

Wintertime Climatic Analysis over the Western Himalayas

A. P. Dimri

School of Environmental Sciences

Jawaharlal Nehru University

New Delhi, India – 110067

E-mail: apdimri@hotmail.com

The eastward moving synoptic weather systems, Western Disturbances (WDs), are the most dominant source of precipitation over the western Himalayas. Topographic variability and landuse heterogeneity influences these circulation features in the lower and upper troposphere. This interaction determines the accumulation of wintertime precipitation, in the form of snow, over the western Himalayas. Also, this winter precipitation is the main source for north Indian rivers. In the context of today's warming atmosphere, it is imperative to study the changes in the temperature and precipitation patterns over the western Himalayas to assess the impact of global warming on climatic conditions of the region. Therefore climatic indices are analyzed based on wintertime (DJF) data of 30 years (1975 – 2006) at number of observatories situated in the western Himalayas. Results indicate enhancement in the surface air temperature across the western Himalayas. Percent number of warm (cold) days has increased (decreased) during 1975 – 2006 over the western Himalayas. Further analysis of precipitation reveals variable trends but consistent five years cyclic variation in it.