

Interannual variation of the Asian Monsoon and TBOChongyin Li[†];[†] LASG, Institute of Atmospheric Physics, CAS, China, People's Republic ofLeading author: lcy@lasg.iap.ac.cn

The Study of tropospheric biennial oscillation (TBO) has attracted significant interest since the 1980s. However, the mechanism that drives this process is still unclear very well. In the present study, ECMWF daily data were applied to evaluate evolution of the Asian monsoon and its relationship to the TBO. First, the general East Asian monsoon index (IEAM) and South Asian monsoon index (ISAM) were delineated respectively. These indices may describe not only the characteristics of summer monsoons, but also the features of winter monsoons, which are crucial to understand the transition processes between summer and winter monsoons. The following analyses of IEAM and ISAM show that there is a close relationship between summer and winter monsoons. In general, strong East Asian winter monsoons will lead to strong East Asian summer monsoons, and weak winter monsoons will lead to weak summer monsoons. While strong (weak) East Asian summer monsoons will lead to weak (strong) East Asian winter monsoons. Strong South Asian winter monsoons will lead to weak South Asian summer monsoons, and weak South Asian winter monsoons will lead to strong South Asian summer monsoons. While strong (weak) South Asian summer monsoons will lead to strong (weak) South Asian winter monsoons. The interannual anomalies of Asian monsoon may be the possible mechanism leading to the TBO.