FY14 RSM-EWN IPR

Jacksonville District, San Juan, Puerto Rico RSM, POC: Matthew Schrader

BLUF: The goals of the San Juan, Puerto Rico Regional Sediment Management (RSM) study are to isolate where erosion problems exist, to evaluate sediment management causes, and coordinate with stakeholders to formulate and implement strategies to mitigate erosion and maximize beneficial use of sediment from San Juan Harbor.

Description/Challenges

- Highly developed, urban and suburban shorelines
- Significant existing armor and hard structures
- Chronic beach erosion / sand management issues
- Limited “good” sand coming out of harbor
- Extensive nearshore reef ecosystems

Objectives

- Formulate conceptual sediment budget
- Initiate collaborative relationship with UPR and DNER
- Initiate discussion of sand management / shore protection alternatives with resource agencies

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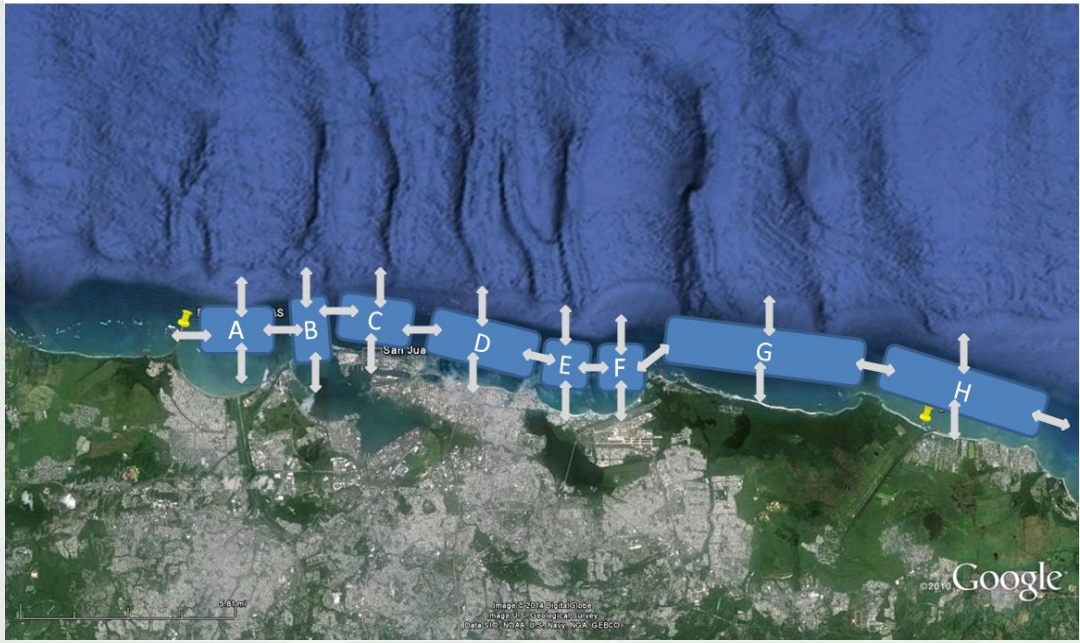
Approach

- Aerial photography
- Historical shoreline data
- Historical studies and reports
- **Establish general erosion/accretion patterns**
- **Develop conceptual sediment budget**
- Future: Address agency concerns and beneficially place sand in 2017

Figure 1. San Juan RSM Conceptual Sediment Budget

Conceptual Cells A—H, Punta Salinas to Loiza



Deliverables

13 May: RSM Study Kickoff Workshop in San Juan with DNER, FWS, USACE Regulatory and Puerto Rico Sea Grant

30 September: Technical Note—Conceptual Sediment Budget and Preliminary Storm Damage Reduction Alternatives

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Accomplishments/Benefits/Lessons Learned/Actions-construction

Puerto Rico coastal system is fundamentally different than typical Atlantic/Gulf beach systems—requires different tools/techniques

- Semi-isolated pocket beaches
- Significant river sediment contribution
- Widely varying sediment characteristics

Understanding reef sensitivity to natural turbidity/sedimentation is critical

- Reefs are natural storm protection

Sand is a valuable resource for construction, which has resulted in significant beach sand removal

- Significant driver of beach erosion in some locations
- Still occurring, poorly regulated
- Impact to beach system not widely understood

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District PDT Members

Jason Engle
Matt Schrader
Tom Martin
Wilberto Cubero-Deltoro

Stakeholders and Partners

P.R. Dept of Environmental Resources (DNER)
University of Puerto Rico (UPR)

Leveraging/Collaborative Opportunities

•Significant coastal data collection and study efforts by UPR—CDIP/CariCOOS wave buoy

•P.R. Sea Grant coordination—grants for RSM-related data collection being sought by Sea Grant

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