

National Science Foundation CoPe Hub Network Initiative

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The CoPe (**Co**asts and **Pe**ople) Hub Network Initiative is an innovative approach to linking regional (place-based) and national (thematic) communities of coastal scientists and engineers; practitioners; stakeholders; industries and businesses; educators and students; and concerned citizens. This proposed model recognizes the regional nature of many of the problems and opportunities associated with coastal zone development, and the national interests to protect health and safety and a prosperous economy. The underlying assumptions of the model are: 1. Equal opportunities for access and broad participation are necessary for ensuring an equitable distribution of resources and information; 2. All science is, ultimately, local; but good science is universal; 3. There is an advantage to translating the language of science to the language of user communities; 4. Local manifestations are the first indicator of potentially regional and national scale problems; and, 5. Such a network improves the potential for early recognition next generation problems.

Our vision for a network is founded first upon the concept of hubs as place-based exemplars of national coastal problems. These problems can include, but are not limited to: sea level change, urban coastal issues, seismic hazards, severe storms, island issues, and efficient data sharing. The distribution of the severity of these problems (with the exception of data sharing) is strongly geographical. The regional concentration of some of these problems favors the designation of a relevant hub as the national exemplar. We do not recommend where the hubs should be placed but that these criteria be considered in site selection.

Ideal hubs should share a set of characteristics that maximize their utility for the production of transformative science and service to the nation and communities. Each hub will be designed as a physical

entity, most likely housed at an existing federal facility or a university, and managed locally by a regional consortium to promote broad participation. The hub will be built on a multi-disciplinary foundation including, for example, education, science, social and behavioral science, engineering, and planning. Each hub will serve both regional and national constituents through outreach and education, and linked via dexterous communication with stakeholders and end-users.

This hub model compliments the NSF mission. First, the model provides a bridging mechanism between current NSF divisions and programs, promoting multidisciplinary approaches to complex coastal challenges. Second, new research initiatives should arise from the synergistic nature of hub activities. These initiatives may be initially regional but frequently of national priority. Third, the model enables nimble response for research opportunities afforded by emerging, unanticipated, or ephemeral events. These events might include: tsunami, chemical spills, levy failures, extreme storms, harmful algal blooms. Fourth, the concentration of expertise encourages the initiation of new research programs. Fifth, hubs provide a mechanism for the efficient adoption of best practices.

The hub model provides both place-based and national value. The place-based value of a hub capitalizes on a rich history of local knowledge, facilitates community (stakeholder) participation, and promotes capacity-building (e.g., field-based workshops). The siting of the hub relative to identified coastal problems provides opportunities for demonstration studies and programs. Hubs favor STEM training for the next generation of coastal scientists and planners/managers via linkage with universities.

The national value of the proposed model is the ability to ensure equitable distribution of technical and financial resources across existing and emerging coastal problems; serves as a repository and point of distribution of data, models, management programs and policies documents; connects communities with a national network of scientists, planners, and managers; provides thematic support for a national audience; and coordinates a national research agenda on coastal problems.

