

Impacts of climate seasonal prediction on agriculture: Comparison between India and China

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Climate seasonal prediction is really important for a lot of socio-economic planning, particularly in agriculture practice. Both official authorities from China and India issue climate prediction information for 6 months in advance, including the summer precipitation pattern and temperature in winter. Wide contributions are generally invited from different institutions including numerical climate model simulations, statistical analysis basing on climate index, and etc. In this study, evaluations on historical predictions will be conducted in order to understand the success and failures in both countries. The performance of the seasonal forecast in terms of the observed data will be analysed with the help of statistical techniques such as False Alarm Ratio (FAR), True Skill Score etc. A matrix will be developed to quantitatively illustrate the performances compared to observations. A series of questions will be answered:

1. How well the climate prediction in China? In Temperature? In Precipitation?
2. How effective these information has been used in agricultural practice in China?
3. How good the climate prediction in India?
4. How effective these information has been used in agricultural practice in India?
5. Any good predictors for both regions?
6. Is there consistent stories that can be applied for other regions?

Key words: seasonal climate prediction, agricultural impacts, China, India

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References

Das, S.K., Deb, S.K., Kishtawal, C.M. et al, Validation of Seasonal Forecast of Indian Summer Monsoon Rainfall, Pure Appl. Geophys. (2015) 172: 1699. <https://doi.org/10.1007/s00024-014-1024>

Pokhrel, S., Saha, S.K., Dhakate, A. et al. Seasonal prediction of Indian summer monsoon rainfall in NCEP CFSv2: forecast and predictability error, Clim Dyn (2016) 46: 2305. <https://doi.org/10.1007/s00382-015-2703-1>

Ke Fan, Ying Liu, HuoPo Chen, (2012), Improving the Prediction of the East Asian Summer Monsoon: New Approaches, WEATHER AND FORECASTING, Vol-27, DOI: 10.1175/WAF-D-11-00092.1