

**Paul O’Gorman**

Associate Professor

Department of Earth, Atmospheric, and Planetary Sciences

Massachusetts Institute of Technology

**Changing relative humidity over land in simulations and observations**

Changes in near-surface humidity have important implications for human heat stress, ecosystems and the hydrological cycle. Over ocean, the specific humidity increases with temperature in proportion to its saturation value, with only slight changes in the relative humidity. However, this is not a good approximation over land where climate models project substantial decreases in relative humidity. In this talk, I will discuss why relative humidity decreases over land in the climate-model simulations and how it has been changing in observations over recent decades. I will also discuss how the changes in relative humidity are linked to surface temperature and precipitation patterns.