SOUTH ASIA HYDROMET FORUM

RIMES

WISER
Weather and Climate Information Services

Supported by: UK International Development
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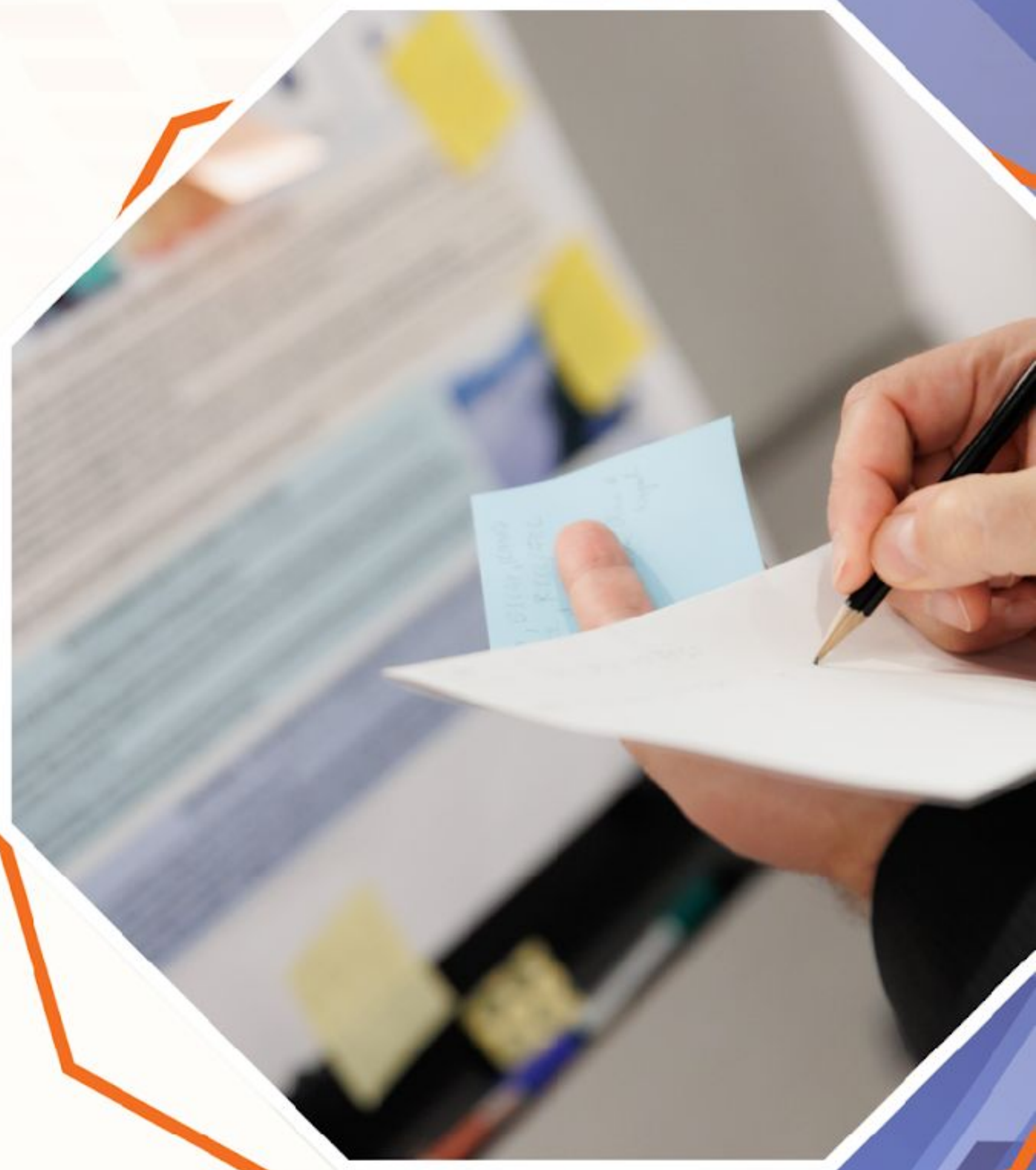
Met Office

REGIONAL WORKSHOP ON IMPACT-BASED FORECASTING:

Training-of-Trainers and National Demonstration Planning for Temperature-Related Hazards

SAHF IBF Working Group Implementation Plan Project



09-13 February 2026

Kathmandu, Nepal

SOUTH ASIA HYDROMET FORUM

Regional Integrated Multi-Hazard Early Warning System RIMES

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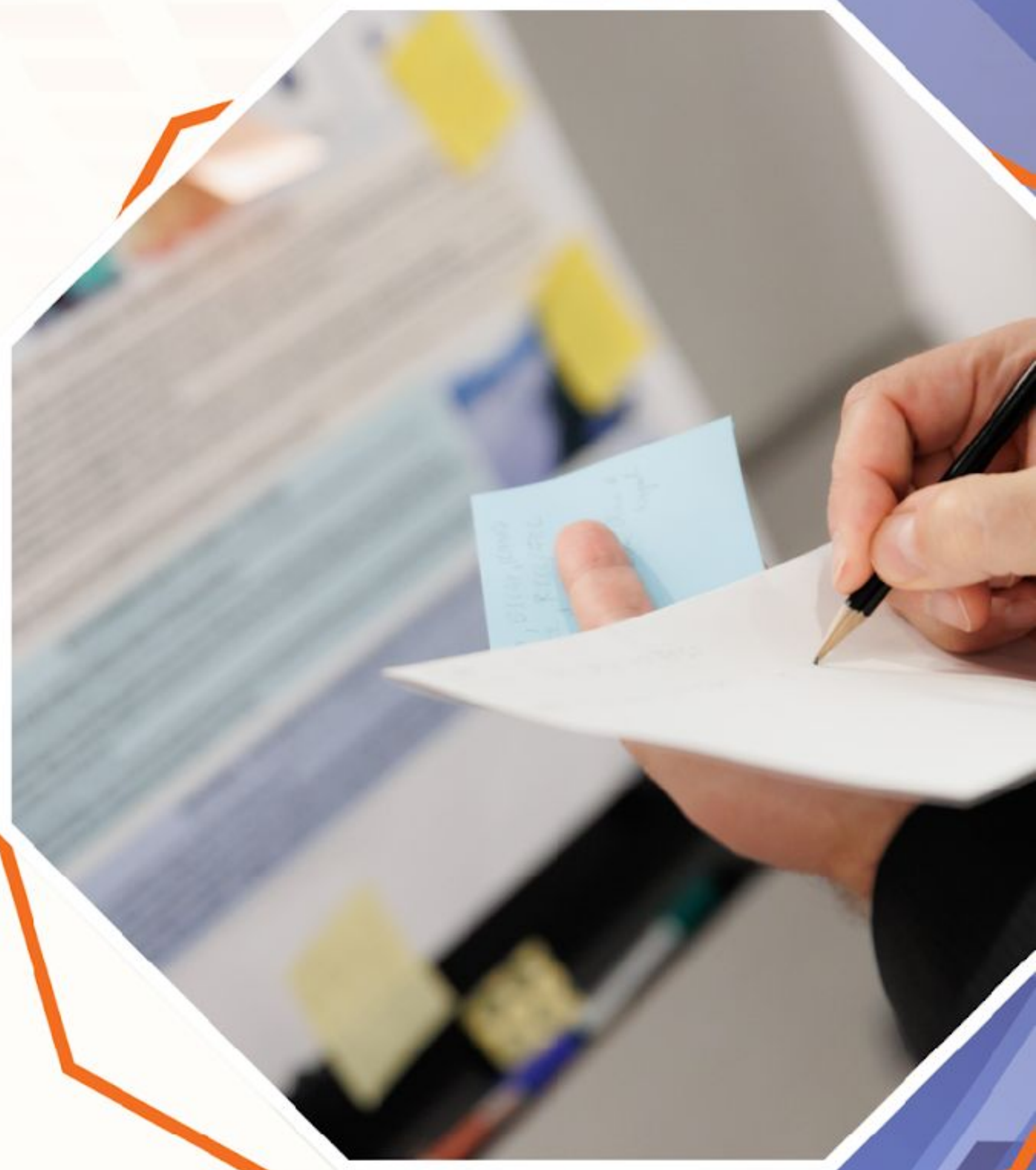
Co-design session of the INSTANT Tool



Raihanul Haque Khan

RIMES

Integrated Forecast Dissemination Portal (INSTANT)

A regional portal that supports IBF for temperature related hazards

- Integrates:
  - Hazard indices and supporting meteorological variables
  - Anomaly/climatology context
  - Vulnerability exposure and sector overlays
  - Alerting and impact guidance outputs

- Designed for two user pathways:
  - NMHS/technical pathway for analysis and warning workflow
  - Sector/public pathway for simplified, actionable information

Potential Users

✔ **NMHS**

>Identify events, assess severity and persistence, draft alerts, update warnings

✔ **Disaster management agencies**

>Preparedness and anticipatory actions, coordination, resource planning, targeted communication

✔ **Sector agencies** (health, agriculture, livestock etc.)

>Advisories, tailored services, advisory generation

✔ **Public / media**

>Monitoring, situational awareness

Key Data Layers

Sources of Meteorological Information

- RIMES DataEx (Station/Observation)
- IMD Synthetic Grids
- ERA5 Reanalysis/ Climatology
- Regional WRF Model
- ECMWF IFS

INSTANT-SA: Features

Vulnerability Indicators

Assess susceptibility drivers like age and health and others.

Hazard Identification

Determination of the intensity and duration of thermal stress.

Exposure Analysis

Identify populations and assets within hotspots.

Impact Scenario Guidance

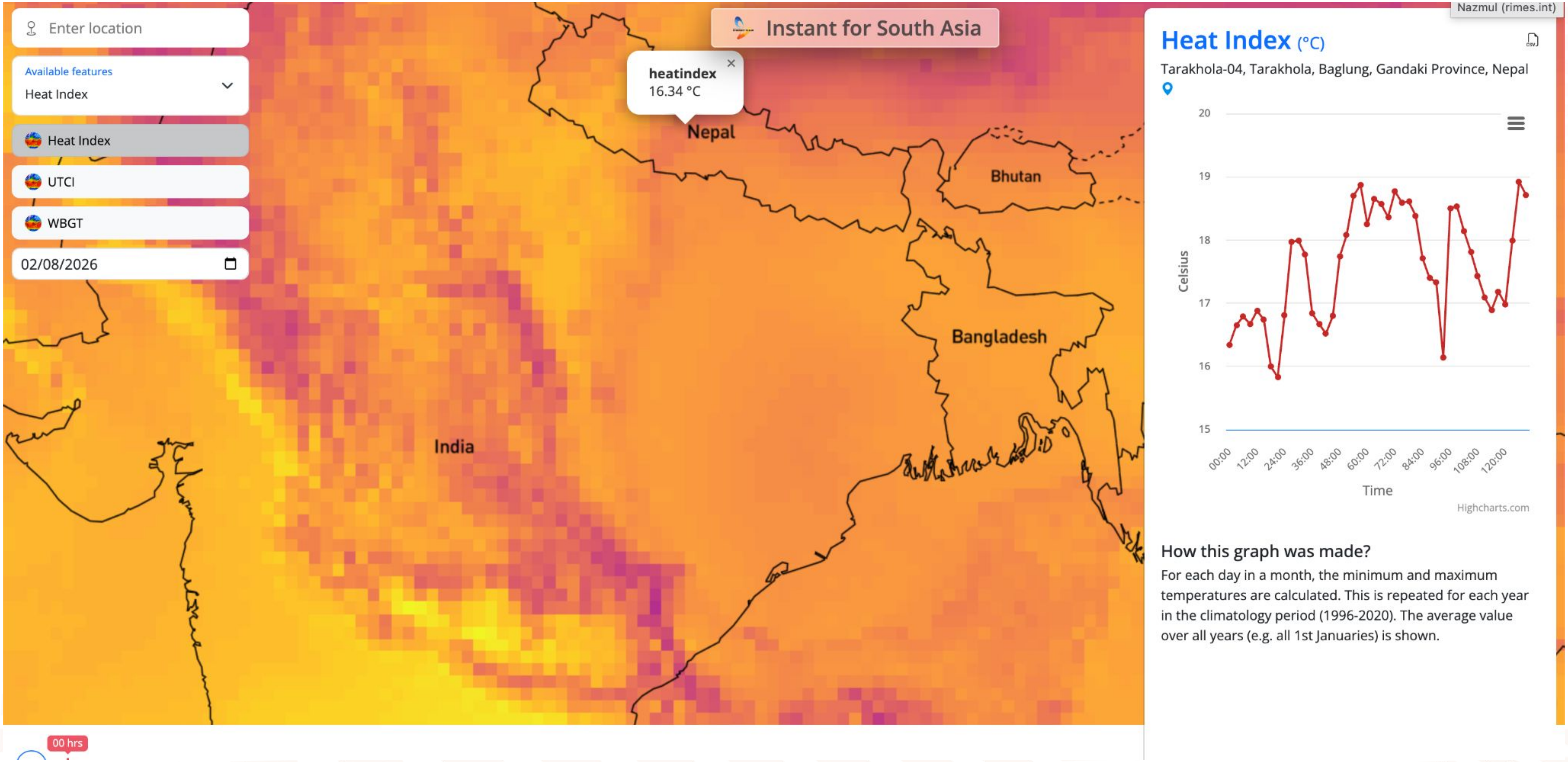
Provide sector-specific impact scenario and recommended actions.

Custom Analysis

Create alert for different levels, generate maps etc.

- **Event detection and severity**
  > Heat/cold stress categories, peak days, persistence tracking
- **Core maps and time navigation**
  > UTCI/WBGT/HI (heat/cold stress layers), Tmax/Tmin, RH, anomaly
- **Risk overlays**
  > Hotspots with vulnerability and exposure layers (population, critical services, sector assets)
- **Administrative summaries**
  > "Top affected areas" lists with severity level and time window
- **Export-ready outputs**
  >Figures and tables for bulletins, briefings, and stakeholder updates

instant-sa.rimes.int



Live Demo of Early Prototype

Prioritization - MoSCoW

Must Have

Essential components that must be included at any cost.

Should Have

Important elements that should only be omitted with careful consideration.

Could Have

Desirable elements that could ideally be included if resources allow.

Won’t Have

Elements that are out of scope, unfeasible or counterproductive.

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THANK YOU!

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Proposed Features for NMHS

- ✔ Review forecast indices and supporting variables for the next 1–7 days
- ✔ Identify hotspot areas + persistence (consecutive days / nights)
- ✔ Check anomaly context (unusual for season) to refine risk interpretation
- ✔ Overlay vulnerability and exposure and key services to prioritize warnings and coordination
- ✔ Generate sector guidance text

Key things to be co-develop through this event

- **Threshold approach and alert levels**

  >>Which indices are authoritative for heat/cold in phase-1

  >>Absolute vs percentile/anomaly vs hybrid; persistence rules

- **Minimum viable product set**

  >>Maps, summaries, exports, and alert outputs required for operations

- **Exposure and vulnerability layers to include first**

  >>Feasibility, availability, update frequency, admin boundary requirements

- **Governance and data-sharing**

  >>Roles, approvals, stakeholder lists, regional consistency vs national customization