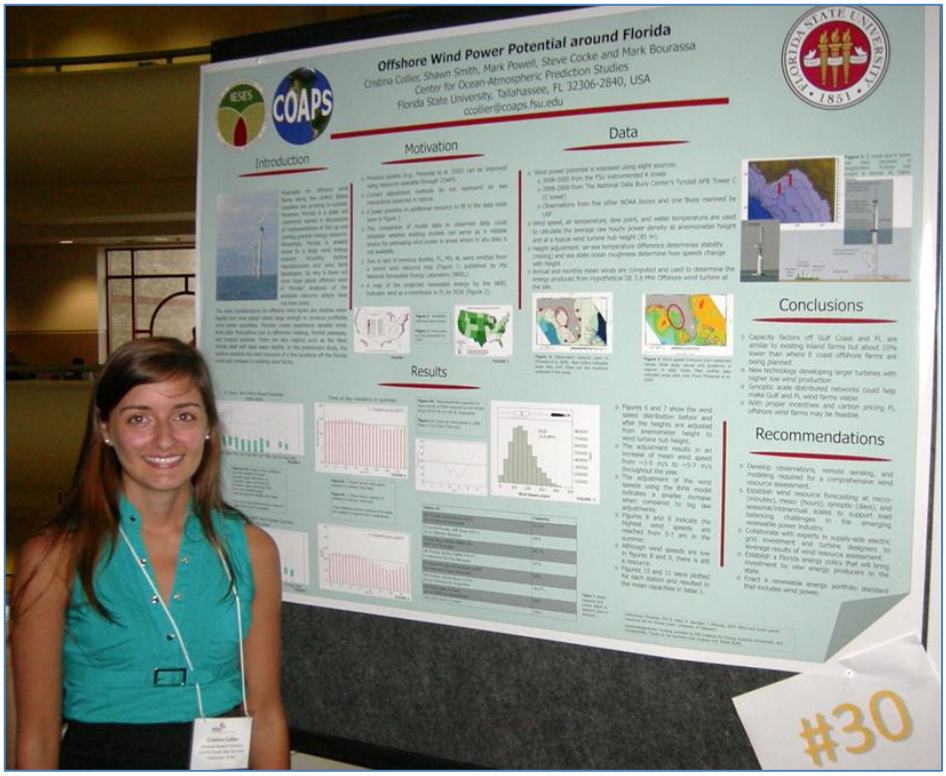
In terms of outreach, the project has worked to change the attitudes within the renewable energy community and the state legislature that wind needs to be considered for Florida.

Funds Leveraged/New Partnerships:

Through the planning grant, we completed the necessary background research to initiate a full scale project. In March and April 2011, we participated with a large multidisciplinary team to submit preproposals for U.S. Offshore Wind: Removing Market Barriers Funding Opportunity Announcement Number: DE-FOA-0000414 and U.S. Offshore Wind: Technology Development Funding Opportunity Announcement Number: DE-FOA-0000415.

We are working towards hosting a regional offshore wind workshop, which will focus on the issues related to wind power around Florida and in the northern Gulf of Mexico. These regions all have similar wind resources.

If we can achieve a critical mass of researchers and industry partners, we believe we can make a case for offshore wind in this region. The resource is not one that can be immediately developed, but if the proper investments are made in technology, planning, and economic assessment over the next decade, then this resource may be tapped in the 10-15 year time frame.



Christina Collier at the 2010 FESC Summit