

Accessing Endicott's ArcGIS Online Account

- Enter this URL to sign in: <https://ecat.maps.arcgis.com/home/signin.html>
- Then enter your username and the password that you created when you activated your ArcGIS account.

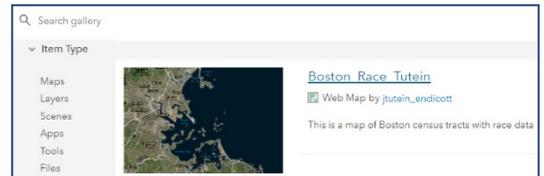


- Once you have logged in, you will see the Dashboard Home page.



Create Boston Neighborhood Race and Median Household Income Map

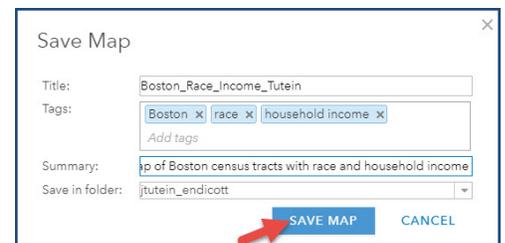
1. Click on **Gallery** in the Dashboard menu bar.
 - Find the race map you created in the last class and click on the image to **Open in Map Viewer**.



2. Locate the **Save** menu option in the Ribbon and click **Save As**. Save and complete the prompts in the Save Map dialog that displays:

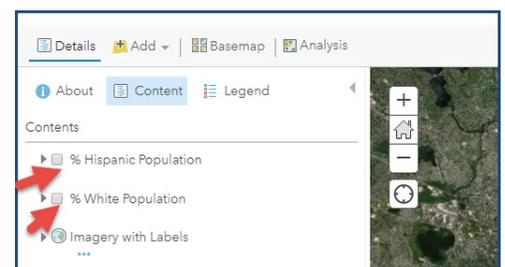


- For **Title**, enter **Boston_Race_Income_YOURLASTNAME**
- Enter **Tags: Boston, race, household income.**
- Enter a **Summary: "This is a map of Boston census tracts with race and household income data."**
- Click **Save Map** to save the data and close the dialog.



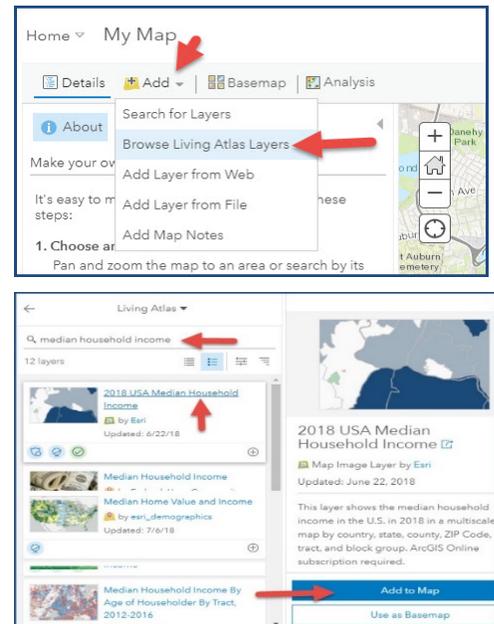
3. Make sure none of the race layers are turned on by deselecting the check marks.

- **Save** your map updates.



Add Median Household Income Data Layer

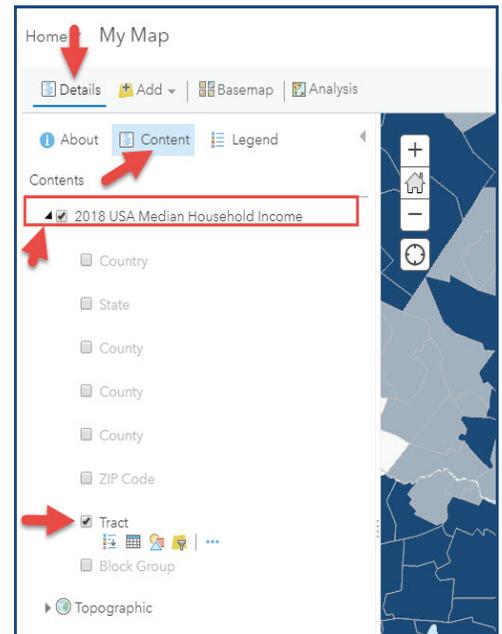
4. Click **+Add** in the Ribbon
 - Use **Browse Living Atlas Layers** to search for current 2018 USA income data.
 - In the search field, type **median household income**.
 - Scan the list and click the **2018 USA Median Household Income by ESRI** layer.
 - Click the **Add to the Map** button at the bottom and click **X** to close the Summary pane.
 - **Save** your map updates.



Explore Data Layer Details

5. Click **Details** in the Ribbon to access map content, legends and general information.
 - Now click **Content** to display the map layers.
 - Verify that the **checkbox** next to **2018 USA Median Household Income** is **checked**. If not, check it.
 - Click on **triangle** next to **2018 USA Median Household Income** layer to expand the list of geographic layers.
 - Deselect all geographic levels except for **Tract** level data., so make sure there is only a **check mark in the box next to tract**.

TIP: Also, **Tract** should be the only word in the list that is **in black** and all the other words should be in light gray. If not, zoom in and out on the map section until **Tract** turns black.



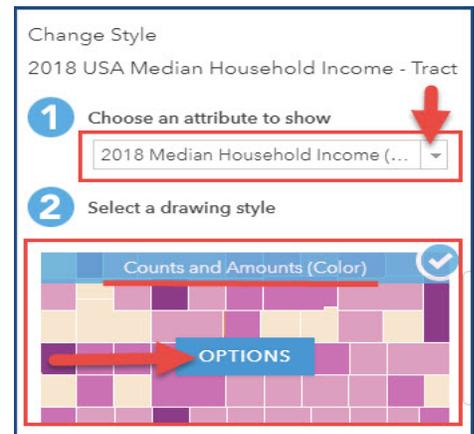
Styling Layers – Creating a Blue Heat Map Style for Median Household Income

6. Under the **tract** layer, click the third icon: **Change Style**.
 - The Change Style Dialog displays.
7. Under **1 Choose an attribute to show**,



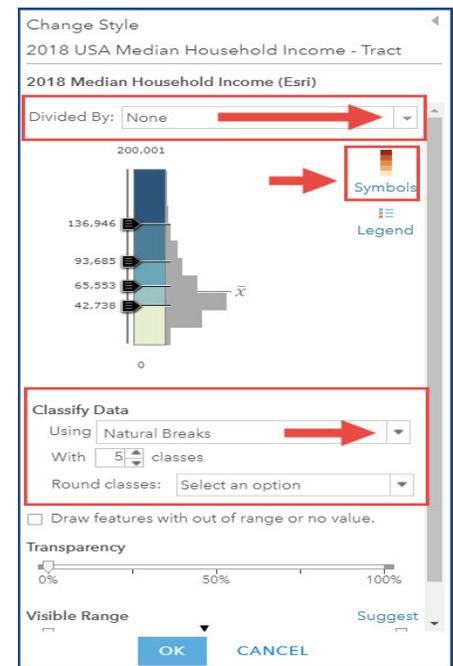
Step by Step Guide: Create Boston Neighborhood Race and Median Household Income Maps.

- Select **2018 Median Household Income (ESRI)** from the drop-down menu.
8. Under **2 Select a drawing style:**
- Select **Counts and Amounts (Color)** and click on **Options**.



9. Now to style the Median Household Income attribute:

- In the **Divided By** option, select **None** from the drop down menu.
- Note:** We want to see median household incomes for each Census tract and we don't want to divide it by any other values right now.
- In the **Classify Data** option, select **Natural Breaks** in the drop-down menu.



Note: This creates classes based on the natural grouping of the data, instead of choosing arbitrary income ranges.

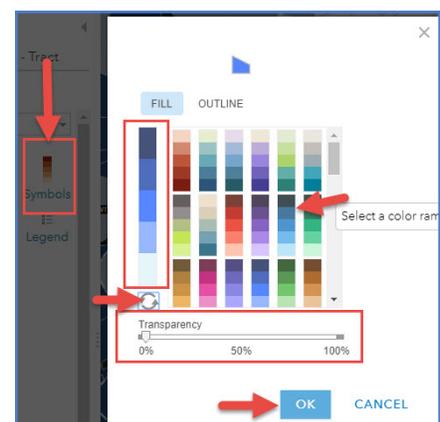
- In the **With __ classes** option, select **5** for 5 classes of data.
- Save your map changes.

10. Next, click **Symbols** to display dialog that lets you change the color ramp.

- Let's create a blue heat map in which we select a color (blue) and we make sure that **lower incomes appear in a light blue and higher incomes appear in a dark blue**.

Note: Remember you can invert the color ramp if you need to change the dark to light order.

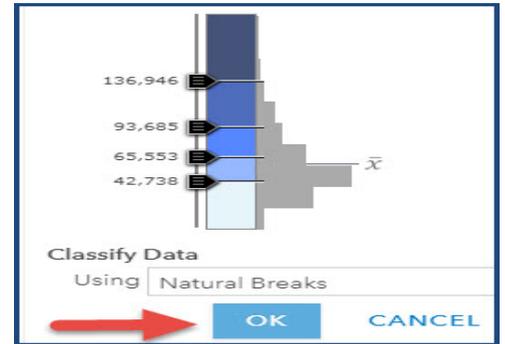
- Make sure the color is set for **0% transparency**.
- Click **OK** to complete selection and close dialog.



Step by Step Guide: Create Boston Neighborhood Race and Median Household Income Maps.

11. Now to confirm your style changes:

- Click **OK** at the bottom of the Change Style menu.
- Then click **DONE** to return to the Content list.
- Remember to **Save** your map changes.



Zoom in to View Physical Differences of High and Low Income Tracts

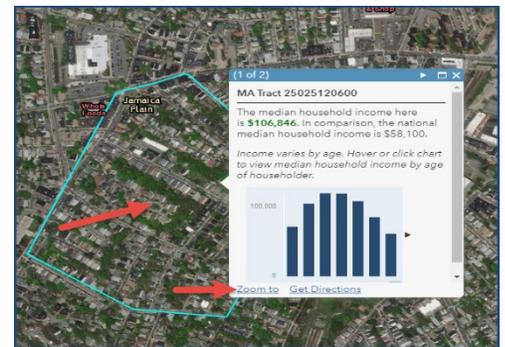
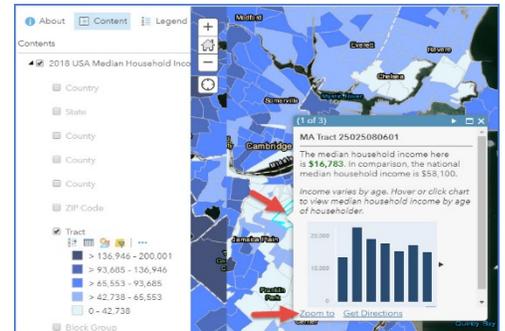
12. Under **Tract**, click the **Legend** icon to refresh map

- Look at the map and evaluate patterns in the locations of low-, middle-, and high-income households.

13. Click on a **light blue census tract** and **zoom in**.

- Consider the layout of the neighborhood (e.g., presence/absence of parks, space between homes, houses vs. apartment buildings, medical centers, etc.).
- Then pick a **dark blue census tract** and do the same tasks (zoom, review neighborhood features)

14. Click the **2018 USA Median Household Income layer off** when done exploring Boston tracts.

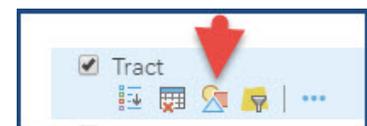


Change Layer Style for % White Pop Calculation to Display as Red Size Symbols

15. Click on the **% White Population data layer**. And zoom out to see tract level red heat map.

16. Under the tract layer, click the third icon: **Change Style**.

- The Change Style Dialog displays



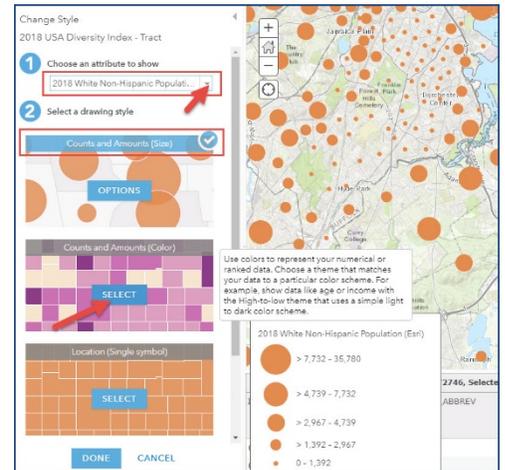
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17. Under **1 Choose an attribute to show**,

- Select **2018 White Non-Hispanic Population (ESRI)** from the drop-down menu.

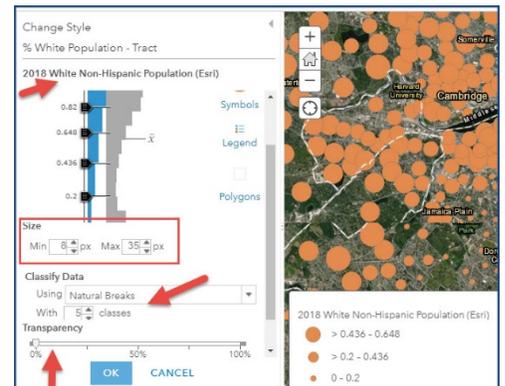
18. Under **2 Select a drawing style**,

- Select **Counts and Amounts (Size)** and click on **Options**.



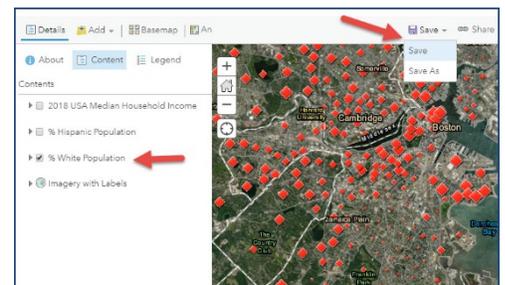
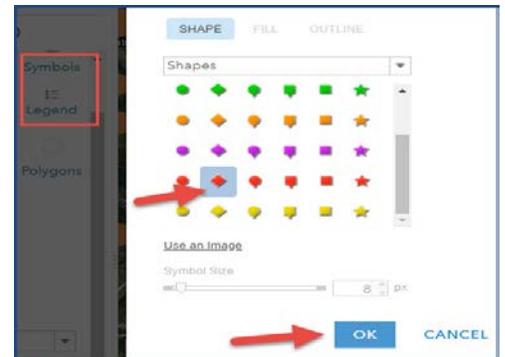
19. In the **Divided By** option, select **2018 Total Population (ESRI)**.

- **% white population** is now calculated and displayed for each tract.
- Under **Size**, select **“Min 8 px”** and **“Max 35 px”**
- Under **Classify Data**, select **Natural Breaks**.
- Under **With ___ classes**, select **5**.
- Remember to **Save** your map changes.



20. Click the **Symbols** image in the Change Style menu.

- Select the **red diamond symbol**.
- Click **OK** to accept the symbol style change.
- Click **OK** at the bottom of the **Change Style** menu.
- Then click **DONE** to return to the Content list.
- Remember to **Save** your map changes.



Select 2 Data Layers to Show Map with Median Income Tracts and % White Population

21. Click **Details**, then the **Content** tab.

- Turn the **2018 USA Median Household Income** data layer back on.
- Make sure only the Tract Level data layer is selected.
- **Save** your Map

22. Click on the three dots to the left of **% White Population** drag it above so it is above the **2018 USA Median Household Income** layer.

- The red diamonds will appear on top of the blue heat map.
- Click the Legend option to show the legends for both data layers.
- Save your map changes and share to the Social Problems SP 19 group folder.



Select 2 Data Layers to Show Map with Median Income Tracts and % Race/Ethnic Population

23. Repeat the above steps, starting at Step 15 to look at another racial/ethnic group. You must select a racial/ethnic group based on the assignments below.

- If your last name starts with A-I, look at the % black, non-Hispanic population
- If your last name starts with J-Q, look at the % Asian, non-Hispanic population
- If your last name starts with R-Z, look at the % Hispanic population
- **Use Save As** to create a new map for your Race/Ethnic and Income map and include your last name in the map name.

23. **Share your map** to Social Problems SP19 group folder.