

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

6. 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)?

7. The FLAMBE model identifies three aerosol types. According to the model what kind of aerosol is being detected at and/or near this site?

8. How does the AOD measured by MODIS compare with the model predictions from NRL? What advantages does using a model provide?

9. What area(s) seem to be the source(s) for this aerosol? What information did you use to make this assessment?

10. How are the aerosols distributed vertically?

11. (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?

12. Are there periods and locations where the trace gas and aerosol measurements coincide?

13. Try to use the IDEA site to get this information. If you had the slope and intercept information available for your region you could also use the technique we displayed with our idl exercise.

What is the AQI and/or concentration of PM 2.5 at the ground for your study area?

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 list 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!

Check off all of the resources that you used to prepare your case study:

True Color Imagery / KMZ files:

Rapid Response MODIS – Atmos

Worldview MODIS Today

HDFLook generated images

Product Imagery / KMZ files:

Worldview Worldview generated KMZ files / animation

Panoply HDFLook

Giovanni Calipso Browse imagery

Data Analysis – Aerosol/Trace gas transport:

Giovanni HDFLook

IDEA AERONET (Synergy Tool)

EE - Decision Support Tool LADSWEB

Fire Products:

_____ Web Fire Mapper _____ NOAA Hazard Mapping System

_____ NOAA Smoke Product _____ USDA Fire Product

_____ USDA Fire Radiative Power _____ USDA Burn Scar Data

_____ NRL Flambe Product

Other Sources (not necessarily from this course):