The Engineering Team

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The innovative autonomous mobile buoy will allow research to be conducted in multiple locations in a single deployment. It will be capable of mooring and unmooring itself and will operate without necessary human assistance for up to one month. It will integrate ocean engineering, oceanographic, environmental and marine science, and meteorological studies.
Project Scope

Our project entails the design and manufacturing of an autonomous/remotely controlled mobile buoy with supporting marine technology to effectively monitor areas in the Indian River Lagoon and the near shore coastal zone of the Atlantic Ocean. It will be used for chemical, physical, biological, and meteorological studies. Expected instruments that will be mounted on the buoy are as follows: turbidity, temperature, salinity, dissolved oxygen, radioactivity, hydrocarbon, chlorophyll, algae, and phytoplankton sensors as well as an array of meteorological instruments.

However, the buoy is not limited to our expectations. The instrumentation will be interchangeable. Areas of usage could be broadened up to a maximum of 5’ seas.

Preliminary Designs

The design of the buoy is inspired by the mono-hull Nomad buoy. However, many substantial modifications will be made. The dimensions are reduced to a length of 6 feet, beam of 3 feet, and depth of 2 feet. The buoy will have the ability to moor and un-moor itself at specified locations. Locations will be programmed pre-launch and can be modified using cell-phone communications after deployment. Data will be collected using a data logger, and can be monitored from a live feed connection. For more details, visit

http://my.fit.edu/~zpfeiffe