



Rain Alert in Rajasthan | Rajasthan | 19 Sep 2024

Why in News?

Recently, the [India Meteorological Department](#) has issued a **yellow alert** for rainfall in several districts of eastern Rajasthan, including **Jaipur, Ajmer, Alwar, and Udaipur**.

Key Points

- **Color Coded Alerts:**
 - **Green Alert:** Signifies "**No warning**," with light to moderate rainfall forecasted, ranging from **15.6 mm to 64.4 mm**.
 - **Yellow Alert:** Signifies "**Watch**," with heavy rainfall expected, ranging from **64.5 mm to 115.5 mm**.
 - **Orange Alert:** Stands for "**Alert**," indicating very heavy rainfall, ranging from **115.6 mm to 204.4 mm**.
 - **Red Alert:** Signifies "**Warning**," with extremely heavy rainfall forecasted, **exceeding 204.5 mm**.
- **Upgrade in Forecasting:** India's weather department is set for a significant upgrade to improve localized and extreme-weather predictions with greater accuracy.
 - **New Mission:** A new weather forecasting mission with a budget of at least Rs 10,000 crore is **expected to launch soon**, significantly larger than the [Monsoon Mission, 2012](#).
 - It will emphasize developing accurate computer simulation models for India and addressing climate change scenarios.
 - The mission will enhance the use of sophisticated instruments like **Doppler radars** and **integrate Artificial Intelligence (AI)/Machine Learning (ML)** in weather forecasting.
 - India has three meteorological satellites ([INSAT-3D](#), [INSAT-3DR](#) and [INSAT-3DS](#)), with the next-generation [INSAT-4 series](#) under development to provide high-resolution data for improved forecasts.

India Meteorological Department (IMD)

- **IMD** was established in **1875**. It is the **National Meteorological Service** of the country and the principal government agency in all matters relating to meteorology and allied subjects.
 - It works as an agency of the [Ministry of Earth Sciences](#) of the Government of India.
 - It is headquartered in **New Delhi**.
 - IMD is also one of the **six Regional Specialized Meteorological Centres** of the [World Meteorological Organization](#).
- **Roles and Responsibilities:**
 - To take meteorological observations and to provide current and forecast meteorological information for optimum operation of weather-sensitive activities like agriculture, irrigation, shipping, aviation, offshore oil explorations, etc.
 - To warn against severe weather phenomena like [tropical cyclones](#), norwesters, [dust storms](#), heavy rains and snow, cold and [heat waves](#), etc., which cause destruction of life and property.
 - To provide meteorological statistics required for agriculture, water resource management, industries, oil exploration and other nation-building activities.
 - To conduct and promote research in meteorology and allied disciplines.

