

FIVE QUESTIONS

ON THE FUTURE OF THE AMAZON

FOR SUSAN TRUMBORE



In early August, representatives from the eight countries within the Amazon region came together for a summit on the future of the rainforest. In the discussion about the climate crisis, there is much talk of tipping points. What is a tipping point, specifically in the context of the Amazon rainforest?

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SUSAN TRUMBORE: A tipping point is a critical threshold within the earth system. If you exceed this threshold, you move from one system into another. There is no going back. When rainforest is converted to pasture and farmland, less water evaporates and the area heats up. This makes it easier for fires to break out. At some point, the rain volume may become insufficient to supply the forest with water. In extreme cases, the rainforest becomes a savanna, though a degraded forest is more likely.

Where do you see a potential tipping point in the Amazon?

Theoretical models predict a tipping point at 20 to 25 percent deforestation. Meanwhile, the level of deforestation in the Amazon is about 15 percent, in some regions more than 20 percent. However, these models are based on an incomplete understanding of the situation. We do not yet know enough to give a concrete threshold value for a tipping point. Similarly, we cannot say with certainty which features – such as biodiversity – would be lost forever and which would recover over time. That's why we are carrying

out experiments in Mato Grosso, a highly deforested area, which looks like a patchwork of forest remnants between soybean fields. Here we measure the carbon and water exchange in order to understand how the forest and the local climate react to dryness and deforestation.

How do you convey the urgency of action, while speaking about uncertainties at the same time?

It's difficult. We have been talking about climate change for many years. Things didn't start to happen until people were personally affected for the first time. Just because we don't know the precise tipping point for the ecosystem doesn't mean that we shouldn't be worried or even keep cutting down trees. For me, the biggest problem is that biodiversity and biomass have already been irretrievably lost in some areas. Human interference occurs over very short periods of time, and vegetation is extremely slow to respond to these changes. So, we should take steps to better look after what we have.

What impact do you think the Amazon summit will have for the future of the rainforest?

I think that Lula da Silva, President of Brazil before 2011 and again since 2023, has made genuine pledges to reduce deforestation. In his first term, he had already placed large areas of forest under protection. The Brazilian Forest Code of 1965 regulates deforestation. Those who own private land in

the region may only deforest and farm 20 percent of it. Official title deeds exist for only 10 percent of the land; far more is illegally appropriated. The agreement reached at the summit gives countries the courage to enforce existing laws and sends a signal that socio-economic challenges should be tackled collectively. Soy fields, for example, are worth much more than an intact forest, financially speaking. Without the Amazon fund, to which Germany is contributing again, there would be no incentive to conserve the forest. The fact that deforestation is illegal is only marginally helpful. We have to be realistic and pay enough to ensure that the value of keeping the forest intact increases. By intensifying the use of already deforested land, Lula also wants to show that economic growth is possible without further deforestation.

What can we do as individuals?

Eat less meat. The majority of soy that is cultivated in Mato Grosso is sent to Germany for use as pig feed. You can also offset your carbon footprint, for example, by planting trees in the Amazon region. It would make even more sense to preserve the original rainforests with their enormous biomass. These store more carbon than renewable trees.

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