Present and Future Potential Distribution of Hill Glory Bower (*Clerodendrum infortunatum* Linn.) using Maximum Entropy Modeling in Doon Valley, Uttarakhand, India.

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Spatial distribution of flora and fauna can help in its habitat restoration and conservation management. The present study was undertaken for identifying the current and future geographical extent in different climate change scenarios for *Clerodendrum infortunatum* Linn. (Verbenaceae), commonly known as Hill Glory Bower, which is an important medicinal shrub found in the Himalayan Foothills. We have used MaxEnt species distribution model for predicting the present and future distribution for Hill Glory Bower. Total of ninety-one occurrence records were collected using handheld GPS throughout the Doon Valley. Nineteen Bioclimatic layers, two topographic variables and one biophysical layer were initially used. We have also modeled the future distribution of Hill Glory Bower in valley based on two Climate Change projections (RCP 4.5 and RCP 8.5) using an General Circulation Model (MIROC5). The results have shown that the model was fairly accurate with Area Under Curve (AUC) being 0.842. Output indicates that current habitat would shrink in both the cases (RCP 4.5 and RCP 8.5) but in comparison to RCP 4.5 conducive habitat will increase in RCP 8.5. Our findings can be applied in identifying the currently suitable zones as well as future expansion of the habitat of Hill Glory Bower.

Keywords: C. infortunatum, Doon Valley, MIROC5, AUC, RCP 4.5, RCP 8.5