# MUNICIPAL RESILIENCE PLANNING ASSISTANCE PROJECT

**William R. Rath, Esq.**
Legal Research Fellow
Center for Energy & Environmental law
University of Connecticut School of Law
860-570-5058
William.Rath@ UConn.edu

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# CEEL Tasks

- Survey sea level rise adaptation laws and policies in other oceanfront states
- Identify legal and policy issues that frustrate sea level rise adaptation efforts
- Prepare white papers on sea level rise law and policy issues not adequately addressed by others
- Conduct outreach events to communicate legal and policy recommendations.

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# But Not . . .

Duplicating the work of others:

- DEEP
- CIRCA
- The Nature Conservancy
- CLEAR / Adapt CT
- COGs
- Georgetown Climate Center
- Marine Affairs Institute (RWU, URI)
- National Association of Floodplain Managers

# What is Sea Level Rise In Connecticut?

## Rise in Sea Level
## *or*
## Sea Level Change
## *or*
## UConn Projections?

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# P.A. 12-101 – Rise in Sea Level

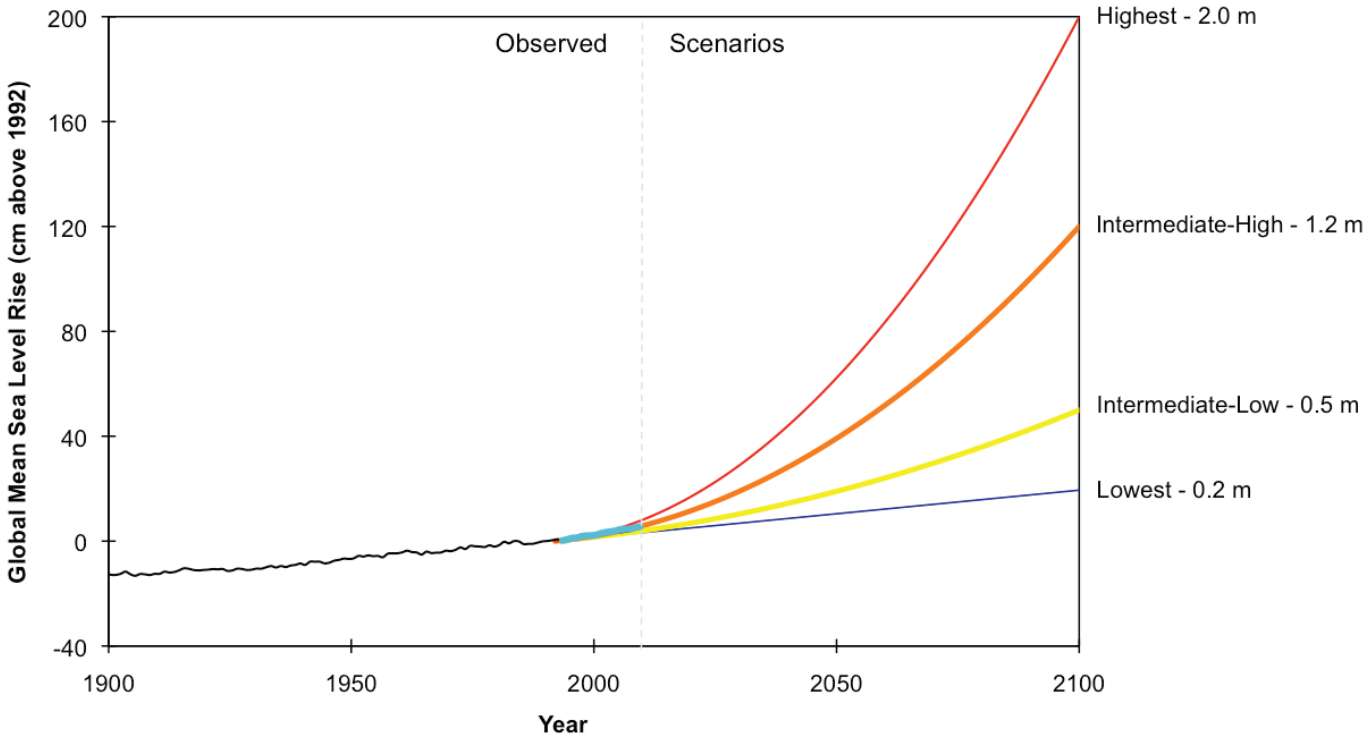
"Rise in sea level" means the arithmetic mean of the most recent equivalent per decade rise in the surface level of the tidal and coastal waters of the state, as documented in the National Oceanic and Atmospheric Administration online or printed publications for said agency's Bridgeport and New London tide gauges.

# Rise in Sea Level (Tide Gauge)

| | |
|---|---|
| **22a-92** | States that is a general policy and goal of the legislature to consider a rise in sea level in "the planning process" |
| **22a-93** | Defines "rise in sea level" |
| **22a-363h** | Authorizes DEEP studies and pilot programs and UConn support to improve coastal community resilience to a rise in sea level |
| **22a-478** | Requires DEEP to consider a rise in sea level when establishing priorities for eligible water quality projects. (P.A. 13-15) |
| **25-157t** | Requires a Blue Plan that adapts to a rise in sea level. (P.A. 15-66) |

# P.A. 13-179 - Sea Level Change

Sea Level Change scenarios published by the National Oceanic and Atmospheric Administration in Technical Report OAR CPO-1.




| Scenario | SLR by 2100 (m)* | SLR by 2100 (ft)* |
|---|---|---|
| Highest | 2.0 | 6.6 |
| Intermediate-High | 1.2 | 3.9 |
| Intermediate-Low | 0.5 | 1.6 |
| Lowest | 0.2 | 0.7 |

* Using mean sea level in 1992 as a starting point.

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# Sea Level Change (NOAA Projections)

**8-23** Municipal Plan of Conservation & Development

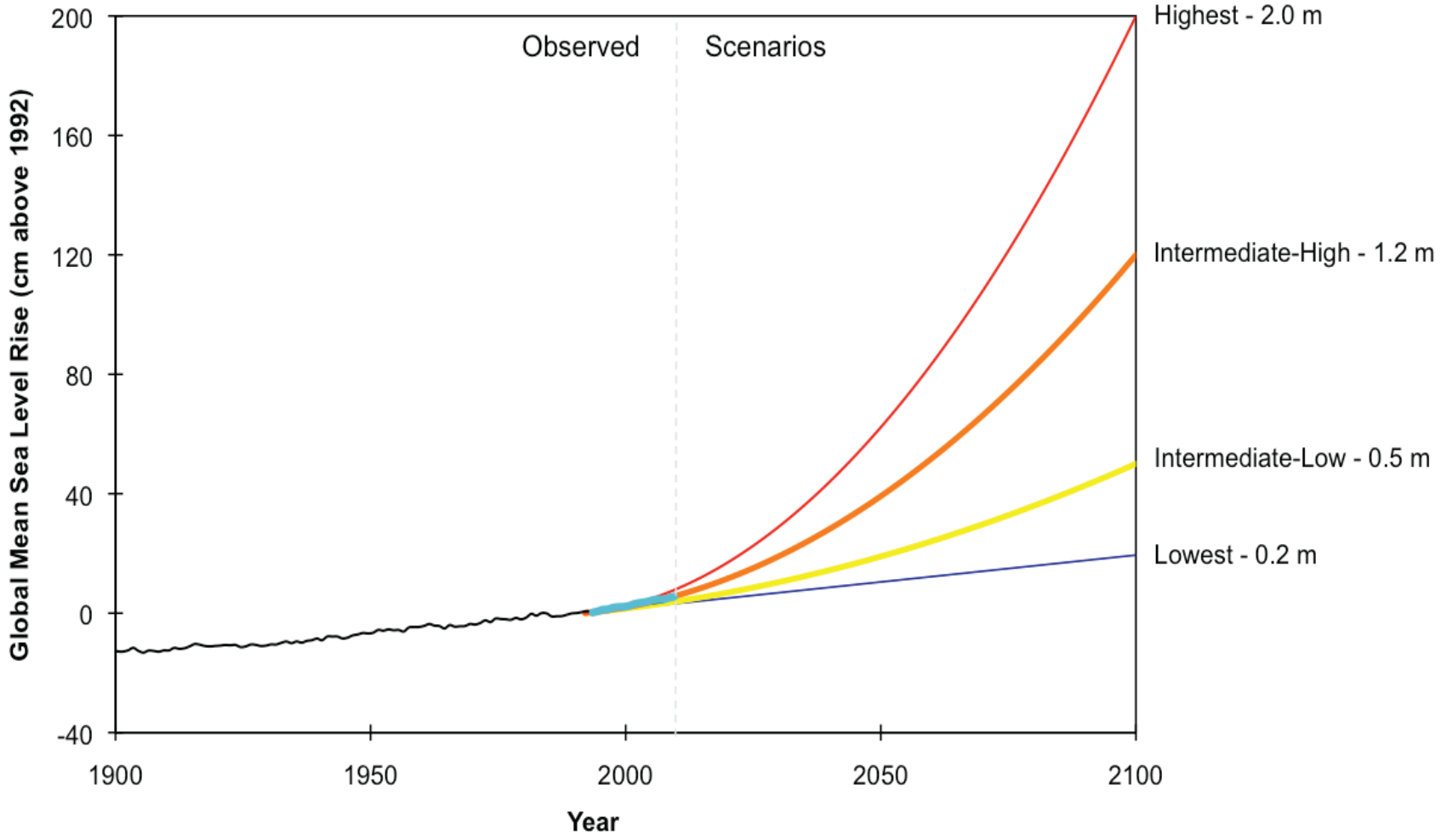
**16a-27** State Plan of Conservation & Development

**28-5** State civil preparedness plan and program

**25-68o** Municipal evacuation and hazard mitigation plans.

# Sea Level Change (NOAA Projections)

**25-68o** UConn must update the NOAA sea level change scenarios every 10 years.

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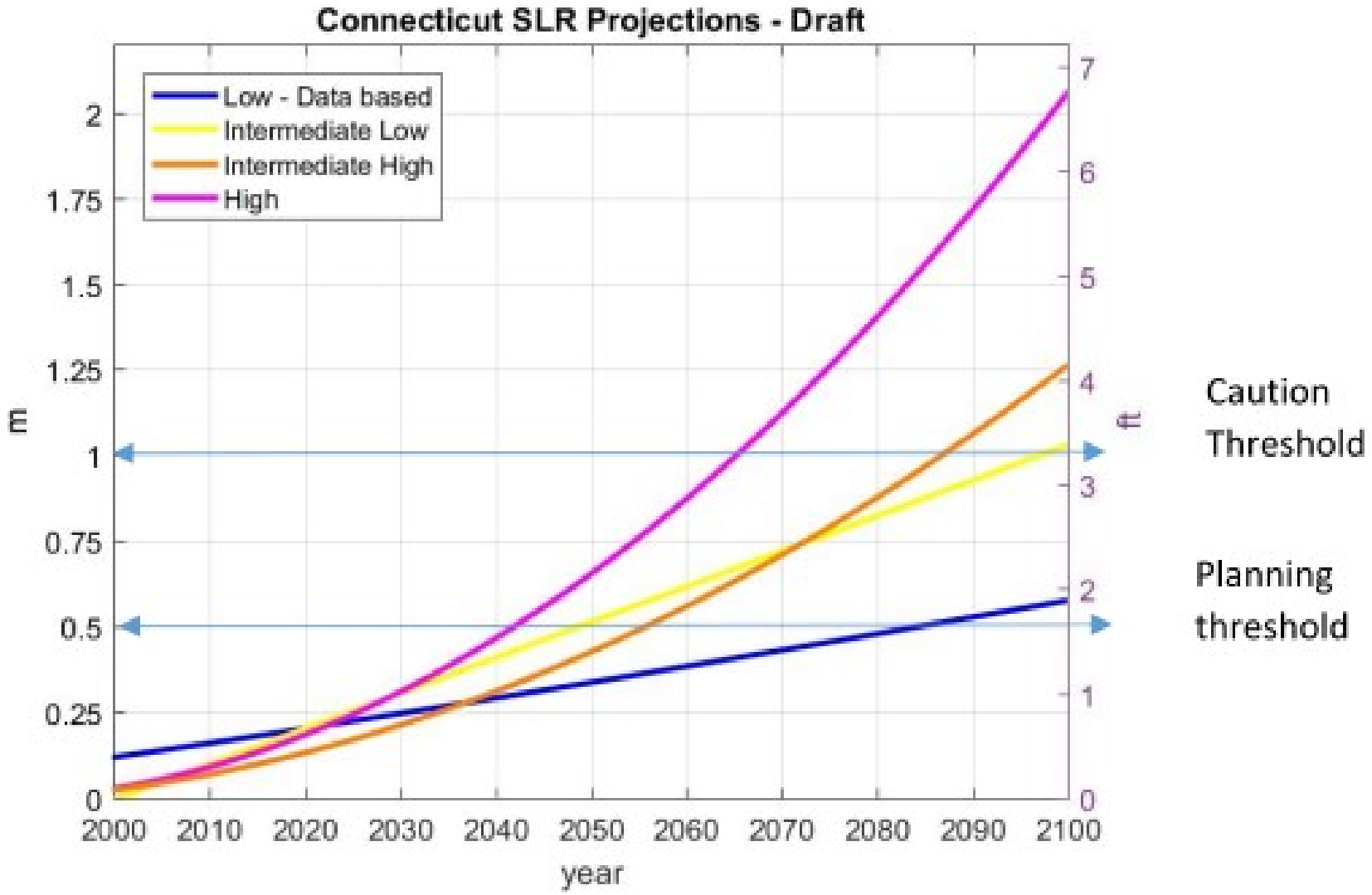


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# Sea Level Change (NOAA Projections)

**25-68o** UConn must update the NOAA sea level change scenarios every 10 years.

But there is no statute that :

- Requires or allows the UConn updates to be used where the **NOAA scenarios** or **tide gauge data** are specified

# CEEL Recommendations
## Rise in Sea Level / Sea Level Change

- Adopt single standard for sea level rise
- Make that single standard the latest UConn Updates to the NOAA projections
- Require a formal peer review of the UConn Updates to validate the scientific method and improve acceptance (C.A.S.E.?)
- Publish the UConn Updates on the DEEP Web Page

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# So How Do Connecticut Sea Level Rise Statutes Compare to Other States?

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# Of the 23 Oceanfront States . . .

**Three** have state statutes or regulations that require the consideration of **sea level rise** when making **most or all** of the **decisions** required under their state coastal management programs:

- Maryland
- Massachusetts
- Rhode Island

# Of the 23 Oceanfront States . . .

**Four** have state statutes or regulations that require the consideration of **sea level rise** when making **some** of the **decisions** required under their state coastal management programs:

- California
- Florida
- Maine
- New York

# Of the 23 Oceanfront States . . .

**Four** have state statutes or regulations that require the consideration of **sea level rise** during **planning processes** even though such consideration is not required during decision-making processes:

- Connecticut
- New Hampshire
- Texas
- Virginia

# How Does Connecticut Coastal Management Jurisdiction Compare with Other States?

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- Shared State & Local Jurisdiction
  - Sixteen Oceanfront States
    - Connecticut and 15 others
  - Division is typically at High Tide Line
- Exclusive State Jurisdiction
  - Six Oceanfront States
  - Delaware, Georgia, Mississippi, New Hampshire, New Jersey and Rhode Island

# Local Programs

# Local Programs

## Coastal Management Programs

- Protect and restore coastal resources
- Manage coastal development, prioritize water-dependent uses
- Facilitate access to public trust beaches, waters and submerged lands.

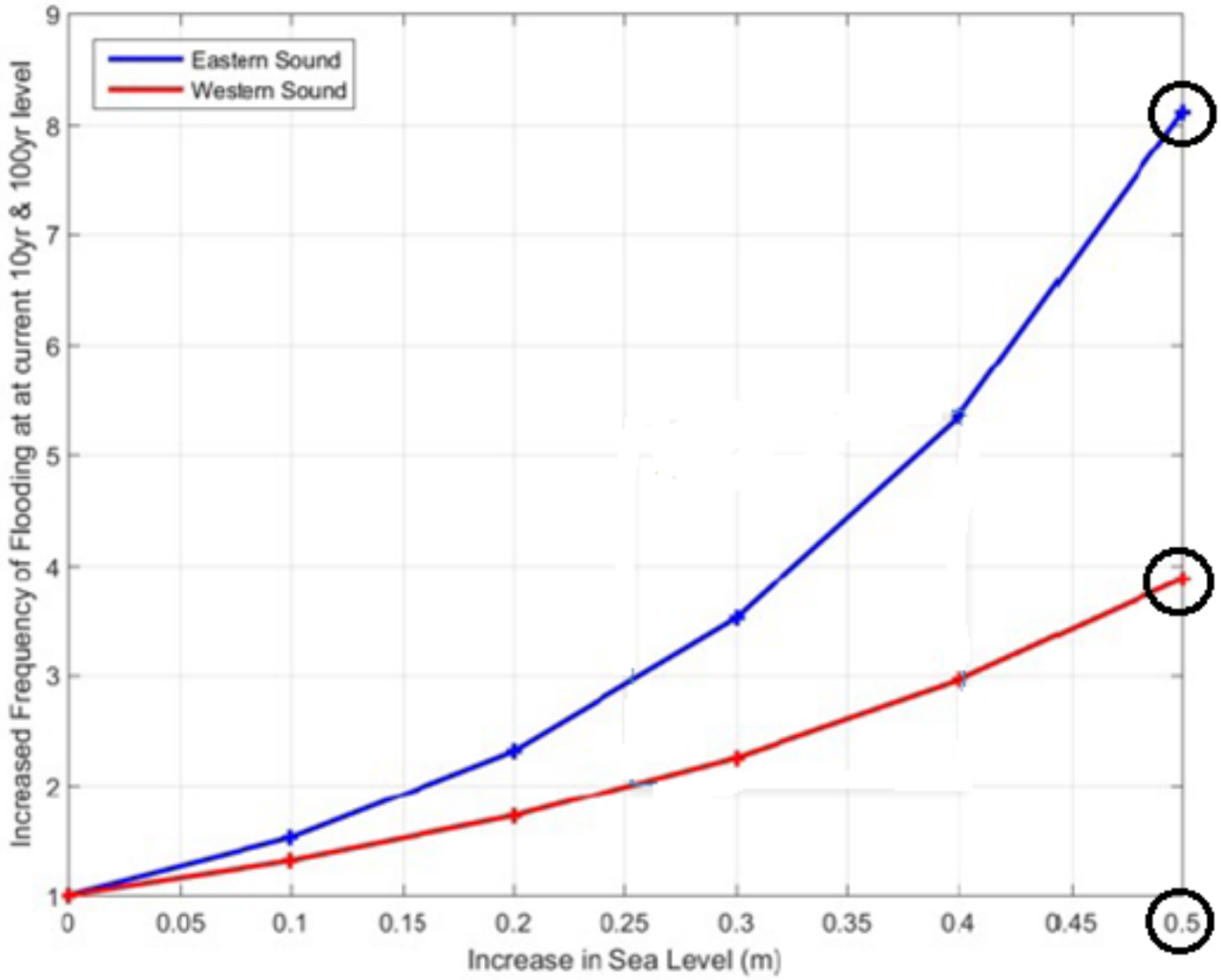
## Floodplain Management Programs

- Promote public health, safety and general welfare in floodplain areas.
- Minimize public and private losses from floods in floodplains areas.

# CIRCA SLR Recommendation

Plan for 2050 Long Island Sound Sea Level Rise of:

- ½ Meter
  (One Foot, Eight Inches)

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# CEEL Analysis of Local Programs

- Floodplain Building Elevation Requirements in Connecticut Shoreline Municipalities
- Height Restrictions on Elevated Residential Buildings in Connecticut Coastal Floodplains
- Seawall Exemptions from Municipal Coastal Site Plan Review
- Incorporating Sea Level Rise into Existing Coastal and Floodplain Management Programs

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# Floodplain Building Elevation Requirements in Connecticut Shoreline Municipalities

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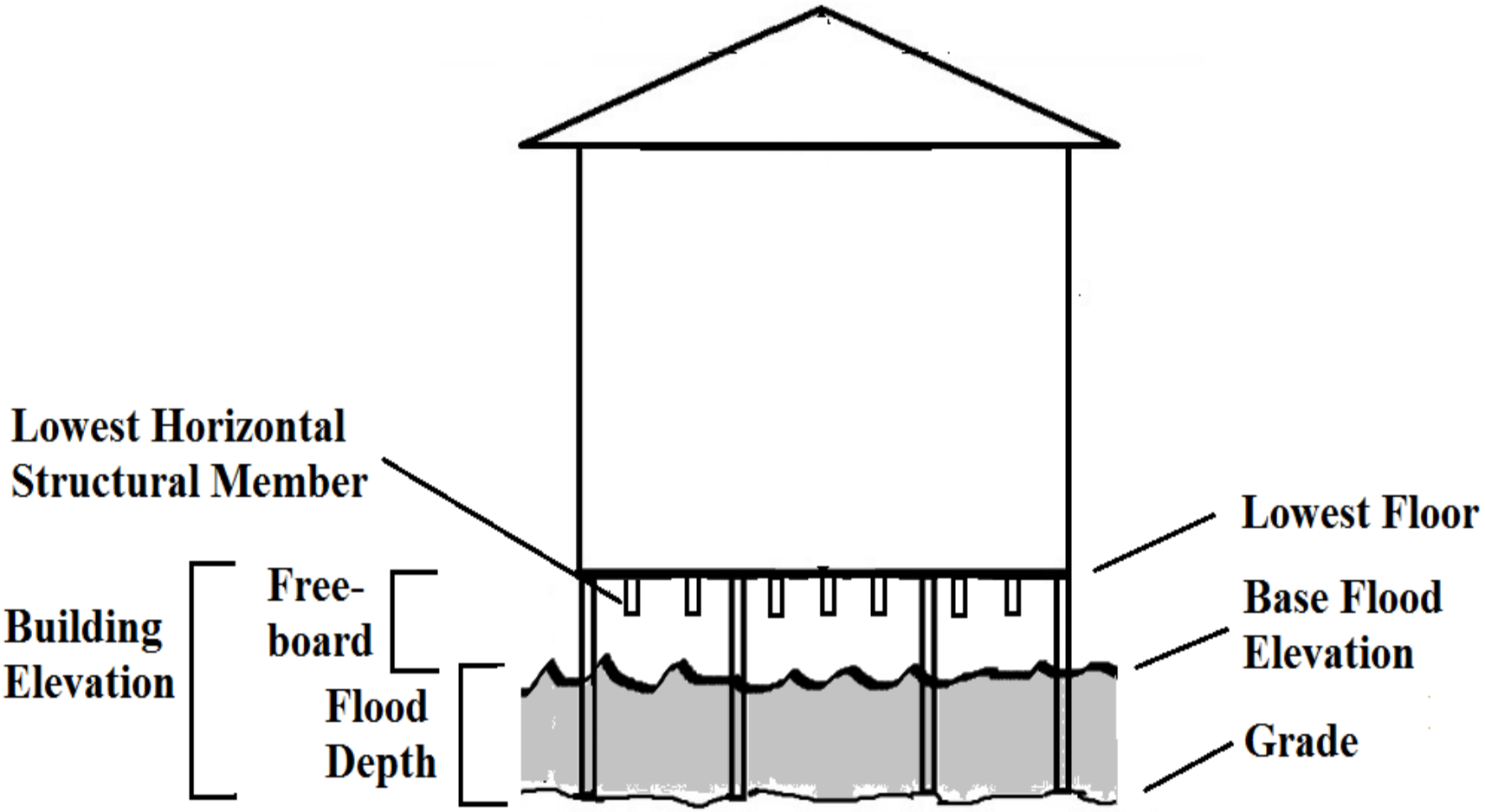
# Elevated Shoreline House

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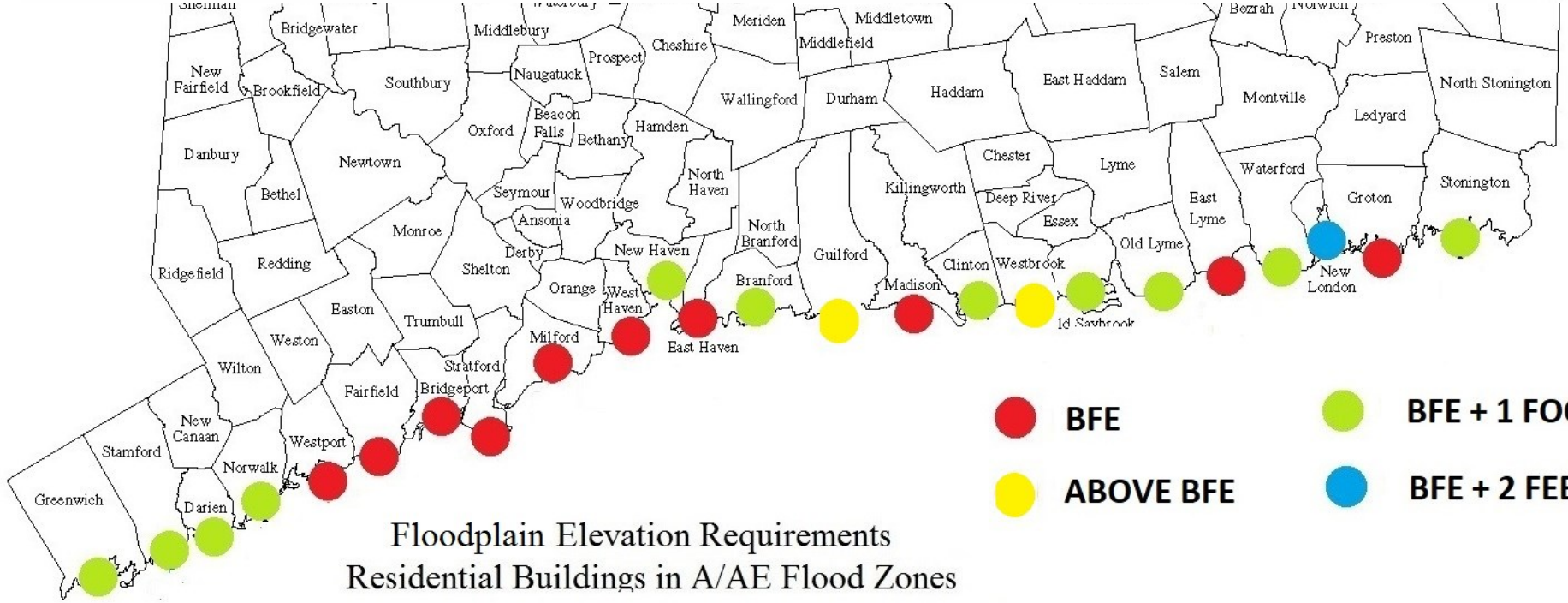
## Return Rate of Current 100 Year Flood Levels

## ⇦ 4X Return Rate

## 8X Return Rate ⇨

## With 1 Foot 8 Inch Rise by 2050




Floodplain Elevation Requirements
Residential Buildings in A/AE Flood Zones

# Shoreline Community Floodplain Elevation Requirements

- All 24 shoreline communities have floodplain ordinances that meet the elevation requirements of the National Flood Insurance Program
- 13 of the 24 shoreline communities have floodplain ordinances that do not meet the elevation requirements of the Connecticut State Building Code

# Floodplain Elevation Recommendations

- Increase Building Elevation Requirements
  - **Good:** Meet State Building Code Requirements
  - **Better:** Adopt ASCE 24-14 for All Floodplain Structures

    (ASCE 24-14 = American Society of Civil Engineers consensus standard, "Flood Resistant Design and Construction")
  - **Best:** Add *at least* two feet of freeboard above ASCE 24-14 requirements

# Freeboard is Cheap!

According to FEMA:

- Initial elevation inexpensive, but additional freeboard is not:
  - 4 feet of freeboard ≈ 1-2% more than the cost of elevating to BFE
- Insurance savings can pay for freeboard:
  - Six years in A Zones
  - Three years in VE zones

# More Floodplain Elevation Recommendations

- Establish a “Coastal A” Zone
  - Increased elevation (and other) standards for “A Zones” subject to 1½ to 3 Foot Waves
- Consider an ordinance to implement FEMA Publication P-804, "Wind Retrofit Guide for Residential Buildings."
- Participate in the NFIP Community Rating System
  - Get money back for doing the right thing!

# Height Restrictions on Elevated Residential Buildings

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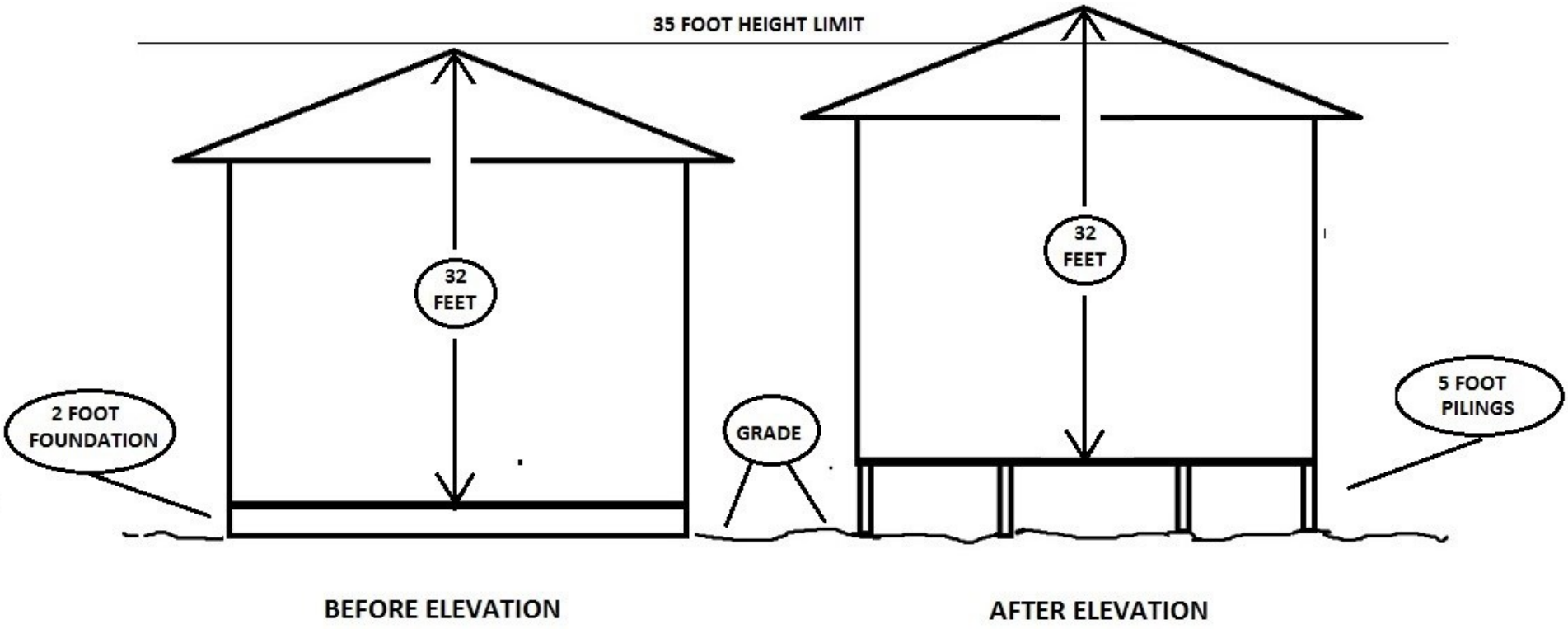
# Height Restrictions on Elevated Residential Buildings

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# Height Restrictions on Elevated Residential Buildings

Most shoreline communities use the **variance process** to deal with height above the usual limits

- **Advantage:** Maximum municipal control

# Height Restrictions on Elevated Residential Buildings

- **Disadvantages of the Variance Process:**
  - Time consuming and expensive for the town and the applicant
  - Might be difficult for the applicant to demonstrate that the variance is required to alleviate an "unusual hardship" because of a "peculiar characteristic" of the property
  - An invitation to litigation

# Height Restrictions on Elevated Residential Buildings

- Eight shoreline communities have adopted floodplain ordinances that accommodate some height above the usual limits without a ZBA hearing
  - Bridgeport, Fairfield, Greenwich, Guilford, Norwalk, Stamford, Waterford, Westport
- Some just add height above grade, some allow extra height based on flood levels
- **Recommendation**: Consider this option

# Walls Landward of the Coastal Jurisdiction Line

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## Of the 24 Shoreline Municipalities

- **Two** have incorporated the DEEP recommended language that exempts walls as long as they don't meet the definition of a "flood and erosion control structure“
- **Two** have eliminated "walls" from the list of on-premises structures exempt from the site plan review process
- **Twenty** retain the language that exempts "walls" from the site plan review process

**CEEL Recommendation:** Eliminate the “walls” from the exemption or incorporate the DEEP recommended language for "flood and erosion control structure“

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