



Tools for comparing people's beliefs with scientific time series: The monsoon onset

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If we want climate services to produce useable information for users, then the way scientists and users define events need to be comparable. In this talk, I will present some novel yet simple methods to compare beliefs of timing of recurrent climatic events with empirical evidence from multiple historical time series. We test the methods by applying them to the onset date of the monsoon in Bangladesh, where several scientific monsoon definitions can be applied. Time series from eight different scientific monsoon definitions in six regions are compared with respondent beliefs from a previously completed survey concerning the monsoon onset.

Beliefs about the timing of the monsoon onset are represented probabilistically for each respondent by constructing a probability mass function from elicited responses about the earliest, normal, and latest dates for the event. We use these dates to construct a circular modified triangular distribution (CMTD). These CMTD distributions are then compared to the historical time series using two approaches: likelihood scores, and the mean and standard deviation of time series of dates simulated from each belief distribution.

This work has developed from my previous PhD research and the more recent TRACKS project (Transforming Climate Knowledge with and for Society) funded by the Norwegian Research Council. The methods are initially based on the monsoon onset, but I would like to discuss the possibility of applying them to other meteorological or climatological events.

*This seminar will be webcast live at:
<http://ucarconnect.ucar.edu/live>*

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<https://www.mmm.ucar.edu/events/seminars>*

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Refreshments 3:15 PM

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