

Global Environmental Change and Extreme Events

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Most projections of Global Climate Change (GCC) for a warmer planet indicate clearly that the frequency and/or intensity of extreme meteorological and climate events will increase in most of the world. Considering that the planet warmed about 0.6 to 0.7 C since mid-19th Century, the first question that comes to mind is to examine whether extreme events are already changing in response to present levels of warming. The observational evidence amassed by the IPCC AR4 indicates clearly that the frequency of many extreme events, such as intensity of droughts globally or intensity and duration of strong hurricanes/typhoons, are ncreasing and the best probable cause is indeed global warming. On the other hand, the expect acceleration of the hydrological cycle on a warmer planet has not been clearly detected in the observations, as well as the expected drying out of continents due to increased evaporation has not been confirmed as yet. On the contrary, parts of the continents appear to be wetting up.

Most of the projections of climate change for the 21st Century point out towards a substantial increase in the severity of meteorological and climate extremes. As usual, the populations of developing coutries are the most vulnerable to the present-day extremes and will continue to be vulnerable to the projected increase of extreme events.