Geophysical Research Abstracts
Vol. 21, EGU2019-12613, 2019
EGU General Assembly 2019

Changes in climate extremes at 1.5°C vs 2°C global warming: Why half a degree matters

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This presentation will provide an overview on changes in climate extremes at 1.5°C vs 2°C global warming, based on chapter 3 of the IPCC Special Report on 1.5°C global warming (Hoegh-Guldberg et al. 2019) as well as on several recent publications (Seneviratne et al. 2016; Wartenburger et al. 2017; Seneviratne et al. 2018a,b). There are substantial differences in regional climate means and extremes at 1.5°C vs 2°C global warming, with up to 2-3 times larger increases in hot extremes over land compared to the global mean temperature. There are also detectable differences in heavy precipitation and droughts in some regions. Limiting global warming to 1.5°C avoids substantial risks compared to higher levels of warming, including irreversible impacts. However, it does not completely remove the risk of some regional extremes reaching dangerous levels for ecosystems and societies in the coming decades.

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