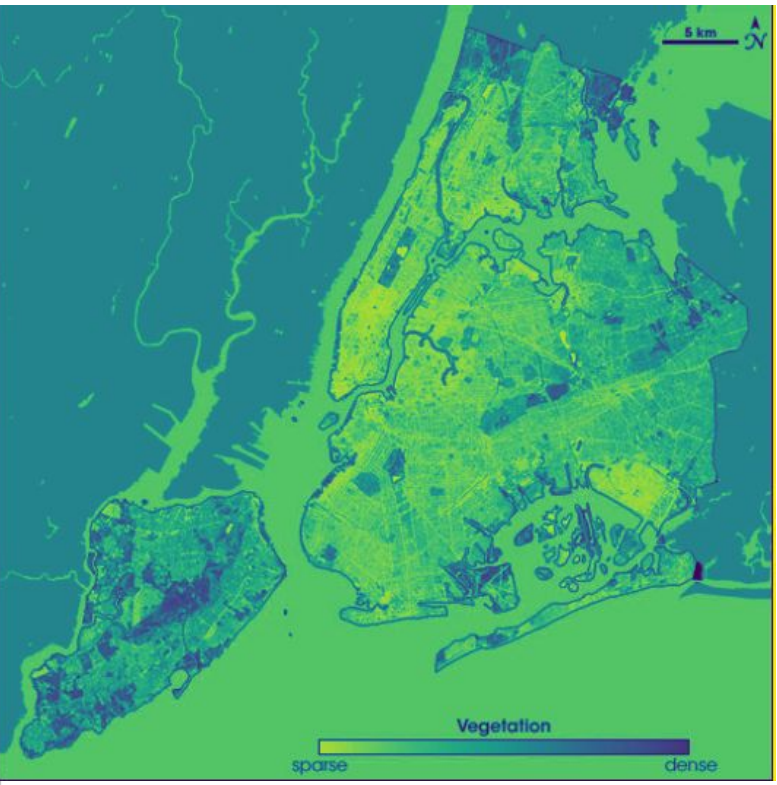
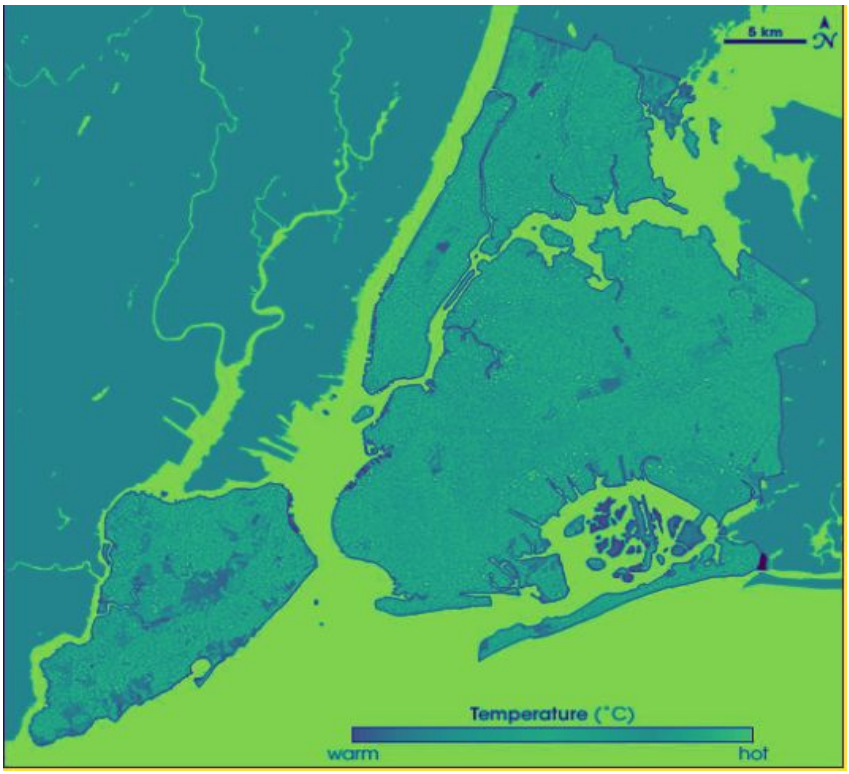
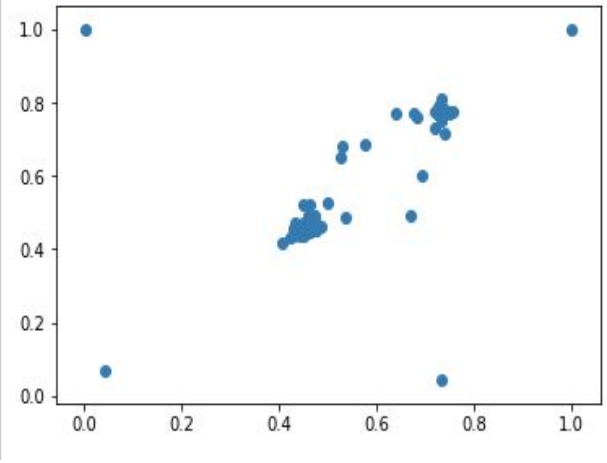
{Image 1 }



{ Image 2}





In order to determine the relationship between vegetation and temperature, I wrote a program that only displays the green channel of the vegetation image (Image 1) and only displays the blue channel of the temperature image (Image 2). This was done because the change in vegetation and temperature is mostly contained on the green and blue channels respectively. Then, I used the flatten() command to turn the green and blue arrays into long arrays so that I could compare individual points in the same order. Then, I graphed the data and output the scatter plot on the left. The graph suggests that there are several points where the degree of “greenness” and “blueness” are the same, as indicated by the clusters of points. Therefore, areas with the sparsest amount of vegetation, also occur in places where the temperature is highest and areas with the most vegetation occur in more temperate areas. There may be outliers, but this is the general trend. There is a negative correlation between vegetation and temperature. Extreme heat is not good for vegetation.

My Code:

```
#Christina Marshall
#CSCI 127
import matplotlib.pyplot as plt
import numpy as np

veg =plt.imread('VegImage.png')
temp =plt.imread('TempImage.png')

plt.imshow(veg)
plt.show()

plt.imshow(temp)
plt.show()

veg.flatten()
temp.flatten()

gchannel = veg[:,:,1]
blchannel = temp[:,:,2]
gchannel.flatten()
blchannel.flatten()

print(len(gchannel))
print(len(blchannel))

plt.imsave('vegGreens.png',gchannel)
plt.imsave('tempBlues.png', blchannel)

plt.scatter(x=gchannel.flatten()[:533], y=blchannel.flatten()[:533])
plt.show()
```