

Influence of North Atlantic Oscillation on Indian Summer Monsoon Rainfall in Relation to Quasi-Biennial Oscillation

Bhatla, R., A. K. Singh, B. Mandal, S. Ghosh, S. N. Pandey, and Abhijit Sarkar
Pure and Applied Geophysics, 173(8), 2959-2970

Abstract:The aim of the present study is to find out the possible linkage between the North Atlantic Oscillation (NAO), a major ocean-atmosphere coupled phenomena believed to be responsible for the variability of Indian Summer Monsoon Rainfall (ISMR) and its relation with Quasi-Biennial Oscillation (QBO) using 60 years (1953-2012) period. Spring North Atlantic Oscillation Index (NAOI) has been found to be inversely correlated with the ISMR, which has been highly enhanced during the east years when the NAOI data have been stratified according to the phases of QBO. The effect of NAOI on the ISMR is shown to be strengthening significant in the later years of the study as compared to that of the initial years of the study. This interesting result provides an input to use it as a predictor of the ISMR.

Keywords: Indian summer monsoon rainfall (ISMR) NAO QBO teleconnection tendency parameter ENSO