



FROM TIDES TO STORMS: PREPARING FOR NEW HAMPSHIRE'S FUTURE COAST

Seabrook - Hampton Falls – Hampton - North Hampton – Rye - New Castle - Portsmouth

Assessing the Risk and Vulnerability of NH Coastal Communities to
Sea Level Rise and Storm Surge

2016 New Hampshire Climate Summit

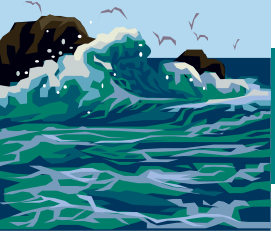
May 13, 2016

Julie LaBranche



This project was funded by New Hampshire Homeland Security and Emergency Management (HSEM) through a Pre-Disaster Mitigation Grant from the Federal Emergency Management Agency (FEMA).



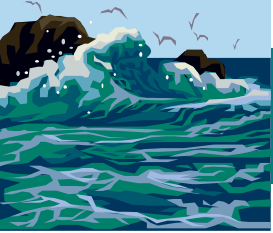


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Tools and Applications

- ✓ Best-available science
- ✓ Maps and Data
- ✓ Municipal Coordination
- ✓ Implementation Guidance
- ✓ Vehicles for Informed Planning
- ✓ Applicability



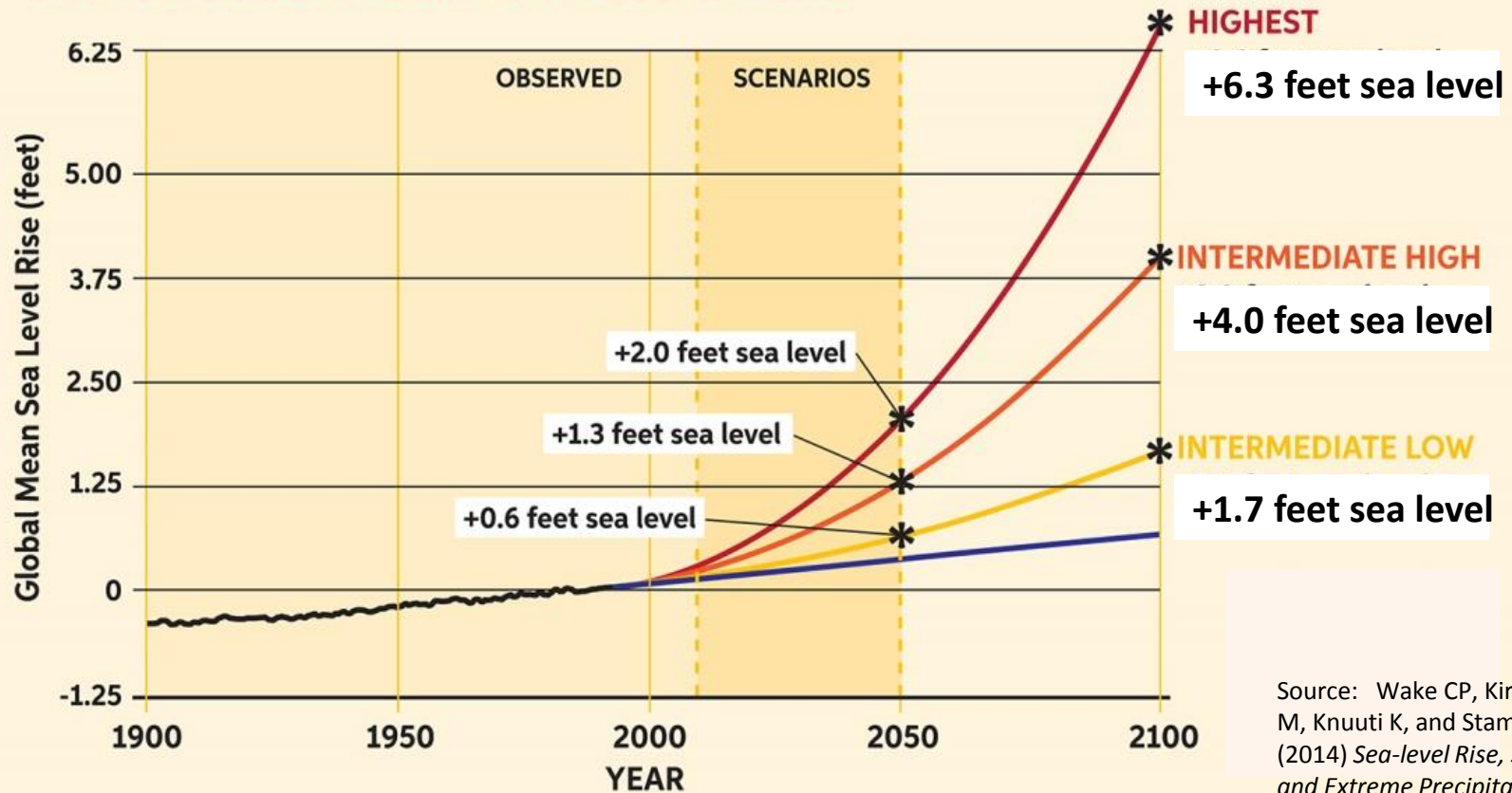


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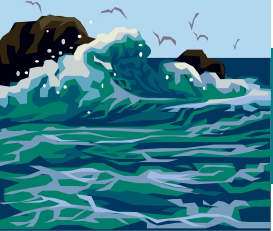


Best Available Science- SLR Scenarios/Projections

SEA-LEVEL RISE SCENARIOS AT 2050 AND 2100



Source: Wake CP, Kirshen P, Huber M, Knuuti K, and Stampone M (2014) *Sea-level Rise, Storm Surges, and Extreme Precipitation in Coastal New Hampshire: Analysis of Past and Projected Future Trends*.



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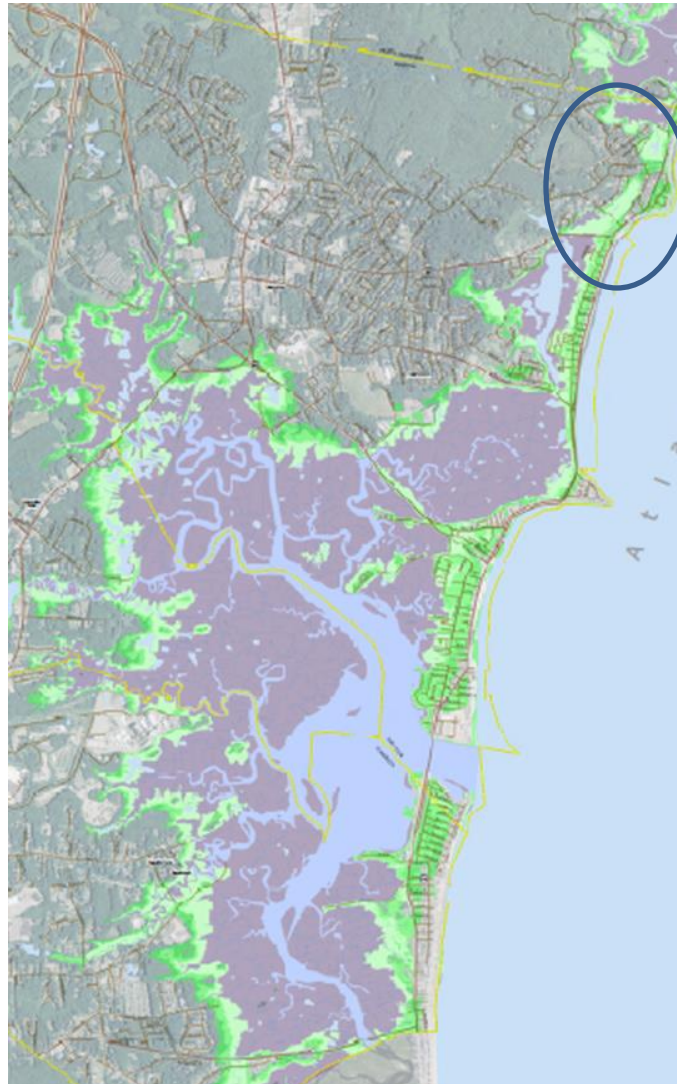


High-Resolution Mapping

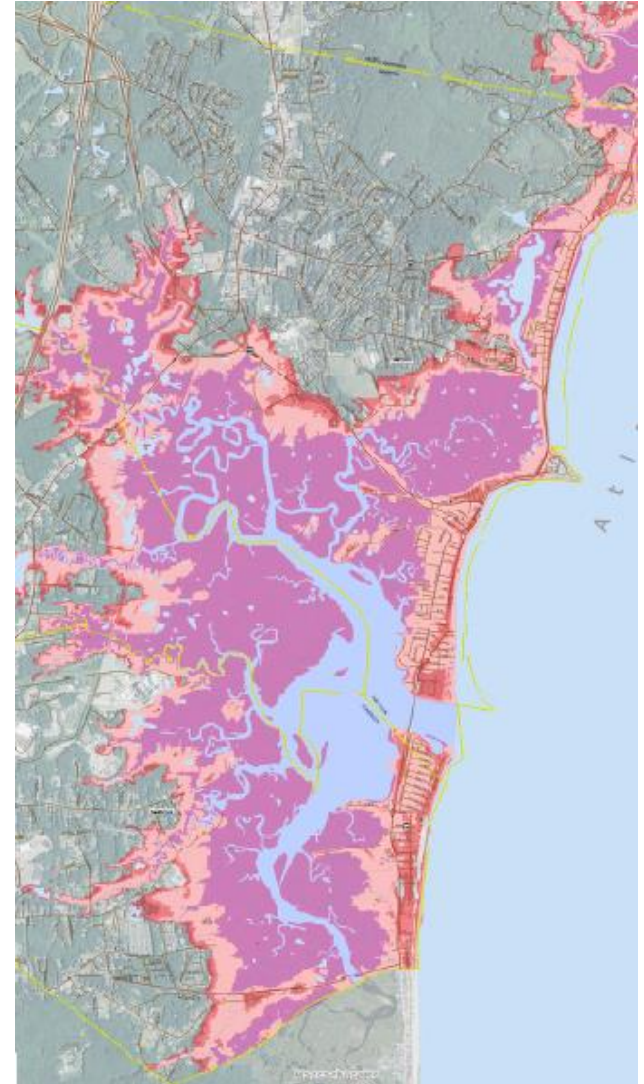
Flood Extents

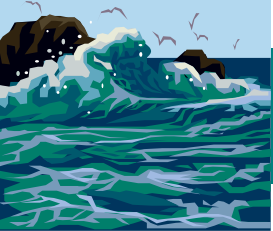
Impacts to
assets and
resources

Sea-level rise



Sea-level rise + Storm surge





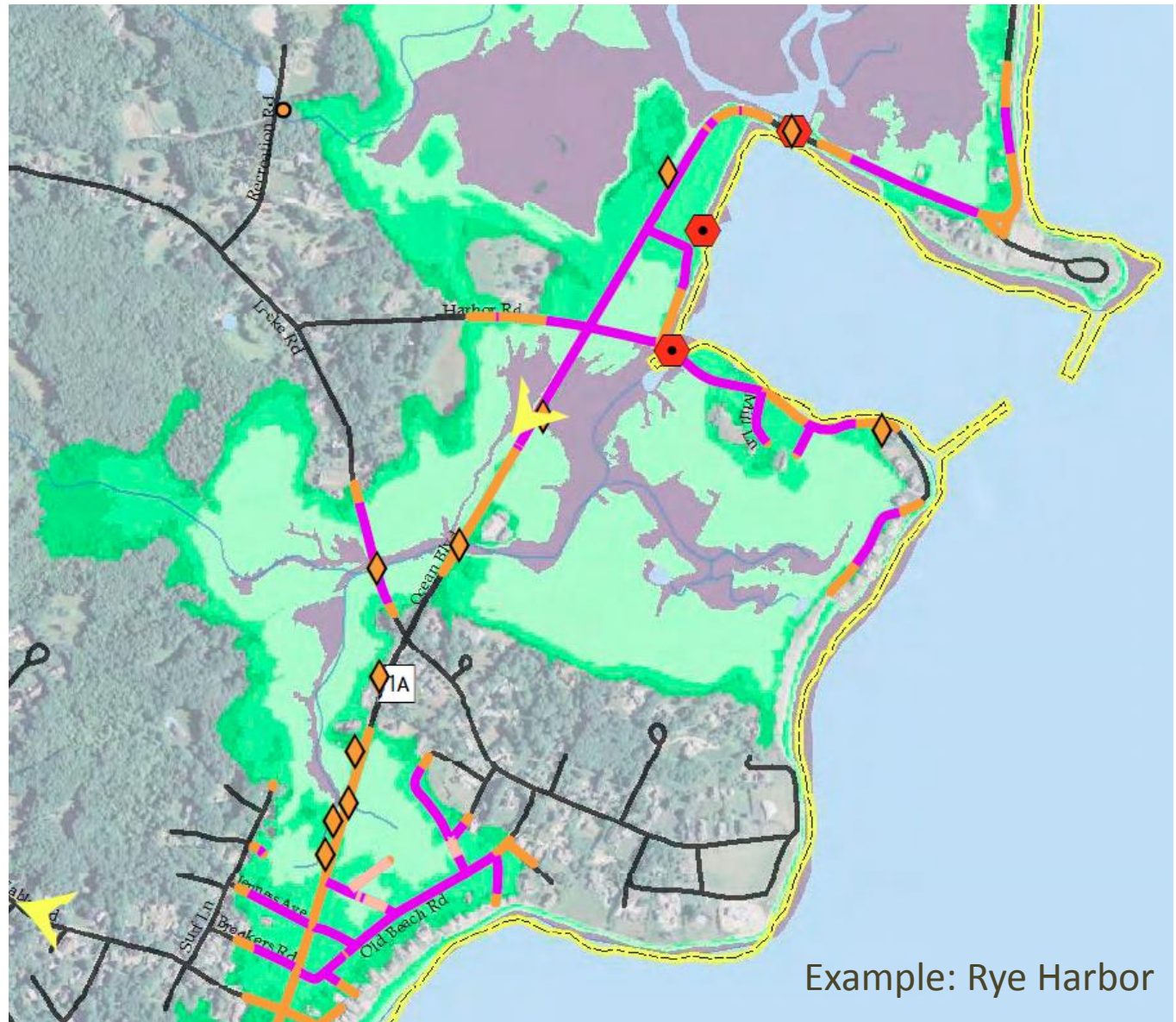
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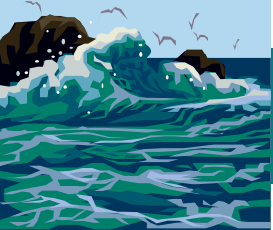
High-Resolution Mapping

Flood Extents

Impacts to
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resources



Example: Rye Harbor

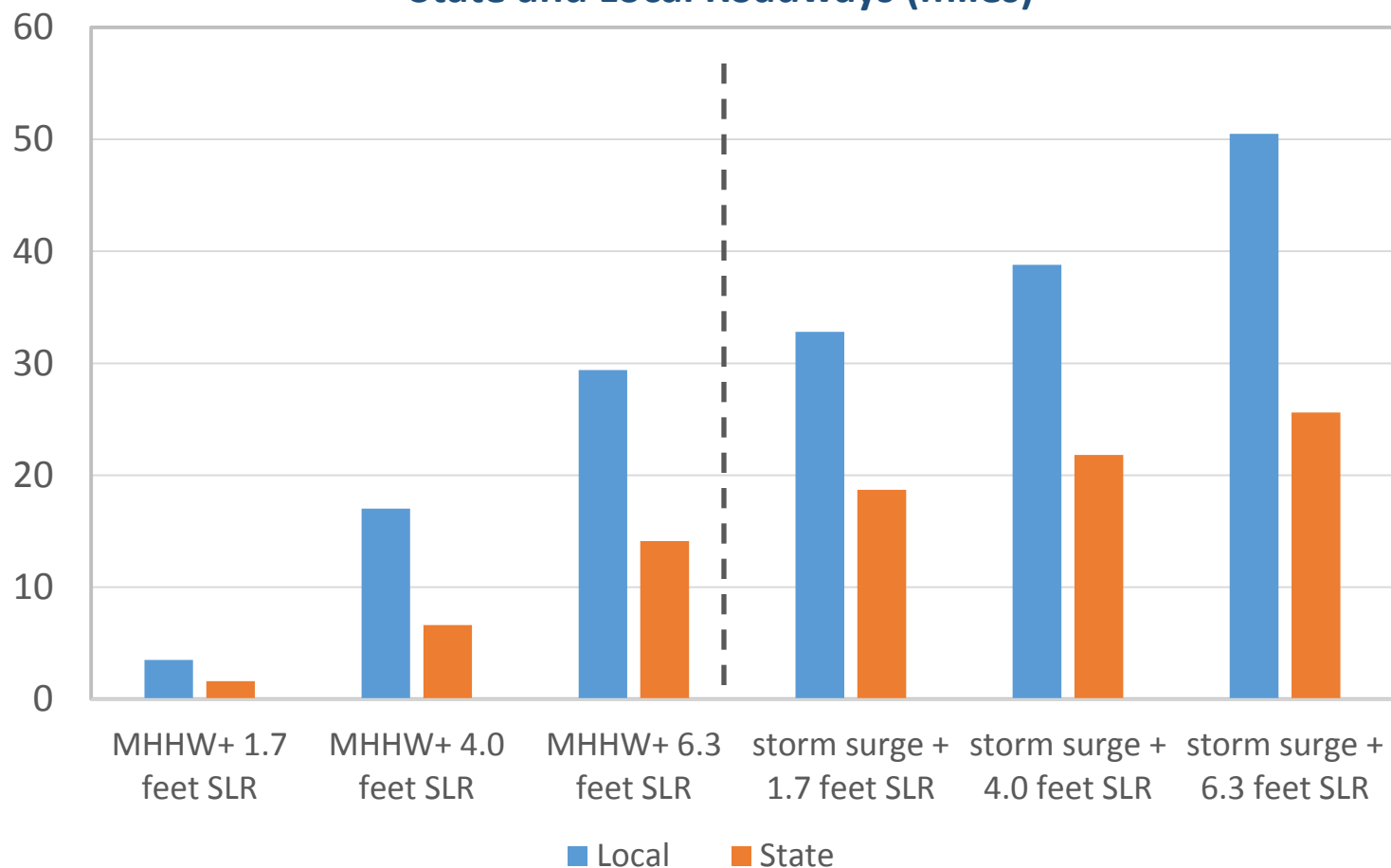


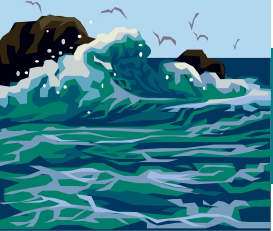
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Asset-Specific Data

State and Local Roadways (miles)

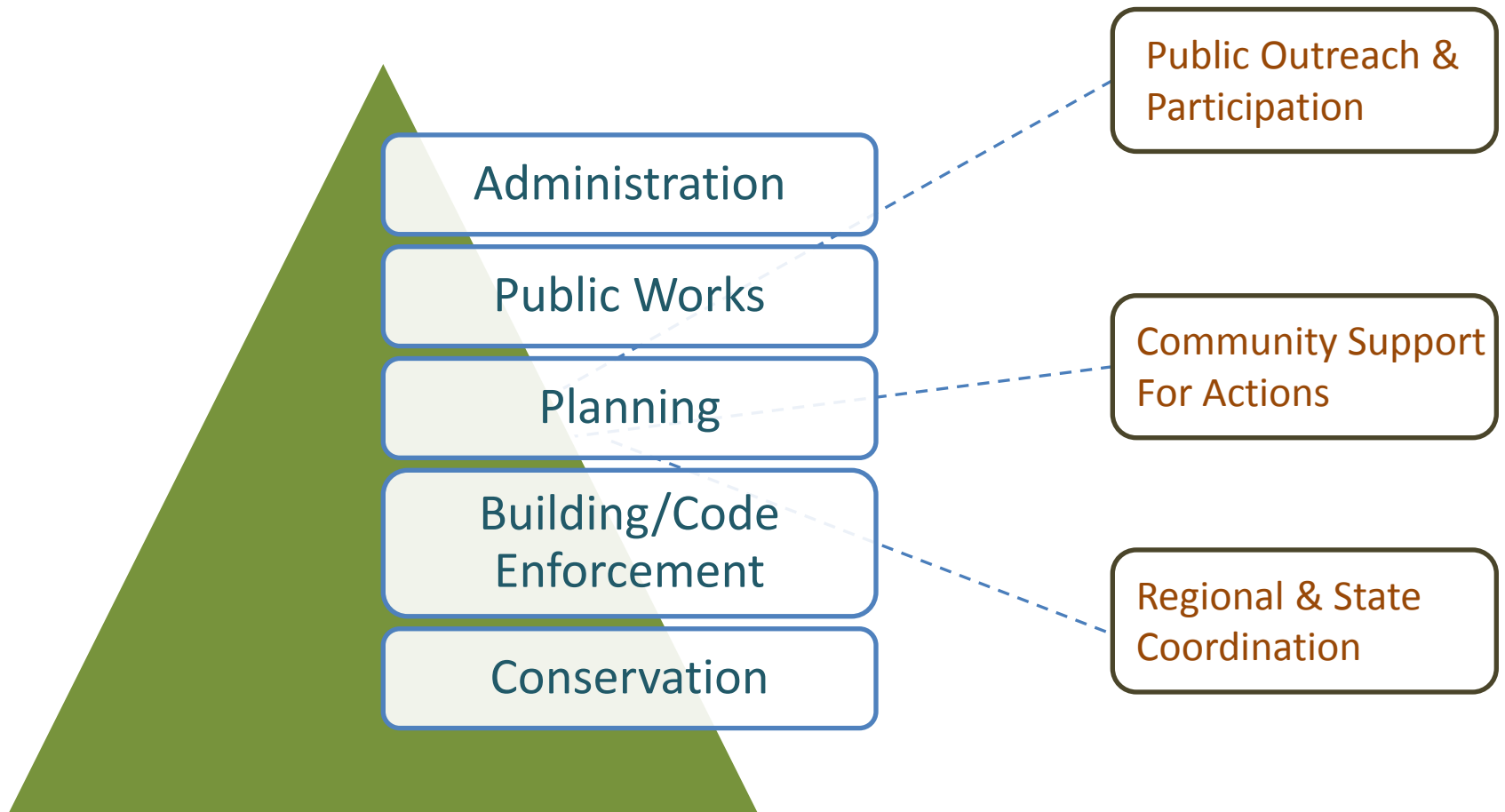


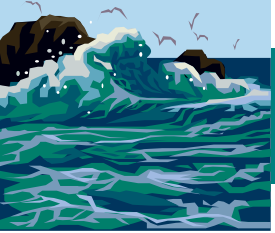


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Municipal Coordination



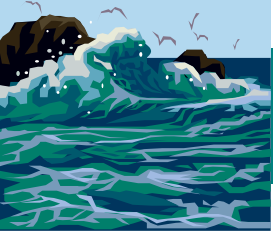


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Implementation Guidance

- Designing for resiliency in the current 100-year floodplain will protect against long term sea-level rise
- Adaptation strategies need to be customized to address variable conditions
- Iterative actions, not a one-size-fits-all problem
- No-regrets policies and investments
- Periodic review and evaluation of climate science findings, adjust strategies accordingly



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Vehicles for Informed Planning

Vulnerability Assessment

- Critical Infrastructure
- State and Local Roads
- Utilities and Infrastructure
- Natural Resources - Environment

Regional Planning Recommendations

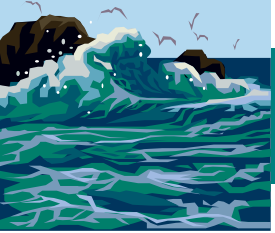
- Policy and Planning Recommendations
- Regulatory Strategies
- Non-Regulatory Approaches

*Local
Hazard Mitigation
Plans*

*State Agency
Plans*

*Regional
Master Plan*

*Natural Resource
Conservation*



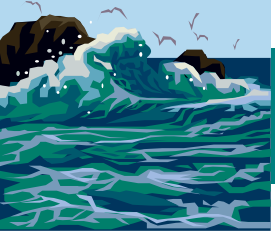
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Project Applicability

How can the project results be useful?

- Inform recommendations in the CRHC Final Report
- Assist regional practitioners with technical assistance and outreach to municipalities
- Guide policy changes by state agencies
- Provide a solid rationale for grant proposals to fund infrastructure improvements, planning and community outreach



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Project Materials

- Regional Assessment and Maps
- Municipal Assessment and Maps

<http://www.rpc-nh.org/regional-community-planning/climate-change/resources>

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