

# Tropical grassy ecosystems under threat

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Tropical grassy areas in India, Australia, and South America store around 15% of the world's carbon.

(Phys.org) —Scientists at the University of Liverpool have found that tropical grassy areas, which play a critical role in the world's ecology, are under threat as a result of ineffective management.

According to research, published in *Trends in Ecology and Evolution*, they are often misclassified and this leads to degradation of the land which has a detrimental effect on the plants and animals that are indigenous to these areas.

## Greater area than tropical rain forests

Tropical grassy areas cover a greater area than tropical rain forests, support about one fifth of the world's population and are critically important to [global carbon](#) and energy cycles, and yet do not attract the interest levels that [tropical rainforests](#) do.

They are characterised by a continuous grass understorey, widespread shade-intolerant plants and the prevalence of fire, which all generate a unique and complex set of ecological processes and interactions not found in other habitats.

Dr Kate Parr, from the School of Environmental Sciences, said: "The distinctive evolutionary histories and biodiversity values of these areas needs to be recognised by conservation managers and policy makers.

"Whilst it is generally assumed that 'more trees are better' in tropical rainforest this is not necessarily the case for tropical grassy ecosystems and so the outcomes of global carbon and conservation initiatives, which include the UN's Clean Development Mechanism and its Reducing Emissions and Deforestation Forest Degradation schemes, need to be better considered when they are applied to tropical grasslands.

"Any changes to the balance between human livelihoods and ecosystem function would have an impact on the use of land, the availability of resources and would affect the way the land functions including its climate.

"The vast extent of tropical grasslands and the reliance of human welfare on them means that they deserve far more research and conservation attention than they currently receive."

## Grazing, fuel and food

Approximately 20% of the world's population depend on these areas of land for their livelihoods including their use for grazing, fuel and food. They also store about 15% of the world's carbon.

Tropical grassy ecosystems are associated with savannas and upland grasslands in Africa and savanna-type grasslands in India, Australia, and South America, representing diverse lands from open grassland through to densely canopied savanna.

**More information:** Catherine L. Parr, Caroline E.R. Lehmann, William J. Bond, William A. Hoffmann, Alan N. Andersen, Tropical grassy biomes: misunderstood, neglected, and under threat, *Trends in Ecology & Evolution*, Available online 11 March 2014, ISSN 0169-5347, [dx.doi.org/10.1016/j.tree.2014.02.004](https://doi.org/10.1016/j.tree.2014.02.004)

Provided by University of Liverpool

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