

COASTAL GROUP R&D NEEDS

THE TEAM

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POLICY NEEDS

1. Technical support program, i.e., DOTS, FACTS(10H)
2. Maintain in house survey expertise (8H)
3. Develop Corporate GIS system for RSM, project tracking, project O&M (7H)
4. Model maintenance funding should not be a project fee, but from a general funding source. (6H)
5. Consider future land use development trends (demographics) in the coastal plain design and benefit analyses. (6H)
6. Means for assessing Sand-rights issues in terms of what is the role and fate of sand relative to erosion of lands. (4H)

STRATEGIC NEEDS

1. Long-term, regional-scale field data collection system for development and calibration of tools (11H)
2. Regional scale hydro and sediment models for handling RSM scale problems (11H)
3. Combined model for short term events and long-term erosion (11H)
4. Guidance for Coastal ecosystem design (9H)
5. NEPA cumulative impacts of beach nourishment, offshore mining and coastal structures (environmental). (9H)
6. Look at un-dredged, un-jettied inlets to determine the natural rates of impact and base condition of impact for natural inlets (9H)
7. Long-time scale geomorphic evolution model (7H)
8. Cross-shore transport flux rates for sediment between the beach and the shelf (6H)
9. Research into artificial sands, types, acceptability, performance. (6H)

TACTICAL NEEDS (1 of 3)

1. Predict inland extent of coastal storm caused flood and structural (wave) damages (11H)
2. Damage function and risk-based analysis R&D (11H)
3. 3-D storm surge and wave set-up analysis/model to determine ponding effect on flooding and shore protection performance. (issue for deep-water islands and Pacific coast) (10H)
4. Level of protection or service of damaged structures. What's needed? What's left? (9H)
5. Increase longevity of beach fill projects to reduce renourishment cycles (placement, fill size, auxiliary structures, etc.?) (10H)
6. Evaluate impacts of removing or modifying existing structures on their function and stability. Reformulation tools to define the function of existing structures (10H)

TACTICAL NEEDS (2 of 3)

1. Cheaper, faster geophysical technologies for defining offshore borrow areas to limit need for coring (8H)
2. Wave and water level combination return periods (7H)
3. Design, benefits, and operation of groin modification (i.e., notching, permeability, adjustments) (8H)
4. Role and design of wetlands for erosion control purposes (7H)
5. Concrete units for repairing existing structures of different units (7H)
6. Locating and designing deposition basins for inlets....sediment transport pathways (6H)

TACTICAL NEEDS (3 of 3)

7. Rehab guidance for non-rubblemound structures (6H)
8. Advancements in concrete armor design specifically for reveting/armoring (6H)
9. Design and use of more natural approaches to shore protection, such as reefs and headlands. (7H)
10. Predict conditions of offshore borrow areas (7H)
11. Next generation monitoring tools including currents, waves, terrain mapping (6H)
12. Simpler, less expensive options for designing beach fills (“more money for sand and less for study?”) (7H)
13. 3-D beach evolution model (7H)
14. Combination of inland and coastal flooding....techniques to determine risk and levels (6H)

THE HIGHEST PRIORITY (12 or 13H)

1. Public outreach communication and training tools. “How to live with the coast” stuff. Visualization tools to transfer high tech information to the public forum (educational and marketing) (T/P)
2. Long-term monitoring of project performance including capturing economic benefits (T/S/P)
3. Incorporate recreational benefits into project benefits (T/P)
4. Role of climatic trends, variability, and global change in driving longer-term coastal evolution, storm patterns, and risk/uncertainty, etc. What does it mean in terms of Corps activities? (S)
5. Establish funding (outside the R&D program) to support field data collection. (plus up FDCP?) Use MSC’s to make this happen. System, funding, and mechanisms to manage and maintain data sets. (P)