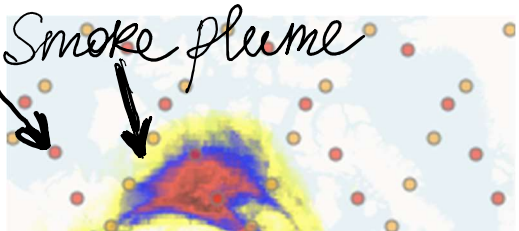
Post-KUMAR orbit click-look tool

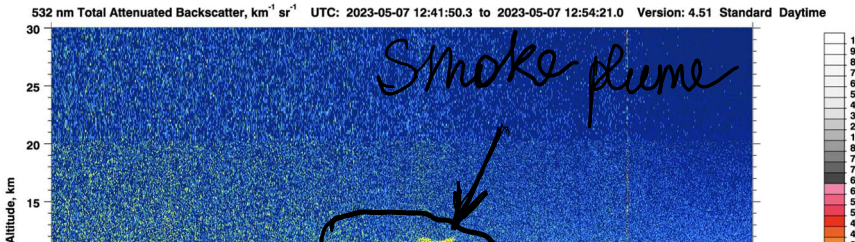
The Post-Kumar web tool is intended for the quick-access global aerosol mapping and analysis of stratospheric aerosol plumes' vertical structure. The daily maps of UV absorbing Aerosol Index (AI) are overlayed by satellite orbit ground tracks, realized as clickable objects. Clicking on the orbital track in a region of interest displays the respective vertical curtain of aerosol/clouds. Post-Kumar comprises the following objects:

Daily maps of UV AI (zoomable and color-scalable) from OMPS-NM (2012-2018) and TROPOMI (2019 – present).

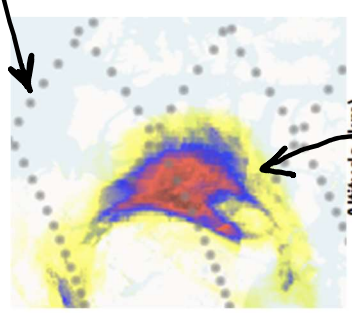
The maps are overlayed by three layers:

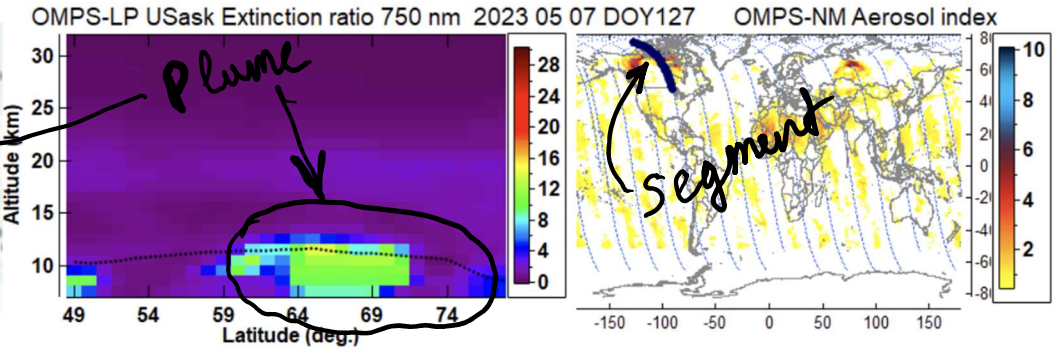
CALIPSO ground tracks (colored circles) with colors corresponding to different orbital segments. Clicking on the segment of interest opens the respective CALIPSO lidar quicklook image from the NASA CALIPSO portal.



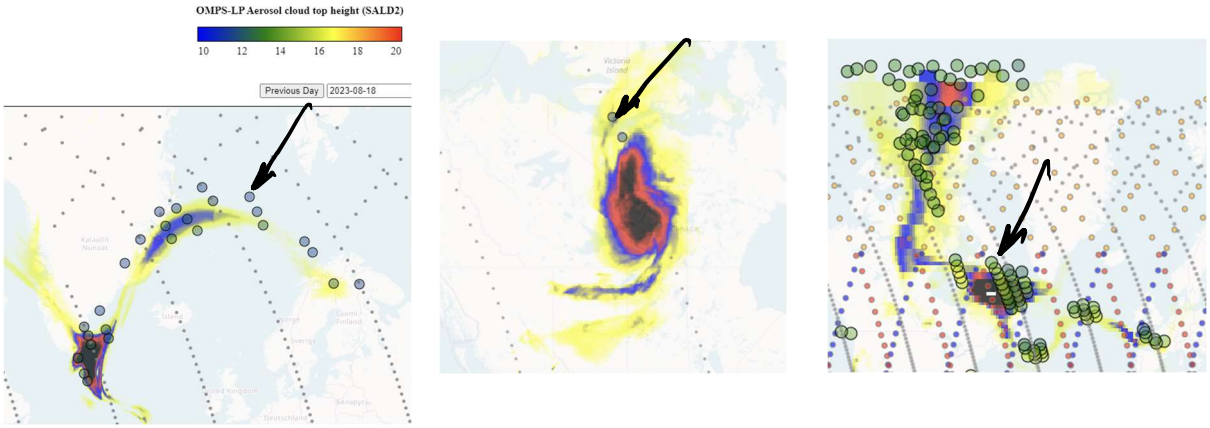


OMPS-LP ground tracks (grey circles). Clicking on the segment of interest opens a new browser tab showing two panels: (left): vertical curtain of aerosol extinction ratio from OMPS-LP USask tomographic retrieval and thermal tropopause height as dashed curve and (right): OMPS-NM AI map overlayed by OMPS-LP orbital tracks for the given date. The corresponding orbital segment is highlighted in bold-blue.

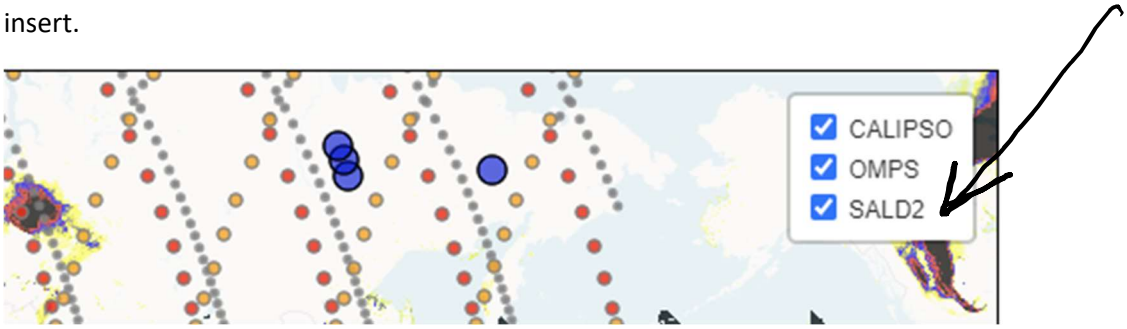




Stratospheric aerosol layer detections (SALD2) from OMPS-LP NASA retrieval (large colored circles) color-coded by aerosol layer top altitude (CloudZ, km) for the samples with CloudType=2 (stratospheric aerosol layers) and SAOD@886 nm > 0.008. Only the layers between the tropopause and 20 km are displayed.

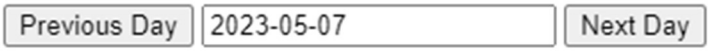


Each of the three overlays (CALIPSO, OMPS and SALD2) can be de(activated) from the top-right map insert.



Calendar

The calendar control comprises an editable text field (yyyy-mm-dd format), previous day and next day buttons. Clicking on the date field activates the drop-down calendar enabling fast navigation through time.



Data temporal coverage and casting latency

The data are available since 2012 until the present. CALIPSO data are available until 30 June 2023. During the active fire seasons the OMPS-LP data (AI maps and ER curtains) are updated and casted online with a typical latency of 1-2 days depending on the satellite data availability.

Credits

The development and implementation of the Post-KUMAR click-look tool was supported by ANR PyroStrat project and realized in collaboration with Science Partners. The data transfer, processing and web hosting are provided by IPSL CICLAD cluster.

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