

RESILIENT ENVIRONMENTS AND LANDSCAPES (REAL)

NJDEP REGULATORY REFORMS TO PROTECT COASTAL ASSETS AND COMMUNITIES FROM CLIMATE IMPACTS

**CLIMATE RESILIENCE COMPONENTS OF NJ PROTECTING AGAINST CLIMATE THREATS (NJ PACT)
PURSUANT TO EXECUTIVE ORDER 100 (MURPHY, JAN. 27, 2020)**



RESILIENT ENVIRONMENT AND LANDSCAPES (REAL)

Primary Elements

1. **Adjust Coastal Flood Hazard Areas** to account for rising sea levels and attendant storm surge, extending jurisdictional area further inland, requiring higher first-floor elevations or floodproofing.
2. **Remedy FEMA concerns** about State's consistency with National Flood Insurance Program (NFIP) through clarifying amendments to the FHA rules.
3. **Support renewable energy** through amendments that balance habitat conservation with novel infrastructure demands (e.g., location of offshore wind support infrastructure).
4. **Encourage nature-based solutions**; sound stormwater management practices; improved water quality in degraded (urban) and source (headwaters) areas.
5. **Improve DEP permitting processes**, including pathways for expediting projects.

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ECONOMICS OF CLIMATE RESILIENCE

One Example: Impacts from Hurricane Sandy

Climate Central study quantifying financial costs of Sandy damages that are attributable to anthropogenic sea-level rise.

- 13% of Sandy damages (\$8.1B) due to human-caused sea level rise across NJ/NY/CT.
- \$3.7B in NJ alone (50th percentile), estimated range: \$2.2B - \$7.0B.
- Approximately 24,500 people and 16,700 houses in NJ were exposed due to ASLR.

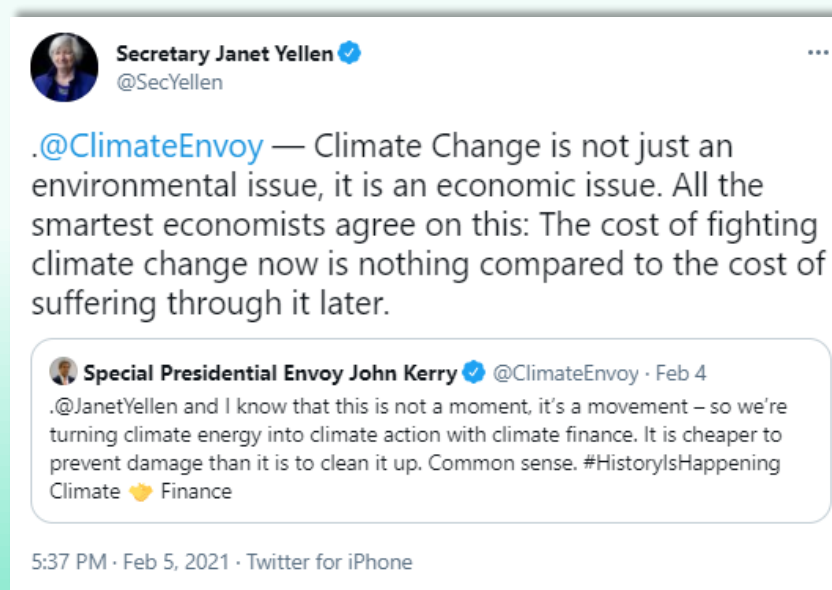
Accounting for Climate-Related Risk

“Uncertainty should not stand in the way of making prudent investments in risk-management practices in the near term to strengthen the financial sector against climate-related risks.”

- Federal Reserve Governor Brainard

- Moodys, S&P, and Fitch have all [begun integrating climate vulnerability into municipal bond issuance](#).
- Realtor.com and Redfin.com are now disclosing flood risk because buyers should know the “true cost of purchasing and maintaining the building, including the cost of insurance and repairing damage.”
- March 2022: the Securities and Exchange Commission proposed [new rule amendments on climate risk reporting and evaluation](#), expected to be adopted early 2023.
- November 2022: FEMA launched the [Climate Risk and Resilience Portal](#) to provide consumers with direct access to information on flood, heat, and fire risk.
- April 2022: The Federal Office of Management and Budget release the first [Federal Budget Exposure to Climate Risks](#) report and a new section in the [Long-Term Budget Outlook](#) focused on climate change.

\$1 in resilience saves \$6 in recovery



RESILIENT ENVIRONMENT AND LANDSCAPES (REAL)

Adjusting Coastal Flood Hazard Areas due to Sea-Level Rise and Storm Surge

Two fundamental updates to DEP Flood Hazard Area Rules and Coastal Zone Management Rules:

- **Standard:** Fixes sea-level rise (SLR) data gap, requiring higher first-floor elevations (residential/critical) or flood proofing (commercial) in a larger area that is slightly more inland than the existing 100-year flood zone.
- **Process:** Updated risk disclosure in all flood hazard areas. Add climate impact assessment for residential and critical buildings in inundation risk zone.

These changes *do not*:

- Create a no-build zone
- Affect existing structures (unless substantially damaged or improved)
- Impede projects already in the pipeline (*i.e.*, submitted to DEP prior to adoption).

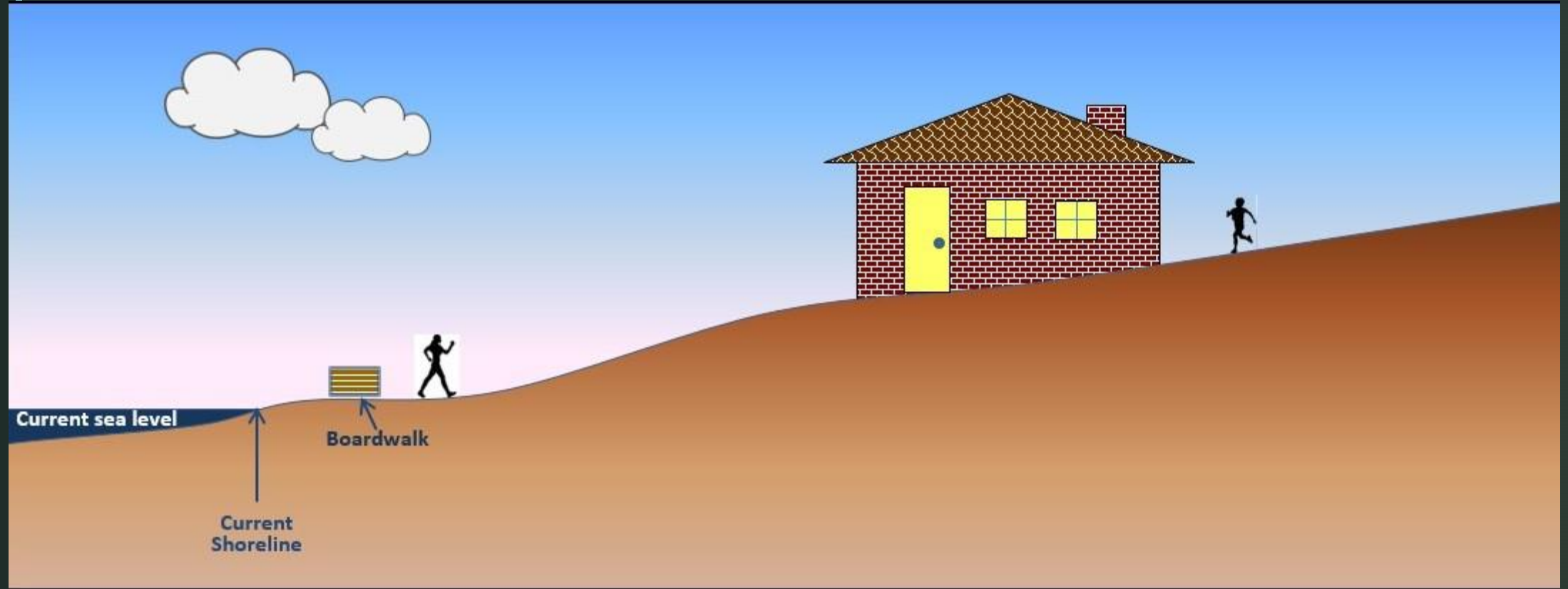
Anticipated timeline:

- File proposal in Q2 2023
- Adopt new rules in Q1 2024

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SEA LEVEL RISE & FLOODPLAINS



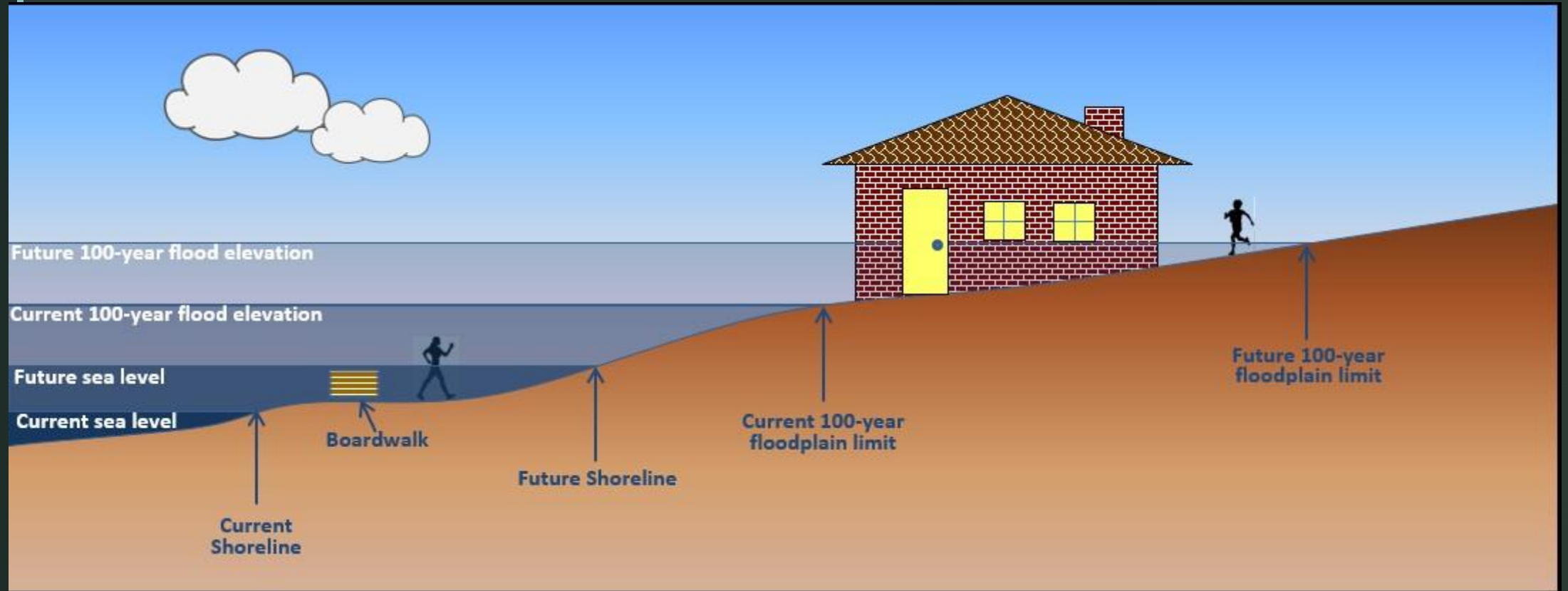
SEA LEVEL RISE & FLOODPLAINS

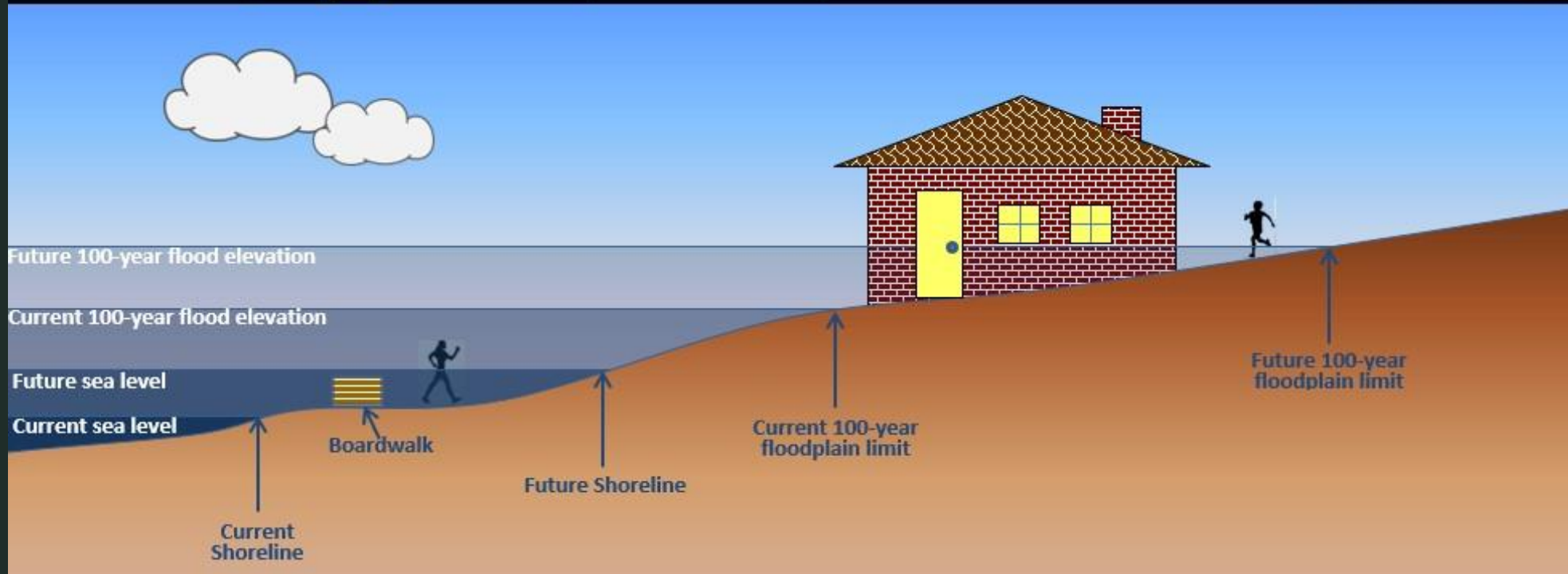
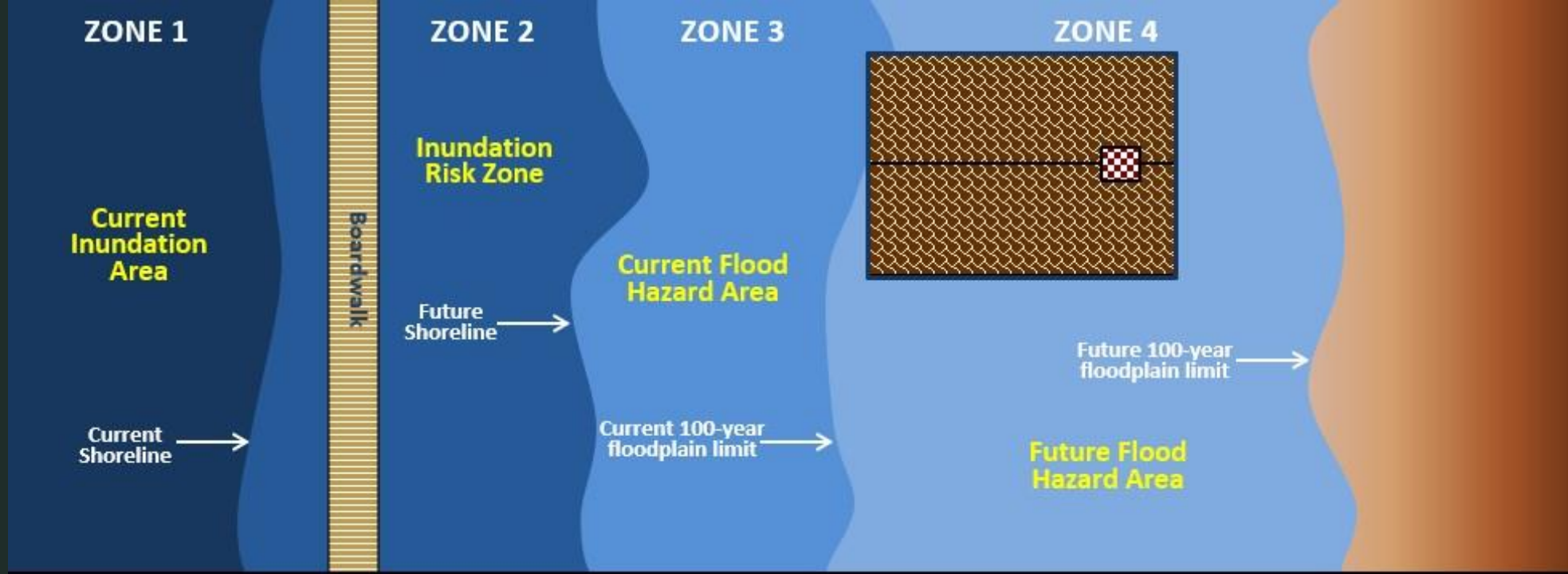


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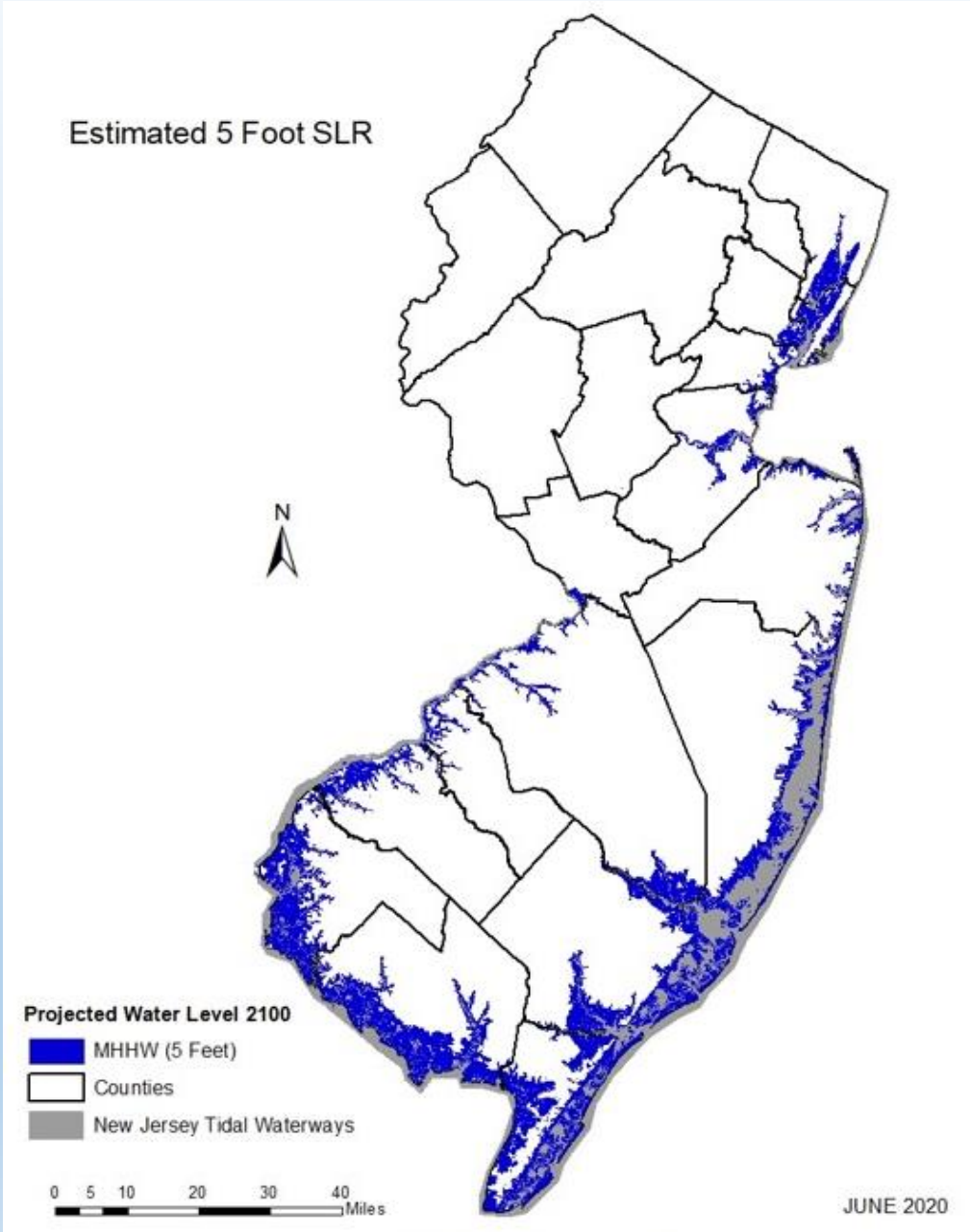


SEA LEVEL RISE & FLOODPLAINS





FIX DATA GAPS TO PROTECT COASTAL INVESTMENTS



Sea Level Rise =
More land regularly or
permanently inundated

More Inundation =
Higher flood
elevations

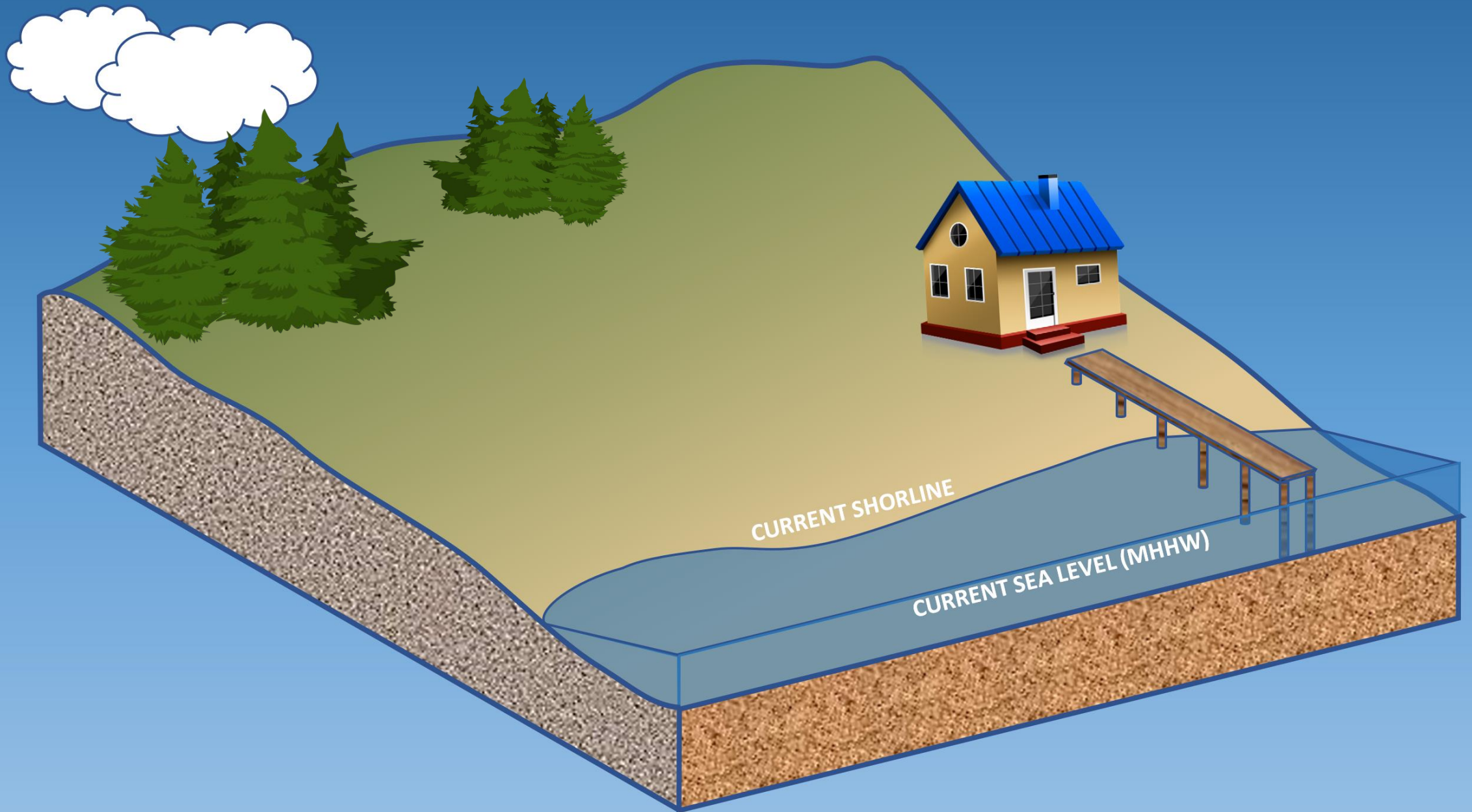
Higher Elevations =
More recurring
flood damage

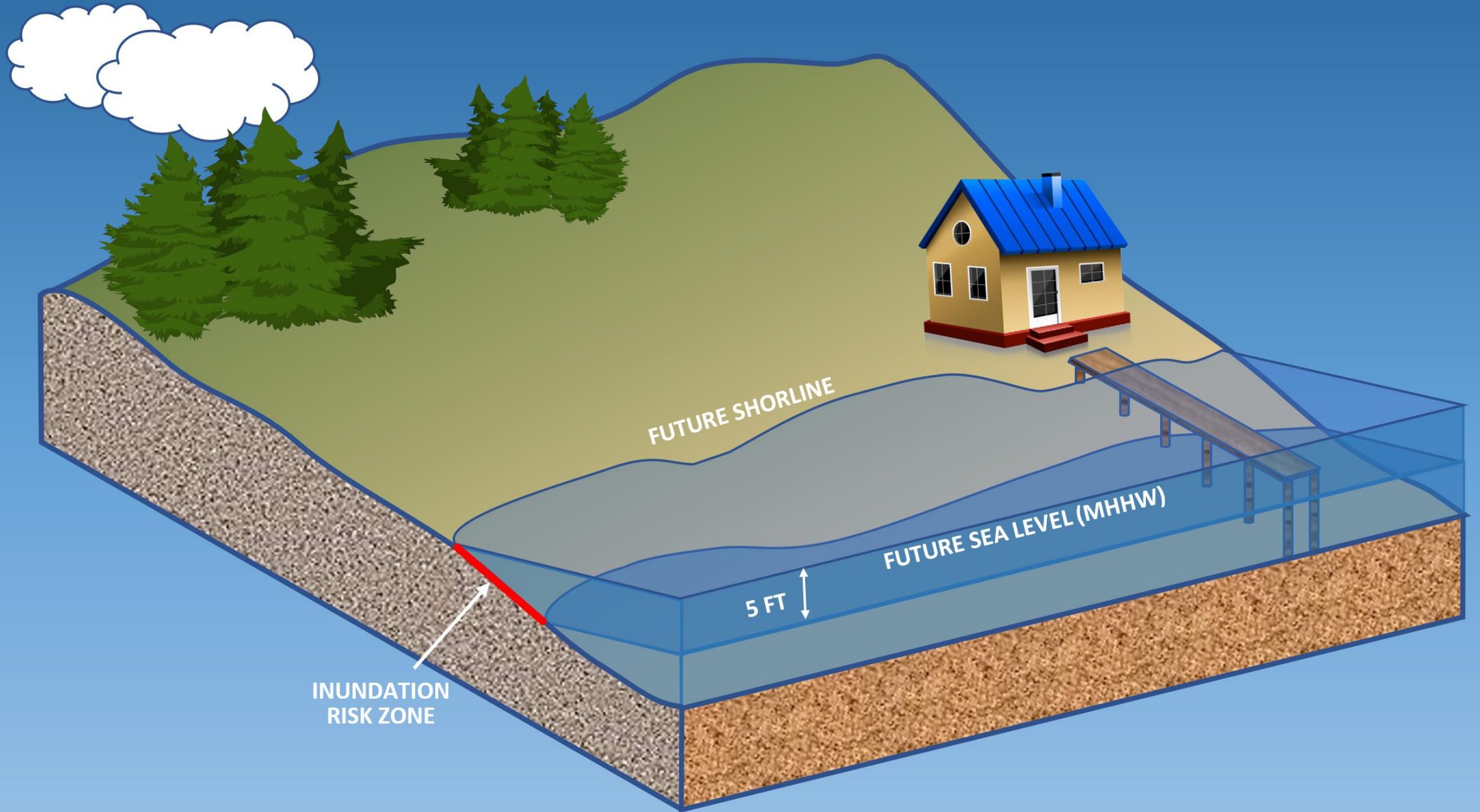
Existing standards are based on outdated historical trends that do not account for sea-level rise and attendant storm surge

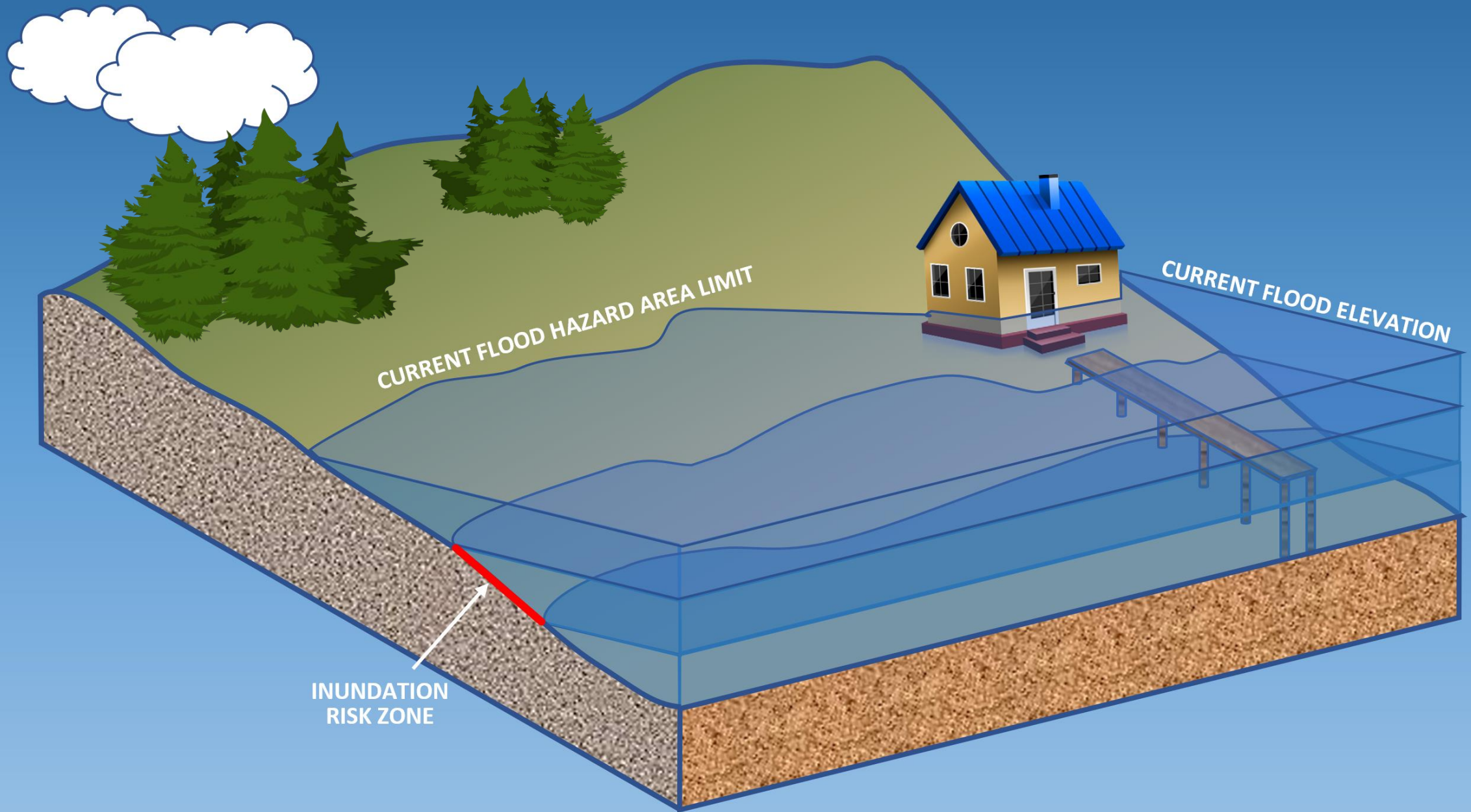
- NJ-specific science: 5.1 ft of sea-level rise by 2100
 - Predicated on *moderate* SLR scenarios
 - *Worst case SLR scenario is 8.8 ft by 2100*

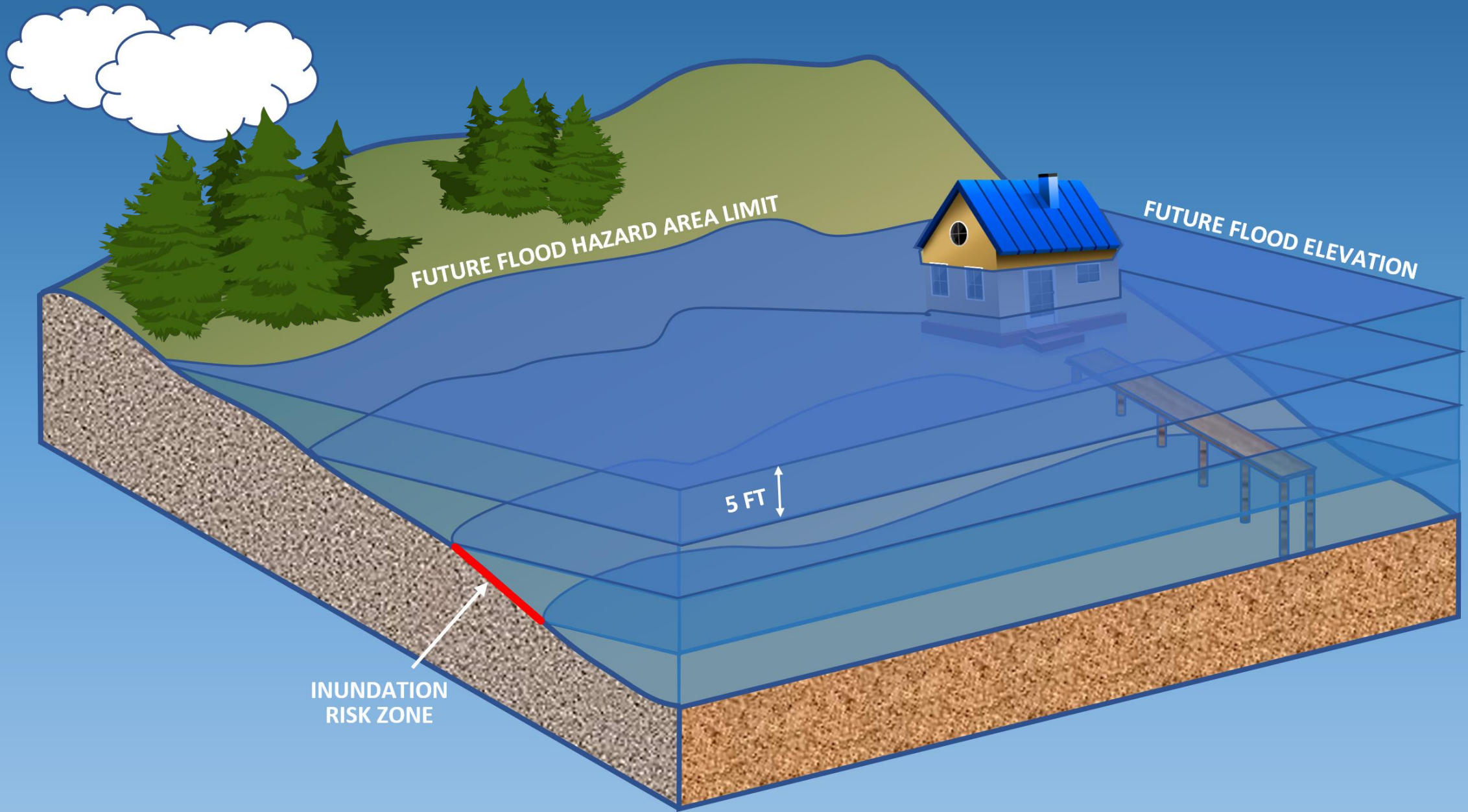
Reliance on incomplete and inaccurate data leads to inadequate risk assessment and substandard design criteria for buildings and infrastructure.

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NJDEP RULE CHANGES IN COASTAL AREAS

Changes will help build resilience to sea-level rise and storm surge in *new* development, and improve risk disclosures

1. Climate Adjust Flood Elevation (CAFE) extends slightly more inland than existing 100-yr zone
 - First-floor elevations (+5 feet) or floodproofing required in more areas than existing 100-yr zone
2. Risk assessment and evaluation of alternatives in the Inundation Risk Zone (IRZ), the areas where regular or permanent standing water is expected due to SLR
3. Updates FHA notice requirements to include to include narrative risk acknowledgement



Tuckerton, Ocean County (2012)



**NEW JERSEY
DEPARTMENT OF
ENVIRONMENTAL
PROTECTION**

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CLIMATE ADJUSTED FLOOD ELEVATION (CAFE) IN THE COASTAL FLOOD HAZARD AREA

- ▶ The current FHA Rules set the Coastal design flood elevation (DFE) as equal to FEMA's base flood elevation
 - ▶ Plus a one-foot factor of safety
 - ▶ Therefore, first-floors and roads must account for FEMA+1 through elevation or floodproofing
- ▶ Anticipated 5 feet of Sea-Level Rise would increase flood elevations by 5 feet
 - ▶ New Coastal DFE will be equal to FEMA+5, plus one-foot factor of safety
 - ▶ Therefore, first-floors and roads would be FEMA+6 through elevation or floodproofing

- 🏠
- +
-
- 📍
- 🔧 Total Water Levels Tool
- 🚰 Flood Hazards
- 📄 Map Layers
- 🗺️ New Jersey MyCoast
- 📷 Climate Snapshots
- 🗒️ Basemaps
- 💾 Save / Share / Print
- 🔄 Custom Layers
- ≡ Legend



≡ Layer Control

Show Legend Remove All Layers ⓘ

FEMA Flood Zones Opacity: 100%

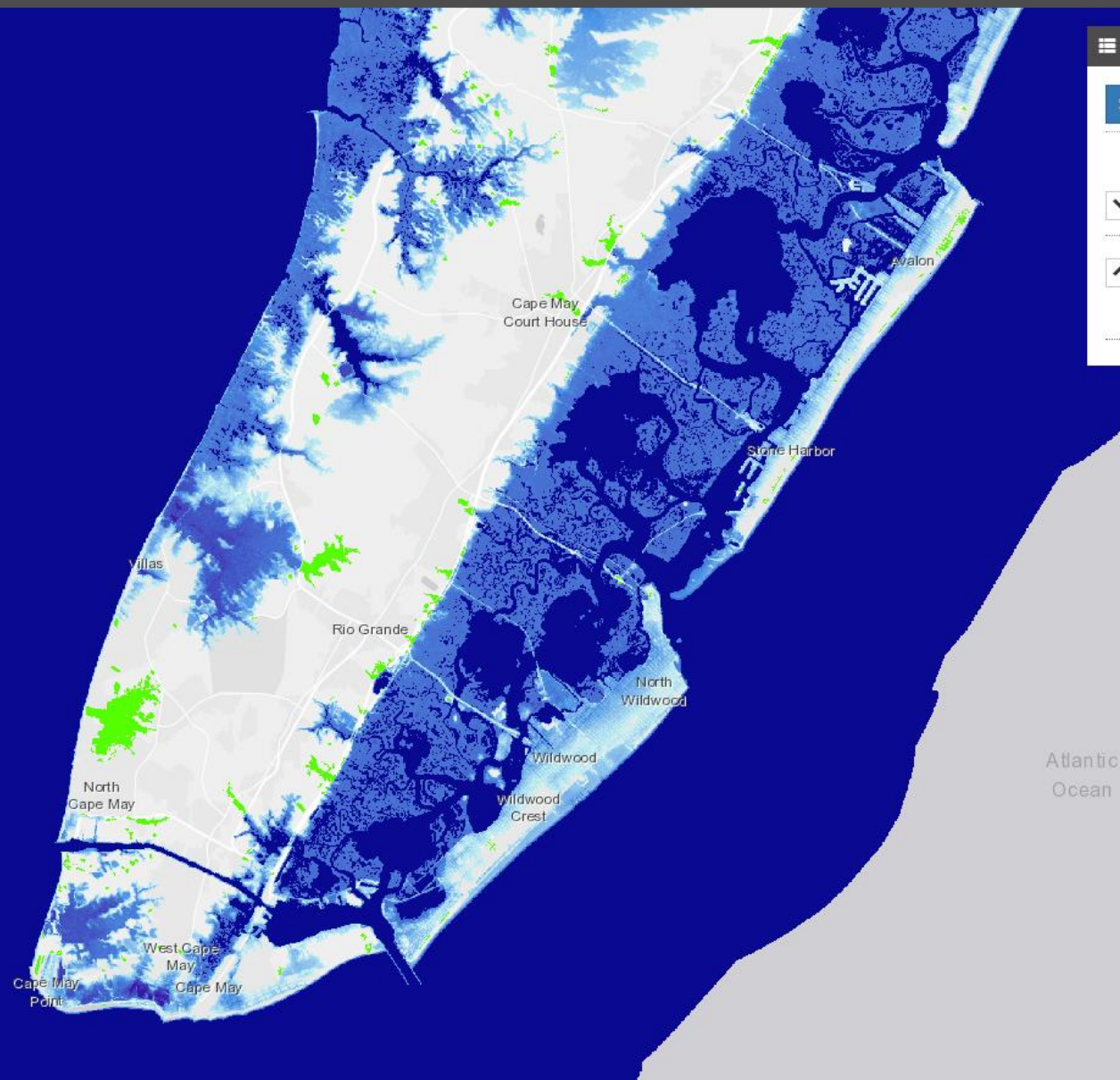
▼ ON OFF Remove 0% 100%

▲ Sea Level Rise (5 ft) Opacity: 100%

ON OFF Remove 0% 100%

BASE MAP

- Home
- Map Navigation
- Total Water Levels Tool
- Flood Hazards
- Map Layers
- New Jersey MyCoast
- Climate Snapshots
- Basemaps
- Save / Share / Print
- Custom Layers
- Legend



Layer Control

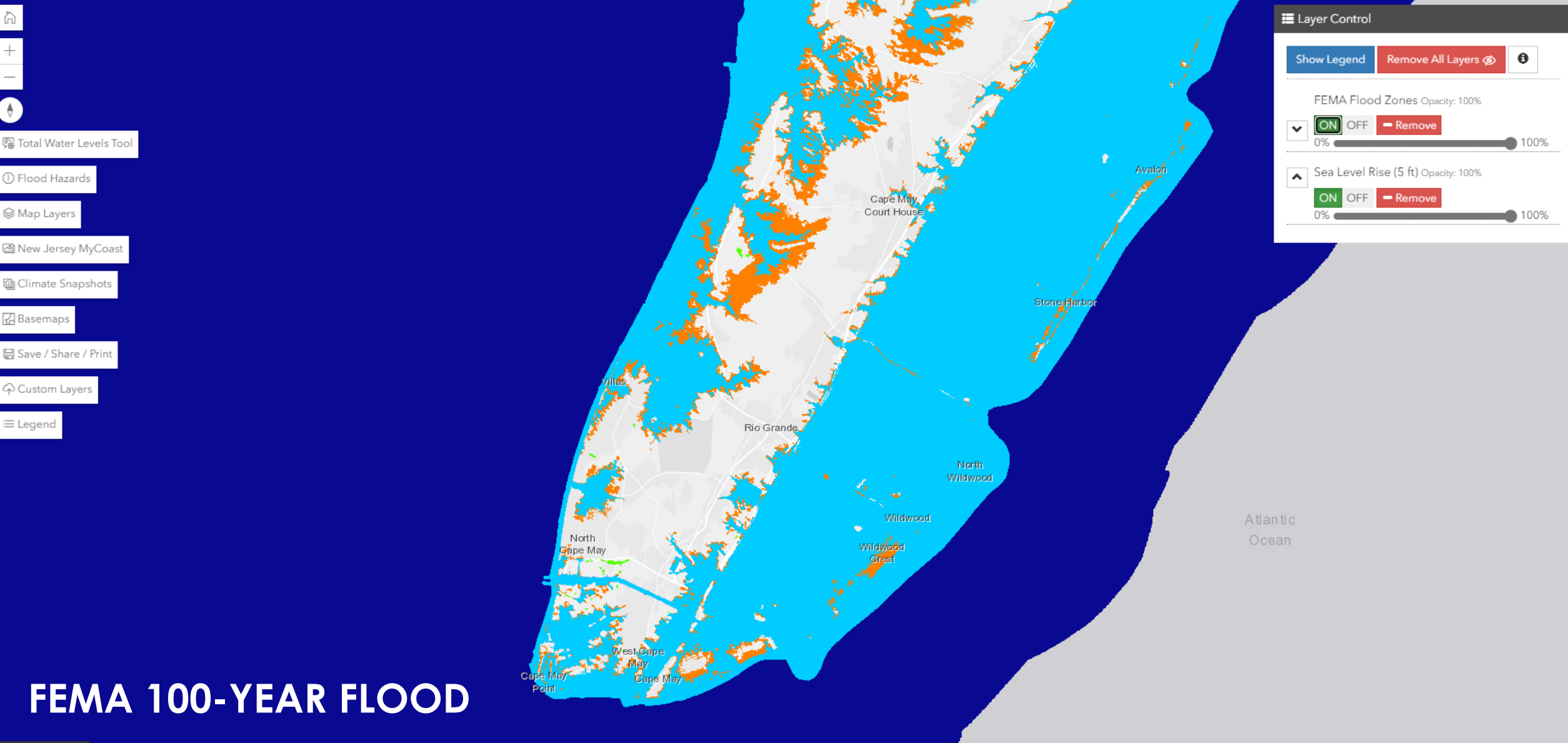
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FEMA Flood Zones Opacity: 100%

ON OFF Remove 0% 100%

Sea Level Rise (5 ft) Opacity: 100%

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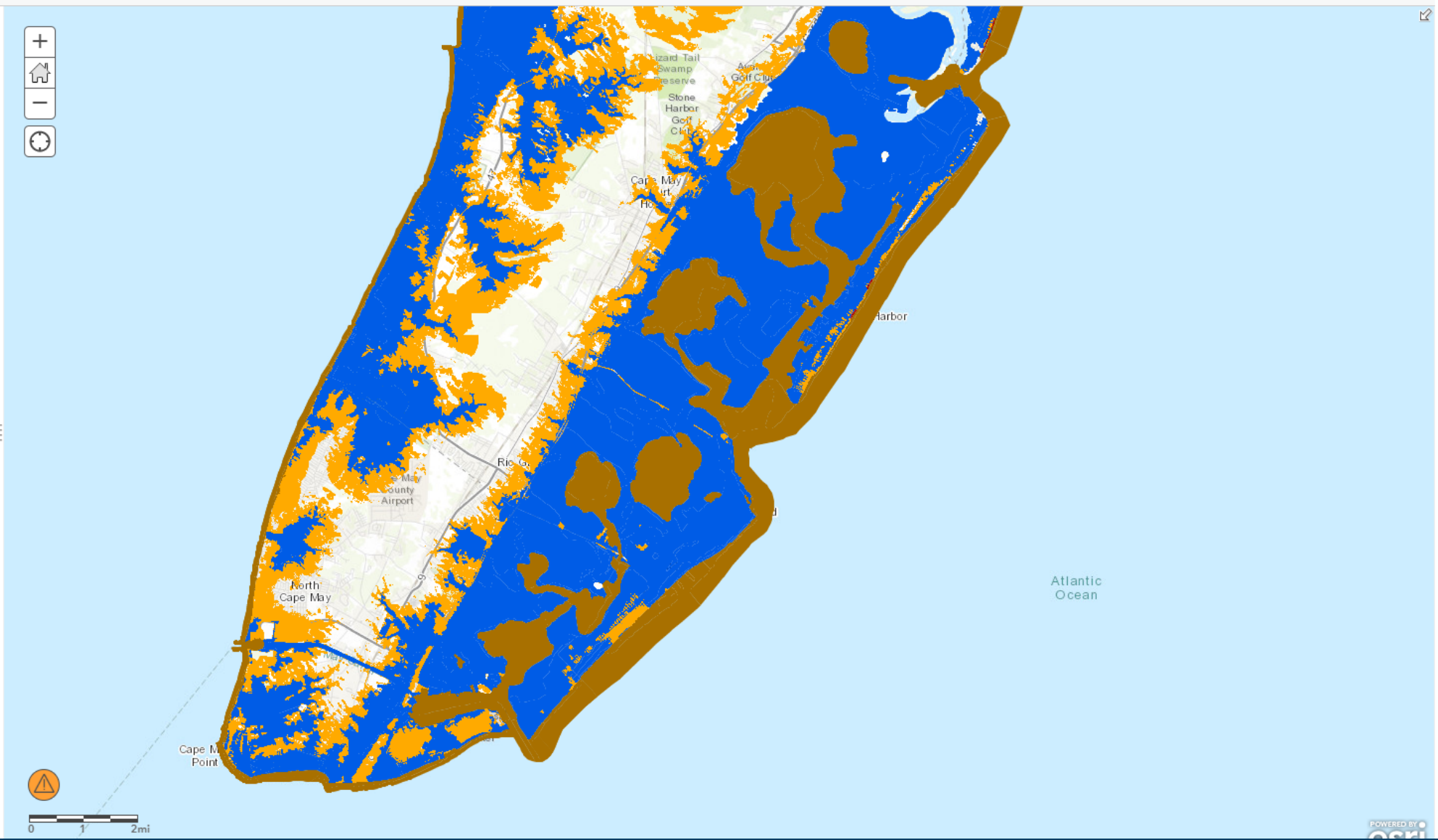


FEMA 100-YEAR FLOOD

Legend

Tidal Climate Adjusted Flood Elevation for New Jersey -
Tidal Climate Adjusted Flood Elevation

- SLR 5FT
- AE
- AO
- FW
- OW
- VE
- A - NO BFE



FEMA +5 FT

RISK-BASED PROCEDURAL DIFFERENCES

INUNDATION RISK ZONE

Regular/permanent standing water due to sea-level rise

- ▶ **Climate Impact Assessment**, narrative response to risk of loss/damage questions
 - ▶ added to existing compliance statement
 - ▶ **not decisional**; for notice purposes
- ▶ **Climate Risk Alternatives Analysis**, examines on-site design alternatives to avoid or minimize risks for residential and critical buildings.
 - Not required for:
 - ▶ Commercial development
 - ▶ Recreation and entertainment
 - ▶ Hospitality and gaming
- ▶ **Risk Acknowledgement**, adds narrative disclosure based on Climate Impact Assessment, recorded with FHA notice (existing requirement) in title

COASTAL FLOOD HAZARD AREA


Annual risk of storm-induced flooding acerbated by sea-level rise. This flooding retreats. Inundation does not.

Less process; shorter permit application

- ▶ No Climate Impact Assessment
- ▶ No Climate Risk Alternatives Analysis
- ▶ Short form Risk Acknowledgement, recorded with FHA notice in title (existing requirement)

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RESOLVE FEMA CONCERNS WITH STATE CONSISTENCY

Amendments needed to maintain State eligibility for national flood insurance program.

- ▶ FEMA establishes minimum flood reduction standards under the National Flood Insurance Program (NFIP).
- ▶ Communities who agree to meet or exceed minimum NFIP standards are eligible to receive disaster relief money after storms as well as federally-backed flood insurance for residents and businesses.

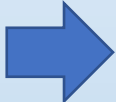
- ▶ In May 2020, FEMA released a detailed assessment of NJ's rules, challenging those where NFIP standards are not uniformly achieved.
- ▶ In general, NJ's rules match or exceed all federal minimums, but there are limited cases where rules must be tightened to ensure uniform compliance and consistent application.
- ▶ REAL resolves areas of potential non-compliance with Federal minimums as identified by FEMA.



FEMA

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Renewable Energy

OFFSHORE WIND

Striking a balance between maintaining habitat while encouraging renewable energy such as offshore wind

- Amend the CZM Rules to address the installation of electric transmission cables associated with offshore wind energy facilities with appropriate mitigation and monitoring to protect both habitat and the public safety of users
- Add public notice requirements for electric transmission cables located in the ocean

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Nature-Based Solutions

- Nature-based solutions have multiple co-benefits (i.e. carbon sequestration, habitat, wave attenuation, recreation)
- Streamline permitting process to encourage use of nature-based solutions such as living shorelines.
- Increase resilience of wetlands through beneficial use of dredged material.

Improve Protection of Land & Water Resources

Improve stormwater management :

- Require redevelopment projects to meet same water quality standards as new development
- Promote retention of SW runoff on site
- Require all Major Developments that require a FWW approval to meet SWM rules

Improve riparian zone protections:

- Improve protection of headwater streams in the upper reaches of watersheds
- Place riparian zones on bay side of barrier island complexes



Improve Protection of Land & Water Resources

Improve protection of freshwater wetlands and transition areas:

- Require applicants to demonstrate that wetland impacts are necessary for the conduct of a project
- Require onsite assessment when impacts are proposed in vernal habitats
- Require activities in transition areas to be at least 25 feet from FWW
- Require redeveloped land within 25 feet of FWW to be restored
- Require the entire transition area to be protected by a conservation restriction once modified through averaging



Improve Protection of Land & Water Resources

- **Improve habitat protection:**
 - Remove flood hazard area general permit for in-kind bridge/culvert replacement
 - Require that threatened & endangered species habitat currently fragmented by roads is addressed through an individual permit
- **Modernize mitigation requirements:**
 - Enhance mitigation requirements when riparian zone impacts cumulatively exceed certain limits
 - Require evaluation of climate change impacts on the long-term viability of mitigation projects



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Permits-by-Registration

- New type of authorization that replaces permits-by-rule.
- Applicants would log on to NJDEP's online permitting portal, enter basic information.
- Registration would enable WLM to track cumulative impacts on a watershed-wide basis and adjust standards to address 303(d) impaired waters and TMDLs and/or to reflect the State's planning goals.
- Allows more accurate tracking of regulated activities and better aligns with FEMA's requirement to record and track approvals under the NFIP.





Permits-by-Certification

- Many are rarely used; some will be folded into general permits so that range of activities can be broadened.
- Proposal would require a NJ licensed professional engineer or architect to apply for and certify each item in an FHA permit-by-certification since most include a requirement that certain information be provided or that engineering certifications are necessary.



For All Permits

Establish improved noticing requirements such as:

- Online notice of start of construction.
- Online notice of deed restriction filing (permittee can upload a copy of deed notice).
- Online notice of completion (permittee can upload photos and as-built drawings as available).
- Automatic response from online system if the above aren't received in a timely manner.



QUESTIONS?

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