

INTRODUCTION TO EARTH SYSTEM TIPPING POINTS

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Concerns have been raised that several components of the Earth system may respond nonlinearly and possibly abruptly to ongoing anthropogenic climate and land-use change. Candidates are the polar ice sheets, the tropical rainforests including the Amazon, or the Atlantic Meridional Overturning Circulation. I will review the underlying mechanisms and discuss the likelihood that these systems might exhibit critical transitions based on evidence from models and observations.