



IMPACT OF CLIMATE CHANGE ON SPRING SEASON IN THE NORTH-WESTERN HIMALAYAS: A STUDY OF KASHMIR VALLEY, INDIA (1901-2000)

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ABSTRACT

The global climate change is a serious challenge confronting humankind. Contemporary research insights reveal a general rise in mean surface temperature at global, regional and local levels. Studies carried out in Indian context also testify the prevalence of a warming trend. The valley of Kashmir lying in the lap of North Western Himalayas, with a delicate and fragile ecosystem is greatly influenced by these climatic fluctuations. The present study attempts to find out the impact of climate change on the variability of precipitation and temperature in the spring season of Kashmir Valley from 1901-2000. Spring is ecologically an important season in the Kashmir Valley. Being the flowering as well as the sowing season in the region, it has got tremendous ecological and socio-economic significance as it influences the production of agriculture and horticulture in the region. The study reveals that spring season has experienced an increase of 1.0 °C in mean maximum temperature and 0.5 °C in the mean minimum temperature which has the potential to trigger the early melting of glaciers in the region. The analysis of precipitation data reveals that spring rainfall has significantly increased, registering an increase of 50 mm, which translates in to an increase of 20 % from 1901-2000. On one hand Increased spring temperature has pre-poned flowering phenology of important horticulture crops like apple and almond in the Kashmir valley, on the other hand increased precipitation accompanied by prolonged wet and cloudy spells has badly affected the pollination of various fruit crops and reduced their production. The abnormal increase in the temperature of winter and spring seasons in the valley has serious economic and ecological repercussions, including effects on flowering pheonology, scarcity of water, dwindling agricultural productivity and changes in cropping and disease patterns in the study area.

Key words: *Fragile Ecosystem, Warming Trend, Precipitation Regime, Glacial Recession, Flowering phenology, Cropping Pattern.*