# Lab 15 Response: Investigating Outdoor Air Pollution

## Part 1: Movement of Pollutants

1. Describe the change in the Air Quality Index (AQI) over time for each variable: wind, sunlight, rain. Indicate different outcomes for the variations in wind direction and speed, amount of sunlight, or frequency of rain. You may create a table to summarize your results, if preferred.
2. Include a screenshot of your settings and graph when you manipulated at least 2 variables. Interpret the plots on your graph. Briefly explain the influence of rain, sun, and wind on the AQI. What caused the primary pollutants to regularly increase and decrease?
3. How did mountains and flat areas influence the amount of pollution in or near your city?
4. Include screenshots showing the appropriate wind direction for each season. Explain how you achieved your goal.
5. Insert a screenshot of the graph. Write a scenario below your graph that would explain the changes in air quality over time as shown in the graph.
6. What and where is the probable source of pollution that impacted the Adirondack lake shown in the picture? Explain why the acid rain occurred in the Adirondacks instead of closer to the pollution source.

## Part 2: Pollutants and their Effects

1. For each pollutant you studied, summarize your findings in a table. Include the name of the pollutant and the following categories: chemical, physical, anthropogenic sources, natural sources, effects on human health. You may add another category of your choosing. Find and cite other reputable sources to help you complete your summary. Compare your summary with those of your classmates, if possible.
2. State which line or lines on the graph show the pollution level over the city during and after the forest fire. Explain your rationale for the possible line or lines as well as the one(s) you eliminated as possibilities.
3. Of the pollutants you just learned about, which one(s) do you think may be problematic during and after the forest fire? Explain your reasoning.
4. Name your location and describe the Air Quality Index for the area. What was the primary pollutant? Describe the AQI forecast and relate it to weather or other events.
5. Describe notable events on the map: were there any fires, smoke plumes? In what region did they occur? Broadly, in what kind of landcover (e.g., mountains, forests, plains, urban areas) did they occur? Compare your findings with those of your classmates. What surprised you?
6. Provide a screenshot of the graph you obtained from the daily air quality tracker. Describe how that year’s air quality compared to the long-term average. Investigate past weather for that time period. Cite your source(s) and note any potential relationship to that area’s weather patterns.