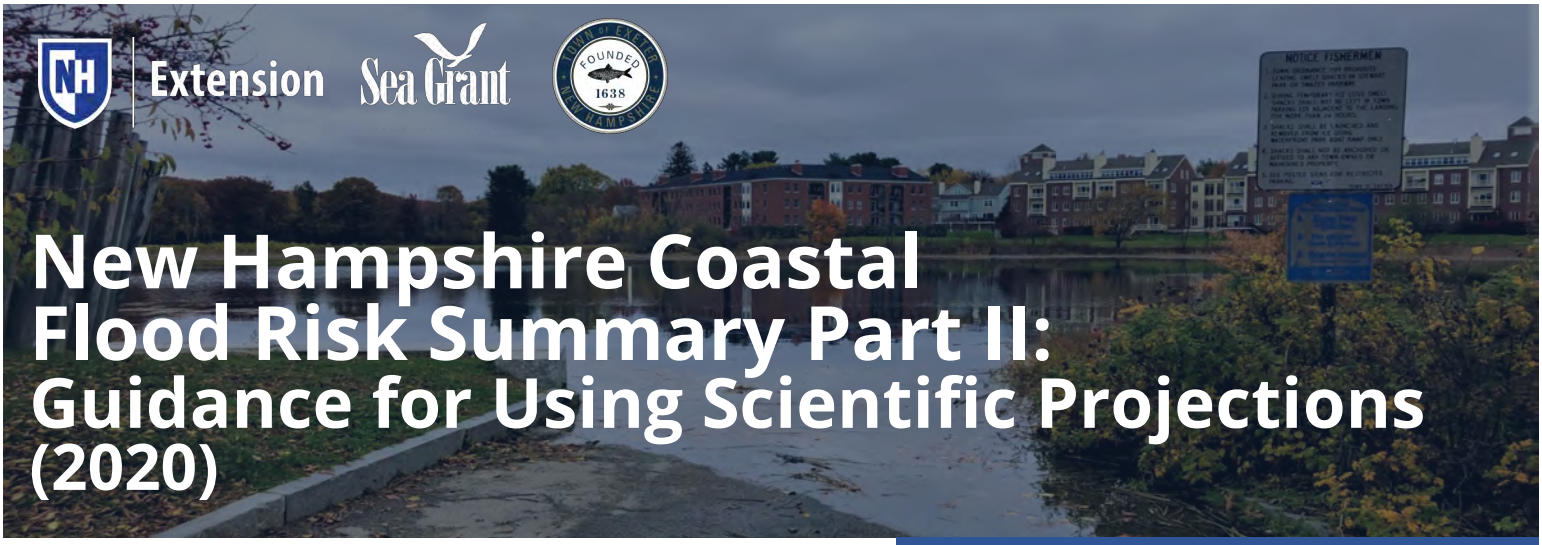

New Hampshire Coastal Flood Risk Summary Part II: Guidance for Using Scientific Projections (2020)

Summary:

Part I (2019) of the Coastal Flood Risk Summary provides the latest science related to coastal flood risks in New Hampshire and includes updated projections of relative sea-level rise, coastal storms, groundwater rise, precipitation and freshwater flooding. This science report (originally published in 2014) is updated every five years.

Keywords:

- NH Coastal Flood Risk Summary
- Flood risk tolerance
- Sea level rise
- Storm surge
- Groundwater rise
- Case studies
- Resiliency planning

Part II (2020) of the Coastal Flood Risk Summary provides step-by-step guidance for how to incorporate updated coastal flood risk projections into land use and land development planning, regulations, and other decision-making projects. The Guidance document is the focus of this information sheet.

Key Points:

The Guidance provides an overview of the coastal flood risk projections developed in Part I. It also provides a set of guiding principles to inform projects in incorporating future coastal flood risk projections and enhance coastal flood resilience.

The Guidance document walks the user through a seven-step process to select an appropriate range of coastal flood risk projections (i.e. sea-level rise, coastal storms, groundwater rise, precipitation, freshwater flooding) to use, based on the project's tolerance for flood risk and intended life span.

How to Use the Guidance:

The "Science at a Glance" boxes at the start of each step provide a succinct summary of the latest science-informed projections (p. 16, and others).

The Guiding Principles (starting on p. 3) should be considered when working through the seven-step process. Follow the steps (beginning on p. 6), and use the online mapping tool (see Step 3.2, p. 20) and worksheet (Section E) to help with decisions about project design, land use and land development planning, and regulatory controls.

The case studies on culvert replacement (p. 20), advisory climate change risk areas (p. 27), climate-induced wetland expansion (p. 32), and permit applications (p. 37), give examples of how to apply the steps and process. They also provide tangible examples of what other local communities have done in their resilience planning efforts.

Link to Exeter Climate Resources Page with NH Coastal Flood Risk Summary

Examples from the Guidance:

STEP 2 TABLE. FRAMEWORK FOR DETERMINING PROJECT TOLERANCE FOR FLOOD RISK.

		HIGH TOLERANCE FOR FLOOD RISK	MEDIUM TOLERANCE FOR FLOOD RISK	LOW TOLERANCE FOR FLOOD RISK	VERY LOW TOLERANCE FOR FLOOD RISK
DESCRIPTION		Decision makers have a High tolerance for flood risk to the project	Decision makers have a Medium tolerance for flood risk to the project	Decision makers have a Low tolerance for flood risk to the project	Decision makers have a Very Low tolerance for flood risk to the project
POSSIBLE PROJECT CHARACTERISTICS *Tolerance for flood risk will depend on the mix and importance of these project characteristics.*		Low value or cost	Medium value or cost	High value or cost	Very high value or cost
		Easy or likely to adapt	Moderately easy or somewhat likely to adapt	Difficult or unlikely to adapt	Very difficult or very unlikely to adapt
		Little to no implications for public function and/or safety	Moderate implications for public function and/or safety	Substantial implications for public function and/or safety	Critical implications for public function and/or safety
		Low sensitivity to inundation	Moderate sensitivity to inundation	High sensitivity to inundation	Very high sensitivity to inundation
PROJECT EXAMPLES	**PLANNING**	Updating a local master plan Developing a capital improvement plan			
	REGULATORY	Updating a floodplain zoning ordinance Updating a subdivision site plan regulation Updating state alteration of terrain rules			
	SITE-SPECIFIC	Designing a walking path; Siting a temporary or accessory structure; Upgrading a minor storage facility	Replacing a local culvert; Constructing a residential, commercial, or industrial building	Maintaining a school; Siting a community center or recreational facility; Upgrading a wastewater treatment plant	Renovating a hospital or police/fire station; Siting an emergency shelter or response center; Repairing a power station
CORRESPONDING ASCE 24-14[14,15] FLOOD DESIGN CLASS		1	2	3	4
RECOMMENDED COASTAL FLOOD RISK PROJECTIONS		Lower magnitude, Higher probability	← →		Higher magnitude, Lower probability

STEP 3 TABLE A. RECOMMENDED DECADAL RSLR ESTIMATES (IN FEET ABOVE 2000 LEVELS) BASED ON RCP 4.5, PROJECT TIMEFRAME, AND TOLERANCE FOR FLOOD RISK.

TIMEFRAME	HIGH TOLERANCE FOR FLOOD RISK	MEDIUM TOLERANCE FOR FLOOD RISK	LOW TOLERANCE FOR FLOOD RISK	VERY LOW TOLERANCE FOR FLOOD RISK
	Plan for the following RSLR estimate (ft)* *compared to sea level in the year 2000*			
	Lower magnitude, Higher probability	← →		Higher magnitude, Lower probability
2030	0.7	0.9	1.0	1.1
2040	1.0	1.2	1.5	1.6
2050	1.3	1.6	2.0	2.3

(projections continue out to 2150)

Report Authors: NH Coastal Flood Risk Science and Technical Advisory Panel
Photo Credit: Jonas Procton; Rockingham Planning Commission

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