

Rising Waters: A Machine Learning Approach to Flood Prediction

Project Dashboard and Story

Project Dashboard

1. Overview Panel

Shows the current situation at a glance.

- Live flood risk level (Low / Medium / High / Critical).
- District or river basin map.
- Active alerts.
- Last updated timestamp.

2. Rainfall and Weather Trends

- Hourly rainfall.
- Forecast for next 24–72 hours.
- Storm movement.
- Abnormal precipitation indicator.

3. River and Dam Monitoring

- Current river level vs danger mark.
- Rate of rise.
- Dam discharge data.
- Sensor health.

4. Prediction and Warning System

- Probability of flood.
- Expected time to impact.
- Villages or areas at risk.
- Suggested evacuation priority.

Data Story (Narrative Flow)

- Situation: Rainfall has exceeded seasonal average by 40 percent. Soil moisture is saturated.
- Insight from ML: Model detects rapid river rise pattern similar to previous flood events.
- Forecast: If rain continues for 3 more hours, water may cross danger mark.
- Impact: Low-lying settlements and transport routes are likely affected.
- Recommended Action: Issue early warning, prepare shelters, mobilize response teams.

Stakeholder Views

User	What they see
Disaster authority	High-risk zones, time to flood
Local government	Evacuation planning
Citizens	Alert level and safety instructions
Researchers	Model confidence and trends

Value of the Dashboard

- Converts complex ML output into simple decisions.
- Improves response time.
- Reduces panic and confusion.
- Enables data-driven evacuation.