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Variation of temperature and its effect on the water resources of Nepal

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Prognosis of temperature trends is an important factor in taking strategic decisions especially in water resources and daily lives of human beings. Hence study has been conducted with altitude, seasonal, and annual trends. Regression model is developed to forecast the lapse rate. It is clear that the normal lapse rate of temperature is 0.50C per 100 m. Up to 3,675 km from m.s.l. temperature decreases at the same rate with height. This is the highest turning point, after which temperature decreases slowly not at the same rate as before (No one perform research in this case till date in Nepal). The vertical distribution of heating is more sensitive to the change of the monsoon phase over sub Himalayan region than Central Indian and Tibetan Plateau. The trend of variation in mean annual temperature is increasing slowly whereas the seasonal contrast is increasing rapidly in Nepal. In the study of seasonal contrast, it reveals that greater the summer means temperatures greater the variation, lower the mean winter temperature greater the variation. As the summer temperature increases the winter temperature remains stable and as the winter temperature increases the summer temperature remains stable. The main causes of increasing tendency of mean annual temperature and as well as seasonal contrasts are the decreasing tendency of precipitation and growing desertification.

