FLOODING

Are you prepared?

In the Charles River Watershed, our communities are vulnerable to climate change impacts such as flooding, extreme heat and drought!

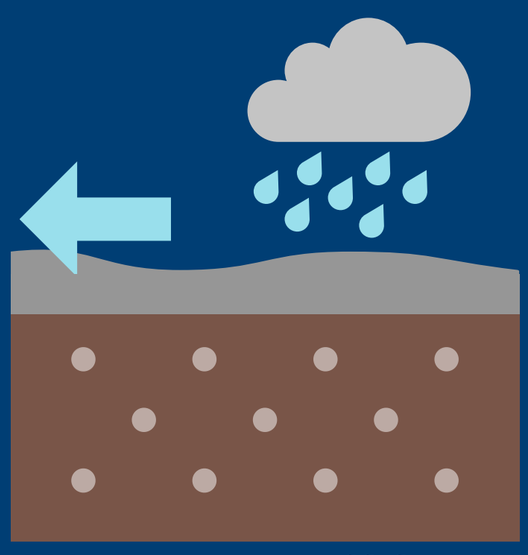
Flood Risks

Climate change is bringing more intense storms. Extreme rainfall has increased by **71% in New England since 1958.** Total annual precipitation is expected to increase by 1 - 6 inches by 2050.

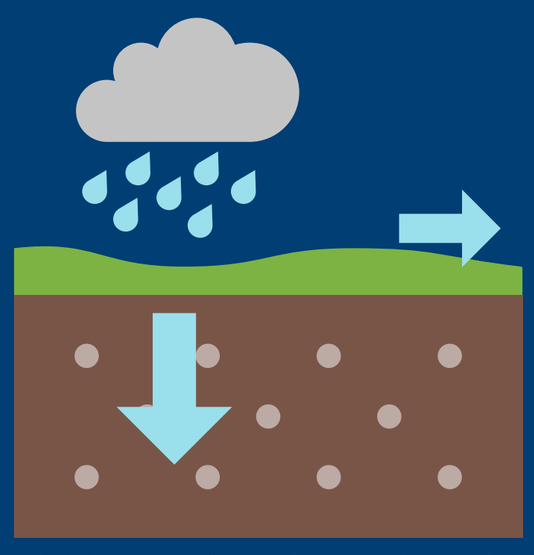
This means more flooding for our neighborhoods, roads, schools, and hospitals.

What Causes Flooding?

Impervious Surface **VS.** Pervious Surface



Water runs off from street into the river via pipes or causes flooding



Water is absorbed into the ground and less water runs off into the river

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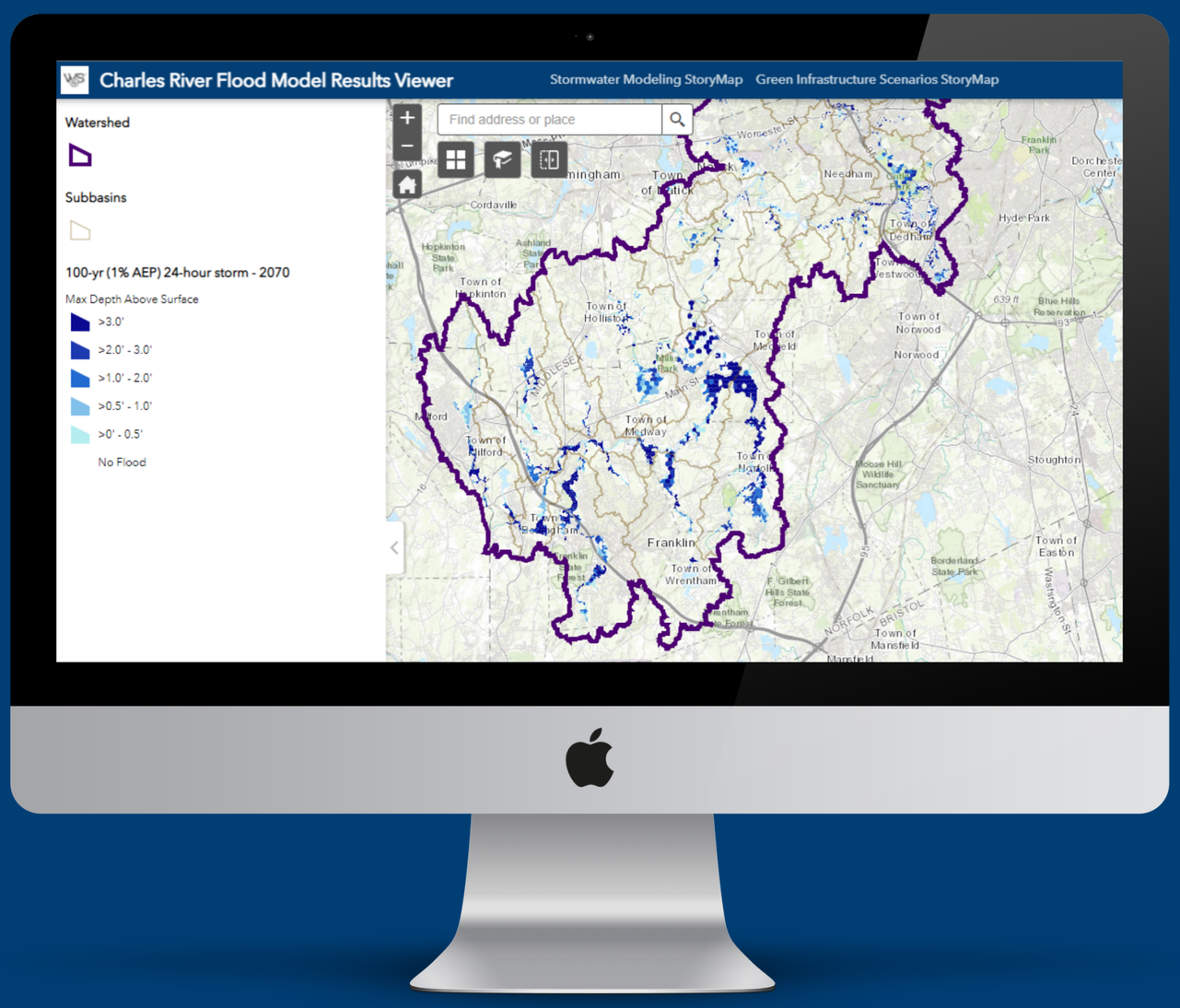
FLOODING

Are you safe?

The Charles River Flood Model (CRFM) was developed by Weston & Sampson in collaboration with Charles River Watershed Association and 23 communities



What is the CRFM?

The CRFM models **flooding impacts** from current and future storm events caused by climate change.

2-year storms

10-year storms

100-year storms

The model is a **decision-making tool** for towns and cities in the Charles River watershed to use when planning and preparing their community for climate change.

IN THE CHARLES RIVER WATERSHED

Present 2-yr storm

(50% chance of happening any year with current climate)

3.34 inches

Flood **3,186** acres

Impact **33** critical care facilities

The 2070 100-yr storm

(1% chance of happening any year with climate change)

10.37 inches

Flood **8,579** acres

Impact **56** critical care facilities

Scan here to use the CRFM

Charles River Watershed Association

Weston & Sampson℠

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FLOODING

Nature-Based Solutions

Nature-Based Solutions (NBS) are

Sustainable management practices or infrastructure using or mimicking natural features and processes that can absorb stormwater

- Protect Wetlands
- Conserve Undeveloped Land
- Maintain/Improve Tree Canopy
- Implement Green Stormwater Infrastructure

Green Stormwater Infrastructure (GSI)

Measures that **STORE**, **FILTER** and **ABSORB** stormwater where it falls & help reduce flooding and pollution runoff into the river

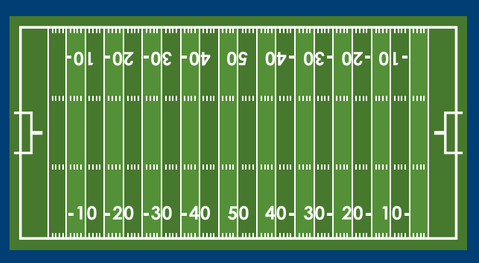
NBS modeled in the CRFM

1. Adding GSI across the watershed
2. Installing stormwater storage systems (wetlands, underground filtration)
3. Reducing impervious surface in highly developed areas
4. Planting trees and GSI streets

Scan QR code to learn more about NBS modeled in the CRFM and its impacts

Scan QR code or go **bit.ly/crwa_survey** to take a survey to tell us what kind of NBS you would like to see in your community!

Adding **32,000 acres** of new green stormwater infrastructure treatment systems in the watershed would protect **hundreds of acres from flooding** and **reduce flooding depths** in many areas of the watershed from the 2070 10-yr storm



(equivalent to 24,200 football fields)

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