>> SYNTHESIZE MOUNTAINS OF KNOWLEDGE <<

Submitted Abstract

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Abstract

Forests across the world stand at risk due to climate change. The Eastern Himalaya region (EHR) in particular is highly vulnerable as it is considered among 'biodiversity hotspots', 'megadiverse countries', 'global 200 ecoregions' . There are 25 ecoregions within the Eastern Himalayan region alone. Thus, it is imperative that the vulnerability of the region's forests to climate change be assessed and studied for further action. In this study, an indicator based vulnerbaility assessment has been carried out based on field study, remote sensing and Google Earth Engine. The IPCC framework of indicator based vulnerability assessment which includes exposure, sensitivity and adaptive capacity as its core elements, has been applied in the study. Indicators used include Species Richness Indices, Enhanced Vegetation Index (EVI), Palmer Drought Severity Index (PDSI), and Net Primary Productivity (NPP) in addition to climatic factors such as temperature and precipitation. Indicators such as EVI, NPP, PDSI, NPP and climatic variables were calculated through the use of Google Earth Engine. Analytical Hierarchy Process was applied to assign weightage to the indicators. The vulnerability index of the forest types was developed on a GIS platform and vulnerability maps for the same were generated. Areas of the state showcasing lower values of species richness and EVI in relation to other indicators and factors are highly vulnerable to climate change. Climate change is set to affect not only the ecosystems of the region but also the livelihoods and existence of the indigenous Naga people. This study will help in the identification of highly vulnerable areas in the state and thereby assist in key decision making for policy makers and grassroots organizations involved in protecting the local communities from climate change related impacts.

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