

# 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



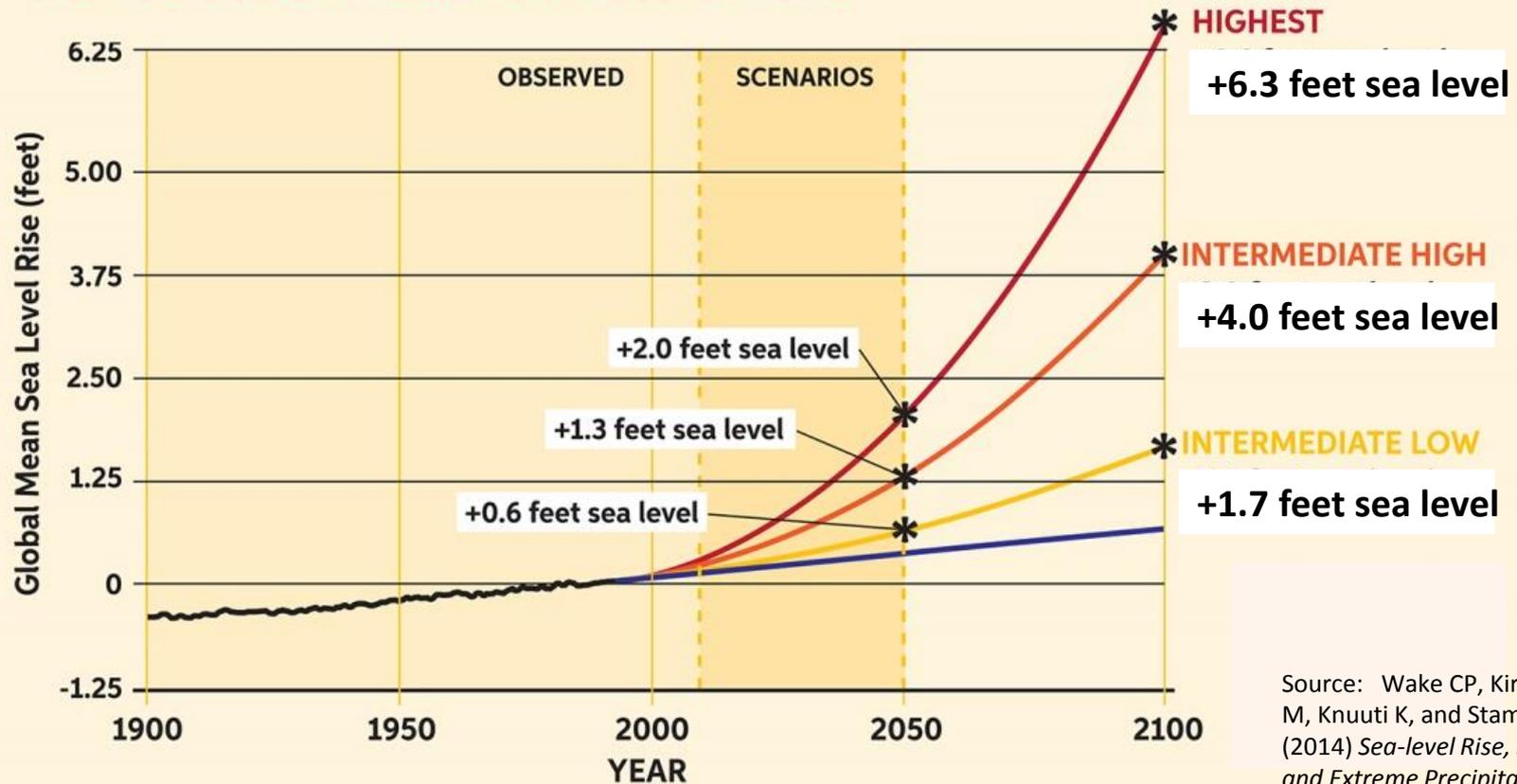


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## Best Available Science- SLR Scenarios/Projections

### 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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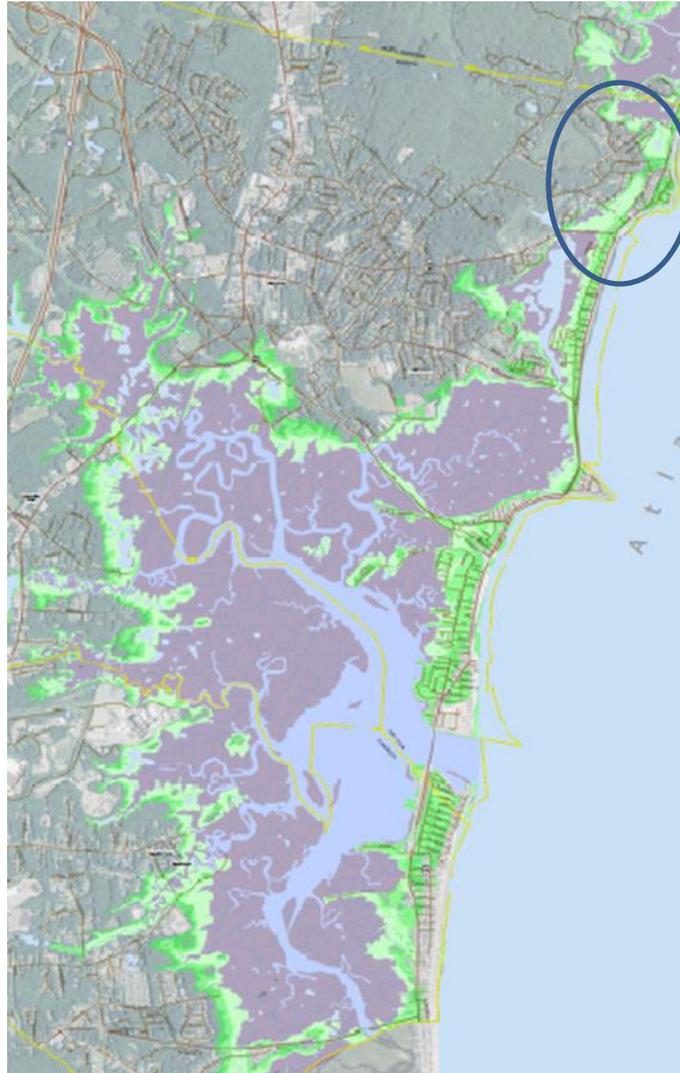


## High-Resolution Mapping

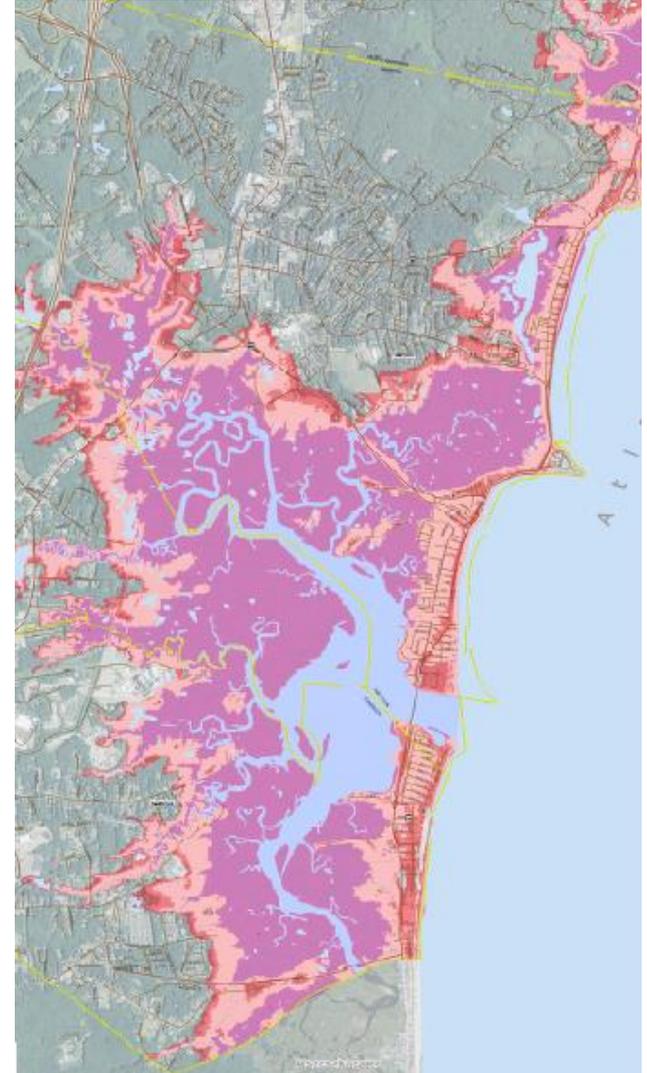
Flood Extents

Impacts to assets and resources

Sea-level rise



Sea-level rise + Storm surge





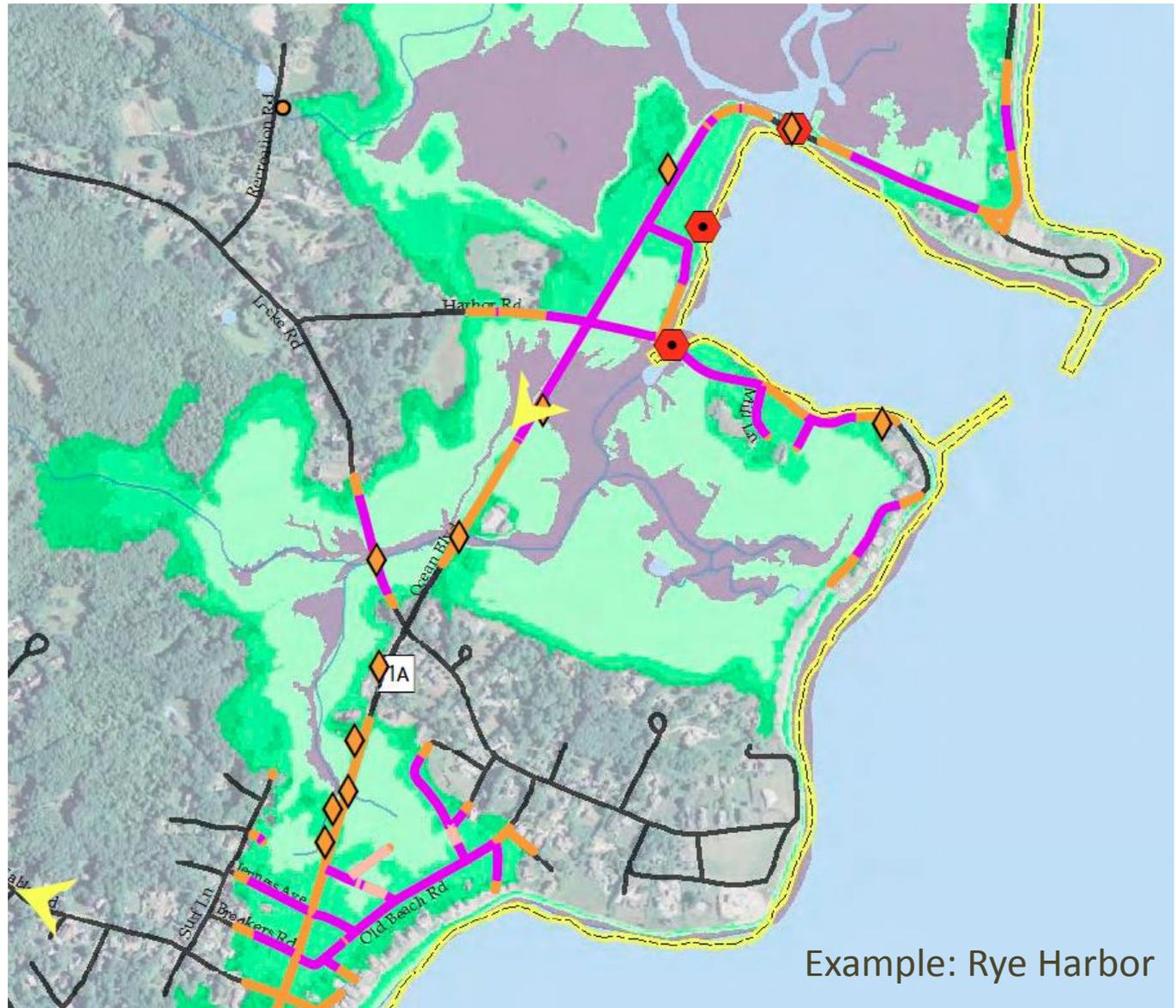
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## High-Resolution Mapping

Flood Extents

Impacts to assets and resources



Example: Rye Harbor

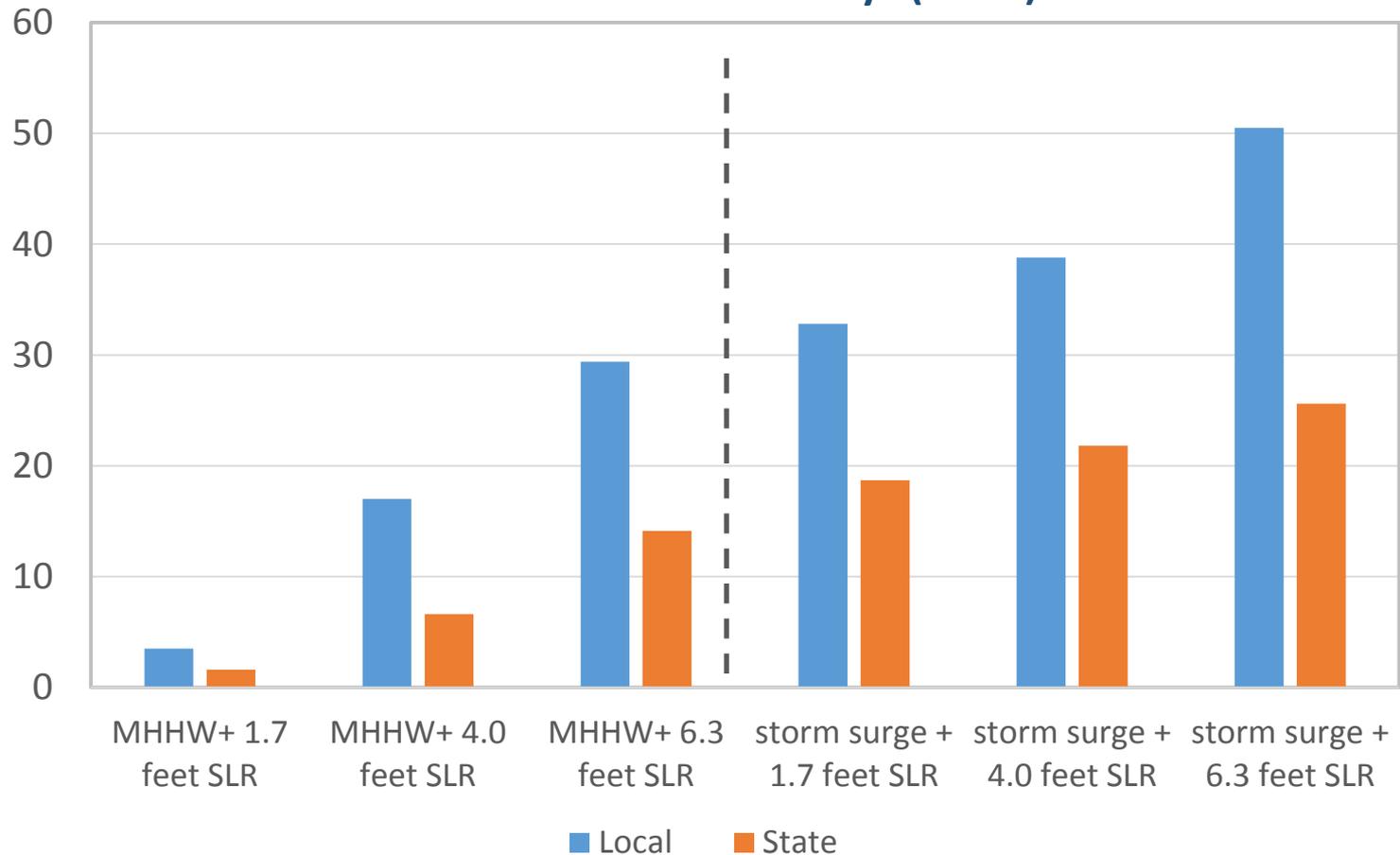


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## Asset-Specific Data

### State and Local Roadways (miles)

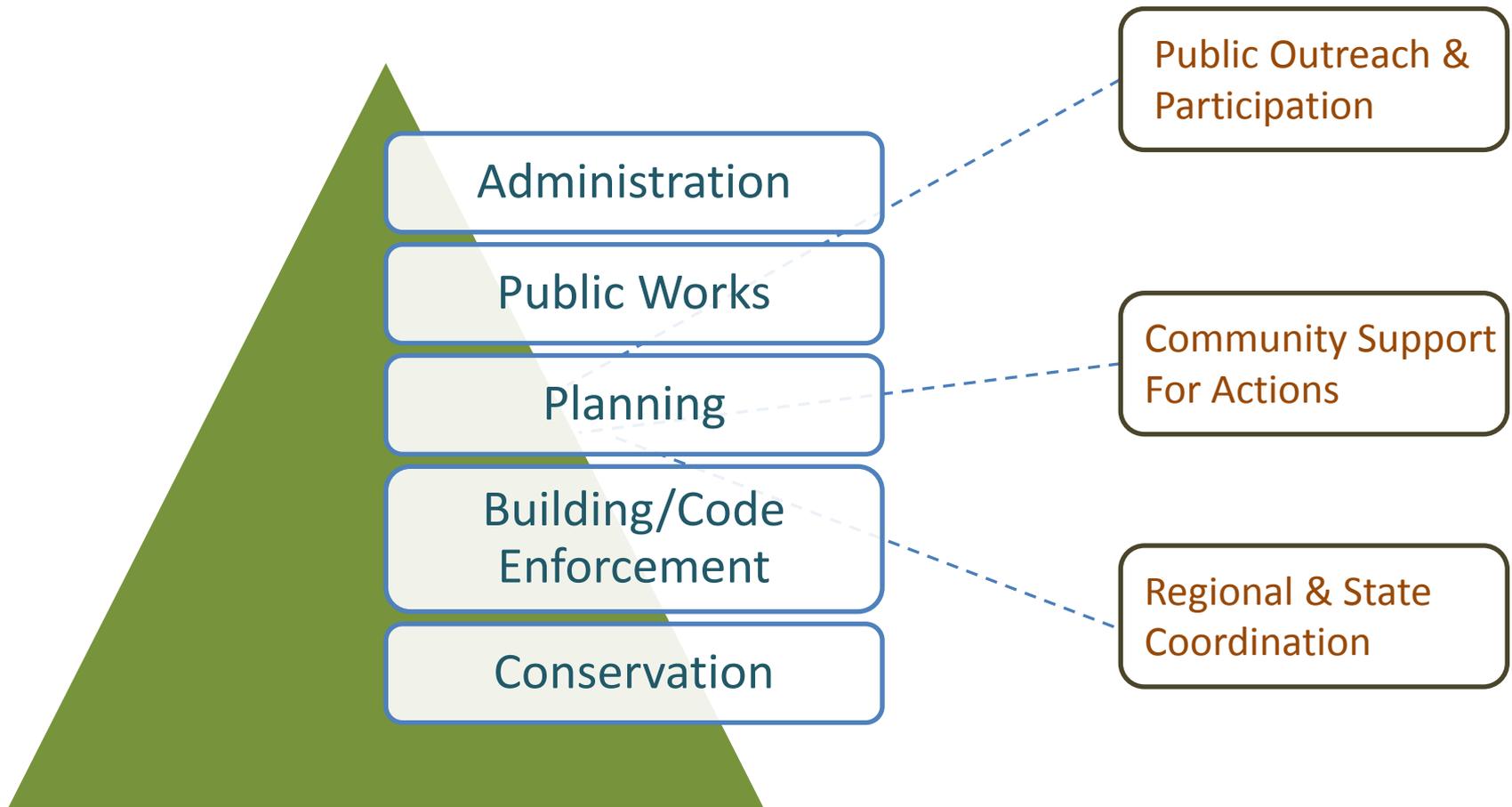




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## Municipal Coordination



Public Outreach & Participation

Community Support For Actions

Regional & State 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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