

The Interannual Variability of East Asian Winter Monsoon and its Connection With Tropical Circulation and ENSO

Chen Wen¹ and Hans-F. Graf²

1 Institute of Atmospheric Physics, Chinese Academy of Sciences, P. O.
Box 2718, Beijing, China

2 Max-Planck-Institute of Meteorology, Hamburg, Germany

The interannual variability of East Asian winter monsoon is studied based on a monsoon intensity index with the data from the NCEP/NCAR reanalysis for the period of 1968–1997. The results show that in a strong monsoon winter the convection is much enhanced over the maritime continent and reduced over the central Pacific, while the situation is reverse in a weak monsoon winter. The lag–correlations between the monsoon intensity index and tropical Pacific sea surface temperature anomaly (SSTA) indicate that the interannual variability of winter monsoon is mainly influenced by the SSTAs over the tropical Pacific of the preceding summer. These SSTAs disappear in the following spring. Generally a cool (warm) sea surface temperature in the tropical central and eastern Pacific corresponds to a strong (weak) East Asian winter monsoon.