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Himalayan region, climate change and future dynamics of invasive species

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Invasive species are known to be affected by climate change. However, its dynamics in the context of Himalayan region is studied less. Therefore, this research investigates the current and future habitat of five major invasive alien plant species (IAPS), namely *Ageratina adenophora*, *Ageratum conyzoides*, *Chromolaena odorata*, *Lantana camara*, and *Parthenium hysterophorus*, found in the Himalayan region. Maximum Entropy (MaxEnt) was used to model the five IAPS under 4.5 and 8.5 representative concentration pathways (RCPs) for the year 2070 employing MIROC5 global climate model (GCM). The results indicate

that *A. conyzoides* and *P. hysterophorus* will lose overall suitable area whereas *A. adenophora*, *C. odorata* and *L. camara* will gain overall suitable area. Similarly, majority of current habitat of the five species will remain as stable in the future, especially in the southern foothill while suitability will decrease with increasing elevation. Changes in invasion dynamics, as projected by this study, will affect existing ecosystems and their services in the region that is interlinked to human welfare. Trans-boundary response strategies could buffer some of the likely invasion effect to the Himalayan landscape.

Biography

Pramod Lamsal will soon be completing his PhD from the University of New England, New South Wales, Australia. His area of research interest is climate change impacts in the Himalayan ecosystems. He has published more than 12 peer reviewed papers in reputed journals.

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