Supplement

Figure S1 compares the distribution of MCSH between the MCS database developed in this study and that of Dong et al. (2022). The database of Dong et al. (2022) focuses on MCSs over Chinese mainland. The two datasets show consistent
5   MCSH patterns, with the main discrepancies in the eastern Tibetan Plateau, which we attribute to differences in the identification windows used in the two studies.
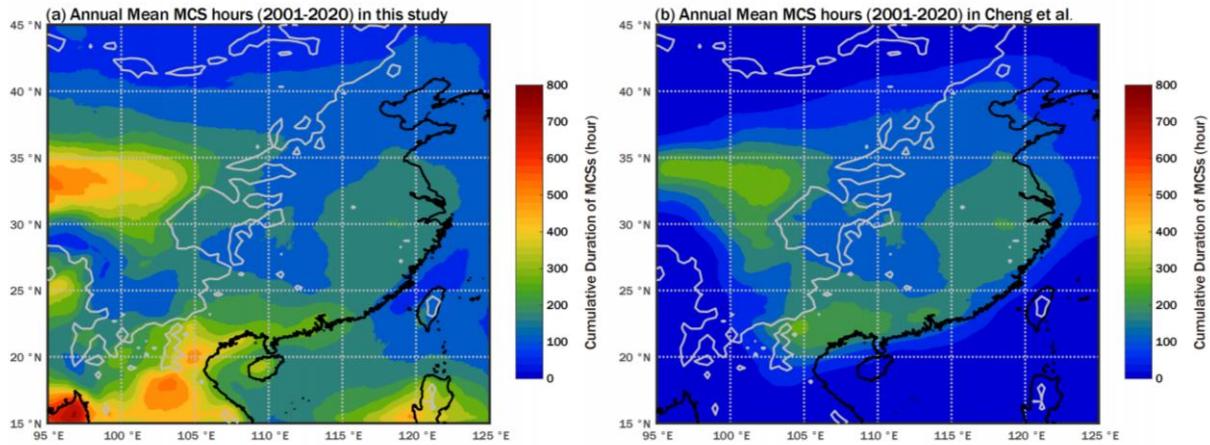
Figure S1: Annual mean spatial distributions of MCSH in (a) this study, (b) the study of Dong et al. The black solid line represents the coastline, and the gray solid line represents the 1000 m elevation contour. Color shading indicates annual mean cumulative MCS duration.