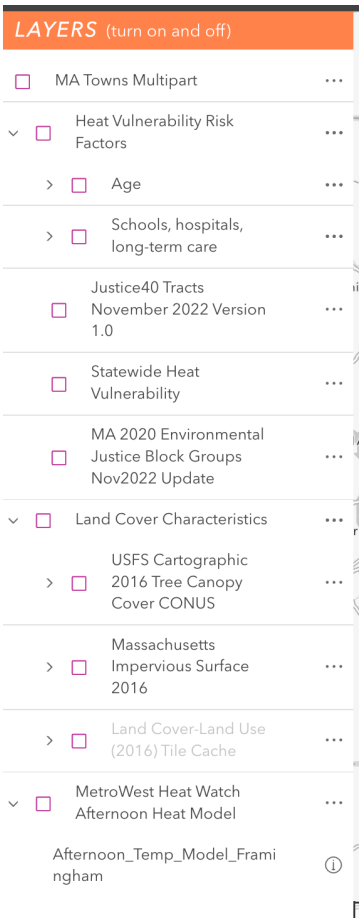
INSTRUCTIONS for MAPC APP

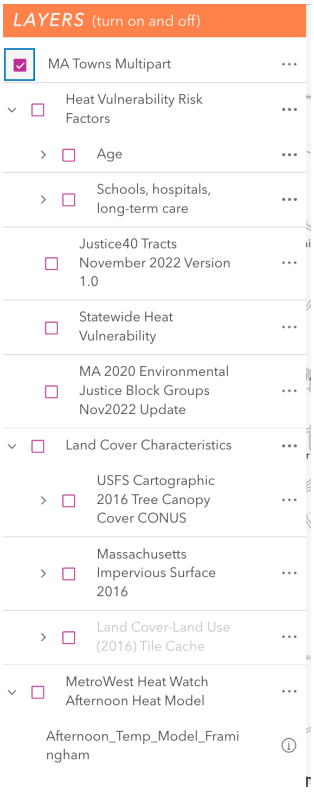
https://experience.arcgis.com/experience/442e5e022604402b850be47f29b90845/

1. Uncheck all layers on the left side of the map:
   1.1. Click on all arrows to unfold all layers
   1.2. Uncheck all layers

Your screen should look like the image to the right

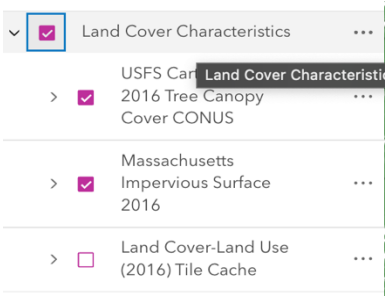


2. Turn on the first layer at the top called “MA TOWNS MULTIPART” by checking the box beside the layer.



2.1. What towns and cities does this map show? Do you recognize the borders?

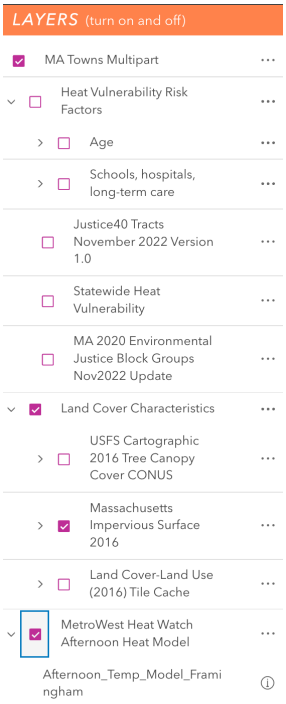
3. Turn on the “Land Cover Characteristics Layer”
   3.1. Click on the drop-down of the layer
   3.2. Check the Tree Canopy Cover
   3.3. Check the Impervious Surfaces Layer
   3.4. Check and uncheck the Tree Canopy cover and observe the areas on the map that do not have tree canopy cover.



   3.5. Are you able to identify where water features are? (represented on light gray)
   3.6. Where do you see impervious surfaces on this map? What do you think these are? Give examples of what you think impervious surfaces are.

4. Identify a place where you see dense impervious surfaces within the city of Framingham and the towns of Natick, Ashland, and Holliston. Keep track of the place you chose.

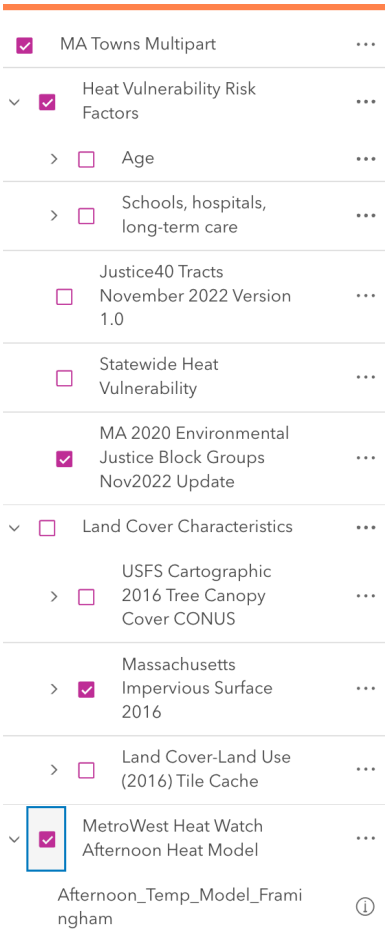
5. Turn off the canopy cover and turn on the Metro West Heat Watch Afternoon Heat Model. Your screen should look like the image below



5.1. What range of temperatures do you see at the place you have chosen before? What relationship do you find between heat and impervious surfaces?

Now we see that there are specific areas that have the highest heat based on the type of land cover.
Next, let’s focus on the people at maximum risk in those areas.

6. Turn off the “Land Cover Characteristics” Layer
7. Turn on the “Heat Vulnerability Risk Factors” Layer
   7.1. Click on the drop-down layer
   7.2. Check the MA 2020 Environmental Justice Block Groups Nov 2022 Update.



8. Observe the map and notice the different ratios of EJ populations residing in the particular areas we studied before.

   8.1. Is there any EJ population within the area you have chosen?
   8.2. What surprises you the most looking at these maps and making connection between these areas.

INSTRUCTIONS FOR HANDS-ON ACTIVITY

1. Place the Impervious Surfaces Map on top of the Tree Canopy cover Map.
2. Place the towns map on top of both maps
   Do these two maps complement each other? If yes, how so?

Note: I want them to understand what impervious surfaces are.

3. On the Towns Map, circle 3 areas where you see dense tree canopy cover, dense impervious surfaces, and an area with a mix of both. Choose areas that are within the city of Framingham and the towns of Natick, Ashland, and Holliston. Use the Tows maps as a reference to determine these areas.

4. Place the Heat Map on top, and align it according to the boundaries of the Towns map.

   What correlation does each of these 3 places have with temperature? How do each of these areas impact the effect of heat?

   Now that we know that there are specific areas that have high heat pertaining to the location of the heat islands in a city and 3 other towns; Let's focus on the people at maximum risk here.

5. Take off the Tree Canopy Cover and the Impervious Surfaces Map. Then place the Towns map on top of the Heat Map.
6. Add the EJ community Map on top of the two maps you have.
7. Observe the map and notice the different ratios of EJ populations residing in the city and towns.
   Is any of the places you have chosen part of the EJ population communities? Are you able to identify where the heat islands are located in reference to the EJ Populations Map?
8. Let's further break these EJ Community populations down into the different categories and observe the overlapping now.
9. Take out the EJ Populations Map and instead place the Minority Map (Again align with the Towns Map)
   What do you observe? Does this map intersect with any of the heat islands?
10. Add on top the Low-Income Map (Again align with the Towns Map)
    What do you observe? Does this map intersect with any of the heat islands?
11. Add on top the English Isolation Map (Again align with the Towns Map)
    What do you observe? Does this map intersect with any of the heat islands?