In 2015, the New York City Department of Parks and Recreation precisely mapped over 650,000 trees within the city. Though an often overlooked part of daily life, analyzing the location of trees with respect to the city’s potential flooding locations, surface temperature, and exercise habits, can provide insight into the importance of preserving the environment. (:20)

We’re now looking at every single one of those trees, in their exact real-world locations: next to the same buildings and adjacent to the same sidewalks. (:30)

While the sheer scale of such data can be difficult to fully understand, we can group the data into a density map to sort out patterns. We can now see a number of clusters begin to form, with dense concentrations of trees being slightly more prevalent in Manhattan than in the Bronx. (:45)

The trees to the right of the Hudson show us the importance of having natural surfaces to prevent flooding. In blue are areas which are likely to flood under moderate stormwater intensity. Notice how the potential flood areas are found outside of areas with a large tree density, since trees have a potential to reduce stormwater runoff. (1:15)

As we move to Upper Manhattan, we’ll notice that a very large concentration of trees exists to both the left and right of central park. As we continue North to the Bronx, we’ll notice that the number of trees shrinks, which coincides with us moving into lower income, predominantly Black, neighborhoods. The lack of proper shade from the trees lends itself to higher surface temperatures in that area, which ultimately makes Black New Yorkers die from heat stress at twice the rate as white ones. (1:40)

Another trend within the lower Bronx area is the number of dead trees as compared to the rest of the city. Notice how the majority of dead trees are found within this one part of the Bronx.

Here in the Hunts Point neighborhood, more than 5% of all trees are considered dead.

This trend is directly correlated with the percentage of people who say they have exercised within the past month, likely due to the fact that outside exercise is much easier to commit to when the environment is welcoming, and not barren. In the South Bronx, only 64 percent of residents say they have performed some physical activity, which is significantly lower than the nearly 80 percent that exercise at least once a month in lower Manhattan. (2:10)

As we fly through the city, consider the importance of each of these trees in preventing flooding, cooling the city, and improving physical health. Also consider how not having a beneficial environment, among other factors, can create a divide within the city.