



Supplement of

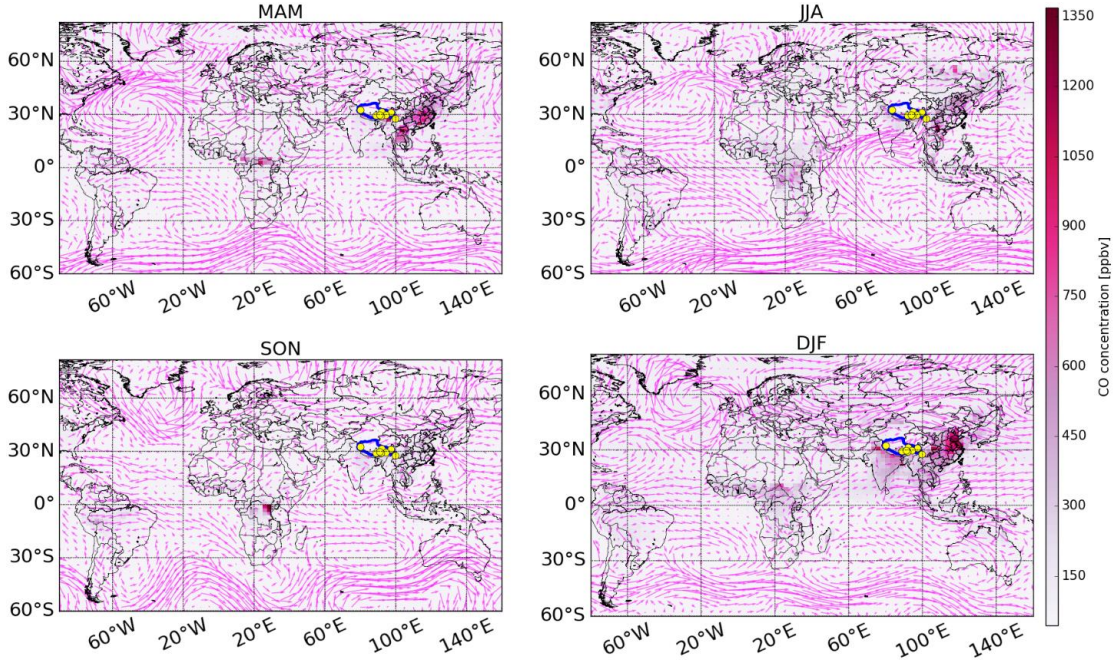
Quantifying variability, source, and transport of CO in the urban areas over the Himalayas and Tibetan Plateau

Youwen Sun et al.

Correspondence to: Yuan Cheng (ycheng@hit.edu.cn), Qianggong Zhang (qianggong.zhang@itpcas.ac.cn) and Bo Zheng (bozheng@sz.tsinghua.edu.cn)

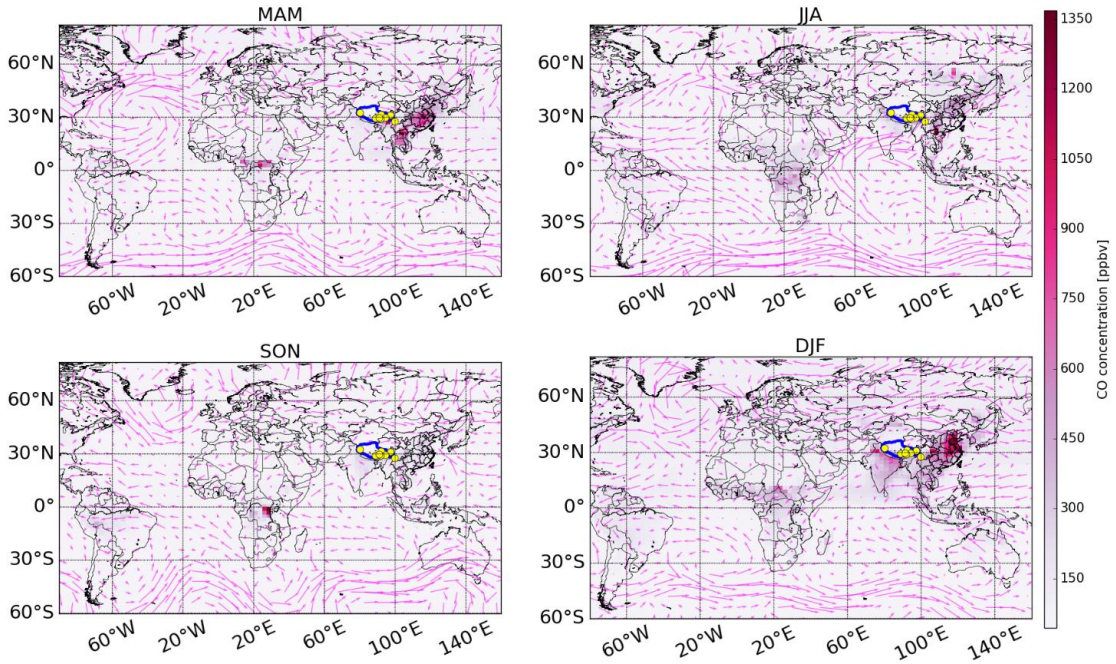
The copyright of individual parts of the supplement might differ from the article licence.

1
2



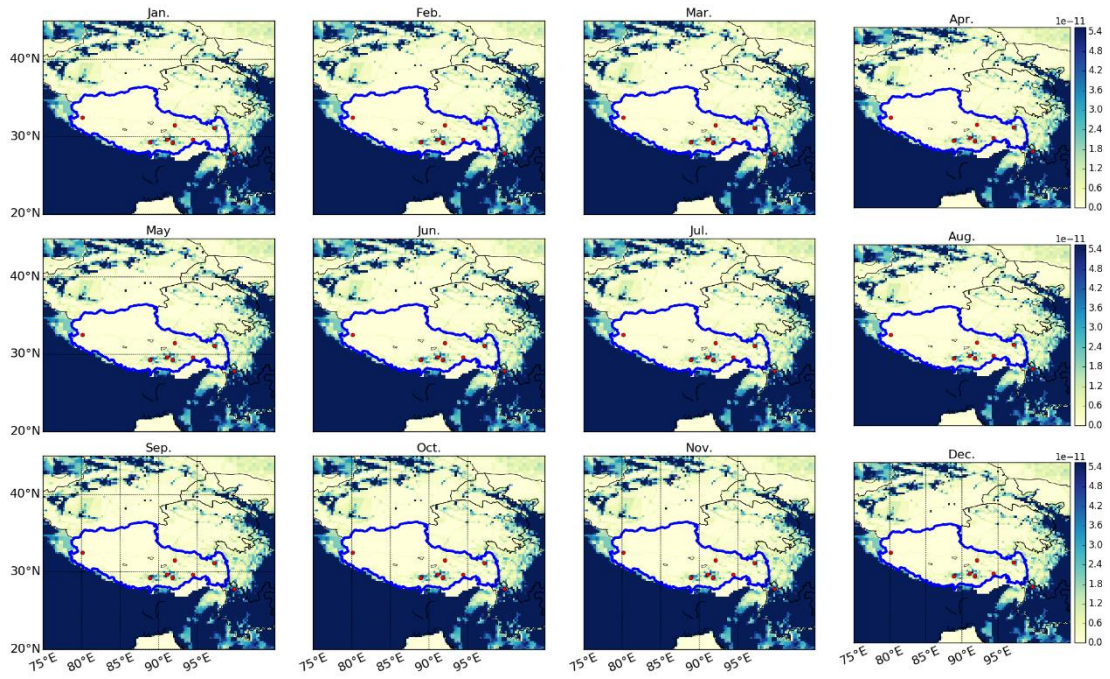
(a)

3
4



(b)

5 **Fig. S1.** Comparison between GDAS-1 meteorological fields (1° latitude \times 1° longitude) used for back trajectories
6 calculation and Goddard Earth Observing System-Forward Processing (GEOS-FP) meteorological fields (2° latitude
7 \times 2.5° longitude) used for GEOS-Chem simulation. The arrows represent the mean horizontal wind vectors at 500
8 hPa. Spatial distributions of CO VMR in the GEOS-Chem tagged CO simulations in different seasons are also shown.
9 The HTP and the studied regions are marked with a blue outline and yellow dots, respectively. (a) and (b) are
10 meteorological fields from the GDAS-1 and GEOS-PF dataset, respectively.



1
2
3
4
5

Fig. S2. Total CO emission distribution in 2017 ($0.25^\circ \times 0.25^\circ$) from the Multi-resolution Emission Inventory for China (MEIC) over the Himalayas and Tibetan Plateau (HTP) region and surroundings. Units are in $\text{kg}/\text{m}^2/\text{s}$. The HTP and the studied regions are marked with a blue outline and red dots, respectively.