AI-Powered Decision Support for Flood Early Warning

Team Bibliotechies

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Why Floods

> 5000 lives lost annually

$30-40bn economic losses

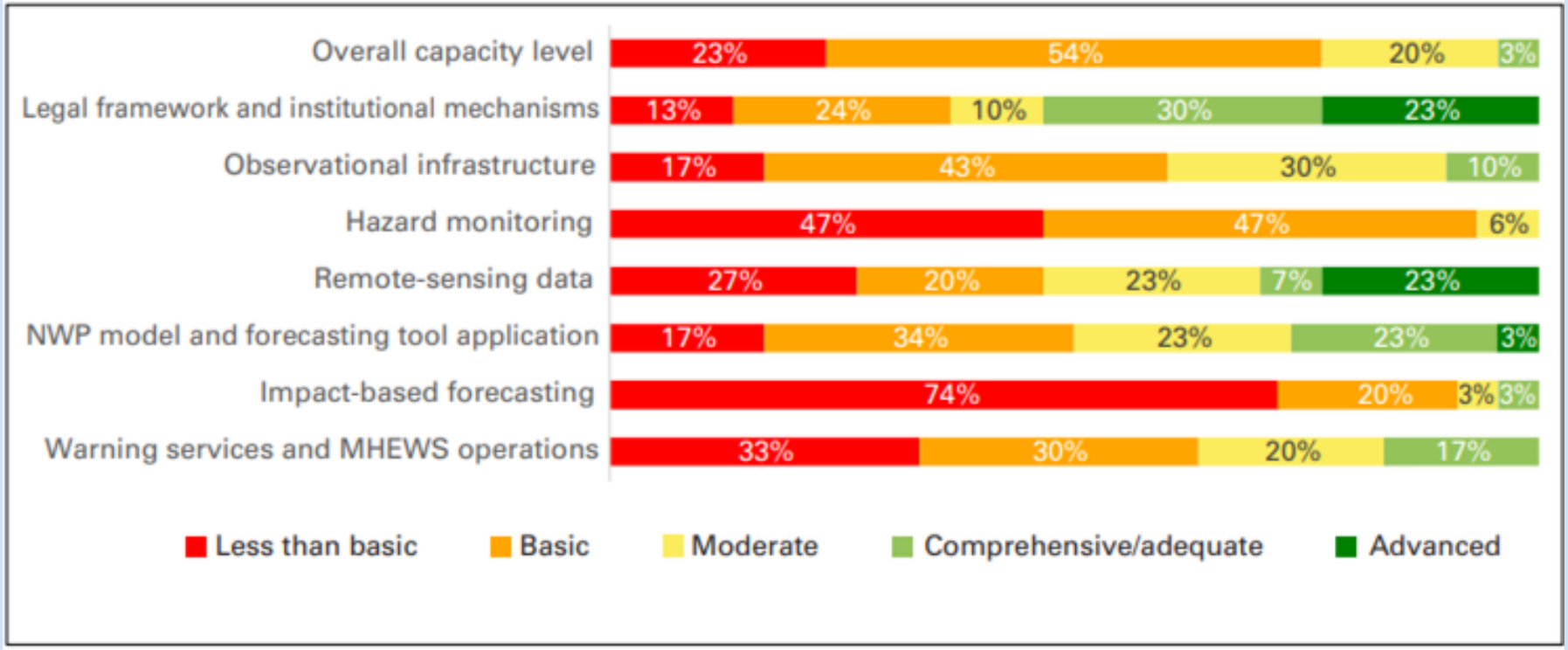
Long-term **hidden costs**

Best-possible **preparation**

Optimized **response**

Minimized **impact**

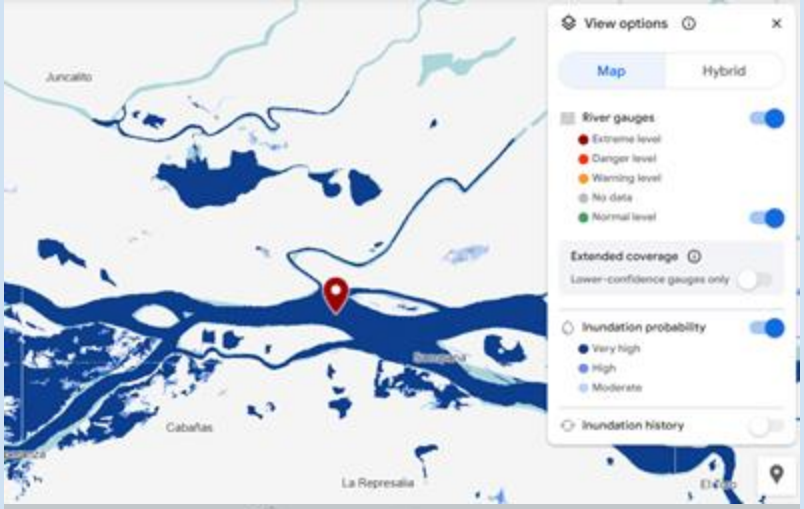
Insufficient Impact Estimates



Source: E4All (WMO, 2023)

Flood Hazard Forecasting

- Global Flood Awareness System (GloFAS)
- SMHI CEMS (ECMWF, JRC)
- GEO
- Google Flood Hub
- DHI
- Today’s Earth
- NASA
- Deltares

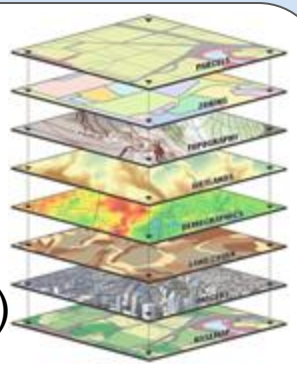


Impact Modelling

Flood forecast(s)

Impact data layers:

- Population
- Road network
- Potential evacuation centres
- Key infrastructure (hospitals)



More nuanced warnings
More effective evacuation

Potential Extension

Flood forecast(s)

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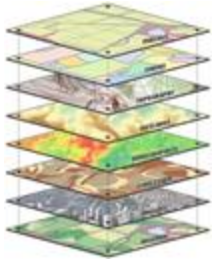
Impact data layers



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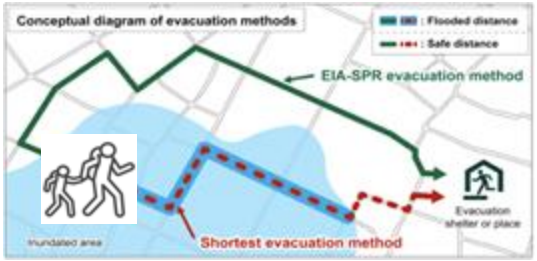
Extensions with ML

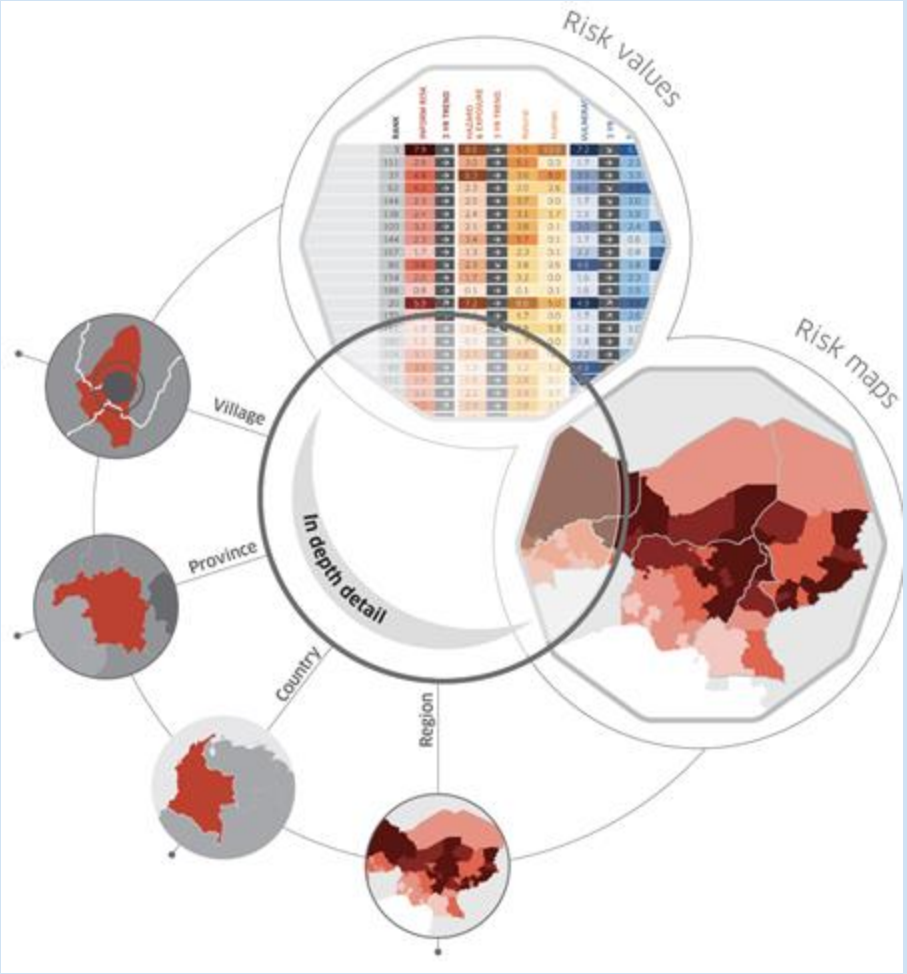


More nuanced warnings
More effective evacuation

Adaptations with Better Data

Subnational INFORM information

- ❑ Hazard & Exposure ✓
- ❑ Vulnerability ✗
- ❑ Lack of coping capacity ✗



Next Steps

- Access current and historical flood forecasts
- Combine data layers
- Identify region(s) for a POC
  - Regular flooding
  - Intervention data
- Identify partners
  - Team and resources
  - Simulations and experiments
  - Computing power & data storage

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Thank you