Great Marsh Resiliency Modeling Workshop

Monday, April 11, 2016 9:00AM – 4:00 PM

Parker River National Wildlife Refuge

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| 9:00 | Check-in, Meet and greet over coffee and snacks | All |
| 9:30 | Welcome and Introductions, Purpose and Desired Outcome of Workshop | Bill Peterson/  Nancy Pau (USFWS) |
| Decision Maker Perspectives: How do decision makers apply science in their day to day jobs? | | 25 minutes |
| 9:45 | Federal perspective | Andrew Milliken/Megan Tyrrell, USFWS |
| 9:50 | State perspective | Marc Carullo (CZM) |
| 9:55 | Great Marsh conservation community | Peter Phippen (MassBays) |
| 10:00 | Great Marsh towns and cities | Julia Godtfredsen (Newburyport)/ Lisa O’Donnell (Essex) |
| 10:05 | Q& A regarding perspectives | All |
| 10:10 | Inter-relationship among salt marshes, tidal inlets, barrier island and tidal delta sand reservoirs | Duncan Fitzgerald (BU) |
| Understanding salt marsh response to climate change | | 120 minutes |
| 10:30 | Overview of salt marsh response to Climate Change and how models are used to improve understanding and make predictions | Anne Giblin (MBL/ PIE LTER) |
| 10:40 | Marsh bank erosion, wave energy, and implication for marsh stability | Sergio Fagherazzi (BU) |
| 11:00 | Marsh Equilibrium Model (MEM) | Jim Morris (U of SC) |
| 11:15 | Hydrodynamic model of Plum Island using MEM | Scott Hagen (LSU) |
| 11:30 | Q&A and other models not presented | All |
| Catered Lunch and model demonstrations | | 11:40 to 12:40 |
| 12:40 | Discussion: do current available science on salt marsh provide information decision makers need?   * + Review needs of decision makers (natural system and built communities)   + Compile what various models predict and say about ecosystem response (ID various key processes, i.e. changes in sediment dynamics, changes in extent of vegetated/unvegetated habitat, plant community changes- species composition, above/below ground biomass allocations, etc.)   + ID commonalities, ID differences, and appropriate application of each model   + What is needed to synthesize available science? What is missing? | Susan Adamowicz (USFWS, Facilitator) |
| Understanding barrier island response and infrastructure vulnerability to climate change | | 110 minutes |
| 1:30 | Overview of barrier island response to climate change and how models are used to improve understanding and make predictions | Duncan Fitzgerald (BU) |
| 1:40 | Historic and modern sediment budget and sand movement on Plum Island | Porter Hoagland (WHOI) |
| 2:00 | Vulnerability of infrastructure to coastal flooding under SLR scenarios | Kirk Bosma (Woods Hole Group) |
| 2:20 | Q&A and other models not presented |  |
| 2:35 | Discussion: do current available science on barrier island geomorphology provide needed info to decision makers   * + Review needs of decision makers (natural system and built communities)   + Compile what various models predict and say about ecosystem response (ID various key processes, i.e. storm surge, changes in sand bar, tidal inlets, how various mitigations strategies fit into larger picture)   + What is needed to synthesize available science? What is missing? | Julia Knisel (CZM, Facilitator) |
| 3:20 | Group discussion: steps needed for science delivery   * + How do we integrate and expand collaboration of various models, identify funding strategies (if appropriate)   + How do we provide the integrated results to decision makers   + Are there important considerations in these models that are missing but would greatly improve their utility for stakeholders? | Megan Tyrrell/ Nancy Pau/ All |
| 3:40 | Wrap Up   * Identify action items and follow-up discussion as appropriate * How can decision makers access models/modelers after workshop? * What science/ science delivery is needed to make available data useful to decision makers? | Planning Team/All |