ADCIRC Prediction System Enhancements and Coordination

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SHORT DESCRIPTION

A substantial portion of the Coastal Resilience Center's research portfolio involves the development and application of new capabilities for the ADCIRC Prediction System (APS) TM which is comprised of ADCIRC, the ADCIRC Surge Guidance System (ASGS) and a growing number of output products. This project provides resources for the overarching coordination across the ADCIRC portfolio, from process improvements to transition.

Included in these activities are the development of:

- upgraded wind models available to run ADCIRC using the cloud based "MetGet"
- interface (with Cobel, Fleming, Ginis);
- implementation of data assimilation into APS (with Blanton, Fleming);
- interface for CRC fast wave model and APS (with Dietrich, Dawson, Fleming, Blanton);
- additional capability to track, manage and create products from multiple APS runs across different computer platforms – APS Health Monitor (with Blanton);
- improved products and capabilities from APS including downscaled water levels, HAZUS ready output, and visualization / analysis tools (with Blanton, Dietrich, Ginis, Becker);
- continued operation and maintenance of APS to provide access to ADCIRC predicted water levels and flooding during major storm events (with Blanton, Fleming, Cobel); and
- expansion / sustainment of ADCIRC forecasting via private sector capacity building

(with Fleming, Twilley)

This proposed project will contribute to and coordinate the suite of projects providing enhancements to the APS to increase the accuracy, power and flexibility of this system; develop improved products and services for end users; and provide interpretation of APS results during major storm surge events to maximize the value of these results for end users.

ABSTRACT

The active hurricane seasons from the past few years have provided valuable experience, end user engagement and lessons learned that we have used to identify important upgrades to the ADCIRC

Prediction System (APS), the ADCIRC-based storm surge forecasting capability comprised of ADCIRC, the ADCIRC Surge Guidance System (ASGS) and a growing list of output products that will help us become even more effective in providing storm surge, wave and flooding predictions in the future. We believe it is critical to implement these enhancements to continue to advance the capabilities, usability and value to the large number of end user stakeholders who have begun to rely on the associated products.