

## WESTERN DISTURBANCE: GEOGRAPHY

**NEWS:** *Several studies conducted by various scientific institutes in the country in regard to the impact of western disturbances during winter season on Indian climate*

### WHAT'S IN THE NEWS?

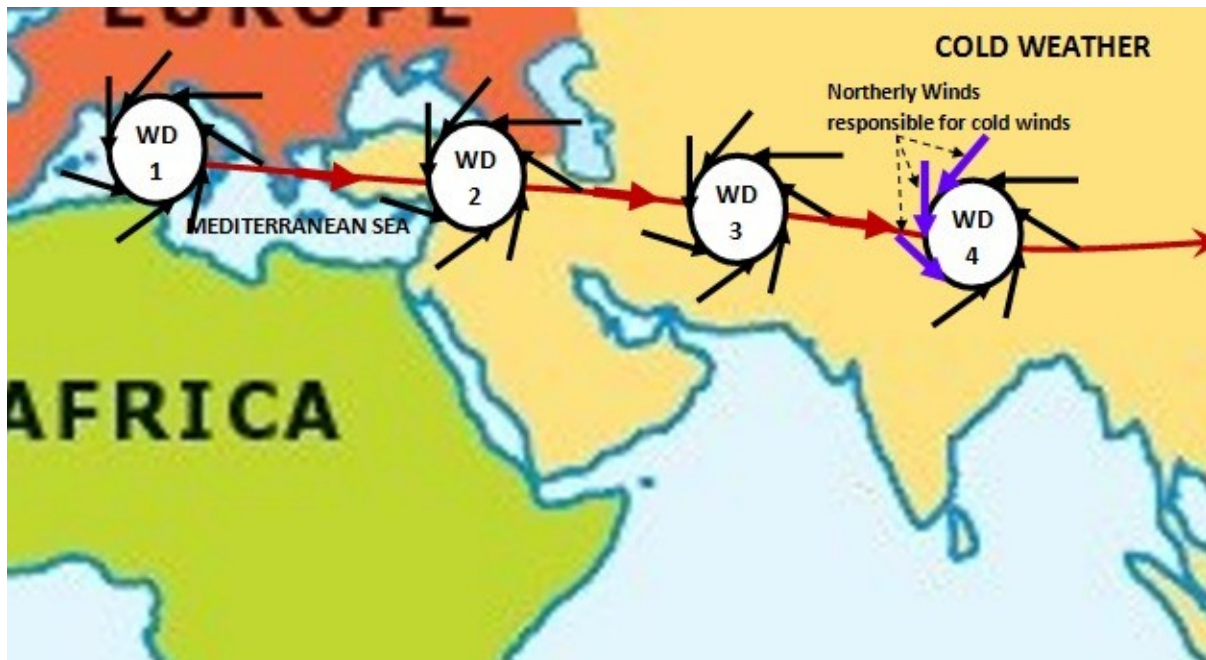
A sharp temperature drop across North India has been reported due to an active **Western Disturbance (WD)** over North Pakistan. WDs, originating in the Mediterranean, impact India's weather by bringing **rain, snow, and extreme weather events** while also benefiting Rabi crops.

### Western Disturbance and Its Impact on India

#### 1. What is a Western Disturbance (WD)?

- It is an **extra-tropical storm** originating in the **Mediterranean region**.
- Moves **west to east**, traveling through **Iran, Afghanistan, and Pakistan** before entering India.
- It is an **area of low pressure** that disrupts atmospheric equilibrium.
- The term "extra-tropical" means it originates **outside the tropics**.





## 2. Effects of Western Disturbance on Weather

- Causes **rainfall, snowfall, and fog** in North India.
- Helps in **Rabi crop agriculture** by providing crucial winter rainfall.
- Can also lead to **extreme weather events**, including:
  - **Floods and flash floods**
  - **Landslides**
  - **Dust storms and hailstorms**
  - **Cold waves** affecting human health and infrastructure

## 3. Role of the India Meteorological Department (IMD)

- **Established:** 1875
- Functions under the **Ministry of Earth Sciences, Government of India.**
- **Primary responsibilities:**
  - **Weather forecasting**
  - **Meteorological observations**
  - **Seismology and disaster prediction**

**Source:**

<https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1695613#:~:text=The%20adverse%20weather%20elements%20associated,of%20agriculture%20and%20manmade%20structures.>