

# Study identifies two types of savannas

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Colorado State University scientists have determined the Earth maintains two types of savannas, which cover a fifth of the planet's surface.

Savannas -- grasslands dotted with areas of tree cover -- are home to the world's greatest diversity of large animals.

But a study investigating the seemingly fragile coexistence of trees and grass in such regions reveals there are two types of savannas: stable and unstable.

Lead researcher Mahesh Sankaran and colleagues said drier regions -- those receiving 650 millimeters or less of rainfall annually -- are maintained because the arid conditions do not allow tree species to take over the area. In such "stable" savannas, tree growth is proportional to rainfall.

Sankaran's team said in areas with more than 650 millimeters of annual rainfall -- called "unstable" savannas -- conditions are wet enough for trees to dominate and the ecosystem is maintained by plant-eating animals and periodic fires, which hold tree species at bay.

The researchers say future changes in rainfall patterns could alter the distribution of the two savanna types.

The research appears in this week's issue of the journal *Nature*.

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