

Deliberations on the applicability of IMD's medium range weather forecasts for their usability in Agromet Advisory Services for the farmers of South Interior Karnataka, India

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Climate risk management in rainfed regions entails forecasting, impact assessment and relief planning, with emphasis on timely forecast dissemination and accurate loss estimation. Under the Gramin Krishi Mausam Sewa initiative, the India Meteorological Department issues agro-meteorological advisories, evaluated using qualitative, quantitative and statistical methods. In the present study on South Interior Karnataka, the forecast accuracy was higher for temperature (75–79%) than for wind speed and rainfall. Ramanagara showed the best rainfall forecast performance. Statistical tests (Hanssen–Kuipers, Kolmogorov–Smirnov, Anderson–Darling) revealed spatial variability, influenced by orography. Taylor diagram analysis confirmed good agreement between observed and forecasted temperatures (0.7–0.8 for maximum temperature, 0.6–0.7 for minimum temperature), indicating reliable temperature forecasts.

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the crop performance is dependent on edaphic factors, which are relatively stable and can be modified through management aspects, the weather factors can not be done so, especially under rainfed conditions³. Though the re-orientation of agricultural management practices is known to minimise the impact of adverse weather conditions during the cropping season⁴ through the selection of optimum planting dates, row orientations, planting ratios, etc., it requires a thorough knowledge about weather in advance in order to plan appropriate management practices. Such algorithms for planning and management of different agricultural resources are presently gaining importance to formulate adaptation or mitigation strategies for a projected resource-scarce world in the near future, in which the climate extremes are projected to be more frequent and intense⁵, particularly in rainfed crop production regions of India. Several attempts are being made by the policymakers and governing bodies to keep the farmers well informed about the real-time and forecasted weather through the India Meteorological Department (IMD). However, the effectiveness of the forecasts provided needs to be assessed for their correctness/usability frequently to ensure their fruitfulness.