Giovanni – The Bridge Between Data & Science

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GIOVANNI - The Bridge Between Data and Science

https://giovanni.gsfc.nasa.gov/giovanni/
Aerosol Data Analysis: Step 1

- Under **Select Plot**, set **Maps** to **Time Averaged Map**
- Select your date range.
  - Set the range to **2015-09-15 to 2015-09-30**
- Select your region either by typing in coordinates or by clicking the button and drawing a box around your area of interest
  - For this exercise, use the coordinates: **(13.3S, 90.7E, 14.7N, 146.9E)** or draw a box that covers Indonesia and the surrounding region.
Aerosol Data Analysis: Step 2

• Select Variables
  – For this exercise, under Disciplines select Aerosols
  – Then select Combined Dark Target and Deep Blue AOD at 0.55 micron for land and ocean: Mean (MOD08_D3 v6) - Daily
Aerosol Data Analysis: Step 3

- Plot the data
Aerosol Data Analysis: Step 4

Modify the Output

- Analysis details
- Modify the plot
- Adjust the scale
- Pick the colors
- Download map
Aerosol Data Analysis: Step 5

Download the data

Earth Data Login is required to download the data

Time series area statistics temporarily unavailable ...

NetCDF:
g4.timeAvgMap.MYD08_D3_6_AOD_550_Dark_Target_Deep_Blue_Combined_Mean.20150915-20150930.90E_13S_146E_14N.nc

PNG:
MYD08_D3_6_AOD_550_Dark_Target_Deep_Blue_Combined_Mean.20150915-20150930.90E_13S_146E_14N.png

GEOTIFF:
MYD08_D3_6_AOD_550_Dark_Target_Deep_Blue_Combined_Mean.20150915-20150930.90E_13S_146E_14N.geotiff

KMZ:
MYD08_D3_6_AOD_550_Dark_Target_Deep_Blue_Combined_Mean.20150915-20150930.90E_13S_146E_14N.kmz
Aerosol Data Analysis: Step 6
Create Another Plot

Time series area statistics temporarily unavailable ... [1 of 1 messages] Read More

Click on file links to download. Files contain data portrayed in the plot images.

**NetCDF:**
g4.timeAvgMap.MYD08_D3_6_AOD_550_Dark_Target_Deep_Blue_Combined_Mean.20150915-20150930.90E_13S_146E_14N.nc

**PNG:**
MYD08_D3_6_AOD_550_Dark_Target_Deep_Blue_Combined_Mean.20150915-20150930.90E_13S_146E_14N.png

**GEOTIFF:**
MYD08_D3_6_AOD_550_Dark_Target_Deep_BLUE_Combined_Mean.20150915-20150930.90E_13S_146E_14N.geotiff

**KMZ:**
MYD08_D3_6_AOD_550_Dark_Target_Deep_Blue_Combined_Mean.20150915-20150930.90E_13S_146E_14N.kmz
Aerosol Data Analysis: Step 7
Create Animation

Time series area statistics temporarily unavailable ... [1 of 1 messages] Read More

Select Plot
[ ] Maps: Animation
[ ] Comparisons: Select...
[ ] Vertical: Select...
[ ] Time Series: Select...
[ ] Miscellaneous: Select...

Select Date Range (UTC)
YYYY:MM:DD Hh:mm
2015 - 09 - 15 00:00 to 2015 - 09 - 30 23:59
Valid Range: 2002-07-04 to 2018-02-13

Select Region (Bounding Box or Shape)
Format: West, South, East, North
90.7031, -13.3594, 146.9531, 14.761

Select Variables
[ ] Disciplines
  [ ] Aerosols (187)
  [ ] Atmospheric Chemistry (92)
  [ ] Atmospheric Dynamics (416)
  [ ] Cryospheres (13)
  [ ] Hydrology (1083)
  [ ] Ocean Biology (72)
  [ ] Oceanography (75)
  [ ] Water and Energy Cycle (1157)

[ ] Measurements
  [ ] Aerosol Index (5)
  [ ] Aerosol Optical Depth (67)
  [ ] Air Pressure Anomaly (1)
  [ ] Air Pressure (53)
  [ ] Air Temperature Anomaly (71)

Keyword: Search Clear

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
<th>Temp. Res.</th>
<th>Spat. Res.</th>
<th>Begin Date</th>
<th>End Date</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>Combined Dark Target and Deep Blue AOD at 0.55 micron for land and ocean: Mean (MYD08_D3_v6)</td>
<td>MODIS-Aqua</td>
<td>Daily</td>
<td>1°</td>
<td>2002-07-04</td>
<td>2018-02-13</td>
<td>-</td>
</tr>
</tbody>
</table>
Aerosol Data Analysis: Step 8
Create Time Series
Questions for Discussion

• Describe the aerosol maps created using the Giovanni exercise.
• What is the maximum Aerosol Optical Depth reported on the map?
• What is the observed trend in aerosols over your location? Explain.
• Do you have any prior knowledge about the observed trends in aerosols in your region? How can you verify them using an independent data set?
• What is the seasonal variability (if it exists) in the observed trend?