



How many thunderstorms are active at any moment?

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It has been estimated nearly a hundred years ago that there are approximately 2000 thunderstorms active at any moment, with a global mean of 100 flashes per second. The flash rate has since been modified to around 45 flashes/second based on the OTD/LIS satellite observations, but what about the 2000 thunderstorms? What is the evidence for this? How many thunderstorms are actually active simultaneously around the globe? How does this vary from hour to hour, day to day, and month to month?

With the recent expansion of lightning networks to cover the globe, it is now possible to address these questions. We use the World Wide Lightning Location Network (WWLLN) data together with the WDSS-II clustering software to calculate the number of thunderstorm cells present across the globe at any time. The initial results will be presented in this paper. Our results tend to reduce the global number of storms at any time from 2000 down to 750, and show a significant daily and seasonal variability in the number and characteristics of the storms.