

APPLYING INNOVATIVE LAND USE TECHNOLOGY IN COASTAL COMMUNITIES

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Climate change is intensifying many of the challenges that coastal resource managers have come to associate with land use change—water quality degradation, habitat and species loss, coastal inundation, and shifting shorelines. In this context, land use decisions will strongly influence how well coastal communities can adapt to the unfolding impacts of climate change. The stakes are high, particularly when calculated in terms of lost property, infrastructure damage, habitat degradation, reduced economic opportunity, and increasing threats to human health and safety.

Interested in sponsoring innovative research and technology to support science-based, effective land use planning, the UNH/NOAA Cooperative Institute for Coastal and Estuarine Environmental Technology conducted an analysis of land use decision makers in coastal states around the country in 2006. Using interviews, surveys, and focus groups, this analysis concluded that making land use decisions that lead to improved environmental health is, in part, *not* a technical or scientific problem. It also found that funding to promote environmentally sustainable planning technologies should take into account the capacity and training of end users, the evaluation and demonstration of the technology, and the dissemination of results to a diverse audience group.

This research informed a funding opportunity that was focused on integrated, multidisciplinary teams working to apply new or refined land use planning tools and to develop specific products for designated communities. The funding opportunity was designed to address specific priority needs of communities grappling with how to manage land use and how to apply technologies in their work. As a result, CICEET awarded \$2.8 million to 13 projects working in 20 coastal states to build tools for effective planning and sustainable growth.

For example, one project team is developing a method that uses collaborative learning—a process that facilitates environmental decision-making among diverse stakeholders—to apply geospatial and visualization tools to the development of a conservation and land use plan for Sanford, Maine. Using Sanford's experience as a case study, the team will develop and pilot a regional training on the use of ecosystem based management tools for land use planning. Another project team is developing a suite of internet-based geospatial tools coupled to a database management system to provide a watershed-wide, geospatial inventory of existing stormwater management infrastructure to help communities along New Jersey's Barnegat Bay evaluate the impact of proposed development on water resources.

This oral session will present preliminary results from a subset of these land use projects. Investigators will discuss technical challenges and advances, as well as lessons learned about conducting science with community members to develop real solutions to on the ground land use planning issues. A moderator will lead a brief concluding discussion of how results from these and other projects in the cohort could be disseminated beyond the pilot communities.

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