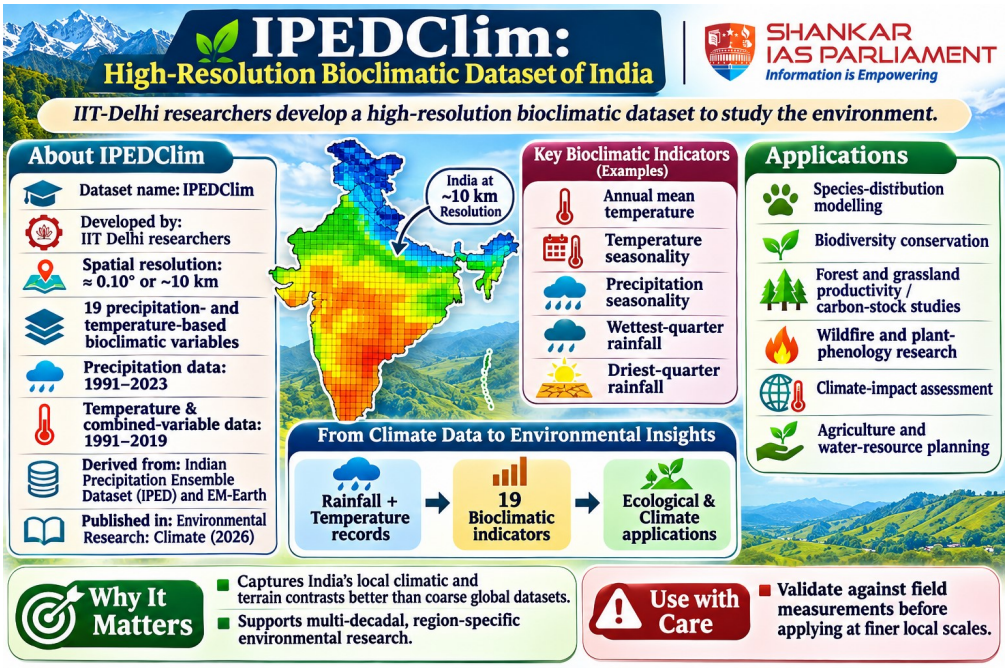
High-resolution Bioclimatic Dataset to Study Environment

Prelims: *Current events of National and international importance| Environment*

Why in News?

Researchers from IIT Delhi have developed IPEDClim, a high-resolution bioclimatic dataset (~10 km resolution) covering India to support ecological, biodiversity, agricultural, and ecohydrological studies.

- **Dataset & Resolution-** IPEDClim provides 19 temperature- and precipitation-based bioclimatic variables at a ~10 km (0.10°) grid resolution across India.
- **Time Coverage-** Precipitation variables cover **1991–2023**, while temperature and combined variables cover **1991–2019**.
- **Data Sources-** Built using the observation-based Indian Precipitation Ensemble Dataset (IPED) and EM-Earth/India Meteorological Department (IMD) records, published in *Environmental Research– Climate*.
- **Why It Matters-** Existing global datasets (such as WorldClim, CHELSA-bioclim, and MERRAclim) often miss fine local terrain and climate variations across India.
- The research team, led by Manabendra Saharia in IIT Delhi's Department of Civil and Environmental Engineering, noted that the dataset helps capture regional climate contrasts for species distribution modeling, conservation, and climate impact research.



Reference

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