

# A browning east

Climate change impact warnings for Eastern Ghats underscore need for forest protection

If the Western Ghats are the crown jewels of India's natural heritage, the Eastern Ghats spread across some 75,000 sq. km. from Odisha to southern Tamil Nadu, play an important dual role: fostering biodiversity and storing energy in trees. In these mountains exist a reservoir of about 3,000 flowering plant species, nearly 100 of them endemic, occurring in the dry deciduous, moist deciduous and semi-evergreen landscapes. Many animals, including tigers and elephants, and some 400 bird species are found in these discontinuous forests that receive an annual average rainfall of 1,200 mm to 1,500 mm. Crucially, many parts, primarily in Odisha, Andhra Pradesh and Tamil Nadu, provide forest produce and ecosystem services to millions. Given the key functions that the lands perform, in modulating climate, fostering biodiversity and providing sustenance, new research findings arguing that the Ghats face a serious threat from climate change, and temperature variations are a cause for worry. It is noteworthy that a disruption of the annual average temperature and diminished rainfall would rob the productivity of these forests, in terms of their ability to store carbon, and provide subsistence material. Existing data point to the impoverishment of areas experiencing rainfall reduction in the driest quarter of the year and a rise in seasonal temperature, through reduced plant species diversity and a dominant role for herbs over trees.

Protecting the Eastern Ghats, which are separated by powerful rivers – the Godavari and Krishna, to name just two – is an ecological imperative. India is committed, under the Paris Agreement on Climate Change, to create an additional carbon sink of 2.5 to 3 billion tonnes through enhanced forest and tree cover. Yet, forest protection policies have often failed dismally. By some estimates, the Ghats have shrunk by 16% over the past century, and just one region, Papikonda National Park, lost about 650 sq. km. in two decades from 1991. Relieving the pressure on forests can be done through policies that reduce extraction of scarce resources and incentivise settled agriculture. Schemes for restoration of forest peripheries through indigenous plant and tree species, matching national commitments, could qualify for international climate finance, and must be pursued. At a broader level, the response to the warnings issued by researchers from IIT Kharagpur, International Crops Research Institute for the Semi-Arid Tropics and the University of Hyderabad in a recent publication on changes to temperature and rainfall calls for decisive steps to mitigate carbon emissions. Improving tree cover nationally is certain to confer multiple benefits, including modulation of the monsoon, improved air quality and wider spaces for biodiversity to persist.