

Environmental Security Technology Certification Program (ESTCP)

**COASTAL TOTAL WATER LEVEL MODEL
COMPARATIVE ASSESSMENT**

OBJECTIVE

Proposals are sought for projects that will assess the currently available empirical, analytical, and numerical models that are used to obtain current and future coastal total water levels. Projects are needed that compare, contrast, and identify strengths and shortcomings of current state of the art modeling used to support engineering planning and design needs for coastal installations. Assessment and analysis products must include a review of available models methods that purport to produce coastal total water levels and project coastal total water levels into the future. As part of the assessment, the analyzed models must be described in a manner to include the sources of information, cost of use both from a computer and fiscal resource perspective, and be characterized by use cases that would provide DoD engineers and planners an understanding of the ability of the various models to provide appropriate and authoritative information regarding foreseeable projected sea level change. Preference will be given to projects that combine expert analysis with a decision support aid that clearly elucidates the various approaches, models, and tools available impartially so that decision-makers can appropriately select approaches that meet a variety of needs from simple to complex, covering low to high consequence situations.

Information on how the various models incorporate changing sea level, an assessment of where particular models or approaches might be more or less suitable regionally both within Continental United States the (CONUS) and outside the Continental Unites States (OCONUS), and model strengths and weaknesses must also be included within the decision support aid. Proposals including a decision support aid must also propose how the decision aid will be demonstrated, identify no less than three and no more than five installations as demonstration sites, and propose the metrics by which success of the decision aid will be measured. Proposed installations should include both CONUS and OCONUS locations that represent a range of regions, complex environments, and resource constraints.

BACKGROUND

DoD faces a long-term threat from sea level rise (SLR) and increased flooding at coastal locations. Currently, DoD installations often use the DoD's Regional Sea Level (DRSL) database for the integration of projected sea level rise into planning. This database provides authoritative, scenario driven, information based on the appropriate vertical datum (e.g., North American Vertical Datum of 1988 (NAVD88), Puerto Rico Vertical Datum of 2002 (PRVD02) to DoD installation managers and decision makers. Using this information, installation personnel may decide that more detailed analyses are necessary to assess local, specific vulnerabilities for a range of consequences. In doing so, they face a plethora of currently available empirical, analytical, and numerical models and approaches that vary widely in terms of complexity, computational cost, fiscal cost, and efficacy. This effort seeks to provide a comparative assessment of the many approaches, allowing the users

to conduct phased assessments or scale the analyses to the consequences as appropriate, within the resources available.

POINT OF CONTACT

Kurt Preston, Ph.D.

Program Manager for Resource Conservation and Resiliency (RC)

Environmental Security Technology Certification Program (ESTCP)

4800 Mark Center Drive, Suite 16F16

Alexandria, VA 22350-3605

Phone: 502-528-0796

E-mail: kurt.t.preston.civ@mail.mil

For pre-proposal submission due dates, instructions, and additional solicitation information, visit the [ESTCP website](#).