Task 2

Project Activity: Locality Specific Waterfront Parcel Data

Objective: Collect spatial and tabular data to create a GIS waterfront parcel layer for each locality of interest (Gloucester, Norfolk, and Lancaster) to support various aspects of this NSF project, such as social and natural system surveys and analyses, web viewing, etc.

Methods: Data are obtained from multiple sources (i.e. local government, FEMA, CCRM, VMRC, etc.)

Data collected include the following categories:

- Basic Information: Parcel boundary, Parcel Identifier, Parcel address, Acreage
- Property Owner: Name and mailing address
- Buildings: Location, use, elevation, distance to nearest shoreline
- Land Use/Zoning
- Shoreline Structures (CCRM Shoreline Inventory and CCRM Permit Database)
- CCRMP Shoreline Recommendations
- Shoreline Conditions (Bank height, beach, marsh, fetch, etc.)
- Flood Zones
- Shoreline Permit Information: VMRC Number, Project Type, Linear Feet, Decision, Location, Waterway, etc.
- Marsh connectivity values

Progress to date: Data have been collected and assembled for Gloucester County and the City of Norfolk. Lancaster County data collection is currently in progress.

Task 2

Project activity: Shoreline Property Owners Survey

Objective: Identify factors that that influence property owners when making shoreline management decisions.

Methods: A mail survey will be sent in the fall to a stratified ransom sample of property owners in Gloucester, Lancaster and Norfolk. These three localities represent regions with rural development and high living shoreline implementation, urban development with high living shoreline implementation, and rural development with low living shoreline implementation.

Properties will be stratified based on presence of existing modifications (Living Shorelines, Other Shoreline Modifications, No Known Shoreline Modification), fetch (Low, Medium, High), and connectivity (Low, Medium, and High). We want to have good coverage of living shorelines as well as other modifications to understand what influenced these property owners to make the modifications to their shoreline that they have but we also need to understand why certain owners have not made changes and what factors they are likely to consider in deciding whether to make changes in the future. We want coverage of all three categories of fetch to ensure that we have broad representation of decisions in different wave energy situations so as to better develop our model of shoreline property decisions and how that may vary based on wave energy. Finally we want coverage of all three categories of connectivity because we want to understand how being in locations with lots of armoring vs. areas with very little affects the modification decision so that we can build that into our model.

There will be both a long- and a short-form version of the survey. The long form includes questions on the types of networks the property owners used to make shoreline decisions. The short form excludes the network questions, but is otherwise the same as the long form. Thus both surveys will collect some basic data on the property that is not available from existing records (primary/secondary residence, length of residence, past experiences with flooding and erosion), the owners expectations about future risks, existing modifications and reasons for making those modifications, and sources of information about shoreline modifications.

Given the three dimensions in our sampling plan, there are 27 strata for each of the three counties. Ideally, we would have at least 5 completed long-form surveys in each stratum. Assuming a 25% rate, that suggests that we need to randomly identify 20 properties in each stratum to receive the long form. Once those properties are identified, we will randomly identify 20 additional properties to receive the short form. If there are more than 200 properties in a stratum, we will randomly identify a total of 20% of the properties to survey, half of which will receive the long form and half of which will receive the short form. Because there are so few living shorelines, we anticipate that most if not all properties with living shorelines will receive the long form of the survey. While we are not stratifying by property value, we will review the sampled properties to ensure that we are covering a wide range of property values.

Progress to date: We have recently received IRB approval for the survey. We will shortly pilot the survey and then make any necessary changes before fielding the survey in mid to late September. The goal is to have all responses collected and data entry completed by the end of the fall semester and initial analysis completed by the end of the spring semester.