Personalized Weather Likelihood Dashboard

Using NASA Earth Observation Data for Outdoor Planning

This dashboard helps users quickly assess the likelihood of extreme weather conditions in India. It enables better preparedness and informed decision-making for outdoor activities by providing personalized weather insights.

How Our Dashboard Works

Unpredictable weather frequently disrupts outdoor activities in India. Traditional short-term forecasts are insufficient for long-term planning. Our dashboard addresses this by providing historical weather likelihood insights, enabling more informed decision-making for your outdoor plans.

1

Personalized Weather Insights

Receive tailored predictions based on your specific location and activity, delivering highly relevant data for your planning needs.

2

Leveraging Historical Data

Our system analyzes 5 years of NASA Earth Observation data to identify patterns and predict extreme weather probabilities.

3

Proactive Planning

Move beyond short-term forecasts to plan months in advance, minimizing risks and maximizing the success of your outdoor events.

Objective: Helping Users Make Informed Outdoor Plans

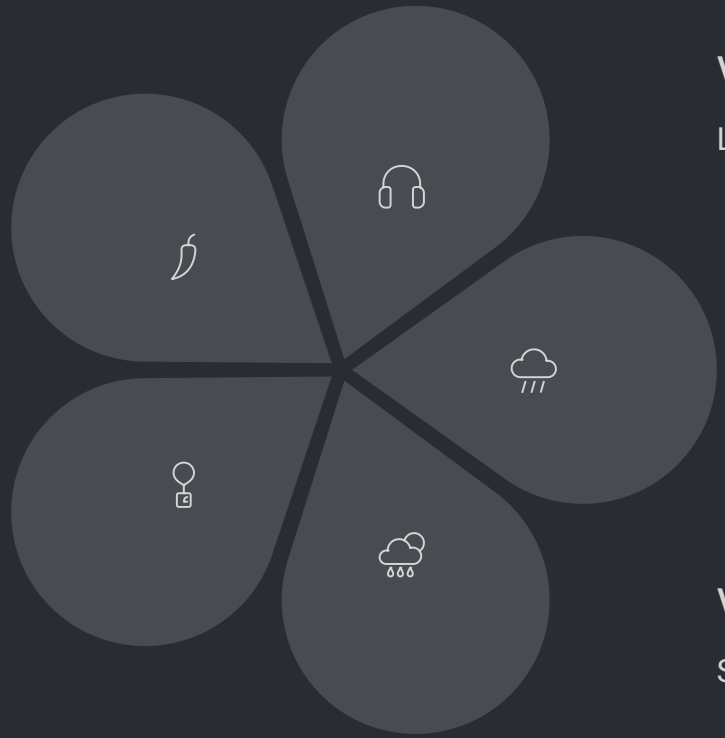
We aim to empower users with an interactive dashboard visualizing historical weather conditions across India, enabling informed decisions for outdoor activities.

Very Hot

Extreme heat probability.

Very Cold

Low temperature probability.



Very Wet

Heavy rainfall probability.

Uncomfortable

Combined discomfort factors.

Very Windy

Strong wind probability.

The dashboard provides India-specific insights for any day or month, visualizing these probabilities with clear graphs, time series plots, and intuitive indicators to support safer, better-prepared outdoor activities.

Dashboard Functionality: Your Weather Insights

Our dashboard empowers you with precise probabilities for outdoor activities, leveraging a robust dataset of India's weather over the past five years.

Access Key Insights

Utilize daily and monthly weather records to plan both short-term activities and understand long-term trends.

Benefit from India-specific data, providing relevant and accurate insights for any location across the subcontinent.

Our analysis focuses on critical variables like Temperature (averages, extremes) and Precipitation (daily amounts, intensity), which directly fuel the dashboard's probability forecasts for various extreme conditions.

Daily Precipitation Trends in India

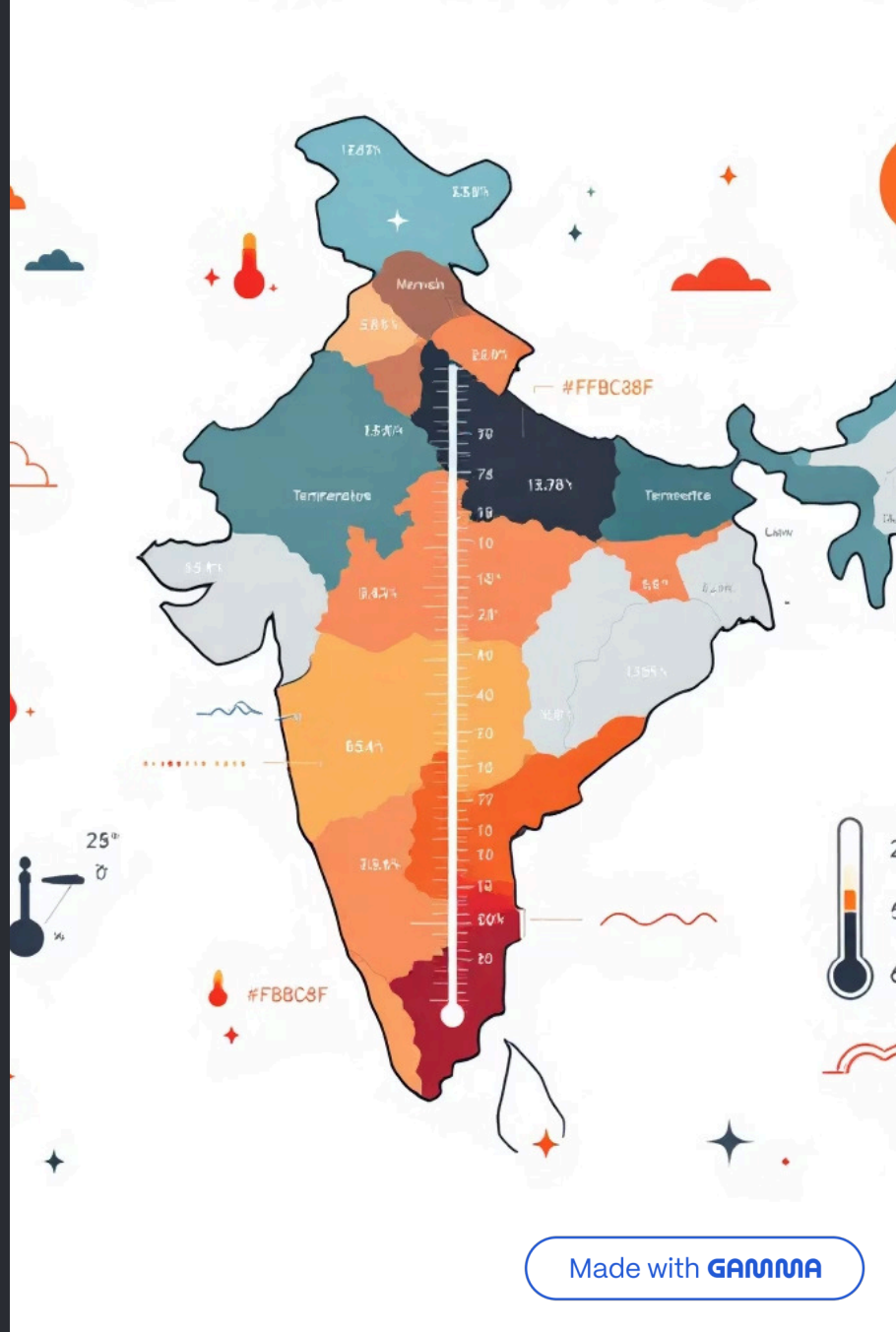
Our dashboard helps you plan outdoor activities by providing a comprehensive view of daily rainfall across India for the past five years.

Easily identify historically wettest and driest days for any location. Users can select any day to instantly see the probability of rain, such as "July 10 has a 70% chance of rainfall exceeding 20mm." This enables precise, probability-based planning for any event or activity.

Monthly Temperature Trends in India

Explore monthly average temperatures across India with our interactive dashboard. Understand seasonal shifts over the last five years, from summer peaks to winter lows, to plan for comfort and safety.

Easily identify months with a higher probability of hot or cold conditions for any selected location. Our visualization helps you anticipate temperature variations, ensuring you can plan safe and comfortable outdoor activities with confidence.



Dashboard Workflow for Users

Our dashboard guides users through a simple process to obtain valuable weather likelihood insights for outdoor planning.

01

Input Your Criteria

- **Location:** Enter a city, drop a pin, or define an area.
- **Time:** Select a specific day or month.
- **Variable:** Choose Temperature or Precipitation to analyze extreme events.

02

Process & Analyze Data

- Historical data is filtered by your chosen location and time.
- Key statistics (mean, max, min) are computed.
- Probabilities for exceeding set thresholds (e.g., very hot, very wet days) are calculated.
- Missing data is automatically handled for accuracy.

03

View Results

- **Visualizations:** Interactive charts show daily precipitation and monthly temperature trends, highlighting extreme events.
- **Probability:** See the likelihood of extreme conditions.
- **Summaries:** Clear statements, such as "65% chance of rainfall > 15mm for July 10th."

This interactive dashboard provides probabilistic insights, empowering users with informed outdoor planning specific to India's varied climate.

Key Insights – Rainfall Trends

Leveraging historical precipitation data, our dashboard provides critical insights for planning outdoor activities in India, emphasizing patterns and probabilities for better preparedness.

1

Wet and Dry Periods

Identify historical wet and dry periods across India to help plan or avoid specific seasons.

2

Extreme Rainfall Events

Quantify the risk of heavy downpours by reviewing past extreme rainfall events.

3

Heavy Rainfall Likelihood

Compute the specific likelihood of heavy rainfall for any given day or month, e.g., "July 15 historically has a 60% chance of rain exceeding 15mm."

These insights empower users with data for informed decision-making, reducing weather-related risks for outdoor activities and events.

Key Insights – Temperature Trends

Our dashboard provides crucial temperature insights based on five years of historical data for India, enabling users to plan outdoor activities effectively.

38°C

May Heat

Identify regions with 75% chance of temperatures exceeding 38°C in May.

10°C

Winter Cold

See northern regions where temperatures frequently drop below 10°C in December.

5 Years

Trend Analysis

Understand consistent seasonal shifts and outlier patterns.

The dashboard identifies hot and cold periods, helping users avoid extreme conditions or prepare accordingly for safe and comfortable outdoor activities.

Who Benefits: Plan Smarter Outdoors

Our dashboard helps diverse users in India make informed decisions for outdoor activities and events.

Outdoor Enthusiasts

Plan hikes, camps, and fishing trips with confidence, avoiding harsh conditions.

Event Organizers

Schedule tourism events and public gatherings for optimal weather.

General Public

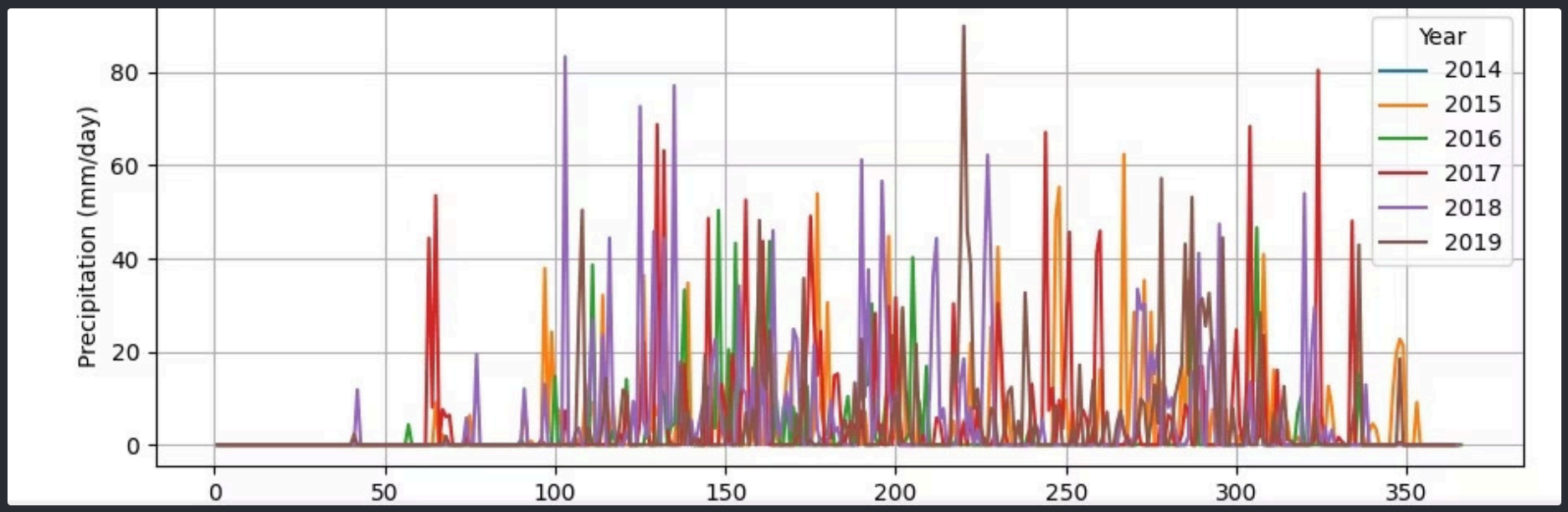
Check weather likelihood for daily activities and travel plans.

> This dashboard offers clear, probability-based insights to help users plan and prepare effectively for outdoor activities, mitigating risks from extreme weather days.

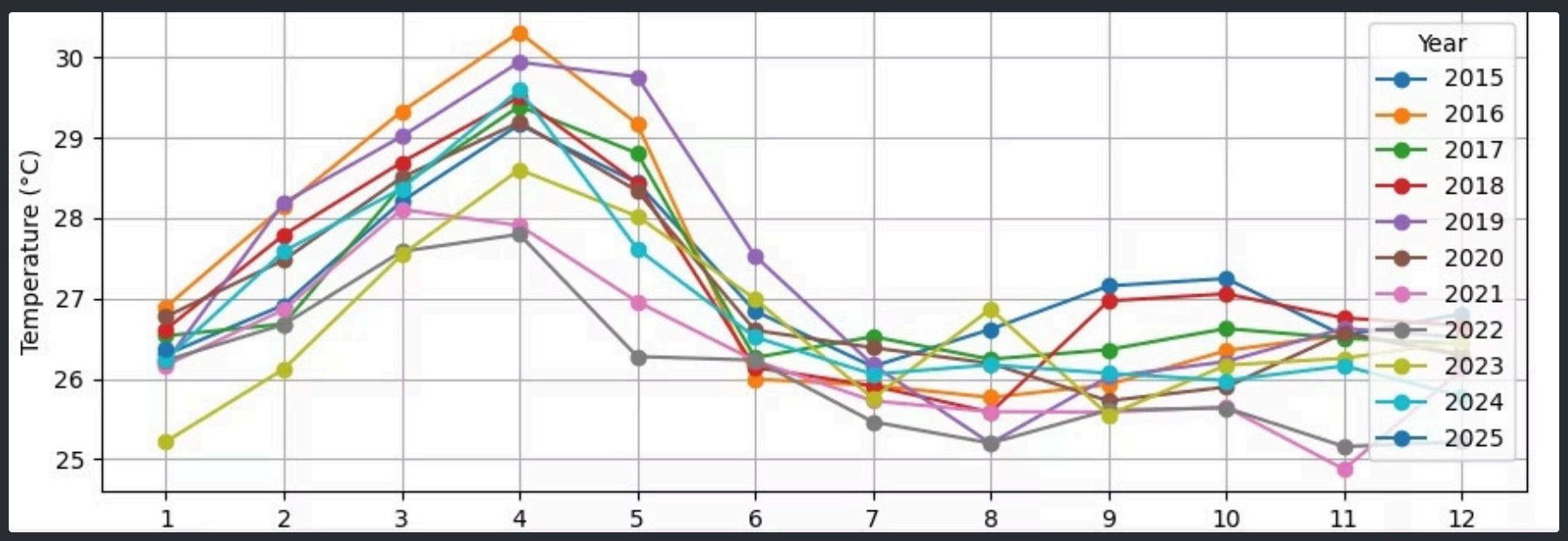
Demo

lat 10.17 long 76.29

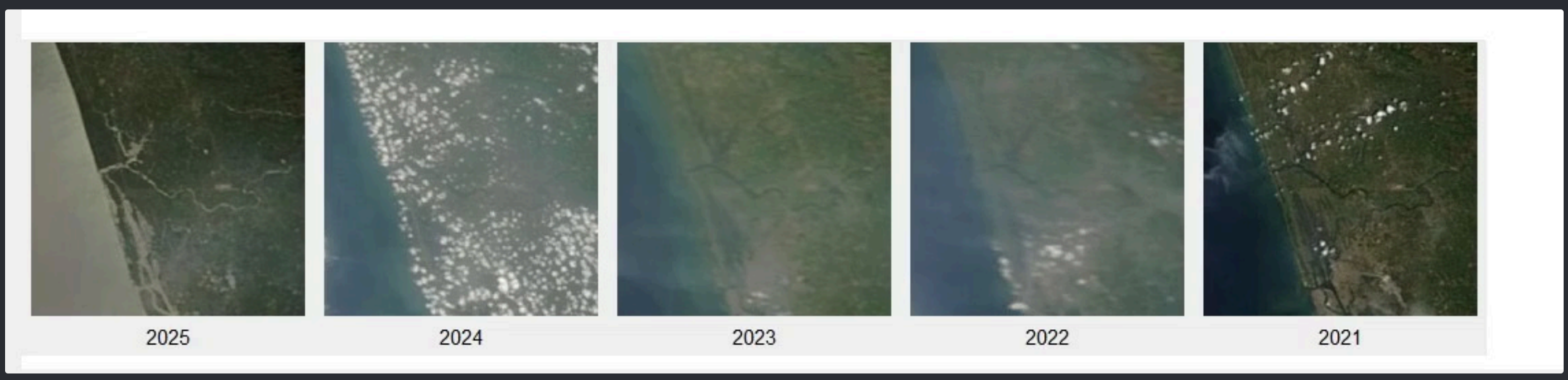
Cheruthuruthi



Daily Precipitation by year



Monthly temperature by year



Satellite Images