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India

Agricultural Situation

Monsoon Arrives Early

1999

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Report Highlights:

The southwest monsoon has arrived India one week early (May 25); meteorologists are predicting the 12th consecutive year of "normal" rainfall.

Includes PSD changes: No
Includes Trade Matrix: No
Unscheduled Report
New Delhi [IN1], IN

Indian Meteorologists Predict Another Normal Monsoon

The southwest monsoon, which provides 80 percent of India's precipitation and is critical to the development of most of its major crops (rice, cotton, peanuts, coarse grains and soybeans), arrived in southern India May 25, a week ahead of normal. The Indian Meteorological Department (IMD) is forecasting a twelfth consecutive "normal" monsoon. The monsoon is considered normal if rainfall during June 1 - September 30 is within 10 percent of the long period average (LPA) of 88 cm (35 inches). This year's monsoon rainfall is predicted to be 108 percent of the LPA, plus or minus 4 percent.

In a departure from normal practice, the IMD this year came out with broad regional forecasts. Peninsular India (southern states, Maharashtra and Gujarat) is forecast to receive 114 percent of LPA (87 cm); Northwest India (Punjab, Rajasthan, Haryana, Delhi, Jammu & Kashmir and Himachal Pradesh) 111 percent of LPA (64 cm); and Northeast India (West Bengal, Orissa, Bihar, Northeastern states and Andaman Nicobar Island) 98 percent of LPA (127 cm).

The Monsoon Forecast Model

The monsoon forecast is based on two models, a qualitative "parametric model" and a quantitative "power regression model," which were developed by IMD in 1988. Thus far the models have not been wrong.

The parametric model analyzes sixteen parameters falling within four categories, namely atmospheric temperature, barometric pressure, wind systems, and snow coverage. These include El Nino during the current year and previous year, temperatures in north, central and eastern parts of India during March, snow coverage in the Himalayas and Eurasia, and various pressure and wind systems. Currently, 11 of these 16 parameters are favorable. In the past, whenever 60 percent or more of these parameters were favorable the monsoon was normal.

The power regression model provides a quantitative forecast of monsoon rainfall using statistical methods. In developing this model, unequal weight is given to the 16 weather parameters, depending on their degree of correlation with rainfall.

Limitations

Despite the overall satisfactory performance of the forecast model since its introduction in 1988, its utility has been limited by its inability to predict the distribution of monsoon rains over space and time. Most important to crop production is not the gross amount of precipitation, but when and where it occurs.