



Comparing Air Quality in Coastal and Inland areas: A Case Study in Long Island and Albany NY, and a Deeper Look onto the Effect of Canada's Recent Wildfires



Shreyaa Sanjay
NASA SEES Internship

Wind Direction

The charts shown represent the mean wind direction for June 6, 7, and 8. These three days were impactful because they were the worst days during the wildfire week. The chart on the left displays the most recurring wind direction for Albany being West. The chart on the right shows the frequent wind direction for Long Island being North West. To better visualize, this map exhibits the course the wind traveled throughout June 6-8.

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STUDY AREAS + CONCLUSIONS

For our study areas, we chose Long Island and Albany. Long Island, as you can see on the map, is bordering the ocean, is coastal region, and Albany is landlocked and is the mainland region for this project

Canada's Wildfires:

We also studied the effect that Canada's 2023 Wildfires had in the trend we observed as originating in Northern Canada, the wildfires spread to the US, and had the largest effect on New York from June 4th through June 10th which we will be calling the "wildfire week".

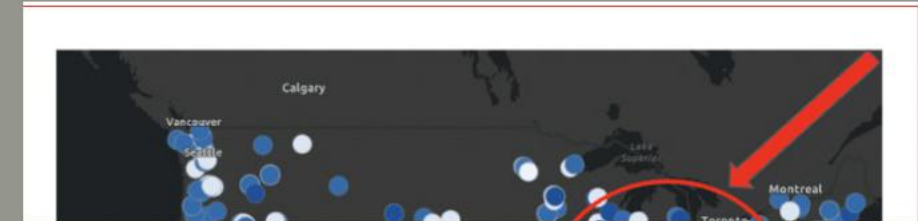
Conclusions:

On average, the air quality near the coast is better than air quality inland. This trend was not maintained during the wildfire week as the air quality was hindered to a greater extent in Long Island. is why it is important to preserve our bodies of water as it also preserves the quality of the air we breathe.



SKY COLOR

Sky color is one of the qualitative factors that can aid in comparing air quality. The lighter colors in this map represent a milky sky or worse air quality, whereas the darker colors represent a blue sky and better air quality.



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WIND SPEED

The standard trend graph shows that on average, Albany had lower wind speed, which is shown in blue, meaning that the pollutants in the air are less dispersed and the air quality is worse over the region.



PM 2.5

Particulate matter 2.5 is one of the more dangerous effects of bad air quality and high concentrations of it is an important indicator of poor air quality. During the standard trend timespan, Albany, which is in red had higher concentrations of pm 2.5 compared to Long Island which is in blue, signifying worse air quality in Albany.

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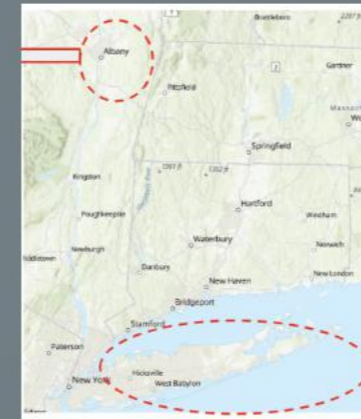
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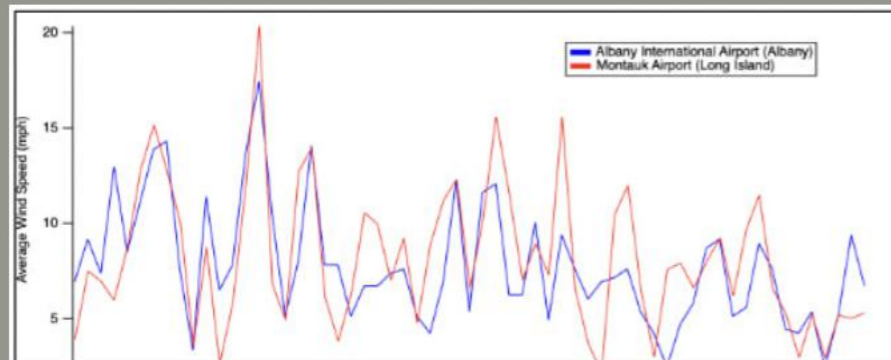
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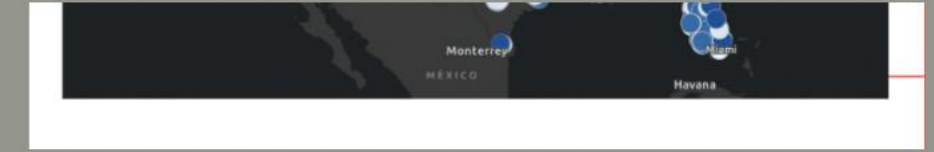
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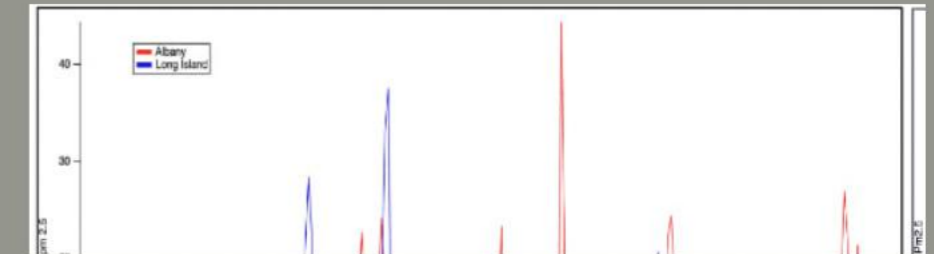
At the start of this process, we looked at how sky color in coastal regions compared to inland for the entirety of the US. In the northeast area, highlighted by the red circle, we can see that there is a greater frequency of sites that have reported a milky sky color inland, compared to along the coast. This sparked our interest and led us to explore this same phenomenon in our study area.

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