EXPLORATORY ANALYSIS OF RAINFALL DATA IN INDIA FOR AGRICULTURE

1. Problem Statement

India's agriculture is highly dependent on monsoon rainfall. Rainfall is irregular and unevenly distributed.

Climate change causes extreme events like droughts and floods. Farmers lack timely data-driven insights.

2. Objectives

- Analyze historical rainfall data of India

- Identify seasonal patterns

- Support agricultural planning

3. Proposed Solution

Build a data analytics system that collects rainfall data, cleans it, performs analysis and generates insights.

4. Solution Architecture

Data Source -> Data Processing -> Analysis -> Visualization -> Insights

5. Expected Outcomes

Better crop planning, reduced agricultural risk, improved water management.

6. Technologies Used

Python, Pandas, NumPy, Matplotlib, Power BI

7. Future Enhancements

Real-time data, ML models, mobile app for farmers.