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Supplement of

Carbonaceous aerosols on the south edge of the Tibetan Plateau: concentrations, seasonality and sources

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Supporting information

Table S1. The definition of different seasons at QOMS.

| Season | Start Date | End Date | Air Pressure | R. H. | Mean Temp. | Wind Speed |
|---------------------|--------------|------------|--------------|-------|------------|------------|
| | (YYYY-MM-DD) | | (hPa) | (%) | (°C) | (m/s) |
| Monsoon | 2009/8/1 | 2009/8/25 | 606.25 | 55.26 | 12.39 | 6.51 |
| | 2010/6/2 | 2010/8/25 | | | | |
| Post-M ^a | 2009/8/26 | 2009/11/28 | 607.17 | 46.00 | 5.47 | 7.03 |
| Winter | 2009/11/29 | 2010/2/24 | 603.62 | 26.91 | -3.93 | 8.19 |
| Pre-M ^b | 2010/2/25 | 2010/6/1 | 605.46 | 34.61 | 3.69 | 7.86 |

^aPost-monsoon.

^bPre-monsoon.

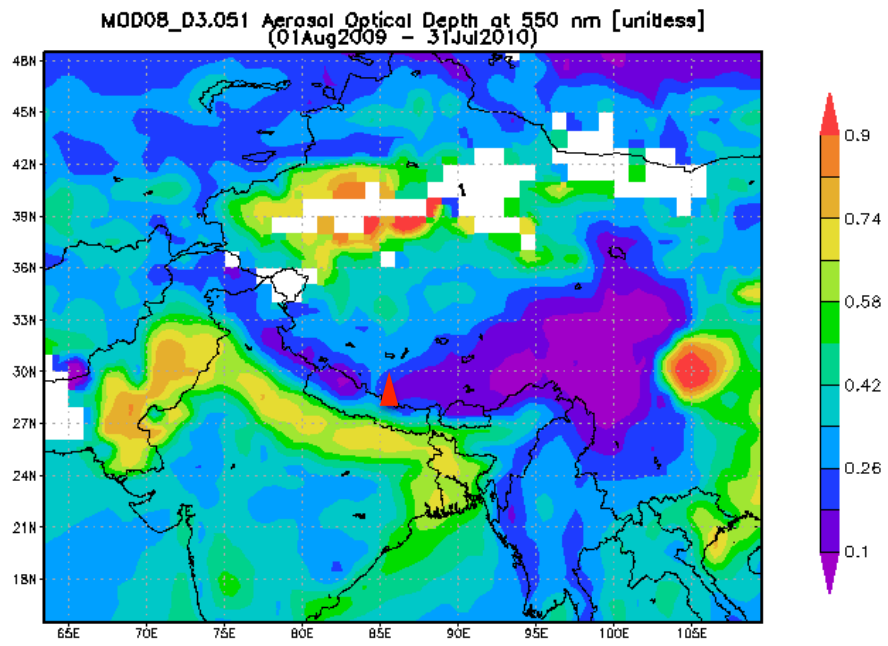


Fig. S1. The spatial distribution of aerosol optical depth at 550 nm based on MODIS Terra data, showing the distinctness between the Tibetan Plateau and South Asia in terms of aerosol loading (The graph was produced with the Giovanni online data system, NASA GES DISC).

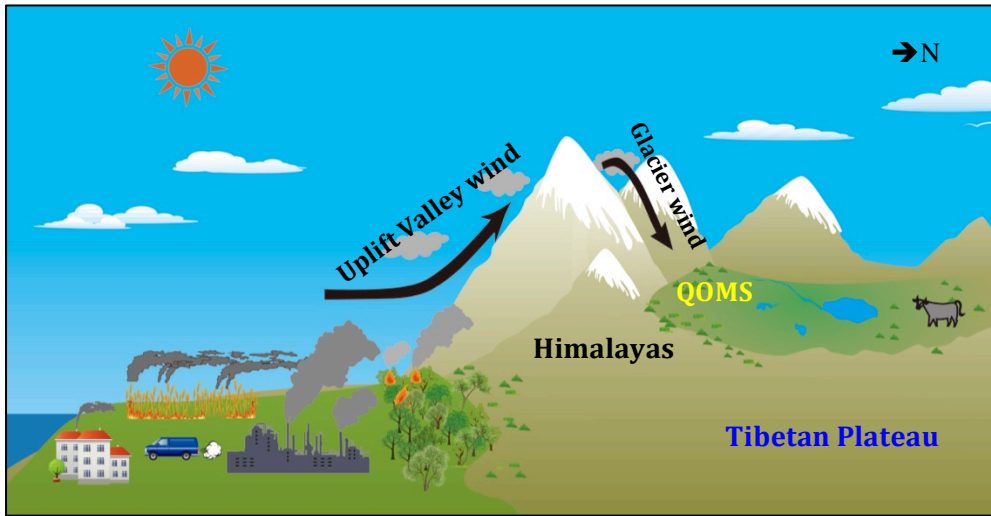


Fig. S2. Illustration of the aerosol transport mechanism from lowland of South Asia to across the Himalayas by the mountain/valley wind system.

April 10th, 2010

April 17th, 2010

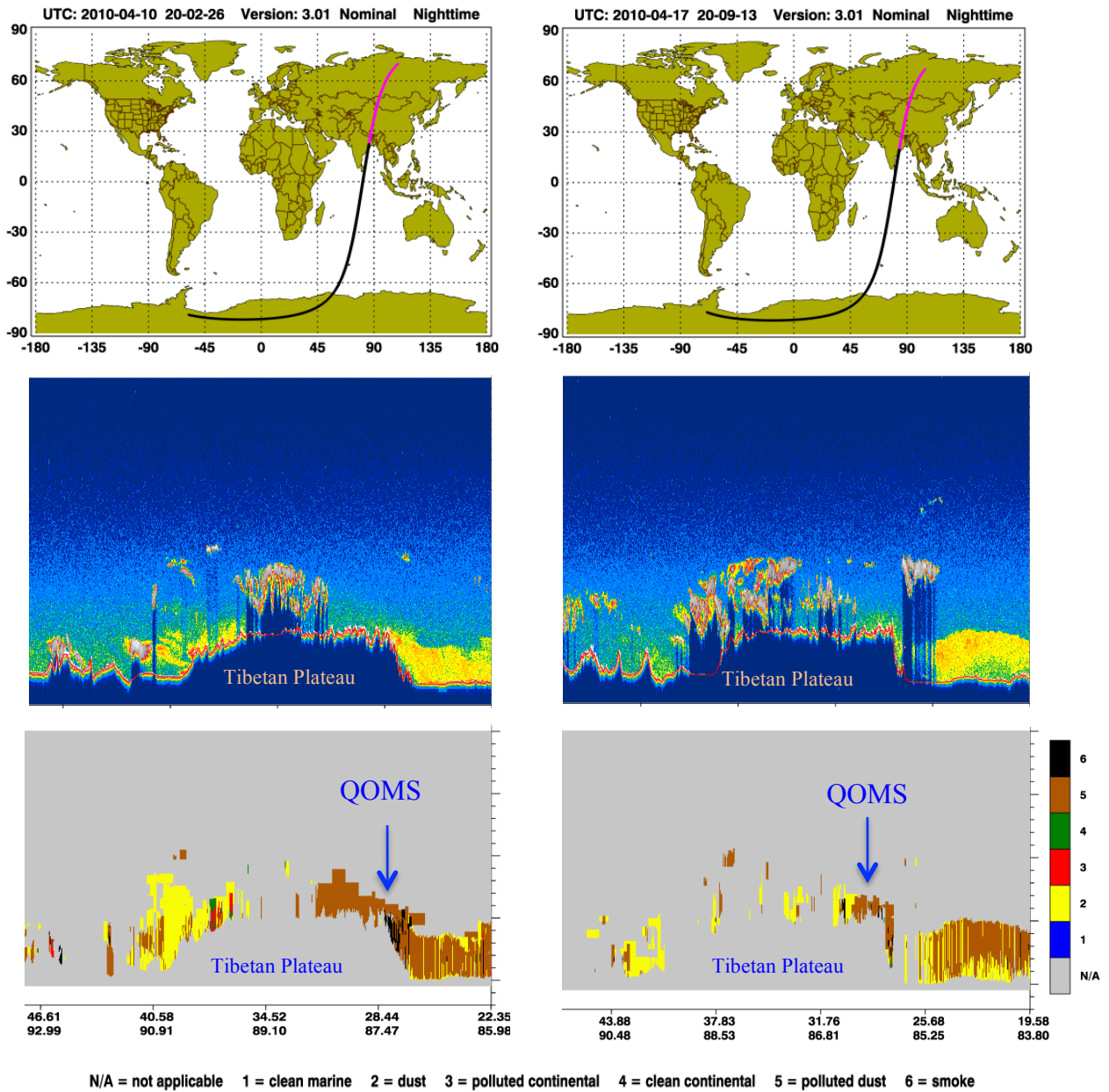


Fig. S3. CALIOP lidar transects across the Himalayas and Tibetan Plateau during the pre-monsoon season (on Apr. 10th and 17th, 2010, respectively). The upper panels in the figures show the orbit tracks across the HTP and adjacent areas. The middle panels are the 532 nm backscatter return signal showing the vertical distribution of aerosol and clouds. The bottom panels show the main aerosol types derived from the CALIOP observation.