

## **CoPe: RCN: Building a Collaboratory for Coastal Adaptation over Space and Time (C-CoAST)**

Developed coastal environments are shaped by interactions between human activities and natural processes. These interactions cascade such that mitigation and recovery strategies that promote adaptation at the time scale of hazardous events (months to years) can be maladaptive on longer timescales (decades). The Collaboratory for Coastal Adaptation over Space and Time Research Coordination Network (C-CoAST-RCN) will build the new collaborative capacity necessary to address two Grand Challenge Questions (GCQs): 1) How do event/recovery-driven dynamics of human and natural systems alter risks and the resilience of communities, ecosystems, and landscapes?, and 2) What levers—actions of individuals, communities, governments, and other groups—enable mutual resilience of communities, ecosystems, and landscapes? By building the capacity for a comprehensive scientific understanding of the human-natural coastal system, C-CoAST will enable the potential for steering the coastal system away from future states that communities want to avoid, and toward outcomes they deem more desirable. C-CoAST RCN findings, and the research it facilitates, will contribute to recently invigorated state-level resilience planning. C-CoAST's integration of stakeholders—from counties representing variations in vulnerability and socioeconomic, political, and cultural characteristics—in network activities culminating in co-production of a research agenda and development of collaborative teams will broaden participation in coastal research and contribute to improved public perceptions of science.

Addressing the C-CoAST RCN GCQs requires a radically transdisciplinary understanding of the coupled human-natural coastal system. C-Coast will fuse diverse perspectives and develop new long-term collaborations that span previously uncrossed boundaries. C-CoAST activities will integrate scholars from many disciplines—biogeochemistry, demography, design, ecology, economics, education, engineering, geomorphology, hydrology, land-use planning, law, non-linear dynamics, political science, sociology, as well as the arts and humanities—who address human dynamics, natural dynamics, and their interactions within coastal systems. C-CoAST will build and cultivate capacity by integrating *researcher*, *practitioner*, and *stakeholder* expertise across coastal interests through a suite of facilitated activities: a) *Discipline 101 Seminars* in which participants share their specialized “languages,” perspectives, and methods; b) small-group *Listening Sessions* in which researchers, practitioners, and stakeholders develop a shared understanding of barriers to managing coastal systems in a way that considers how short-term couplings unfold over longer time scales; c) interactive, public *Gallery Walks* that synthesize *Listening Session* findings and elicit feedback; and d) a *Research Agenda Workshop* to co-produce and prioritize specific CoPe-science research questions and develop teams to address them.