How to get involved...

Public comments on the study will be added to the official record for the project. All comments will be addressed in the draft report in a comment matrix. Both written and verbal comments may be received at public meetings by filling out a public comment card, or by speaking during the formal comment period. Public comments can be made at any time during this study. Alternative methods to submit comments are as follows below.

Send an email to: PuertoRicoCoastalStudy@usace.army.mil

Mail a letter to U.S. Army Corps of Engineers, Attn: PD-PN, 701 San Marco Blvd, Jacksonville, FL 32207

Stay Informed!

Quarterly updates and project documents on the project website:
https://www.saj.usace.army.mil/PuertoRicoCSRMFeasibilityStudy/

Sign up for the mailing list to receive a copy of this quarterly newsletter.

Follow us!

This is the first in a series of newsletters to keep informed of the progress of the U.S. Army Corps of Engineers (USACE) Puerto Rico Coastal Feasibility Study, in partnership with Department of Natural and Environmental Resources (DNER).
**STUDY AREA**

The DNER provided the team with initial areas of interest, which included twelve municipalities: Aguadilla, Aguada, Rincon, Añasco, Mayaguez, Cabo Rojo, Arecibo, Vega Baja, San Juan, Loiza, Luquillo and Humacao. During the initial scoping process the team had to make important determinations as to which reaches had the most potential for Federal action and which had the highest priority of need, fitting within the USACE guidance. Out of the initial 12 municipalities, only San Juan, Rincon, Mayaguez and Humacao study reaches will be carried forward in the present study, and may be further de-scoped if Federal interest cannot be ensured, once the team completes initial modeling, during Fall 2019.

**PLAN FORMULATION**

**PROBLEMS IN THE STUDY AREA**

Storm damages to property and infrastructure due to wave attack, inundation, and erosion occur in Puerto Rico island-wide. These problems from storms and hurricanes have increasingly been evident in Puerto Rico over the recent past, with special attention on the storm season in 2017 which left severe destruction from Hurricane Irma and Maria, followed by winter storm Riley in 2018.

**STUDY OBJECTIVES**

- Manage the risk of damages from wave attack, erosion, and flooding caused by storms
- Maintain environmental quality in the project area
- Maintain recreation

**STUDY OPPORTUNITIES**

- Protect/Enhance habitat/environmental resources
- Reduce risk of damage to major hurricane/tsunami evacuation routes
- Retain recreation: Area depends heavily on tourism, as well as aesthetic quality for community

**STUDY CONSTRAINTS**

- Avoid or minimize impacts to cultural resources, reef resources, and submerged vegetation.
- Avoid impacts to critical infrastructure

**STUDY REACHES**

- **San Juan Coastline:** From El Boquerón to Boca de Cangrejos ~ 8 miles including Condado Beach, Ocean Park, Isla Verde, and Carolina
- **Rincón Coastline:** From Punta Ensenada to Stella, including Corcéga ~ 2.5 miles Evacuation Route Focus Mayaguez, road protection PR-102 Humacao, road protection PR-3

Plan formulation is the process of developing alternative plans to address a given problem. The Corps uses a 6 step planning process:

1. **Problem Identification**
2. **Inventory Existing Conditions and Forecast Future Conditions**
3. **Formulate Alternatives**
4. **Evaluate Alternatives**
5. **Compare Alternatives**
6. **Select a Plan**

In order to formulate alternative plans the team identified preliminary management measures. A management measure is a structural or nonstructural action that can be implemented at a specific geographic site to address one or more planning objectives. Natural and nature-based measures are also encouraged under current policy. Measures are then screened against planning criteria, including objectives and constraints, and are combined into alternative plans.

**ECOLOGICAL**

USACE uses four accounts to track benefit categories:

- **National Economic Development (NED):** This account is the most important of the four accounts as it is used for economic justification of Federal Interest. Benefits of damage reduction must be greater than the cost to implement the project; the benefit to cost ratio (BCR) must be greater than 1.
- **Environmental Quality (EQ):** This account displays nonmonetary effects on significant natural and cultural resources.
- **Other Social Effects (OSE):** This account registers plan effects from perspectives that are relevant to the planning process, but are not relevant in the other three accounts. Aspects of each area related to public safety, maintenance of recreation, or other social effects would be examined.
- **Regional Economic Development (RED):** This account measures the potential for temporary or permanent growth in the local economy attributable to the proposed Federal action.

**ENVIRONMENTAL & CULTURAL RESOURCES**

The National Environmental Policy Act (NEPA) is a federal law enacted in 1969. As required by NEPA, the Corps will assess potential environmental effects of alternatives, to include cultural resources and the human environment. The findings will be explained in a NEPA document, which will be integrated into the Draft and Final Feasibility Report. The NEPA document will be available for public review and comment before any decisions are made or actions are taken. Your input helps the Corps in identifying key environmental issues that may need to be evaluated.

**ENGINEERING & MODELING**

The engineering analysis for this study will consider the natural coastal processes, geological setting, existing coastal armor in the study area, as well as sea level rise scenarios. The team will leverage data and local expertise from the sponsor (PR DNER) and other groups (PR Academy, stakeholders, Federal agencies, and others) along with modeling in order to fully understand the problem(s) and develop alternatives to reduce storm damages within the study area.

**TENTATIVELY SELECTED PLAN & BENEFITS**

The Tentatively Selected Plan will be the NED plan, and may provide incidental benefits to the community, depending on plan formulation. The Corps uses three additional accounts to qualitatively describe other benefits of the plan (which do not factor into the quantitative economic benefits). These are Environmental Quality (which could include positive effects for sea turtle nesting, reef habitat, etc), Other Social Effects (which could include resilience to the community), and Regional Economic Development (which could be job creation, etc).

**ESTIMATED STUDY SCHEDULE**

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<tr>
<th>ALTERNATIVE MILESTONE</th>
<th>PLAN FORMULATION/ENGINEERING MILESTONE</th>
<th>TENTATIVELY SELECTED PLAN MILESTONE</th>
<th>DRAFT REPORT/NEPA PUBLIC TECHNICAL &amp; POLICY REVIEW</th>
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*Contingent on authorization and appropriations*