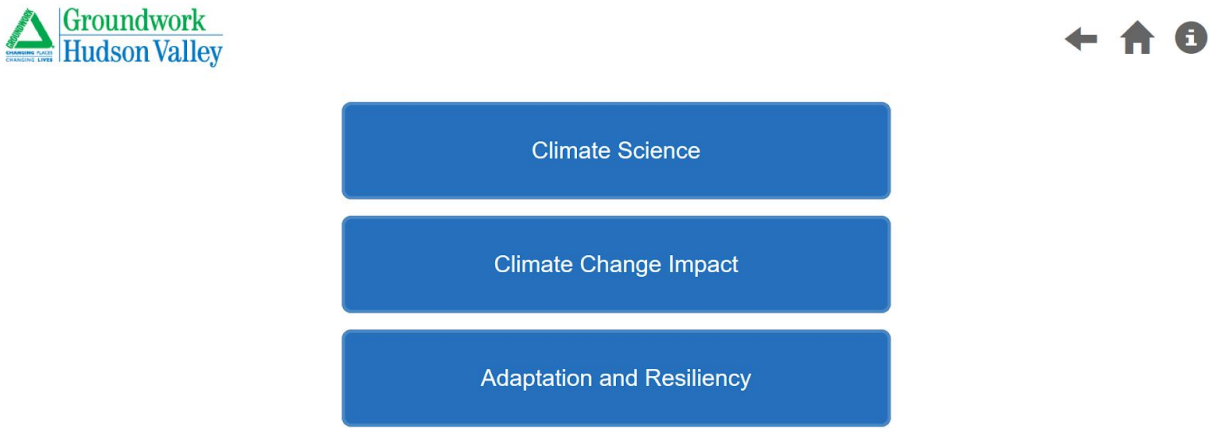
INTRODUCTION Building Resilience to Extreme Weather Events	Teacher's Guide

Modified from Groundwork Hudson Valley 2018. Distance Learning Module for "Global, Local, Coastal: Preparing the Next Generation for a Changing Climate" pp 79-81

Introduction

Access the following web app https://nicholasericksen.github.io/GHV-data/

1. **Click on the Adaptation and Resiliency tab**



2. **Click on the Coastal Resilience tab**

3. **Click on the Coastal Resilience tab again** (as the first and third tabs should have changed)

4. **Watch the video**

Discussion
After watching the video, discuss the following questions:

1. **How would you distinguish between weather and climate?**

   Weather: short-range (daily) changes in precipitation, humidity, wind speed, cloud cover

   Climate: long-term pattern of atmospheric conditions over hundreds or thousands of years

2. **How would you explain communal resilience to extreme weather events or climate change?**

   Resilience is defined as the ability to withstand or bounce back from challenging conditions or disturbances to our natural and built environment (Groundwork Hudson Valley, 2018).

   The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity of self-organization, and the capacity to adapt to stress and change." (in the Summary for Policymakers of the Working Group II Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2014).

Community resilience implies the ability of a community (a socio-economic system coupled or embedded within an environmental one) to employ both internal and external resources to thrive in the face of change, uncertainty, unpredictability, and/or surprise (Magis, 2010).

3. **What are some of the ways in which a community can respond immediately after an extreme weather event such as flooding?**

   The following answers are from https://www.weather.gov/safety/flood-after

   - Stay Informed: Stay tuned to your local news for updated information on road conditions. Ensure water is safe to drink, cook or clean with after a flood. Authorities may ask you to boil water for a while after a flood. Utility companies often have apps to update you on getting service back. Carbon monoxide poisoning is one of the leading causes of death after storms when areas are dealing with power outages. Never use a portable generator inside your home or garage.
   - Avoid Flood Waters: Standing water hides many dangers including toxins and chemicals. There may be sharp objects under the water or the road could have collapsed. If it is likely that your home will flood, don't wait for an evacuation order, get out! Talk to friends and family about emergency visits. If you have pets, take them with you or get them somewhere safe.
   - Avoid Disaster Areas: Do not visit disaster areas. Your presence may hamper rescue and other emergency operations.
   - Heed Road Closed and Cautionary Signs: Road closure and other cautionary signs are put in place for your safety. Pay attention to them!
   - Wait for the All Clear: Do not enter a flood damaged home or building until you're given the All Clear by authorities. If you enter a flood damaged building, be extremely careful. Water can cause floods to collapse, ceiling to fall, etc. Make sure the electrical system has been turned off. Have the power company or a qualified electrician fix wires. Contact your insurance agent to discuss property damage. If you have a generator, follow proper safety procedures.
   - Contact Your Family and Loved Ones: Let your family and close friends know that you're okay so they can help spread the word. Register with or search the American Red Cross's Safe and Well Listing

4. **What are some of the ways in which a community can prepare for an extreme weather event such as flooding?**

    - Nature-based solutions such as oyster reefs or salt-marshes
    - Engineered infrastructure such as seawalls or levees
    - Emergency preparedness/response plan and/or hazard mitigation plan
    - Community education