Climate Ready Kick-Off Meeting Minutes

Monday, July 28, 2014

P&D Planning Commission Hearing Room Engineering Building

The meeting recording may be accessed along with the materials for this meeting on the Coastal Resiliency web page using the following link:

http://longrange.sbcountyplanning.org/special_proj.php

Meeting Called to Order at 9:10 a.m.

1. Introductions and Regional Jurisdictional Updates

2. Overview of Santa Barbara County Coastal Resiliency Project Phase I and Timeline

A. Development of Regional Resource Database

B. Modeling Approach to Map Multiple Coastal Hazards

Presentation by David Revell about how the model works and what the model will produce.

- The goal of the project is to prepare climate change hazard maps and vulnerability assessment, with a focus on sea level rise, for the coast of Santa Barbara County.
- Deliverables include technical report for model outputs, GIS shapefiles, policy and planning tool database, and vulnerability assessment.
- Hazard data layers will be similar to FEMA data, but adding in sea level rise and coastal erosion components.
- The analysis will be based on total water elevations (tides, plus storm surge plus wave runup plus El Nino plus sea level rise). The method of analysis will closely follow that used for the Coastal Resilience Ventura project.
- Hazard zones will be identified for the different climate change scenarios. Adding together overlapping hazard zones will show the relative probability of risk.
- The hazard mapping will yield: erosion hazard zones, coastal flooding zones (flooding during extreme events), rising tide zones (regular inundation).
- The inland extent of the project depends upon a combination of backshore elevation and the routing of flood waters. ESA will provide a shapefile of the inland extent of the project to jurisdictions to facilitate the selection of data.
- A focused study will be undertaken on Carpinteria Creek to model climate change influences of precipitation and sea level rise on river flood extents and sediment yields to one of the coastal watersheds in Santa Barbara County.
- Coastal armoring data developed by the Coastal Commission in 2006 will be used. This will be supplemented with elevation data where possible.

C. Policy and planning tool database will be a future discussion as well as analysis of social, economic, and ecological conditions and vulnerability assessment

3. Scenario and Modeling Assumptions

A discussion with the group about what assumptions to make within the model.

- Planning horizons
    - Three horizons selected: 2030, 2060, and 2100 (similar to the Ventura project)
- Sea level rise
    - Chose three (low, medium, and high) projections from Table 5.3 of the National Research Council 2012 report *Sea-Level Rise for the Coasts of California, Oregon, and Washington - Past, Present, and Future*.
- Wave climate
    - The analysis will use the USGS future wave climate developed during an earlier phase of development in the COSMOS model. This data was partially mandated by the state for consistency with other USGS Southern California studies. Existing buoy data used for Ventura project will be used to validate the analysis.
- Coastal armoring
    - In the flooding analysis the presence of structures such as sea walls and levees will be taken into account. For erosion analysis it is assumed that there is no armoring of the coast. These are the same assumptions as the Ventura project.
- Lagoon management
    - It is assumed that the lagoons will be managed as closed (natural functioning) in all the scenarios. This is the most conservative and common situation. The exception is
        - Carpinteria Salt Marsh will be managed open
- Groundwater
    - Groundwater elevations are likely to vary in the future due to climate change however this will not be modeled in this project.
- Sediment supply
    - Not covered in Ventura project, which guided many of the above decisions
    - It is assumed that current sediment/dredging practices such as at Santa Barbara Harbor, will continue. It is assumed that sediment delivery from coastal watershed will remain the same.
    - Andrew Raaf to follow-up with Dave on future dam removals
- Fluvial model
    - Using same approach as Ventura which included consideration of future changes in precipitation and runoff.
    - Modeling for one wet and one dry scenario.

4. Regional Resource GIS Database Needs

- The attached Data Needs document lists the data that the project is requesting. There was discussion about specific data needs:
- Task 3
    - Add Road Elevation to data needs

  - County of Santa Barbara will set-up FTP site
  - **Deadline:** August 29th

- Task 4
  - Historic photos are used for quality assurance. If available, include date, time and location.
  - Geologic reports for coastal development permits on the coastline are also good for quality assurance.
  - Elevations of structures related to coastal armoring (e.g. sea wall crest elevations) and storm drain connectivity (e.g. flood routing, culvert inverts) are important data.
  - Together with supplying data, please identify any data gaps your jurisdiction has.
  - Dave Revell will follow-up with Brett Buyan regarding County flood control topos.
  - Melissa Errands may be a good source for coastal armoring data.
  - Steve Campbell may be a good source for a geologic shoreline survey of the coast.
  - Task 4 data is needed ASAP to allow the analysis to start.
  - Task 4 data can be uploaded to the ESA ftp site:
    - ftp://ftp.esassoc.com
    - username: jeremylowe
    - password: runoff

    Please contact Jeremy Lowe (415-262-2304, jlowe@esassoc.com) if you have any problems uploading files.
  - **Deadline:** August 29th

Next Steps

- Approximately four meetings throughout the project timeline with this group may be scheduled
- Potential next meeting in late September or early October

Useful Links

- The Nature Conservancy's Coastal Resilience Homepage:

  http://www.coastalresilience.org/
- The Nature Conservancy's Coastal Resilience Ventura County Homepage:

  http://coastalresilience.org/geographies/ventura-county