

## **Case Study Analysis Sheet**

**Group Members:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Case Study Name:** \_\_\_\_\_

**Date(s):** \_\_\_\_\_

**Give a brief description of your air quality event:**

### **Questions:**

1. From the images you have displayed, does this appear to be a localized or a regional event?

Describe the extent of the event:

2. How well can you tell from the image files what kind of aerosol/gases you are dealing with in your event? What other features are visible in your image?
3. What evidence can you find to show if your aerosol has characteristics typical of smoke/biomass burning, dust, pollution or a mixture? Please describe your evidence.
4. What are likely sources for the aerosol in your event? What kinds of evidence do you have to support this?

5. What is the magnitude of the AOD as measured by the satellite for your location and for the region? What is the source of your information (satellite and level of data)?
  
6. The FLAMBE/GEOS-5 (or any other) model identifies three aerosol types. According to the model, what kind of aerosol is being detected at and/or near this site?
  
7. How does the AOD measured by MODIS compare with the model predictions from NRL? What advantages does using a model provide?
  
8. What area(s) seem to be the source(s) for this aerosol? What information did you use to make this assessment?
  
9. How are the aerosols distributed vertically?
  
10. (Optional) Did you find significant levels of trace gases that you expect to impact the air quality of your selected region or which can act as tracers for pollution/biomass burning? If so, what and where are they in both the geographic extent and vertical distribution?
  
11. Are there periods and locations where the trace gas and aerosol measurements coincide?
  
12. What is the AQI and/or concentration of PM<sub>2.5</sub> at the ground for your study area?

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13. **Get ready to tell your story!** Use your answers to the questions above and the “Case Study Outline” sheet to give your overall assessment of your selected air quality event. You may wish to write your narrative below, simply listing talking points, or wing it. We know satellites aren’t perfect, so don’t forget to include how some of the limitations affect your assessment. Good luck!