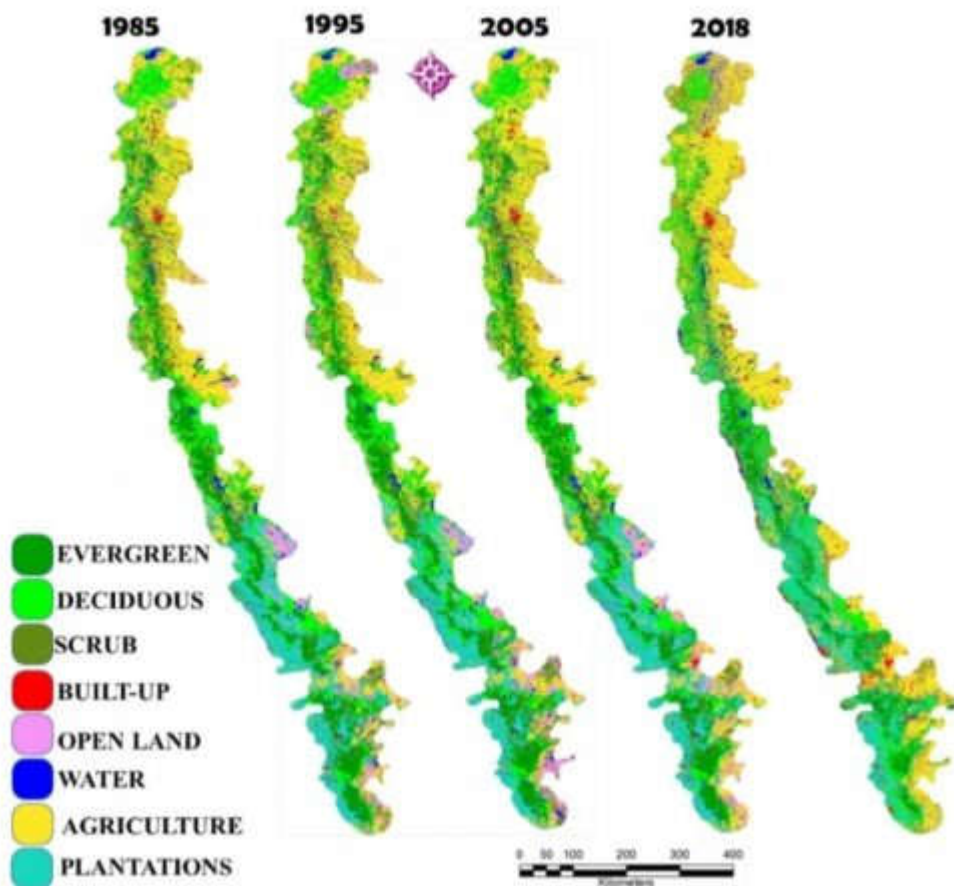


Evergreen forest cover down to 10% in Western Ghats

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Carbon Sequestration Potential of the Forest Ecosystems in the Western Ghats



Unplanned developmental activities have triggered a dramatic fall in the Western Ghats' evergreen forest cover in protected areas - dropping to a mere 11% between 1985-2018, a new study has revealed.

If left unchecked, this will further drop to 10% by 2029 with agriculture (17%), plantations (40%) and built-up area (5%) making up the rest, showed a simulation study as part of a paper on "Carbon Sequestration Potential of the Forest Ecosystems in the Western Ghats."

The paper is authored by Dr T V Ramachandra from Centre for Ecological Studies, Indian Institute of Science (IISc) and Setturu Bharath from the Centre for Sustainable Technologies (ASTRA).

The deforestation trend and land-use changes will have a deep impact on the climate, triggering higher instances of flooding and drought and rising temperature. Already, rainy days have reduced in Kerala and Tamil Nadu while showing an increase in Maharashtra. Besides, "the regions in 8–12 latitude are experiencing an increase of 0.5– 1C mean temperature."

The reduction in rainfall and increase in temperature (dryness) can affect carbon stock in the region. "The farmers of peninsular India would face the threat of food security with erratic monsoon and lack of water," noted the study, published in Natural Resources Research.

The remedial measures proposed are these: Immediate implementation of carbon capture (with afforestation of degraded landscapes with native species, regulations of LULC changes) and de-carbonization (through large-scale implementation of renewable and sustainable energy alternatives).

This should be executed through stringent norms toward (i) protection of ecologically fragile regions, (ii) dis-incentives for continued higher emissions based on polluter pays principle and (iii) incentives for reduced emission.

The Western Ghats forests store 1.23 MGg of carbon (both above-ground biomass and soil). The annual increment of 37,507.3 Gg highlights the role of forests in lowering carbon at the regional level, the study said.

On the change in rainfall pattern, the study elaborates: "Across the agro-climatic zones at 1 degree latitude, Ghats and the transition zones in the south (Kerala, Tamil Nadu) show a decrease in rainfall ranging between 40 and 650 mm in the century with a decline of rainy days of 5–10 days."

In contrast, the north (Maharashtra, Gujarat) showed increasing trends of rainfall ranging from 120 to 430 mm and rainy days by 3–6 days at Ghats and transition zones between Ghats and

plains. Similar trend analyses of temperature show an increasing trend in temperatures all across the Western Ghats.