

## **PREFACE**

Urbanization, industrialisation, and the loss of forest cover in the twenty-first century have resulted in huge urban growth, which has had a profound effect on the landscape. As a biodiversity hotspot and one of the world's most environmentally sensitive areas, Southeast Asia has plenty to offer. Several factors endanger the ecosystems of the region, raising the extinction risk for species that rely on them. So it's one of the most dangerous locations on Earth. The pace of deforestation in Southeast Asia is among the greatest in the world. Threatening tropical biodiversity is due to mining, hydroelectric dam development, and the prevalent practise of utilising animals for traditional remedies. .

SDM of Hoolock Gibbons, Gee's Golden Langur, and Namdapha Flying Squirrel predicts species distribution and probable habitats using location or occurrence data from literature surveys, wildlife databases, and websites such as inaturalist and India biodiversity portal. SDMs assist conservationists in determining what to do on the ground. 70 presence points (location data), 19 bioclimatic factors, and 2 characteristics were utilized for the research region to evaluate potential habitats and determine how these maps illustrate where conservation is most essential. Bioclimatic factors were utilized to forecast the future size and appropriateness of the species' habitats. The findings indicate that Hoolock Hoolock, *Trachypithecus Geei*, and *Biswamoyopterus Biswasi* may exist in additional areas in South East Asia, but that those places may become smaller in the future.

With the help of SDM, this study will be able to map out all the locations in which the species are distributed for the years 1970 to 2020, by using Geospatial tools and software, like location-based CSV data, ArcGIS pro, Q-GIS, MAXENT software. We also aim to perform a future prediction distribution Model of the suitable habitats and distribution of these same species for the years 1970 to 2100, with output showing the distribution of our selected species along the South East Asia which can be interpreted to understand the potential habitats and how these maps reveal critical conservation across the study area. Overall, we found that as the elevation rises, there would be considerable shifts in the distribution of suitable habitat. Background information on the species' long-term conservation can be gleaned from this investigation.