PROJECT FACT SHEET

Title:
Strategies for Adapting to Long-term Sea Level Rise in the San Francisco Bay Area

Summary:
The project will identify and analyze innovative strategies for physical adaptation to sea level rise in San Francisco Bay.

Local Impact:
The research will focus on approaches that could be used to guide a wide variety of future Bay Area proposals and that could be implemented at large spatial scales.

Time Frame and Funding:
2015-2017 — UC Berkeley, Climate Readiness Institute

Academic Investigator:
Kristina Hill (College of Environmental Design, UC Berkeley)

Practitioner Partners:
Regional and state agencies (e.g., BCDC, MTC, ABAG, Caltrans, Coastal Conservancy), local governments and special districts (e.g., cities, counties, flood control agencies, water districts), and non-profit organizations (e.g., BAECCC, SFEI, CHARG, RCI)

Expected Products and Outcomes:
- Test a typology of adaptation strategies against a set of actual and proposed adaptation projects from the Bay Area, to see whether it can include a sufficiently wide range of approaches. Test cases will include levees with floodwalls, levees alone, mounded earthen fill areas, tide gates, extensive wetland restorations, and beach restorations. The typology was published in the peer-reviewed journal *Frontiers in Ecology and Environment* in November (Hill, 2015).
- Use the typology diagram to organize a broad set of adaptation approaches that have been used or proposed in the Bay Area to understand what has been tried and what has not, and revealing which are commonly proposed and which are still rare.
- Identify segments of the Bay shore zone where these selected strategies may be most useful, based on existing and predicted conditions. This step will make use of research being developed by SFEI and SPUR to identify Operational Landscape Units (OLU's) when their results become available.
- Provide input to the CRI research of Stacey et al, in the form of physical shore zone adaptation proposals, so that appropriate shore adaptation proposals may be tested using the USGS CoSMoS model to predict flooding impacts.
- Based on a set of defined criteria developed with partner organizations, identify and describe the physical adaptation strategies that are most likely to succeed in the complex ecological, economic, political context of the Bay Area.
- Use the project report to spur development of a Bay Area recommendation and review process for matching specific adaptation proposals to particular segments of the Bay shore, based on hydrodynamics, OLU's and urban development types.

Contact:
Kristina Hill, UC Berkeley, kzhill@berkeley.edu
Bruce Riordan, Climate Readiness Institute, bruce@climatereadinessinstitute.org