Tapping into the Land Use Toolbox to Build Resilience

MODEL ORDINANCE LANGUAGE FOR COASTAL COMMUNITIES OF ALL SIZES AND CAPACITY LEVELS

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Maine Sustainability & Water Conference
March 31, 2022

This presentation was prepared by the Southern Maine Planning and Development Commission and FBE Associates under award CZM NA20NOS4190064 to the Maine Coastal Program from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce

Why Develop Model Ordinance Language?

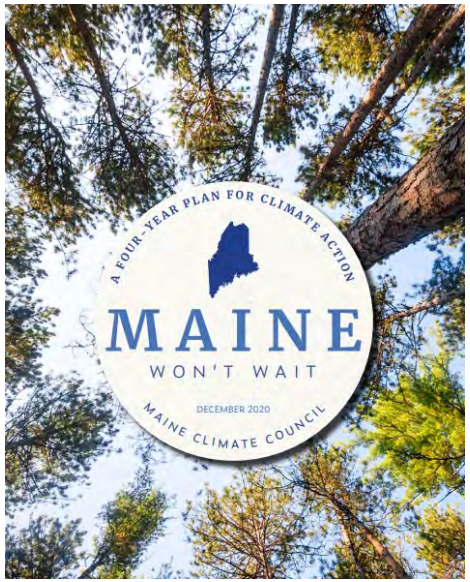
"If you look across all our natural disaster policies, they're predicated on the wrong assumption that our flood risk in the future looks identical to our flood risk in the past."

– Rob Moore, Sr. Policy Analyst, Natural Resources Defense Council

- Where and how we develop impacts risk
  - Governed by land use regulations
    - Don't reflect future conditions

Why Develop Model Ordinance Language?

- Local action = vital for adaptation
- Home Rule = Opportunities!!!
  - Title 30-A: State goals for municipal planning
    - N. *"To plan for the effects of the rise in sea level on buildings, transportation infrastructure, sewage treatment facilities and other relevant state, regional, municipal or privately held infrastructure, property or resources"*
- Land use requirements need to account for climate change
- Different areas = different conditions and needs
- Don't need to reinvent the wheel
  - *Leverage existing planning and regulatory frameworks*



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Emphasize Resilience Through Land-Use Planning and Legal Tools

- **Develop and implement updated land-use regulations, laws, and practices by 2024 in order to enhance community resilience to flooding and other climate impacts.**

How Was the Language Developed?

Working Group

- Establish group
- Guide ordinance development
- Ensure products are responsive to municipal needs

Ordinance & Policy Review

- Maine ordinances and policies
- Coastal resilience strategies 'from away'
- Best practices
- Maine Climate Council recommendations

Model Language Development

- 5 workshops
- Discussion of priority issues, vulnerabilities, and needs
- Co-development of model ordinance language and menu of resilience strategies
- Review for consistency with State regulations

Share Results

- Communicate findings to State, municipalities, and planning entities
- Publicize model ordinance and other products
- Informational webinar

Integrate Resilience in Existing Ordinances

ORDINANCES

HAZARDS & IMPACTS

Flooding
- Sea level rise
- Storm surge

Shoreline Change
- Erosion
- Marsh migration

Natural resources

Water quality

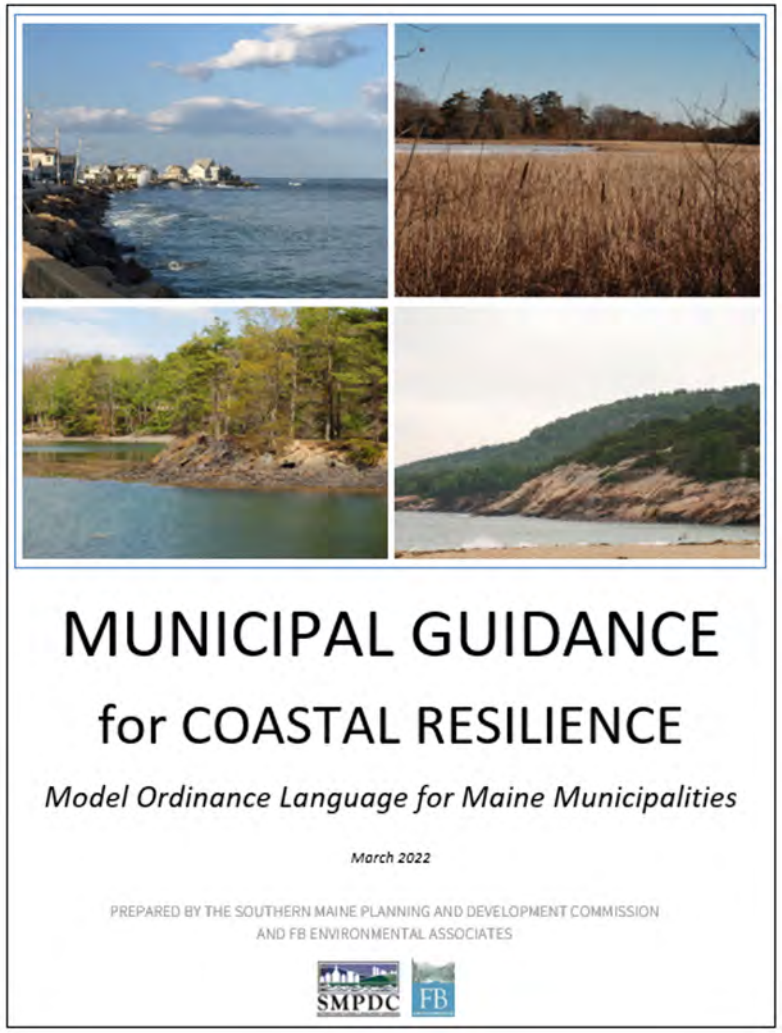
Municipal Guidance Document: Version 1.0

This draft document outlines opportunities for incorporating coastal resilience measures in existing municipal land use ordinances. It presents draft summaries of provisions and language related to coastal resilience, organized according to existing municipal ordinance(s) that are most applicable for the proposed provision/language, lists associated coastal hazards, and identifies topics of provisions/language. The table includes color coding based on which existing municipal ordinance(s) the proposed provision/language best applies.

Color Key:
Floodplain Management - Shoreland Zoning - Subdivision / Site Plan Review (SPR) - Stormwater Management - Zoning - Wetlands Ordinance

	Ordinance	Hazard	Topic / Strategy	Summary of Provision / Language
1	Floodplain Management	Coastal flooding	Freeboard	Elevate structures, and electrical equipment, to Base Flood Elevation (BFE) + 2, 3, or more feet (amount based on projected local sea level rise and surge amounts)
2	Floodplain Management	Coastal flooding	Establish new flood zone of sea level rise areas and apply floodplain development requirements	Incorporate supplemental map, in addition to FIRM, showing areas subject to select future sea level rise/storm surge in floodplain management ordinance and apply existing and/or new floodplain management development standards and requirements to those areas
3	Floodplain Management	Coastal flooding;	Establish new flood zone of sea level rise	Establish a 'waterfront area' zone that includes areas subject to flooding from sea level rise and storm surge to serve as a

Municipal Guidance Document Version 2.0



- Introduction
- Purpose & authority language
- Provisions organized by ordinance
  - Floodplain Management
  - Shoreland Zoning
  - Site Plan / Subdivision
  - General zoning
    - Standalone overlay zone
- Resources

Municipal Guidance Document

- Within each section…
  - Topics to consider when amending respective existing ordinances
  - Summary of provisions related to that topic
  - Technical ordinance language
  - Examples
- Reviewed for consistency with laws and recommendations

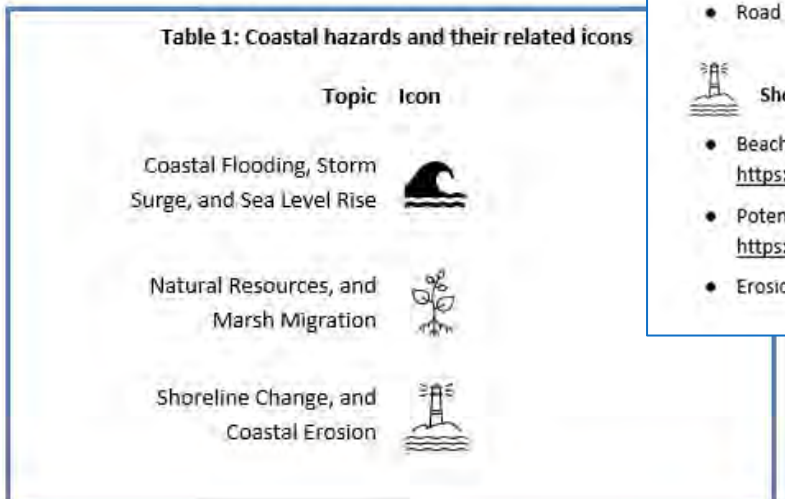
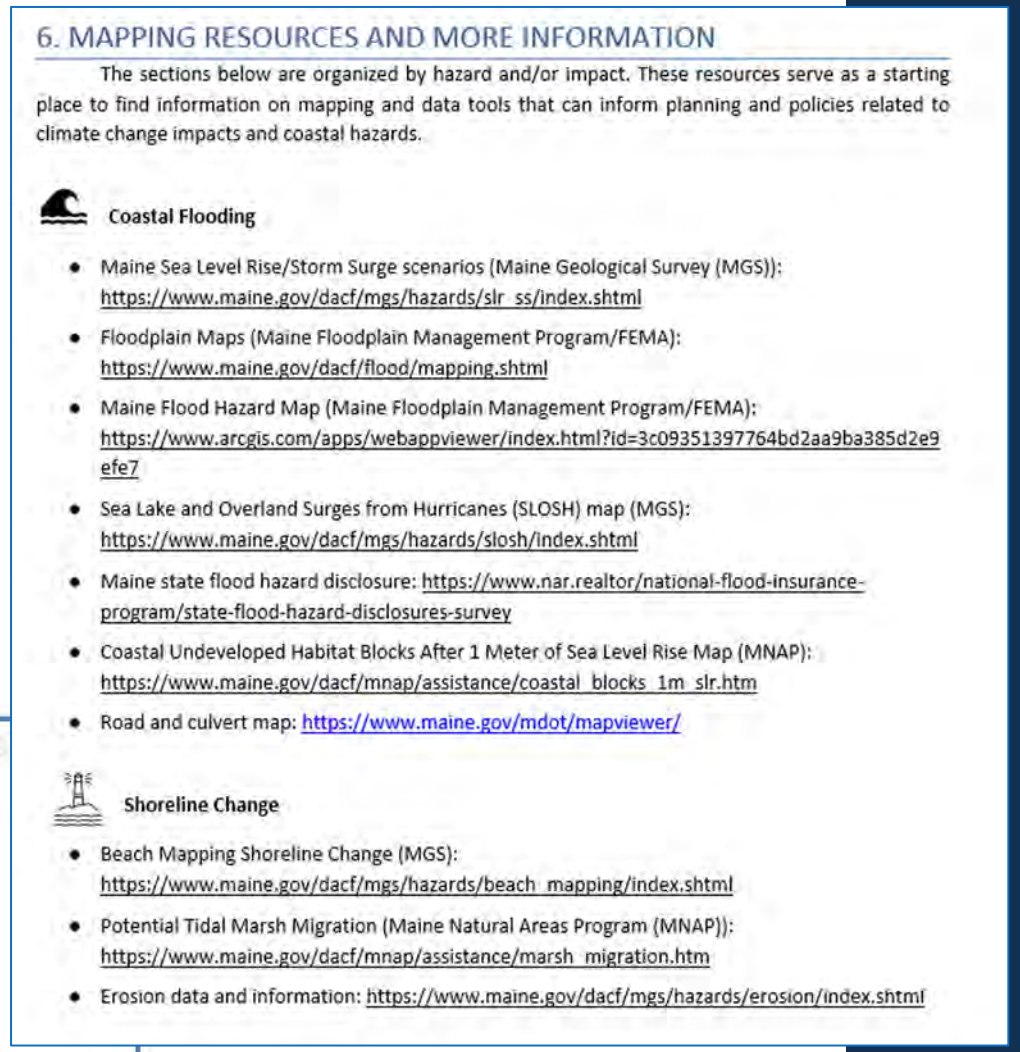


Table 1: Coastal hazards and their related icons

Topic	Icon
Coastal Flooding, Storm Surge, and Sea Level Rise	
Natural Resources, and Marsh Migration	
Shoreline Change, and Coastal Erosion	



6. MAPPING RESOURCES AND MORE INFORMATION

The sections below are organized by hazard and/or impact. These resources serve as a starting place to find information on mapping and data tools that can inform planning and policies related to climate change impacts and coastal hazards.

Coastal Flooding

- Maine Sea Level Rise/Storm Surge scenarios (Maine Geological Survey (MGS)): https://www.maine.gov/dacf/mgs/hazards/slr_ss/index.shtml
- Floodplain Maps (Maine Floodplain Management Program/FEMA): https://www.maine.gov/dacf/flood/mapping.shtml
- Maine Flood Hazard Map (Maine Floodplain Management Program/FEMA): https://www.arcgis.com/apps/webappviewer/index.html?id=3c09351397764bd2aa9ba385d2e9efe7
- Sea Lake and Overland Surges from Hurricanes (SLOSH) map (MGS): https://www.maine.gov/dacf/mgs/hazards/slosh/index.shtml
- Maine state flood hazard disclosure: https://www.nar.realtor/national-flood-insurance-program/state-flood-hazard-disclosures-survey
- Coastal Undeveloped Habitat Blocks After 1 Meter of Sea Level Rise Map (MNAP): https://www.maine.gov/dacf/mnap/assistance/coastal_blocks_1m_slr.htm
- Road and culvert map: https://www.maine.gov/mdot/mapviewer/

Shoreline Change

- Beach Mapping Shoreline Change (MGS): https://www.maine.gov/dacf/mgs/hazards/beach_mapping/index.shtml
- Potential Tidal Marsh Migration (Maine Natural Areas Program (MNAP)): https://www.maine.gov/dacf/mnap/assistance/marsh_migration.htm
- Erosion data and information: https://www.maine.gov/dacf/mgs/hazards/erosion/index.shtml

Document Format

2.4 ADDRESS BUILDING HEIGHT RESTRICTIONS TO ACCOMMODATE FREEBOARD

Ensure that dimensional standards, especially building height restrictions, allow for the elevation of new and redeveloped structures above projected flood levels (*e.g.*, freeboard). Consider allowing variances, with necessary approval, for new construction, substantial improvements, or other development for the conduct of a functionally dependent use, provided that requirements of relevant ordinances are met and the structure is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

Example Ordinance Language

- Reconstruction in floodplains: Any building in existence prior to [SPECIFIED DATE] which is located in an area of special flood hazard and which is thereafter substantially improved, as defined in [REFERENCE DEFINITION SECTION OF FLOODPLAIN MANAGEMENT ORDINANCE(S)], may be elevated pursuant to the standards of [REFERENCE FLOODPLAIN MANAGEMENT ORDINANCE], and may be allowed to exceed the height limits of the dimensional standards of [REFERENCE APPROPRIATE ORDINANCE SECTION] without need for a variance from the Board of Appeals, as long as all of the following standards are met: The overall height of the reconstructed building may exceed the required height in the zone in which it is located without the need for a variance, but by no more than the distance that the lowest floor (including basement) is raised above its original elevation during reconstruction. Any reconstructed building located within the Coastal Sand Dune System shall meet the requirements of 38 MRS §§ 480-A et seq (Natural Resources Protection Act) and the standards contained in Chapter 355, Coastal Sand Dune Rules of the Department of Environmental Protection if it is located in a coastal sand dune system as defined in Chapter 355.

Key Consideration

The Maine Department of Environmental Protection (DEP) must review any variance application for a project within the shoreland zone.

Proposed state legislation (LD 1809) aims to amend the Shoreland Zoning law to revise the building height definition for new or existing principal and accessory structures, including legally existing nonconforming structures, for structures within the SFHA in order to allow elevation of a structure above the municipally-established BFE without being restricted by shoreland zoning building height limit. LD 1809 specifically allows for an exception to shoreland zoning height restrictions for legally existing nonconforming structures for elevation above the municipally-established BFE.

EXAMPLES

Hingham, MA: For activities proposed in VE-zones and A-zones, the Town requires, at a minimum, the historic rate of relative sea level rise in Massachusetts of 1 foot per 100 years to be incorporated into project design and construction. The permitting authority may also take other credible evidence of projected sea level rise, such as the IPCC, into consideration.

Wellfleet, MA: The Town has adopted a model bylaw that addresses climate change resilience measures, including sea level rise and marsh migration. Includes provisions for a 'Transitional Area' of future flooding areas and requirement that relative sea level rise and the landward migration of resource areas in response to relative sea level rise must be incorporated into the design and construction of structures and other activities proposed in the 'Land Subject to Flooding or Inundation' area.

General Language

- ✓ Purpose
  - ✓ Protection of fiscal health
  - ✓ Protection of life, property, and welfare
    - ✓ **<u>Legal protection</u>**
- ✓ Authority
  - ✓ *The [TOWN/CITY] of [MUNICIPALITY] has the legal authority to adopt land use and control measures to reduce future flood losses and plan for the effects of sea level rise on municipal or privately held infrastructure, property, or resources pursuant to Title 30-A M.R.S.A. §§3001 - 3007, 4312, 4352, and 4401 - 4407.*

Floodplain Management

- ✓ Freeboard
- ✓ Develop prohibitions
- ✓ Higher standards for new and redevelopment
- ✓ Consideration of sea level rise
- ✓ Inclusion of sea level rise in regulatory map

Shoreland Zoning

- ✓ New district of sea level rise areas
- ✓ Zone hazard areas as Resource Protection
- ✓ Enhanced setbacks
- ✓ Restrict vegetation clearing
- ✓ Regulate smaller wetlands

Site Plan / Subdivision

- ✓ Account for hazards in design
- ✓ Consider site-specific hazards in review process
- ✓ Include climate change in stormwater requirements
- ✓ Remove hazard areas from yield calculations
- ✓ Require impact fee

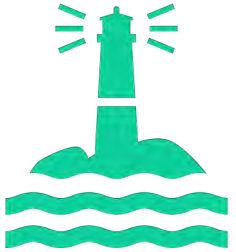
Zoning

- ✓ Prohibit new development in hazard areas
- ✓ Transfer of development rights
- ✓ Erosion-based setback
- ✓ Standalone overlay zone and standards
  - ✓ Key principles

Mapping Hazards for Resilience Regulations

Many provisions relate to the location of development in relation to hazard areas

That requires mapping those areas and adopting the map(s) by reference



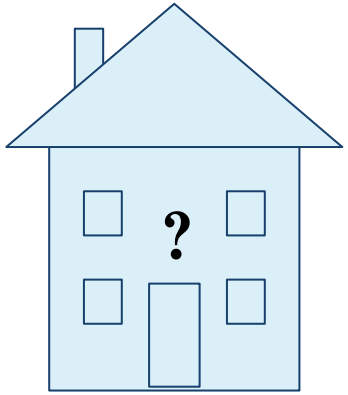
But how does a community map hazards in a way that makes sense?

Mapping Hazards for Resilience Regulations

- *Horizontal boundaries* *(shoreland zoning)*
- *Vertical boundaries* *(floodplain management ordinance)*

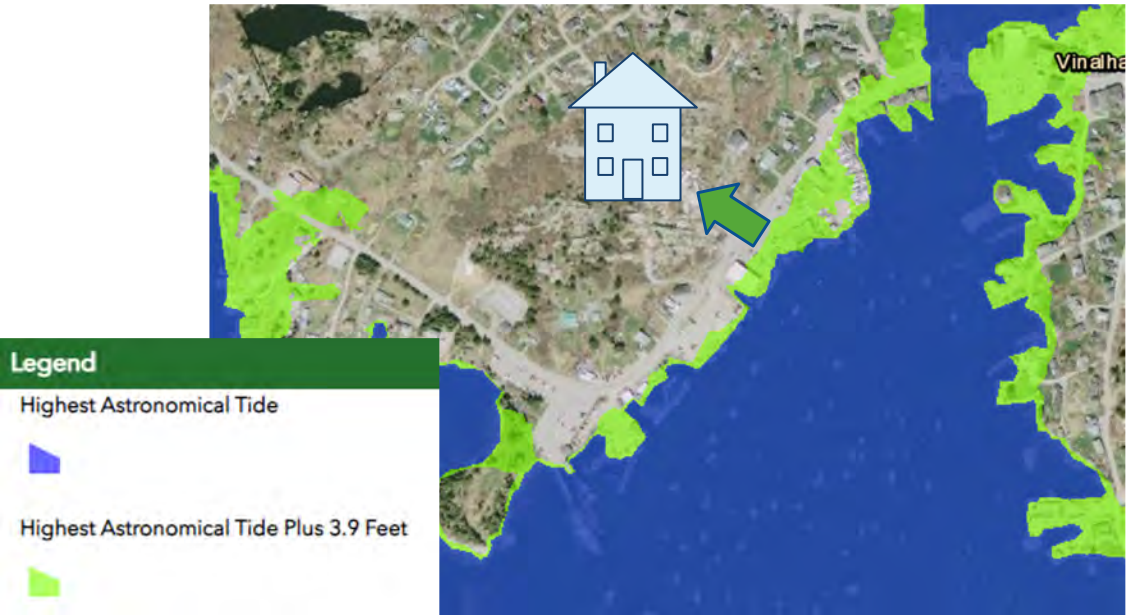
Horizontal Boundary

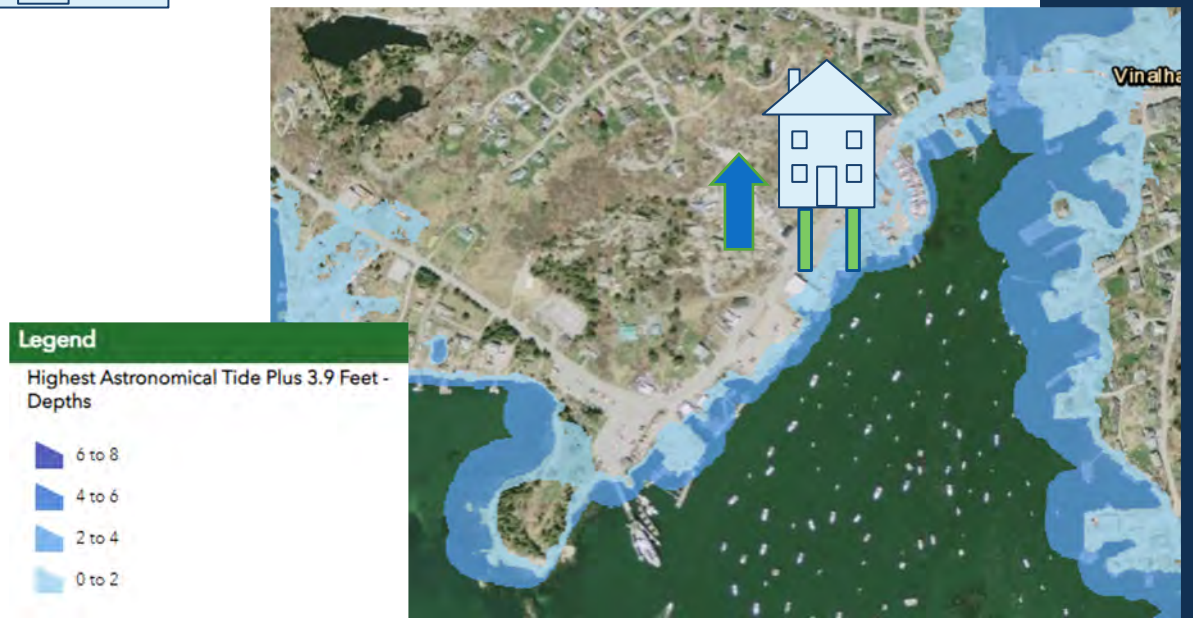
Set back from inundation boundary



Vertical Boundary

Elevate above flood level





Next Steps

- Document being finalized now
- Outreach
  - Factsheet
  - Publicize
- Support implementation
  - Technical Assistance

Thank you!

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