

1 Supplementary Materials for

2 **Background aerosols over the Himalayas and Tibetan Plateau:**
3 **observed characteristics of aerosol mass loading**

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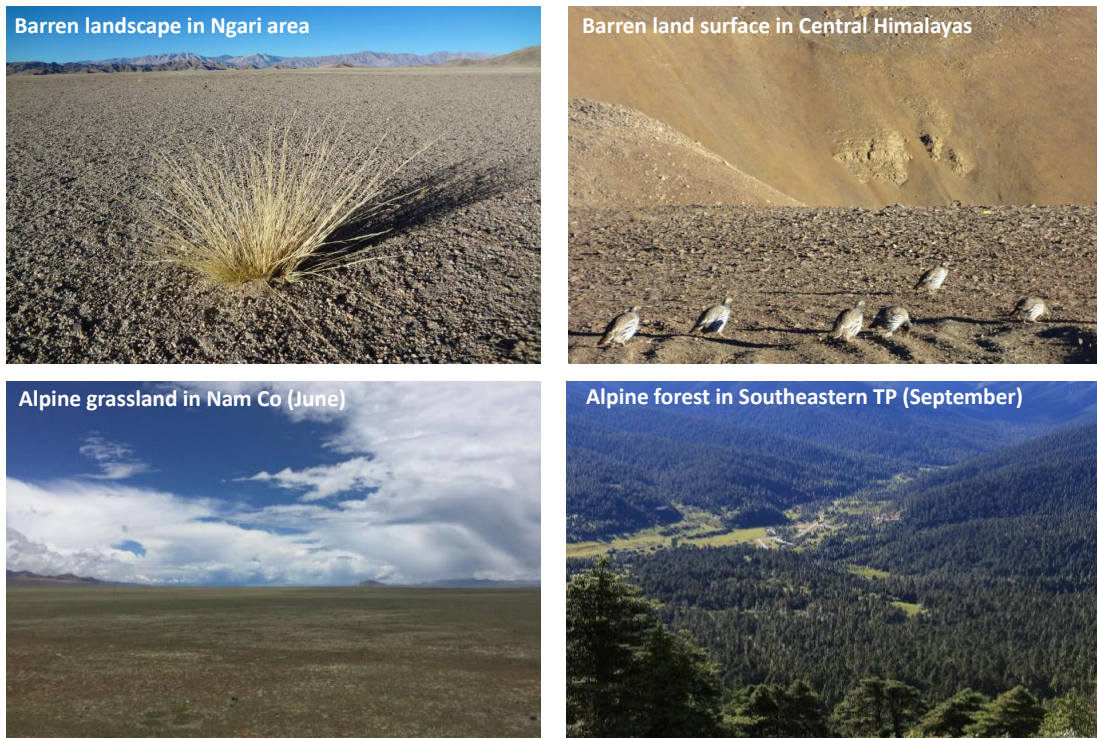
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25 **This file includes:**

26 Figures S1 to S4



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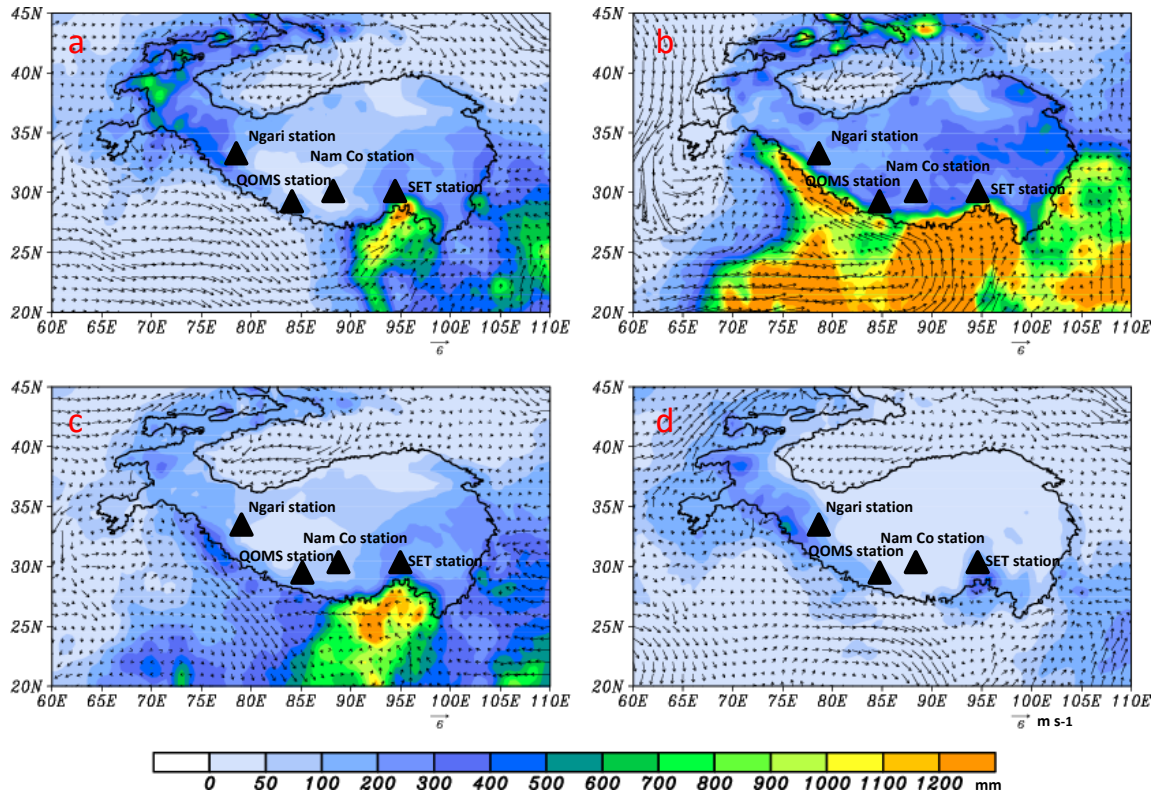
32 Fig. S1. Typical landscape and land surface characteristics around each of the
33 observation sites in the HTP region, i.e. at the Ngari station, QOMS station, Nam Co
34 station and SET station.

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40 Fig. S2. Spatial distributions of seasonal climatology for the HTP and adjacent areas
 41 during the 2011-2013 observation period, including precipitation amount (mm) and
 42 wind at 850 hPa (a: March–May; b: June–August; c: September–November; d:
 43 December–February). The bold black line marks the geographic location of the HTP,
 44 and the black dots indicate the locations of the four stations. Precipitation and wind
 45 datasets were derived from the Global Precipitation Climatology Project (GPCP) and
 46 Climate Forecast System Reanalysis (CFSR), respectively.

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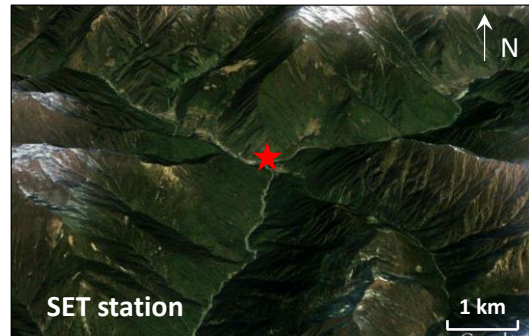
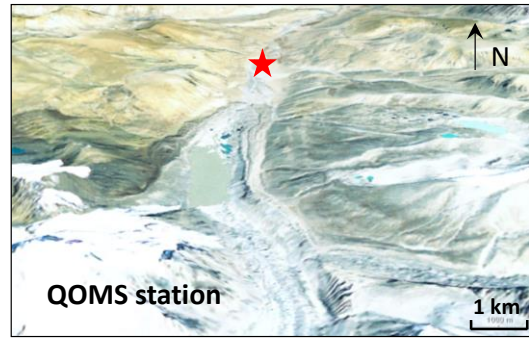
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60 Fig. S3. Local geomorphology around the Ngari station ($79^{\circ}42'E$, $33^{\circ}23'N$, 4,264 m
61 asl), QOMS station ($86^{\circ}57'E$, $28^{\circ}21'N$, 4,300 m asl), Nam Co station ($90^{\circ}57'E$,
62 $30^{\circ}46'N$, 4,746 m asl) and SET station ($94^{\circ}44'E$, $29^{\circ}46'N$, 3,326 m asl). Their
63 locations are marked with red five-pointed stars.

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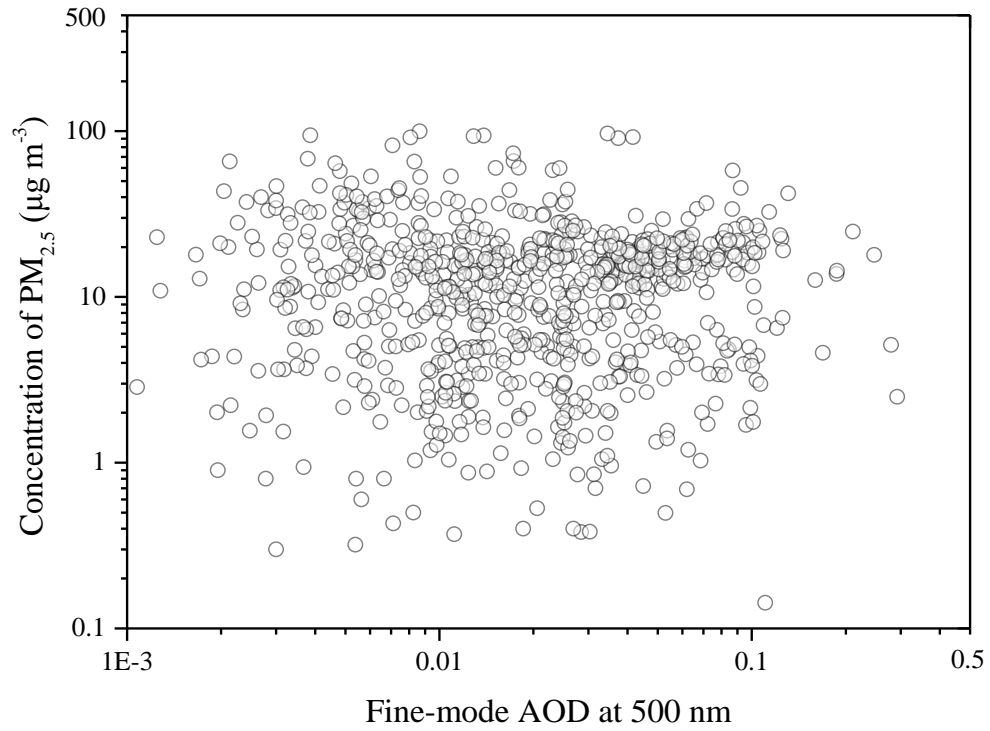
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84 Fig. S4. Comparison between online PM_{2.5} concentrations and AERONET fine-mode
85 AOD (at 500 nm) at the QOMS station for the 2011-2013 period. Hourly averages
86 were used.

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