



The City College
of New York

Ozone, PM_{2.5}, and PBLH Variability During a Heat Wave in New York City

Summer Bridge Virtual Symposium
August 9, 2021

Michael Pena

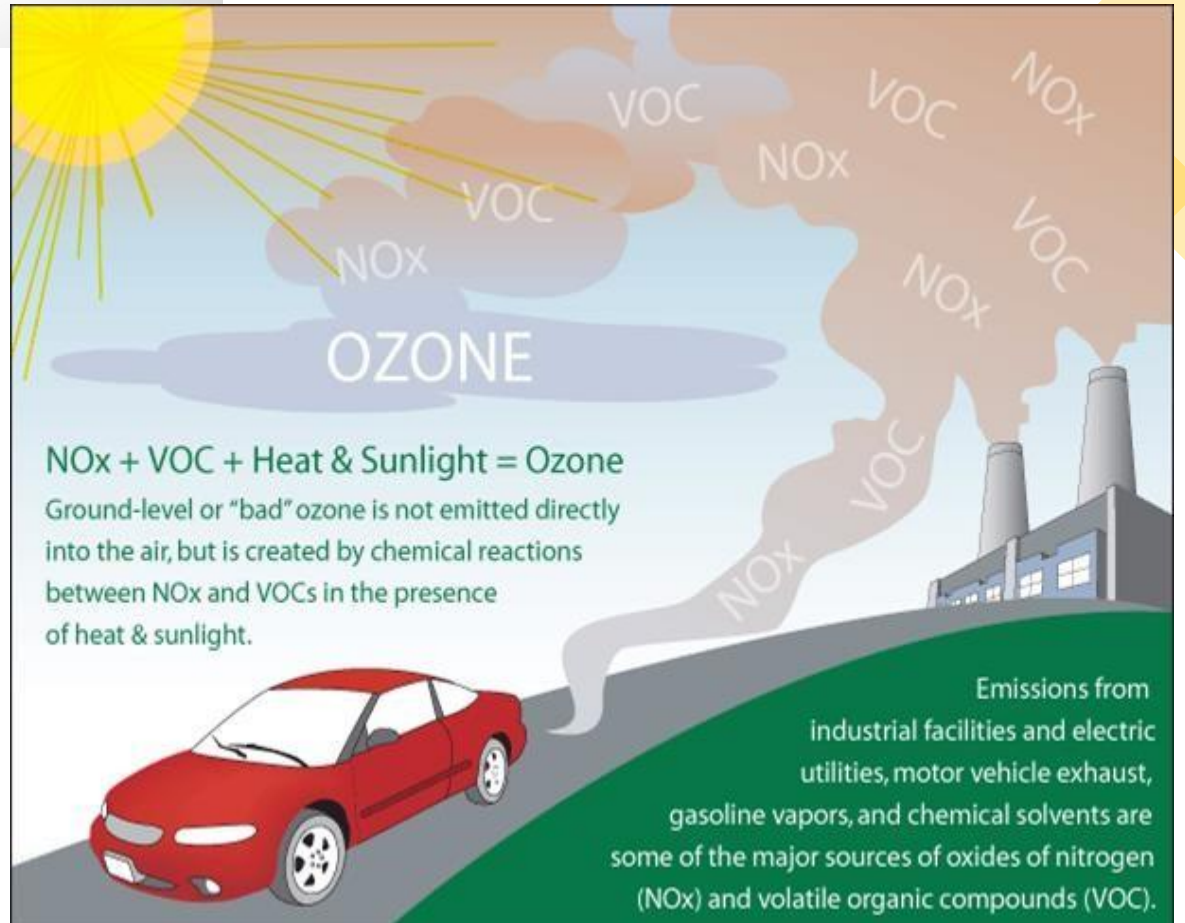
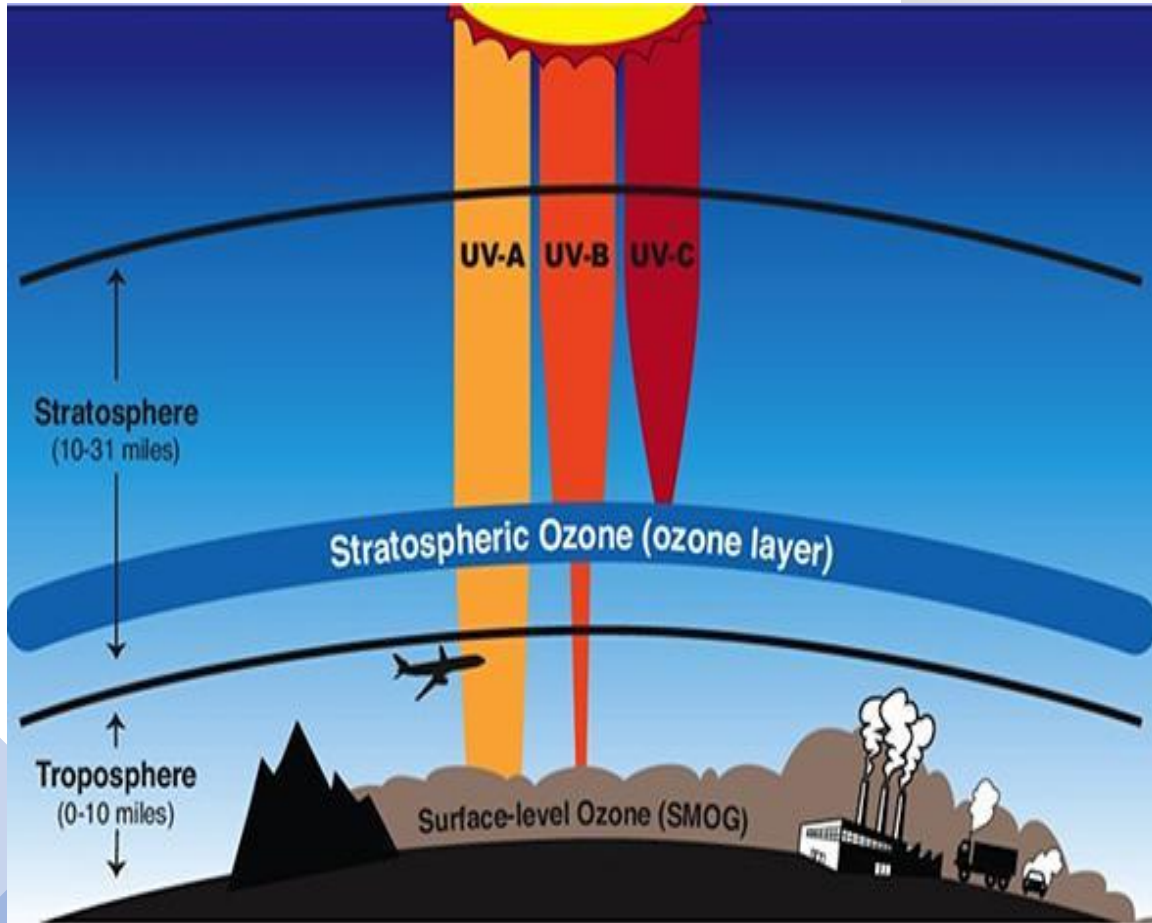
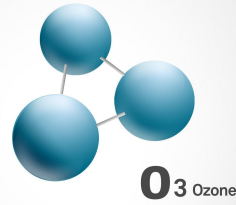
NOAA-CESSRST Summer Bridge Scholar

Mentor: Dr. Yonghua Wu Ph.D.

The City University of New York

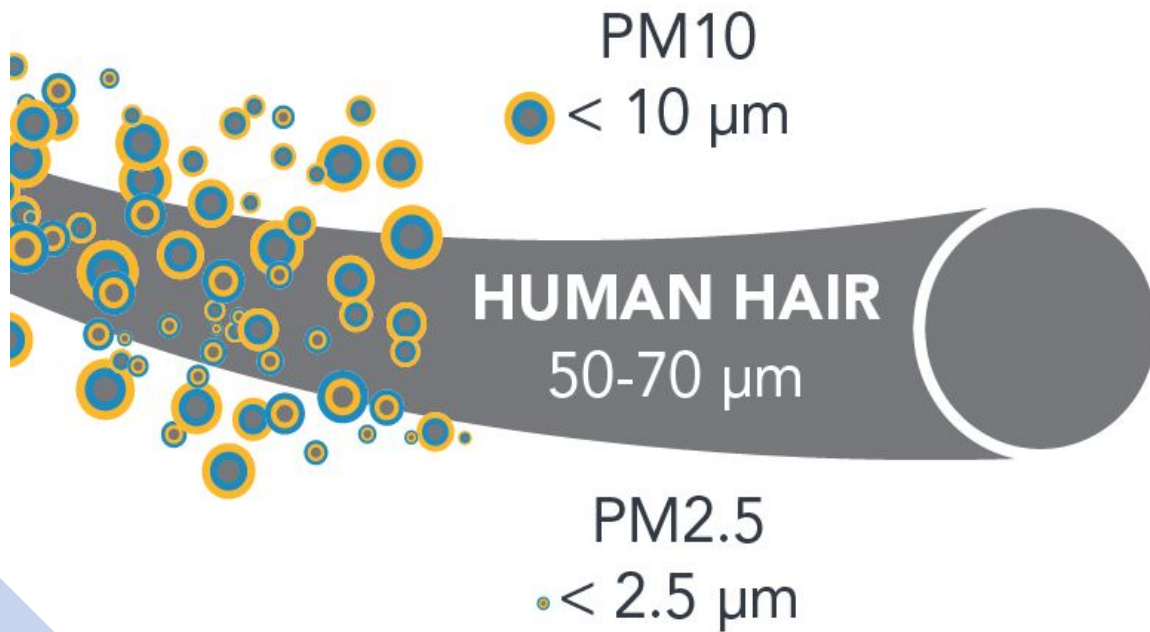
The Grove School of Engineering, The City College of New York

What is ozone?

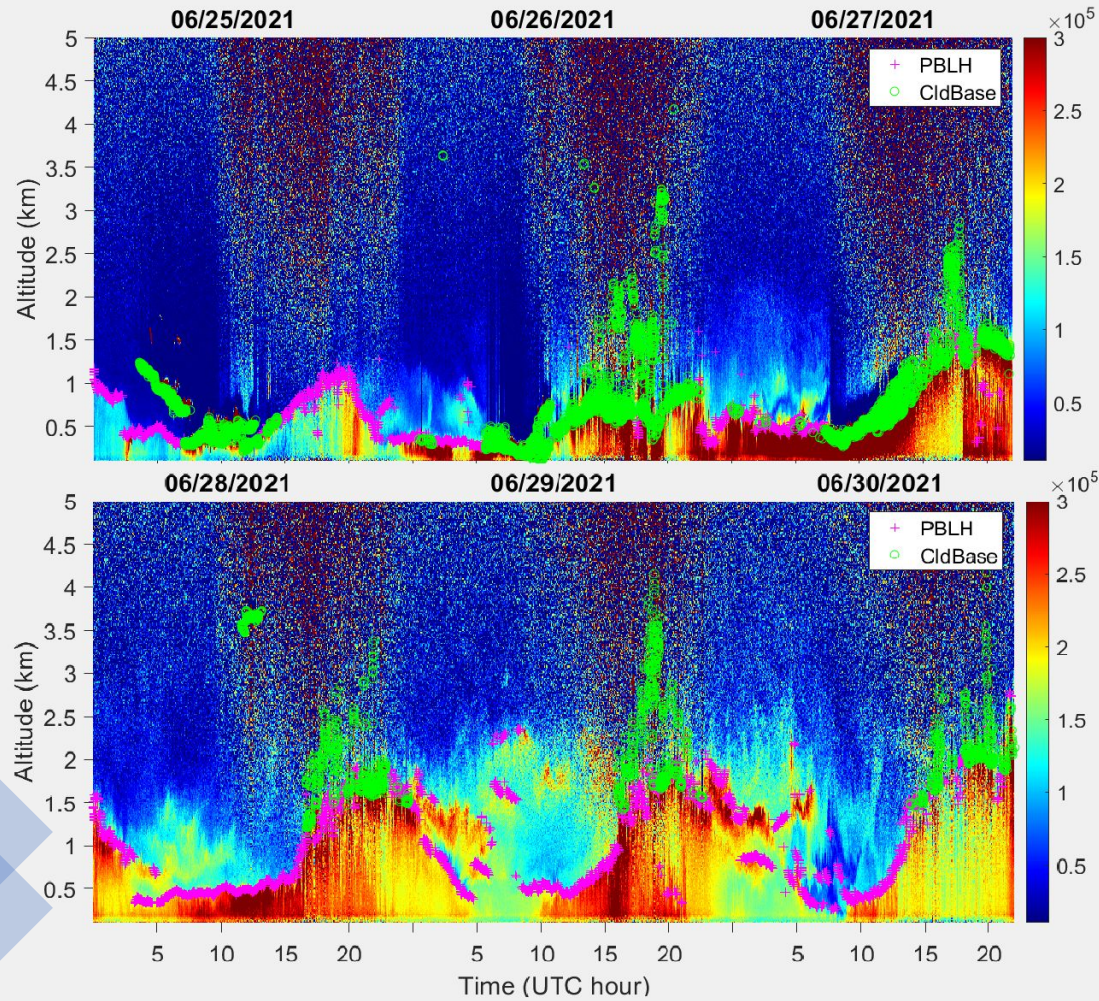


What is PM 2.5?

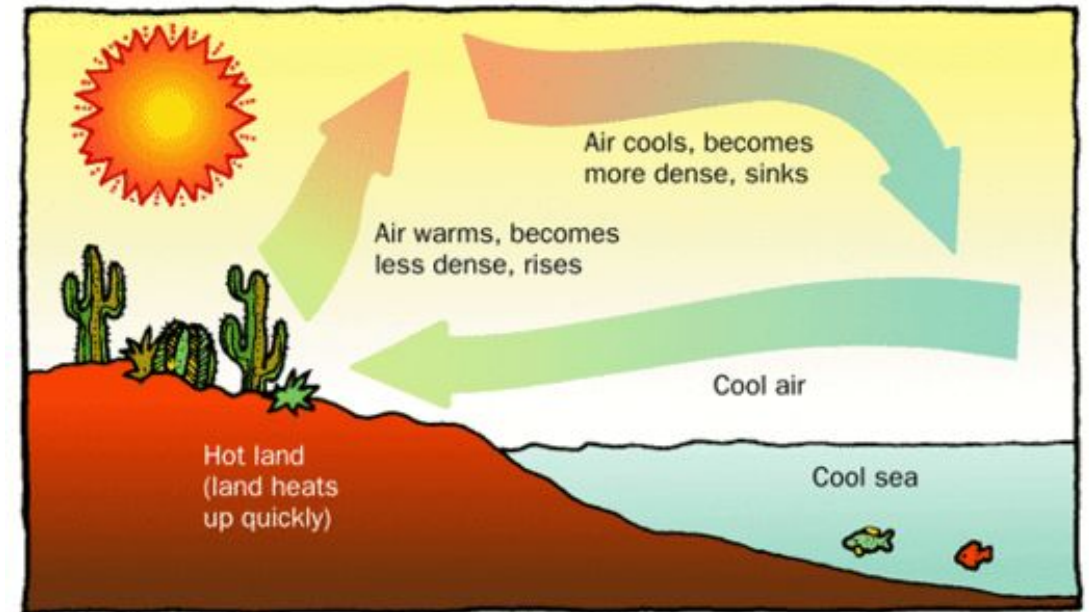
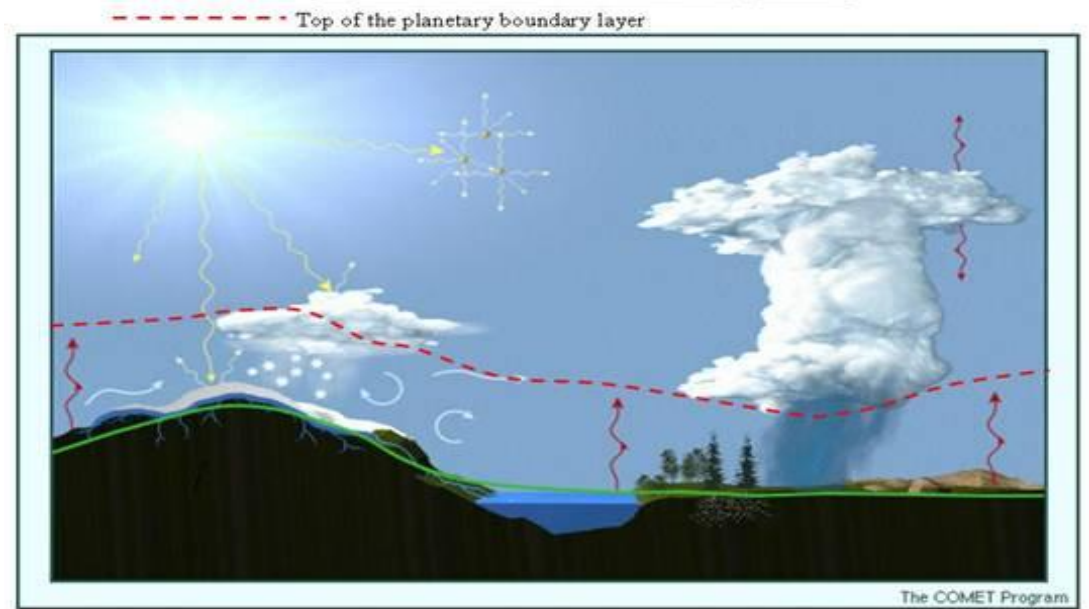
Particulate Size Comparison



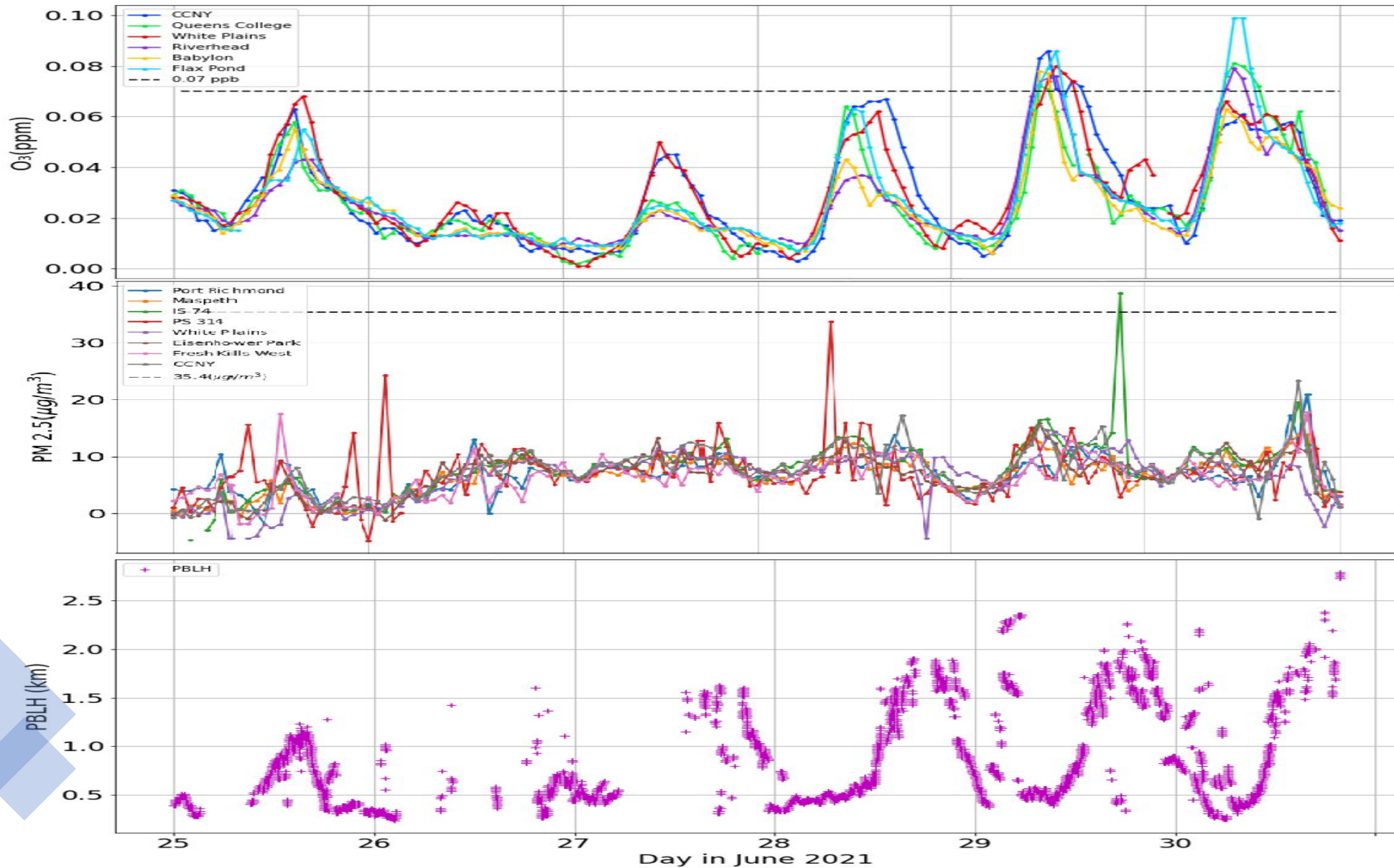
What is the PBLH?



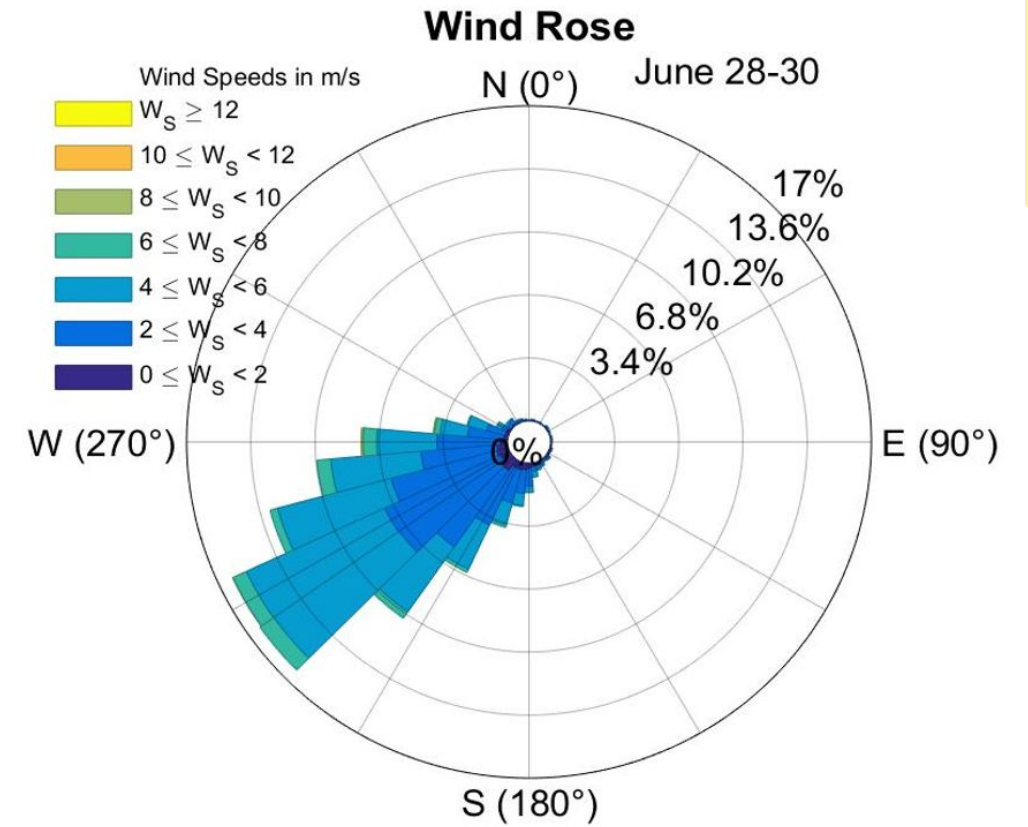
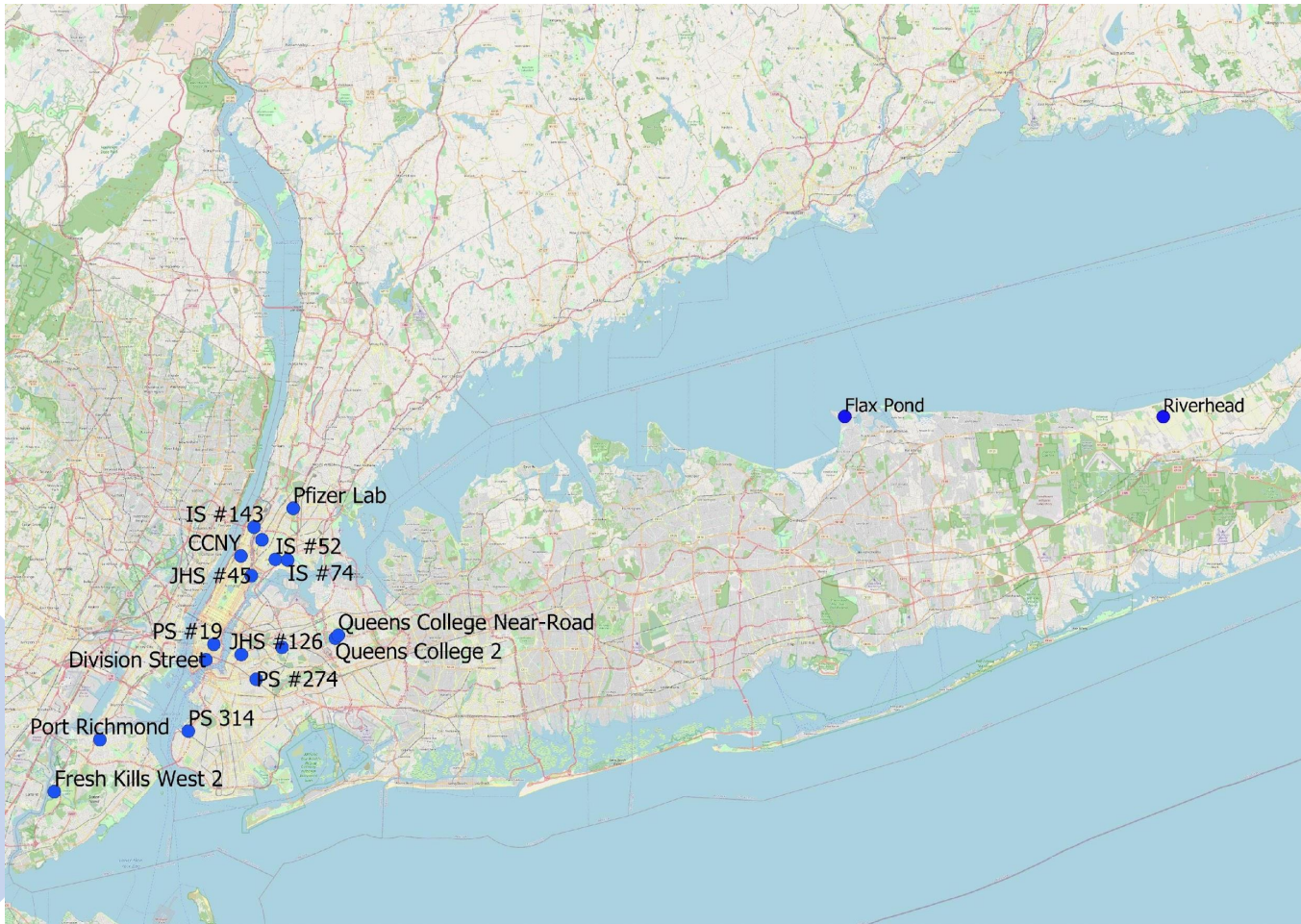
Depiction of various surfaces and PBL processes



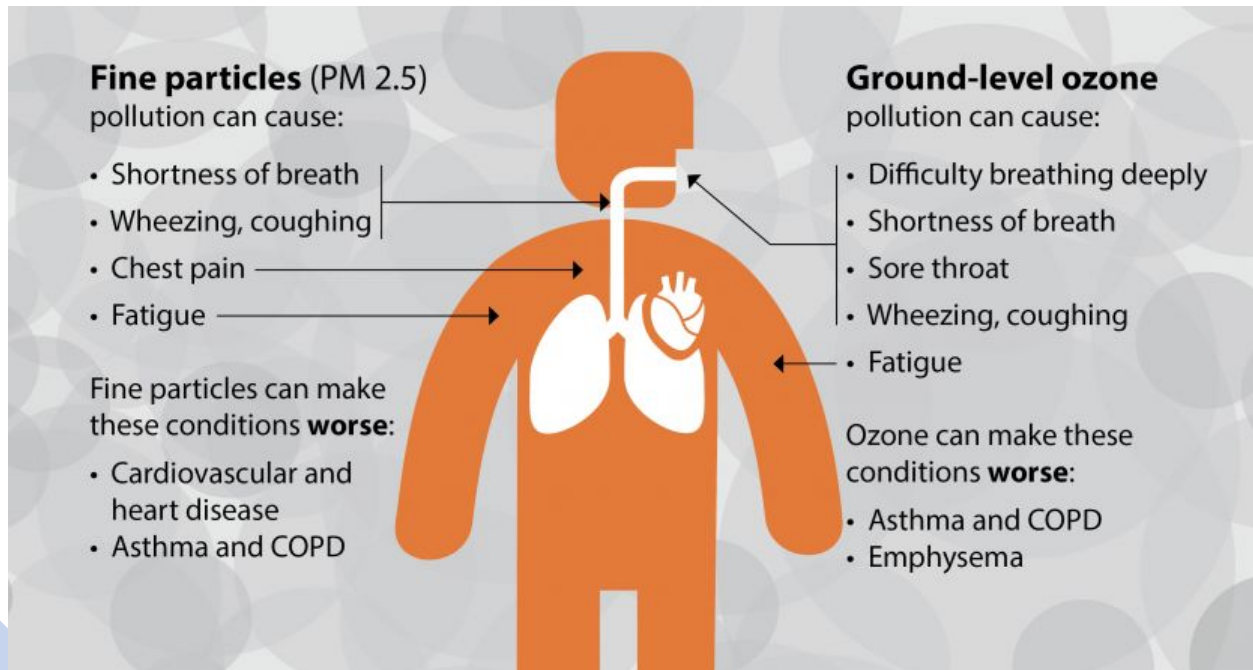
Temporal Variations



Maximum values were found near the Long Island Sound



Long-term effects of Air Pollution



Fine particles (PM 2.5) pollution can cause:

- Shortness of breath
- Wheezing, coughing
- Chest pain
- Fatigue

Fine particles can make these conditions **worse**:

- Cardiovascular and heart disease
- Asthma and COPD

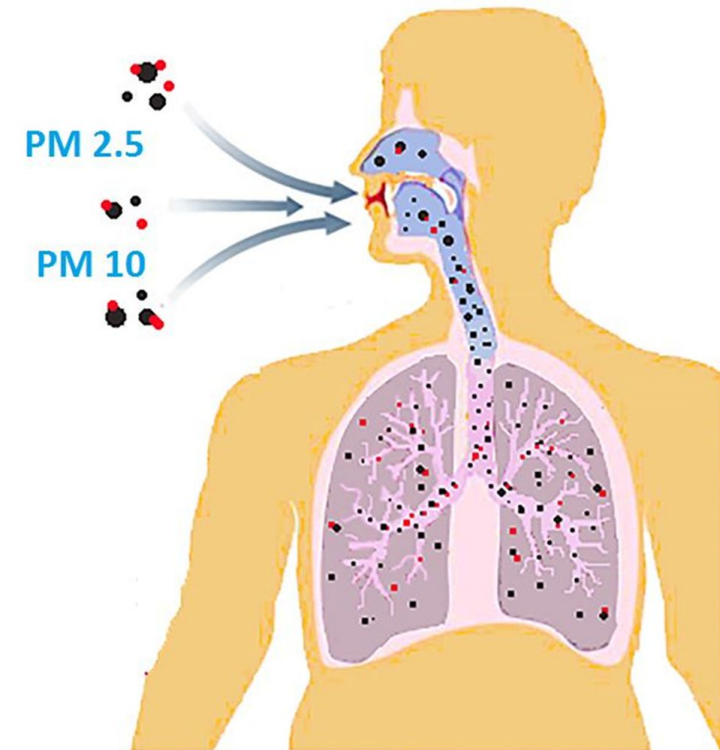
Ground-level ozone pollution can cause:

- Difficulty breathing deeply
- Shortness of breath
- Sore throat
- Wheezing, coughing
- Fatigue

Ozone can make these conditions **worse**:

- Asthma and COPD
- Emphysema

The infographic features a central orange silhouette of a human torso with the respiratory system highlighted in white. Arrows point from the text boxes to the corresponding parts of the respiratory system: the trachea and lungs for fine particles, and the throat and upper chest for ground-level ozone.



Thank You!



Acknowledgements

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<http://www.nyaqinow.net/>.