

Go to the GIOVANNI home page: <http://giovanni.gsfc.nasa.gov>

Scroll down the list under ‘Giovanni Portals’ tab in the ‘Atmospheric Portals’ menu and click on “Aura OMI Level 3”.

PART 1 – PBL SO2 Column Product

Enter/choose the following parameters:

Spatial

Enter the following values into the boxes next to “Area of Interest”

Location 1: West=-100 North=50 South=25 East =-60

Parameter: Vertical Column Amount SO2 (PBL)

Temporal

Begin Date = July 1, 2005

End Date= July 31, 2005

Select Visualization: Lat-Lon Map, Time Averaged.

Edit Preferences

Select ‘Custom’ in the Color Bar Mode and enter Parameter Min 0 Parameter Max 0.8

Select NO for Smooth Flag

- Click “Generate Visualization” and take a minute to observe the results.
- Click on the ‘Download Data tab just above the plot and download the KMZ file to view on Google Earth.
- Create a second plot (Submit refinements) with Temporal Begin Date = July 1, 2012 End Date = July 31, 2012.
- Generate visualization and download the KMZ.

PART 2 – NO2 Total Column Amount

Enter/choose the following parameters:

Enter the following values into the boxes next to “Area of Interest”

Location 1: West=-100 North=50 South=25 East =-60

Parameter: NO2 Total Column Amount

Temporal

Begin Date = July 1, 2005

End Date= July 31, 2005

Select Visualization: Lat-Lon Map, Time Averaged.

Edit Preferences

Select ‘Custom’ in the Color Bar Mode and enter Parameter Min 0 Parameter Max 0.8

Select NO for Smooth Flag

- Click “Generate Visualization” and take a minute to observe the results.
- Click on the ‘Download Data tab just above the plot and download the KMZ file to view on Google Earth.
- Create a second plot (Submit refinements) with Temporal Begin Date = July 1, 2012 End Date = July 31, 2012.
- Generate visualization and download the KMZ.

PART 3

1. Open the KMZ files you just downloaded in Google Earth.
2. Describe the differences between the two time periods for each parameter separately.

SO2 Column Product

a. Which year is higher? _____

b. Write two major cities which have increased or decreased between 2005 and 2013

City 1: _____ Latitude: _____

Longitude: _____

What are the possible causes for an increase or decrease?

NO₂ Total Column Amount

a. Which year is higher? _____

b. Write two major cities which have increased or decreased between 2005 and

2013

City 1: _____ Latitude: _____

Longitude: _____

What are the possible causes for an increase or decrease?