

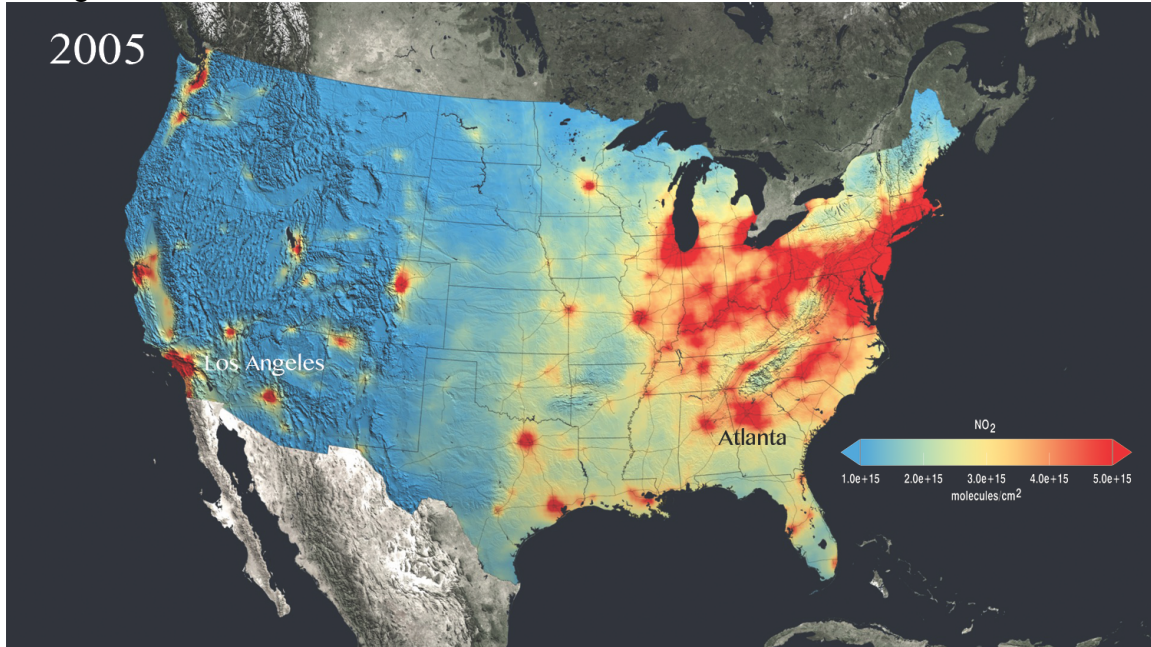
Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Bad Ozone: Activity 3

### Looking at Satellite Data: Comparing NO<sub>2</sub> Pollution and Population

### Nitrogen Dioxide Concentrations in the United States in 2005



Average tropospheric column concentrations of nitrogen dioxide as detected by the Ozone Monitoring Instrument on NASA's Aura satellite for 2005. Blue and green denote lower concentrations and orange and red areas denote higher concentrations, ranging from  $1e+15$  to  $5e+15$  molecules per square centimeter, respectively.  
Image credit: NASA Science Visualization Studio.

### City Lights at Night Over the United States



United States at Night, 2012.  
NASA Earth Observatory image by Robert Simmon, using Suomi NPP VIIRS data provided courtesy of Chris Elvidge (NOAA National Geophysical Data Center). Suomi NPP is the result of a partnership between NASA, NOAA, and the Department of Defense.

1. Where in the U.S. are lights the easiest to see and why?

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2. Where in the U.S. are NO<sub>2</sub> concentrations highest?

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3. Where in the U.S. are NO<sub>2</sub> concentrations lowest?

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4. Do the NO<sub>2</sub> concentrations tend to increase or decrease in cities? Why?

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5. Does NO<sub>2</sub> concentrations on the ground tend to be high or low in rural areas compared to cities, why?

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6. Why do you think pollution concentrations are much higher in the eastern U.S. than in the western and central U.S.?

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