

# NASA Space Apps Challenge — Will It Rain On My Parade?

Empowering smarter outdoor planning by predicting extreme weather risks,  
from scorching heat to sudden storms.



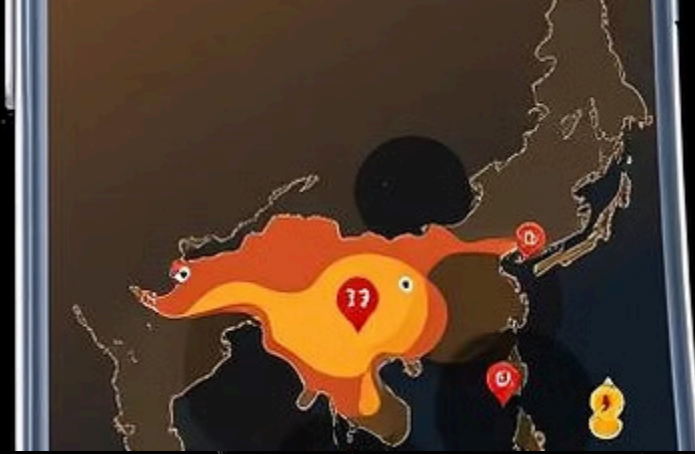
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# The Challenge

Outdoor adventures like vacations, hikes, and fishing trips often face disruptions from unpredictable weather. Sudden extremes—very hot days, freezing cold snaps, heavy rain, fierce winds, or muggy discomfort—can turn excitement into danger.

Our goal: Provide tools to assess these risks ahead of time, making planning safer, more reliable, and enjoyable for everyone.





# The Solution

An intuitive interactive app that transforms weather prediction into actionable insights. Users simply select any location worldwide and a future date to receive personalized probabilities of extreme or uncomfortable conditions, such as blistering heat or torrential downpours.

Featuring an easy-to-navigate interface with interactive maps, dynamic charts, and clear risk indicators, it empowers users to make informed decisions quickly.





## Location & Date Search

Easily input any spot on Earth and your planned date for instant, tailored weather risk analysis.



## Customizable Thresholds

Define what "very hot" or "uncomfortable" means to you—adjust temperatures, wind speeds, or precipitation levels for personalized alerts.



## Visual Outputs

Engaging maps highlight risks, charts plot trends, and risk meters provide at-a-glance severity scores.



## Bonus Features

Compare multiple locations side-by-side, overlay NASA satellite imagery for context, and set up notifications for changing conditions.

# Data Sources



## NASA POWER API

Delivers comprehensive climate data including temperature, precipitation, wind speed, and solar radiation for historical and projected forecasts.

## NASA Earthdata Search API

Accesses vast satellite and climate datasets, enabling deep analysis of atmospheric and environmental variables.

## NASA GIBS API

Provides high-resolution imagery layers from satellites, visualizing real-time weather phenomena like cloud cover and storm tracks.

## Optional Integrations

Incorporate NOAA Climate Data for enhanced accuracy and OpenWeatherMap for short-term forecasts, broadening the app's reliability.





# Impact

Individuals gain confidence to plan trips, events, and daily outings safely, avoiding weather-related mishaps and enhancing enjoyment.

Broader applications support disaster risk reduction by identifying high-risk areas early, potentially saving lives and resources in vulnerable communities.

Ultimately, this app showcases the transformative power of NASA Earth science data, bridging space technology with everyday Earth challenges for a safer planet.

Harnessing open data for real-world good.

# Next Steps



## Prototype Development

Build and refine the core app using NASA APIs, focusing on seamless integration and user testing for intuitive navigation.



## Forecast Integration

Enhance with real-time updates by layering in advanced forecasting models for even more precise, forward-looking insights.



## Regional Testing

Validate accuracy across diverse climates—from tropical rainforests to arid deserts—gathering feedback to optimize predictions.



## Global Expansion

Scale for worldwide access, adding multilingual support and partnerships to make weather smarts available to all.

Ready to launch—join us in turning NASA data into lifesaving tools.