

Supplement to: “A High-Resolution Tropopause Folding Dataset over China from 2014-2023”

Yujia Yang¹, Le Cao¹, Liqiang Xu¹, Mengke Wang¹, Qingjian Yang^{1,3}, Yuqing Zhang¹, Tianqi Zhang², Xiuli Lei², Jiangpeng Miao¹, and Tianliang Zhao¹

¹State Key Laboratory of Climate System Prediction and Risk Management, Nanjing University of Information Science and Technology, Nanjing, 210044, China

²National Supercomputer Center in Tianjin, Tianjin, China

³National Meteorological Information Center, China Meteorological Administration, Beijing, 100081, China

Correspondence: L. Cao
(le.cao@nuist.edu.cn)

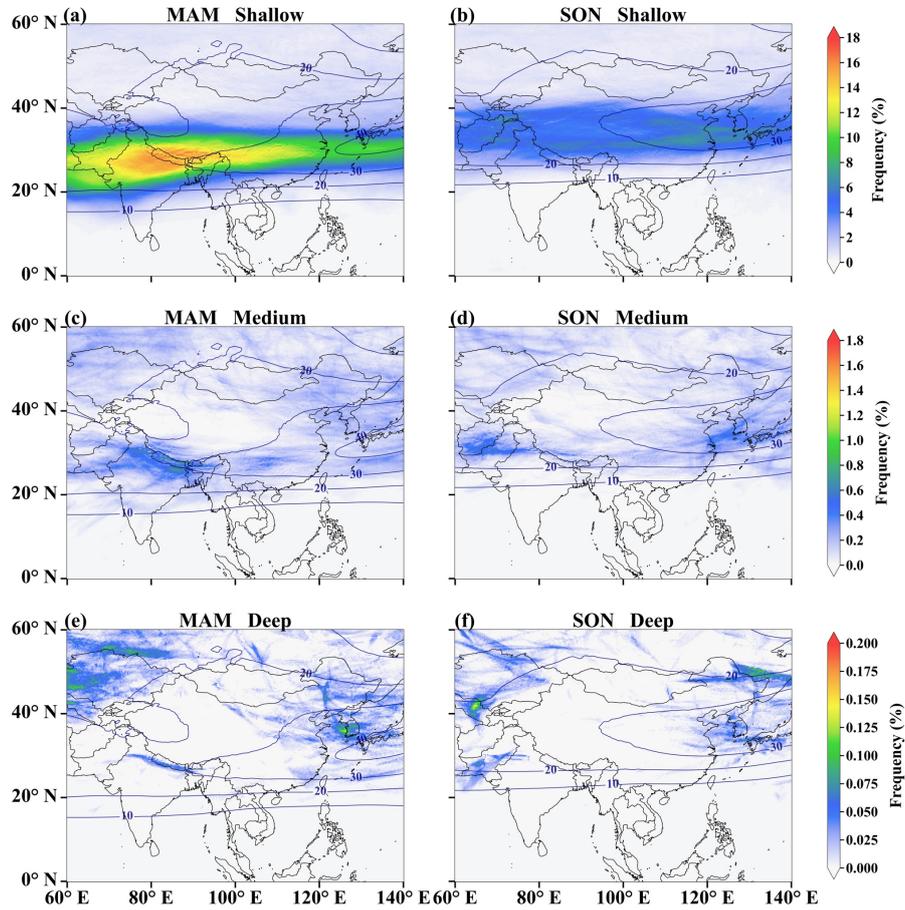


Figure S1. Seasonal averaged frequencies (%) of (a, b) shallow, (c, d) medium, and (e, f) deep tropopause folds for MAM (left) and SON (right) from 2014–2023. Contour lines show 250 hPa wind speed (m s^{-1}) from the ERA5 dataset.

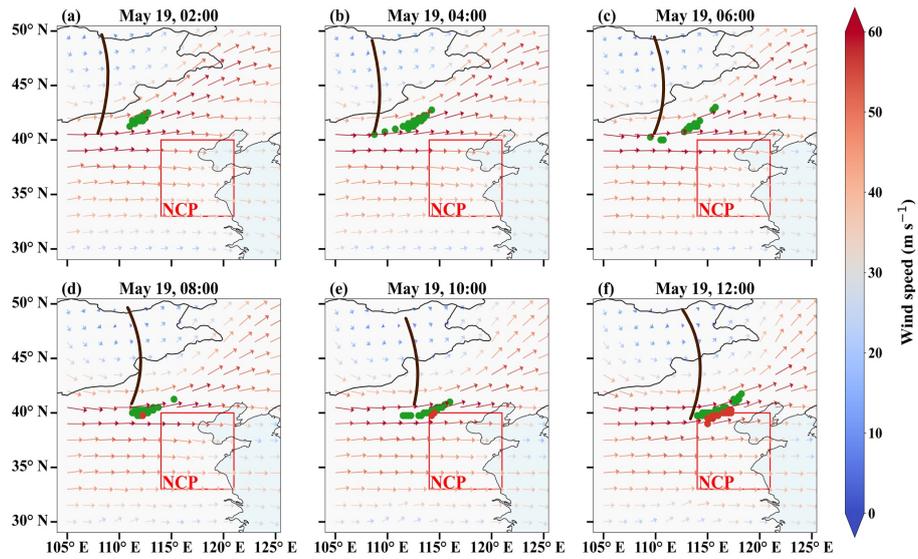


Figure S2. Spatiotemporal evolution of medium and deep tropopause folds over the North China Plain (NCP) on May 19, 2019, shown at 2-hour intervals. Colors indicate fold type (green: medium, red: deep). Wind vectors (arrows) show 200 hPa wind speed and direction, scaled by color and length. Brown lines represent the upper-level trough, and the red box delineates the NCP.

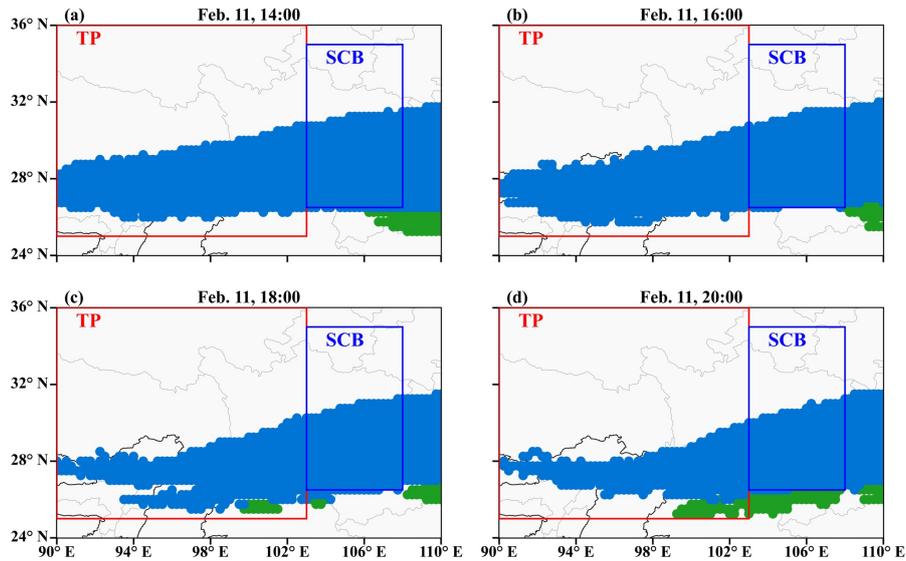


Figure S3. Distribution of shallow (blue), medium (green), and deep (red) tropopause folds over the Sichuan Basin (SCB) and Tibetan Plateau (TP) on Feb. 11, 2016. (a–d) 14:00, 16:00, 18:00, and 20:00 BJT. The SCB and TP are outlined by blue and red boxes, respectively.