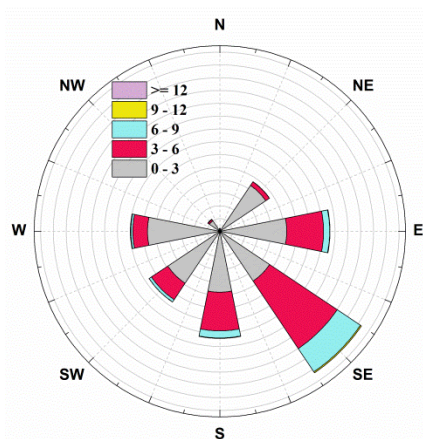


1 Table S1. Parameters and Instruments used at Mt. Yulong site

Parameter	Instrument	Producer	Time resolution
RH, Temp, Wind	Meteorological station	Jinzhou Sunlight	1 min
JO ¹ D	Filter Radiometer	METCON Inc.	30 s
O ₃ , NO-NO ₂ -NO _x , SO ₂ , CO, CO ₂	Trace gas analyzer	Thermo Inc.	1 min
VOCs	Online GC-MS	PKU	1 h
PM _{2.5} , PM ₁₀	TEOM	Thermo Inc.	1min
PNSD	NSMPS+SMPS+APS	TSI Inc.	5min
Particle composition	HR-TOF-AMS	Aerodyne Inc.	4min

2

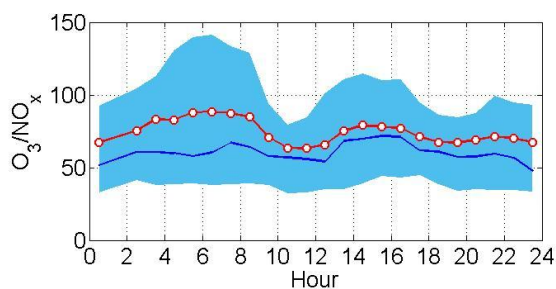
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4

5 **Figure S1. Wind rose plot at Mt. Yulong site during monitoring campaign.**

6

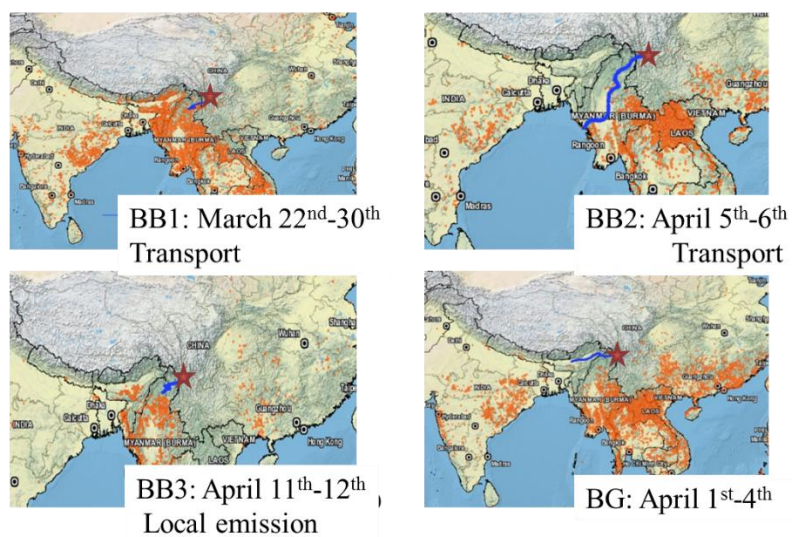


7

8 **Figure S2. Diurnal variation of ozone/NO_x at Mt. Yulong. Red lines with circles, blue lines**
 9 **mark the mean and median results, respectively. Light blue area marks the range between**

10 25th, and 75th percentiles of the data.

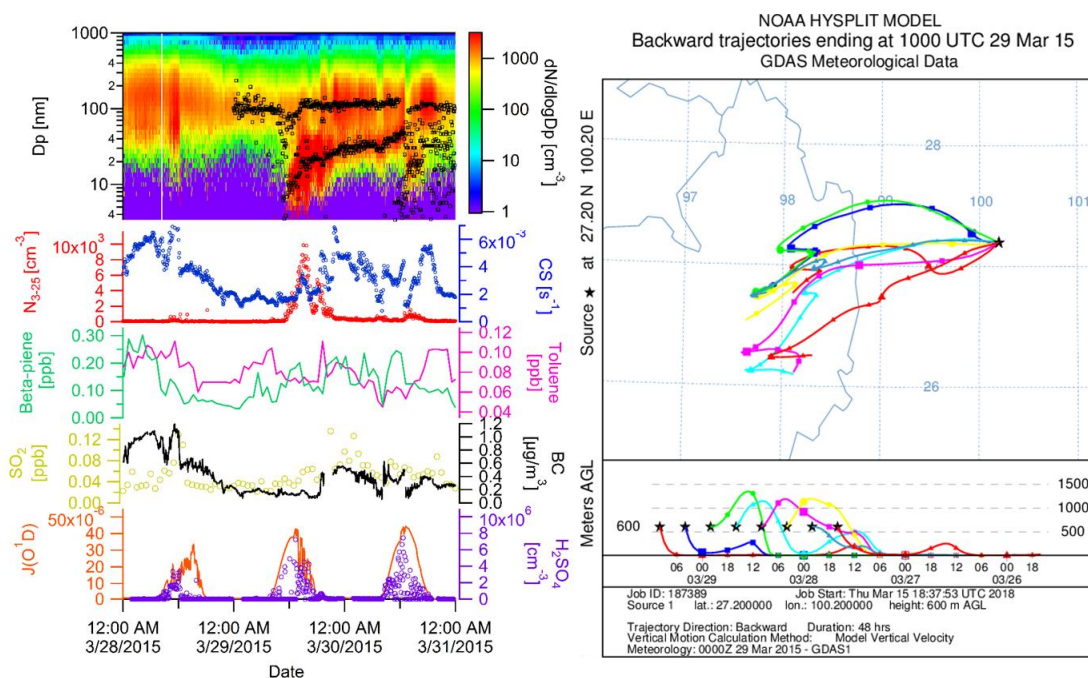
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13 **Figure S3. Fire spot map from MODIS, 48h-backward trajectories (blue line) from WRF**
14 **model, during BB1, BB2, BB3 and BG period. Location of Mt. Yulong site is marked by the**
15 **red star. Figure from study of Zheng et al (Zheng et al., 2017).**

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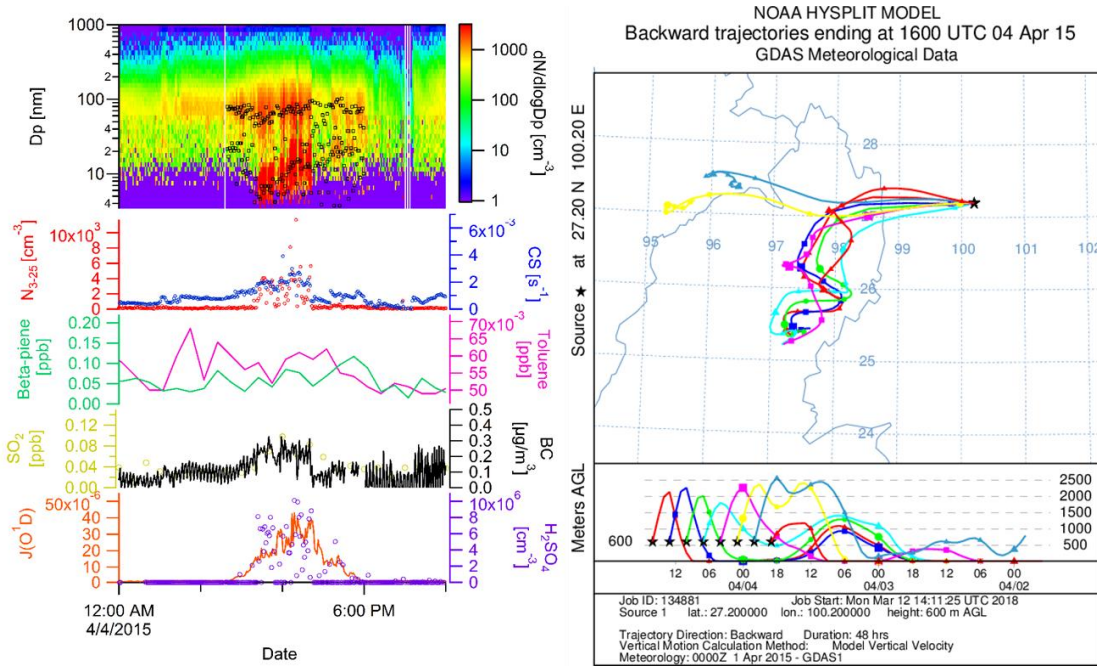


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18 **Figure S4. (left panel) Time series of PNSD, N₃₋₂₅, CS, J(O¹D), SO₂, CS, Toluene, β-pinene,**
19 **sulfuric acid during 28 to 31 March. (right panel) 48h backward trajectories started from Mt.**
20 **Yulong during 16:00, 28 March to 4:00, 30 March (local time). Black dots mark the mean**

21 diameter of the fitted modes.

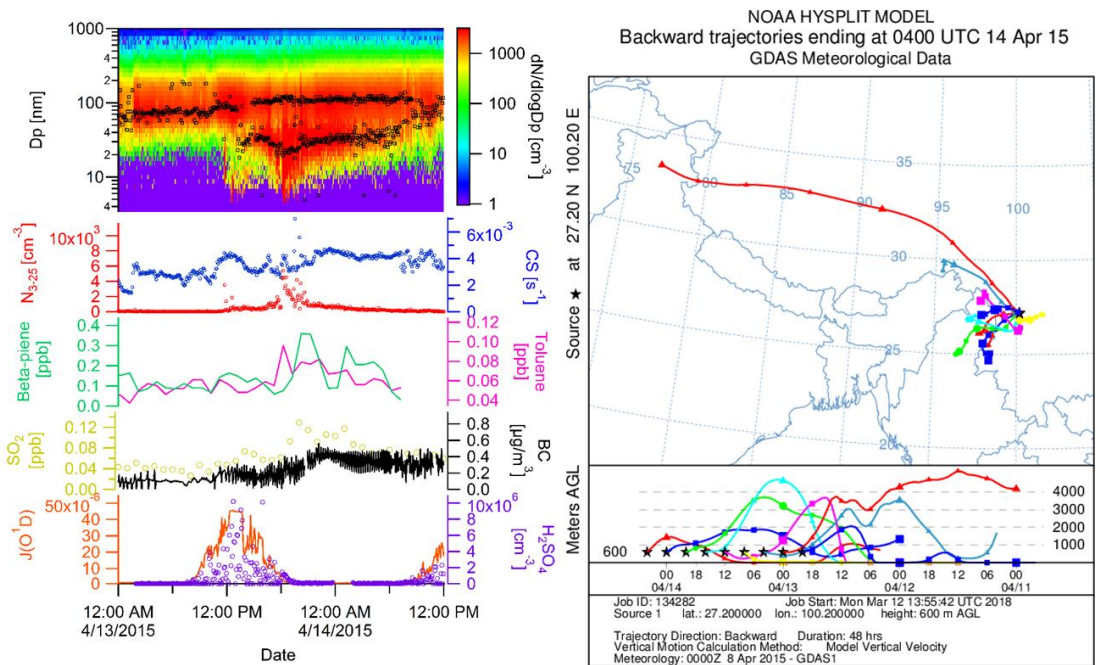
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24 Figure S5. (left panel) Time series of PNSD, N₃₋₂₅, CS, J(O¹D), SO₂, CS, Toluene, β-pinene,
25 sulfuric acid on 4 April. (right panel) 48h backward trajectories started from Mt. Yulong
26 during 8:00 to 14:00 4 April local time.

27



28

29 Figure S6. (left panel) Time series of PNSD, N₃₋₂₅, CS, J(O¹D), SO₂, CS, Toluene, β-pinene,
30 sulfuric acid during 0:00, 13 April to 12:00, 14 April. (right panel) 48h backward trajectories
31 started from Mt. Yulong during 14:00 to 22:00 13 April local time.

32

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35 Zheng, J., Hu, M., Du, Z., Shang, D., Gong, Z., Qin, Y., Fang, J., Gu, F., Li, M., Peng, J., Li, J., Zhang,
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