

DNR Coastal Resources Division
Coastal Management Research Needs (Not Prioritized)
Updated July 2022

Coastal Hazards:

- Economic cost of action vs. inaction related to coastal hazards
- Effects of Ocean Acidification in Coastal Georgia Waters
- Local Model Ordinances to address Climate Change Impacts
- Reference tide stations to orthometric datum for enhanced accuracy of calculations in reference to land elevations

Coastal Habitats:

- Tidal marsh restoration (ecological lift versus economics, analysis of existing restoration)
- Economic value of salt marshes via wave attenuation during storm surge
- Environmental and biological data related to health and/or status of Georgia's river drainage systems. Specific needs related to habitat requirements during early life stages of marine organisms
- Reach of tide in major riverine systems
- SLAMM data enhancements (bathymetry, salinity, elevation, etc.)
- Geospatial information for assessing priority species impacts
- Saltmarsh, freshwater marsh and oyster reefs for carbon sequestration.
- Prioritization of hydrologic restrictions in the 11-county coastal zone.

Water and sediment quality/quantity:

- Bacterial transport – hydrology studies; what are the bacterial sources? (Transport and time-of-travel studies to estimate when a pollution plume would reach a coastal swimming beach)
- How harmful to human health is enterococcus bacteria in beach waters?
 - Epidemiology studies of recreational waterborn illness.
 - Quantitative Microbial Risk Assessment (QMRA) studies for specific beaches
- Bacterial issues in and around Georgia coastal marinas
- How can we better detect pathogens in beach waters?
 - Predictive modeling to correlate environmental factors to elevated levels of bacteria
- Correlations between DO levels and tannins in Georgia coastal rivers
- Effects of wetlands and land use practices on instream flows (at multiple scales from site to regional)
- Beachfront shoreline change modeling/predictive ability considerate of natural and anthropogenic inputs
- Similar to predictive modeling as above in beach water pathogens but focused on point source discharges and accidental releases
- Appropriate DO criteria that is protective of aquatic species present

Marine Fisheries:

- Estimates of hooking mortality in the catch-and-release recreational fisheries
- Complete knowledge of the life history of exploited estuarine and marine fishes indigenous to coastal Georgia
- Improve fishery assessments, with increased/coordinated fishery-dependent and fishery-independent monitoring/surveys region-wide
- Characterization of discards associated with recreational fisheries, specifically Red Drum and Black Sea Bass.

Green Growth/Stormwater Management:

- Pre and post construction monitoring of effectiveness of LID BMP installations (including water quality and quantity impacts)
- Inventory of specific codes, ordinances, and/or individual practices that are hindering green development in coastal counties, including solutions to alleviate these roadblocks
- Future buildout analysis for coastal counties to demonstrate stormwater and flooding impacts with increasing impervious cover (including water quantity and quality impacts)
- Economic analysis of traditional subdivision development patterns versus “green” neighborhood developments utilizing local/regional examples
- Hydrologic analysis of tidally influenced stormwater infrastructure with future precipitation and future sea levels to identify and prioritize needed capacity improvements.