Statistics

¼ of Marin County properties are threatened by sea level rise

By 2100, sea level could rise by around 70 cm
History - 1982 Storm

Up to 40 dead in the Bay Area

$300 million in property damage

Marin affected worst by landslides and floods
Asset Adaptation

- the goal is to identify a wide range of reasonable and effective alternatives for threatened areas
Three Types of Adaptation

1. Protect
2. Accommodate
3. Retreat
Protect

“Hard” protection: seawalls, revetments, and bulkheads

“Soft” protection: nature based solutions, horizontal levees, wetland restoration, and dune restoration
Dune Restoration

Currently happening at Tomales Dunes, Lawson’s Landing, and many other beaches

Involves rehabilitating native plant species and adding more sand
Accommodate

Elevating, retrofitting, strengthening

Designation and zoning
Managed retreat: establishing thresholds to trigger demolition or relocation of structures that are threatened

Should only happen in areas where it is cost effective and has long term benefits
Problems With Managed Retreat

Uncertainty about who pays for what

Sometimes there is insufficient space for structures to be located

Nonprofit organizations, city, state, and federal government can all help with retreat projects
Example: Pacifica State Beach

Partnered with state, fed, scientists, engineers, and non-profit organizations to retreat and protect coast.

Restored wetlands as well.
C-SMART

- C-SMART = Collaboration: Sea-level Marin Adaptation Response Team
  - Began in July 2014
  - Working to amend the Local Coastal Program
    - LCP working to ensure adaptation
      - Assess vulnerability of areas
      - Identify adaptation strategies
Figure 3. C-SMART Process

Vulnerability Assessment:
- Local SLR Projections
- Determine Exposure Areas
- Determine Exposed Assets
- Sensitivity
- Adaptive Capacity
- Potential Impacts
- Risk & Onset

Adaptation Plan:
- Research & Develop Adaptation Strategies
- Draft Adaptation Report with Next Steps

Implementation:
- Formalize and Fund Actions
- Implement & Monitor

Timeline:
- June 2014 – April 2015


