**APES Air Pollution Data Lab**

In this lab, you will compare Air Quality Index (AQI) values for multiple pollutants for Atlanta, GA and Los Angeles, California for the years 1980 and 2013. Ideally, we would use more than two years for comparison, but this will give you somewhat of a sense of how air quality has changed over time in two locations, as well as how air quality compares between two parts of the country that have different sized populations, types of industries, and geographic settings.

1. Go to [https://www.epa.gov/outdoor-air-quality.../air-data-aqi-plot](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.epa.gov%2Foutdoor-air-quality-data%2Fair-data-aqi-plot&h=ATPdEFBoH4g1hDkWG3lamdVPV-suoaYjJt1ZTWLtLqu0SGH9-cjG9X2DS9IDDYK7ngiHJcpZor0a5c9UQLUulQxnac-mYkQBLi2yWFJ9gMyk8_4eme0jNwQQAhpBpgZa23E" \t "_blank)

2. Select first pollutant, second pollutant, and year (1980). You can choose any pollutants you wish; just choose different combinations than your partners are working on.

3. Select Geographic area. Choose Atlanta-Sandy Springs, GA

4. Hit the button “plot data”

5. The numbers on the right side of the chart show you how many days the city had AQI values for five different categories, ranging from good to very unhealthy. Record the number of days for each pollutant in the table below. Be sure to indicate the pollutant type (CO, NO2, etc) in each column header.

6. As you work, copy and paste each AQI chart from the site at the end of this document. This will preserve your raw data. It will also help you to respond to some of the questions below.

7. Repeat steps 1-6 for Atlanta in 1980, Los Angeles-Long Beach-Santa Ana California 1980 and 2013.

EPA Air Quality Index Data

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AQI Category** | **Days Per Year by Site and Pollutant Type** | | | | | | | |
| **Atlanta**  **1980** | | **Atlanta**  **2013** | | **Los Angeles**  **1980** | | **Los Angeles**  **2013** | |
|  |  |  |  |  |  |  |  |
| **Good** |  |  |  |  |  |  |  |  |
| **Moderate** |  |  |  |  |  |  |  |  |
| **Unhealthy “Sensitive”** |  |  |  |  |  |  |  |  |
| **Unhealthy** |  |  |  |  |  |  |  |  |
| **Very Unhealthy** |  |  |  |  |  |  |  |  |

**Analysis**

1. Using your completed data table, make at least three quantitative comparisons between Atlanta and Los Angeles. Example: “In 1980, Atlanta had XX fewer days than Los Angeles on which the AQI for CO was >50”.

2. Look at each of your four maps. What patterns, if any, do you observe about the time of the year/season during which the AGI index is poor? Make several observations.

3. What do the data reveal about how air quality has changed in Atlanta between 1980 and 2013? Use data to support your response.

4. What do the data reveal about how air quality has changed in Los Angeles between 1980 and 2013? Use data to support your response.

5. Which city has better air quality? Again, support your response with data.

6. Hypothesize about the causes of the differences between the two cities. Provide at least three reasons.



