

Extreme Weather Events

To understand whether humans are causing extreme weather events to become worse, we first need to look at the historical record. Given the recent impacts of Hurricane Sandy and the California drought, I will direct my comments to hurricanes and drought. First hurricanes. The bottom figure shows the time series of U.S. landfalling hurricanes since 1900. Apart from the horrendous years of 2004/2005, the number of landfalls has been relatively low over the past two decades.

If you look at global hurricane activity on the top figure, represented by accumulated cyclone energy, you also see that global hurricane activity has been relatively low in recent years. Any possible signal from human caused global warming is swamped by the natural climate variability.

Globally, drought has not been increasing. A recent satellite based study found a slight decrease in global drought since 2002.

The current California drought, while extreme, is of comparable magnitude to a drought in the 1890's. However, the current drought pales in comparison with the mega droughts in the middle ages, that have been inferred from tree rings. Hence it doesn't seem that the current California drought is exceptional and it doesn't make sense to say it is caused by human caused global warming, especially since climate models predict MORE rainfall for the Western U.S.