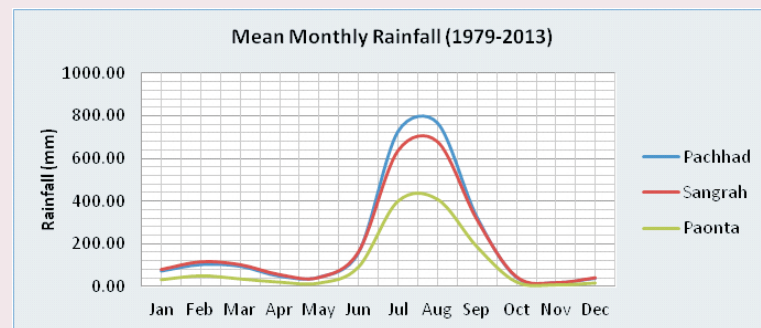


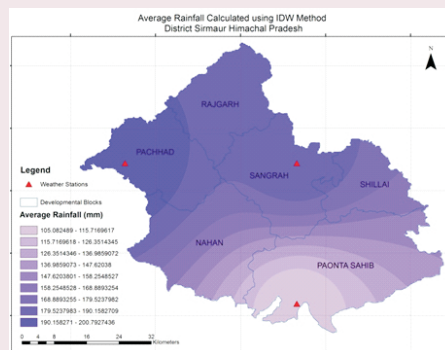
Key Climate & Hydrological Findings

Precipitation (rainfall)

- Since 1979, precipitation patterns have changed across the Yamuna river basin although there is no consistent pattern. Projected changes in rainfall vary across the basin, with increase in some area while decrease in others.
- The changing and unpredictable precipitation patterns may have serious consequences for the region, including flash floods in the north and increased droughts in the southern plains.



Database available for the period of 34 years (1979-2013) has been analysed for three developmental blocks on daily basis and accordingly a monthly average is calculated. Mean Maximum and Minimum Rainfall/precipitation is calculated to determine intensity of Low and High rain fall events.

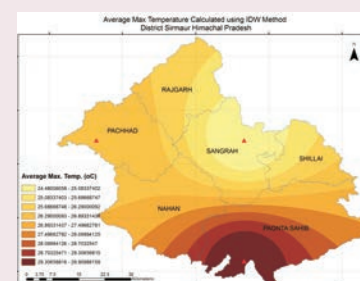
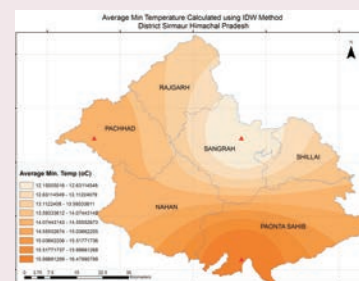


Temperature

- Since 1979, winters are getting warmer, summers are getting either extremely hot or slight variation in expected weather conditions and extreme hot days are getting hotter threatening moisture levels and subsequent on crop productivity.
- Temperatures are likely to rise by 1.5 - 4°C across the Indian Himalayan region by 2050. Similarly in the Northern parts of Yamuna basin the rise in temperature is projected by 3°C by 2050.

Database available for the period of 34 years (1979-2013) has been analysed for three developmental blocks on daily basis and accordingly a monthly average is calculated. There is a rate of change of maximum temperature between 0.091-0.200 °C per year in Southern region during Kharif & Rabi seasons.

AREA AFFECTED BY DROUGHT (1951-2000)



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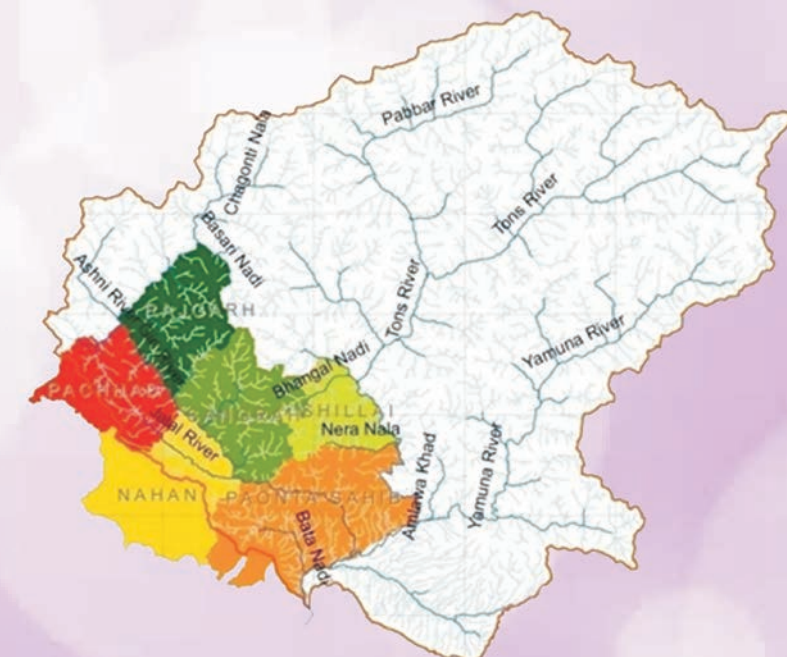


Department of Science & Technology
Ministry of Science & Technology
Government of India

NMSHE NATIONAL MISSION FOR
SUSTAINING HIMALAYAN
ECOSYSTEM



Changing Climate in Yamuna Basin An Analysis of a Drought Prone District of Himachal Pradesh



HP Knowledge Cell on Climate Change
Department of Environment, Science & Technology
Government of Himachal Pradesh

River basin management practices in equitable manner and regionally coordinated action will enhance the adaptive capacity of marginal farmers in the Yamuna river basin in Drought prone areas. The development of evidence based knowledge for integrated, innovative, and inclusive decision support will secure the livelihood practices in the basin.



The Yamuna river basin contains a rich biodiversity and is a source of valuable ecosystem services that sustain the lives and livelihoods of millions of people not only in Himachal but Punjab, Haryana, Uttrakhand, Uttar Pradesh as well.

The basin plays a key role in the irrigation of downstream areas besides hydro-power development. However the basin's diverse topography, young geological formations, high degree of glaciation and strong seasonal influences make it highly prone to erosion, sedimentation and natural hazards, including cloud burst, landslides and debris flow, droughts and flood. These events may increase in magnitude and frequency in the current context of global climate change. Increasing population urbanization have added additional pressure on basins freshwater ecosystems.

Understanding Dynamic Climate System

