

# Augmentation of Urban Observational Network (AWS/ ARG and X-Band DW RADARS)



## Urban Observational Requirement

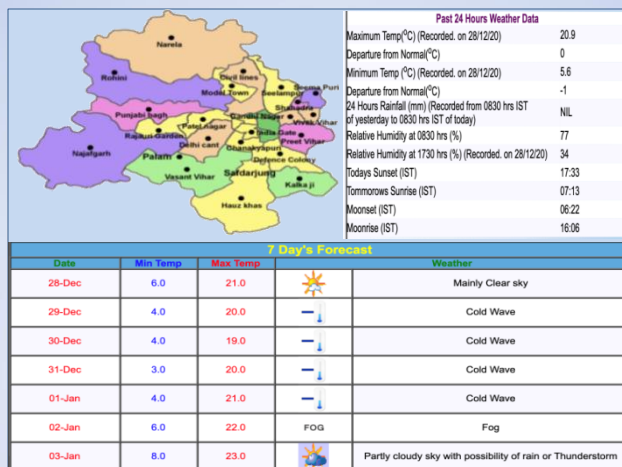
Item	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	Total
AWS	10	25	25	25	25	10	120
ARG	40	100	100	100	100	40	480
X-Band DWR * **	Nil	3	3	3	5	6	20

\*Delhi, Kolkata and Chennai- 3 X-band Radars each

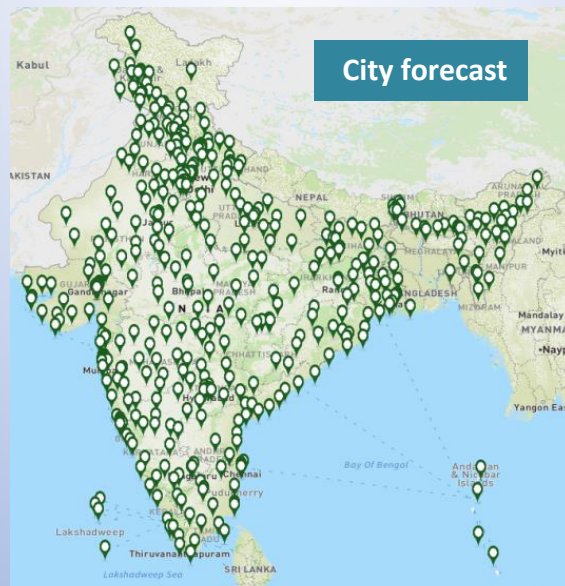
\*\*Bhubaneswar, Guwahati, Pune, Bangalore, Ahmedabad, Hyderabad, Patna, Lucknow, Jaipur, Chandigarh and Bhopal (1 X-band Radars each)

## Urban Forecast

- ❖ Global Model analysis and forecasts – updated 4 times daily for next 7 days at 1 hour for day 1 and 3 hour interval thereafter
- ❖ Meso-scale Model analysis and forecasts – updated twice daily for next 3 days at 1 hour interval
- ❖ High Resolution Rapid Refresh products
- ❖ Climate Database



## City forecast



## URBAN METEOROLOGICAL SERVICES

### Mandate

Development of Urban Integrated Meteorological Services

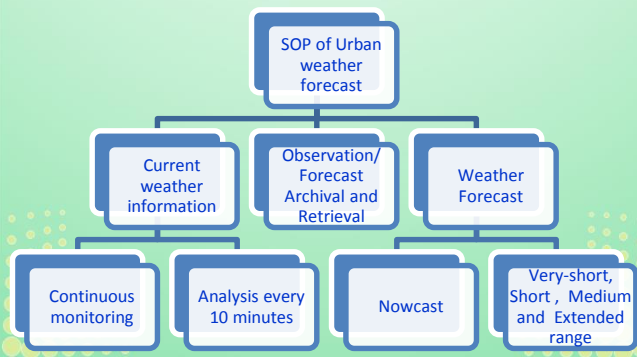
### Objectives

Setting up High Density Meso-network and high resolution Modeling framework for major cities for Urban Flooding forecast, Heat action plan and Pollution monitoring and forecasting

### Activities

- Location specific Forecast for Capital Cities
- 7-Day Forecast of Smart and other Cities
- Nowcast
- Climate of Capital, Smart and other cities
- Normal and Extreme Climate Data
- Outreach
- Integrated Flood Warning System
- Development of Urban Integrated forecasting and warning Services

## Standard Operating Procedure

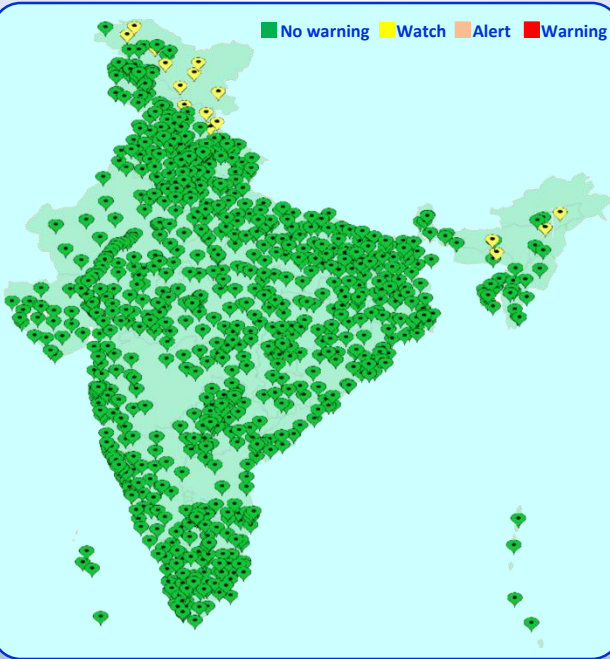


## Urban services

- Impact based warnings for local heavy rainfall events
- Heat wave and cold wave
- Fog
- Cyclone
- Floods
- Drought
- Strong winds and Squall
- Hailstorms
- Thunderstorm and lightning

## Nowcast

■ No warning ■ Watch ■ Alert ■ Warning



## Flood Forecasting Systems in India

- Flood Forecasting System Guwahati (SDMA, TERI and IMD)
- Flood Forecasting System for Bengaluru (KSNDMC, IMD and other agencies)

App - Bengaluru Megha Sandesha  
[www.varunamitra.karnataka.gov.in](http://www.varunamitra.karnataka.gov.in)  
 24/7 Varunamitra Help-Desk - 9243345433

## Integrated Urban Environment Services

**Meteorology**

**Air Quality**

**Multi-Agency Project**

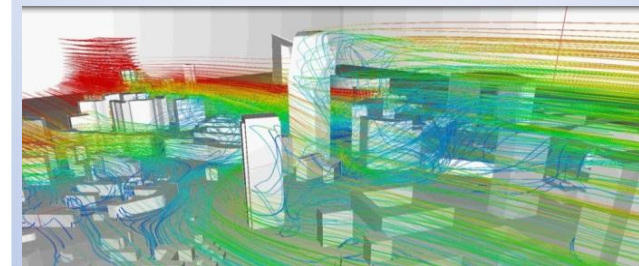
**Integrated Urban Environment Services**

(Delhi, Bhubaneswar, Ahmedabad, Bangalore and Pune)

*Science2Society...*

**Hydrology**

**Computational Fluid Dynamics**



### Contact us

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