# Current global policies could trigger multiple climate tipping points, new study finds



New research conducted by scientists from the University of Exeter and the University of Hamburg highlights the increasing likelihood of multiple climate "tipping points" being triggered under current global policies. These tipping points pertain to critical changes in the Earth's system, including events like the collapse of major ice sheets, the dieback of tropical coral reefs, and the large-scale loss of forests.

The study examined the risk associated with sixteen different components of the Earth's environment. Researchers utilised five scenarios, called shared socioeconomic pathways (SSPs), to assess the probabilities of tipping points occurring. According to their most conservative estimates based on existing policies and resultant global warming, there is an average 62% risk that these tipping points will be triggered.

However, the research provides a contrasting outcome under more sustainable future pathways that involve reduced greenhouse gas emissions. These scenarios show a significant decrease in the likelihood of tipping points occurring. Additionally, the study observed that the carbon emissions emanating from specific tipping points—such as the dieback of the Amazon rainforest and permafrost thaw—are unlikely to cause sufficient warming to trigger further tipping points in other parts of the Earth system.

Lead author Jakob Deutloff remarked, “The good news from our study is that the power to prevent climate tipping points is still in our hands. By moving towards a more sustainable future with lower emissions, the risk of triggering these tipping points is significantly reduced. And it appears that breaching tipping points within the Amazon and the permafrost region should not necessarily trigger others.”

Professor Tim Lenton of Exeter’s Global Systems Institute emphasised the urgent need for global intervention. “Climate tipping points could have devastating consequences for humanity. It is clear that we are currently on a dangerous trajectory – with tipping points likely to be triggered unless we change course rapidly. We need urgent global action – including the triggering of ‘positive tipping points’ in our societies and economies – to reach a safe and sustainable future.”

The paper, titled “High probability of triggering climate tipping points under current policies modestly amplified by Amazon dieback and permafrost thaw,” was published in the journal Earth System Dynamics. Funding for the research during its writing phase was provided by the German Research Foundation for Jakob Deutloff and by the Bezos Earth Fund in support of Professor Lenton’s work.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://news.exeter.ac.uk/faculty-of-environment-science-and-economy/world-on-course-to-trigger-multiple-climate-tipping-points-unless-action-accelerates/> - This article corroborates the study conducted by the University of Exeter and the University of Hamburg on the likelihood of multiple climate tipping points being triggered under current global policies, detailing the 62% average risk and the assessment of 16 Earth system components including ice sheets and forests.
* <https://www.miragenews.com/world-nears-climate-tipping-points-without-1448469/> - This source supports the findings on the risk of climate tipping points with 16 components assessed and the impact of current versus sustainable future scenarios, including the lessened risk under lower greenhouse gas emissions pathways.
* <https://news.exeter.ac.uk/faculty-of-environment-science-and-economy/world-on-course-to-trigger-multiple-climate-tipping-points-unless-action-accelerates/> - The same Exeter article also confirms that carbon emissions from tipping points like the Amazon rainforest dieback and permafrost thaw are unlikely to trigger other tipping points, supporting the study's detailed results on cascading tipping effects.
* <https://news.exeter.ac.uk/faculty-of-environment-science-and-economy/early-warning-of-climate-tipping-points-funded-by-aria/> - This page provides additional context on Professor Tim Lenton's work on climate tipping points and the urgency of global intervention, emphasizing the need for early warning systems and global action to avoid crossing dangerous thresholds.
* <https://www.exeter.ac.uk/research/tippingpoints/> - This University of Exeter research page offers background on the concept of climate tipping points and supports the article’s statement about the risk of accelerating the climate crisis through crossing such thresholds.