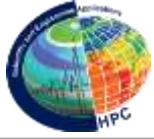


Climate Threat to Society: Need Action for Sustainable Future

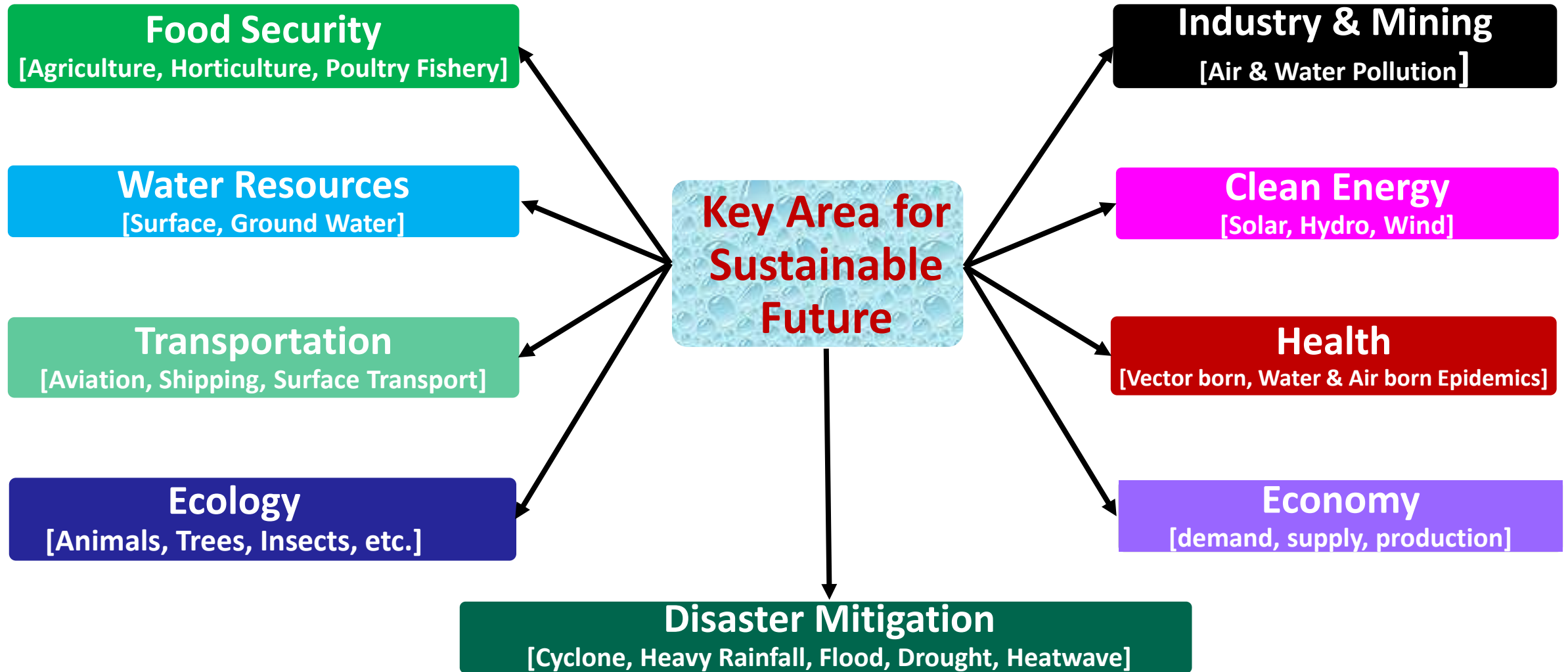
Palash Sinha

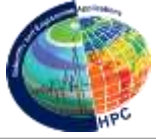
**Centre for Development of Advanced Computing (C-DAC)
Pune**

Date: 18-October-2023

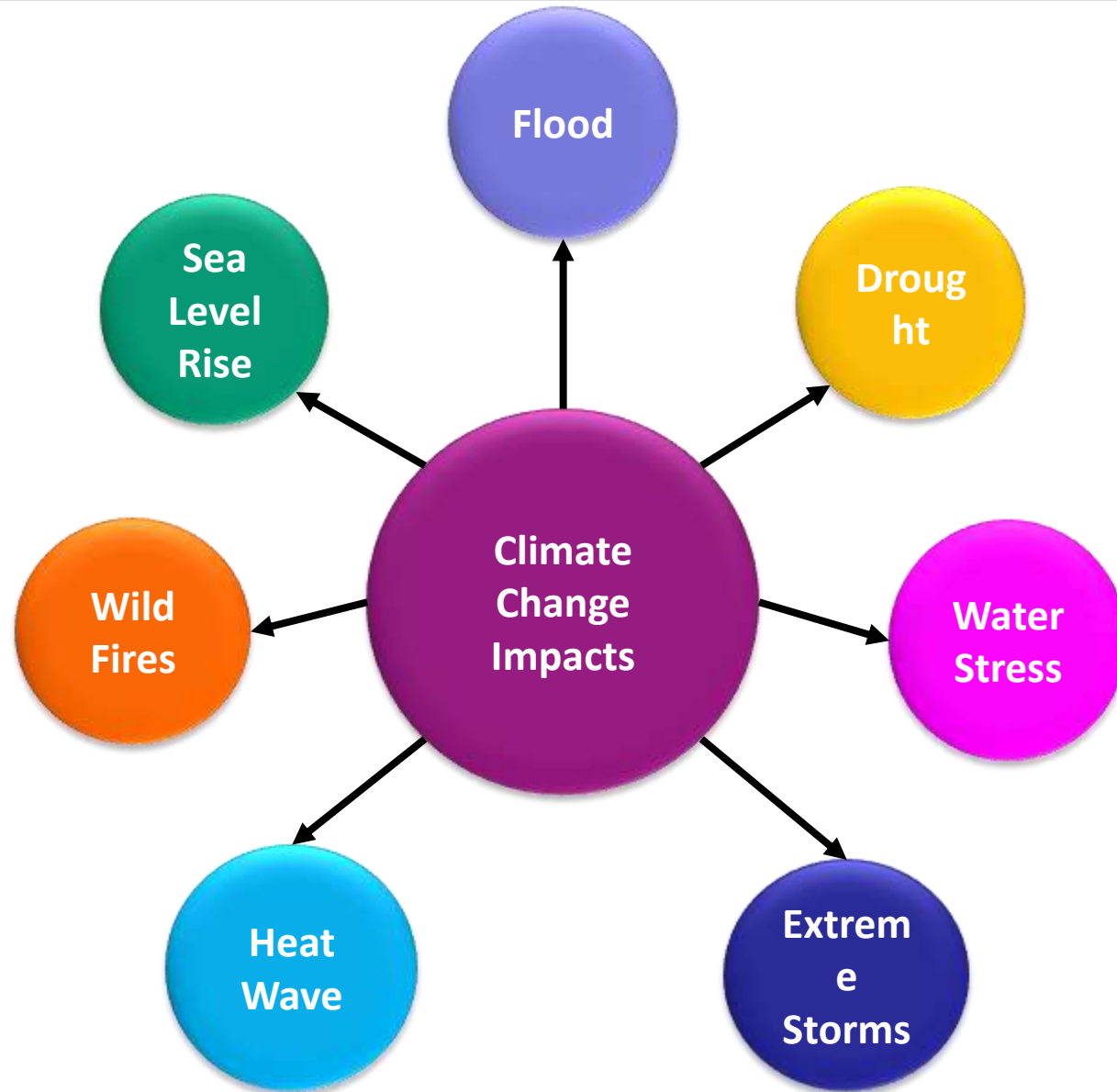


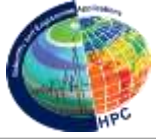
Climate Change: Key Areas for Sustainable Future



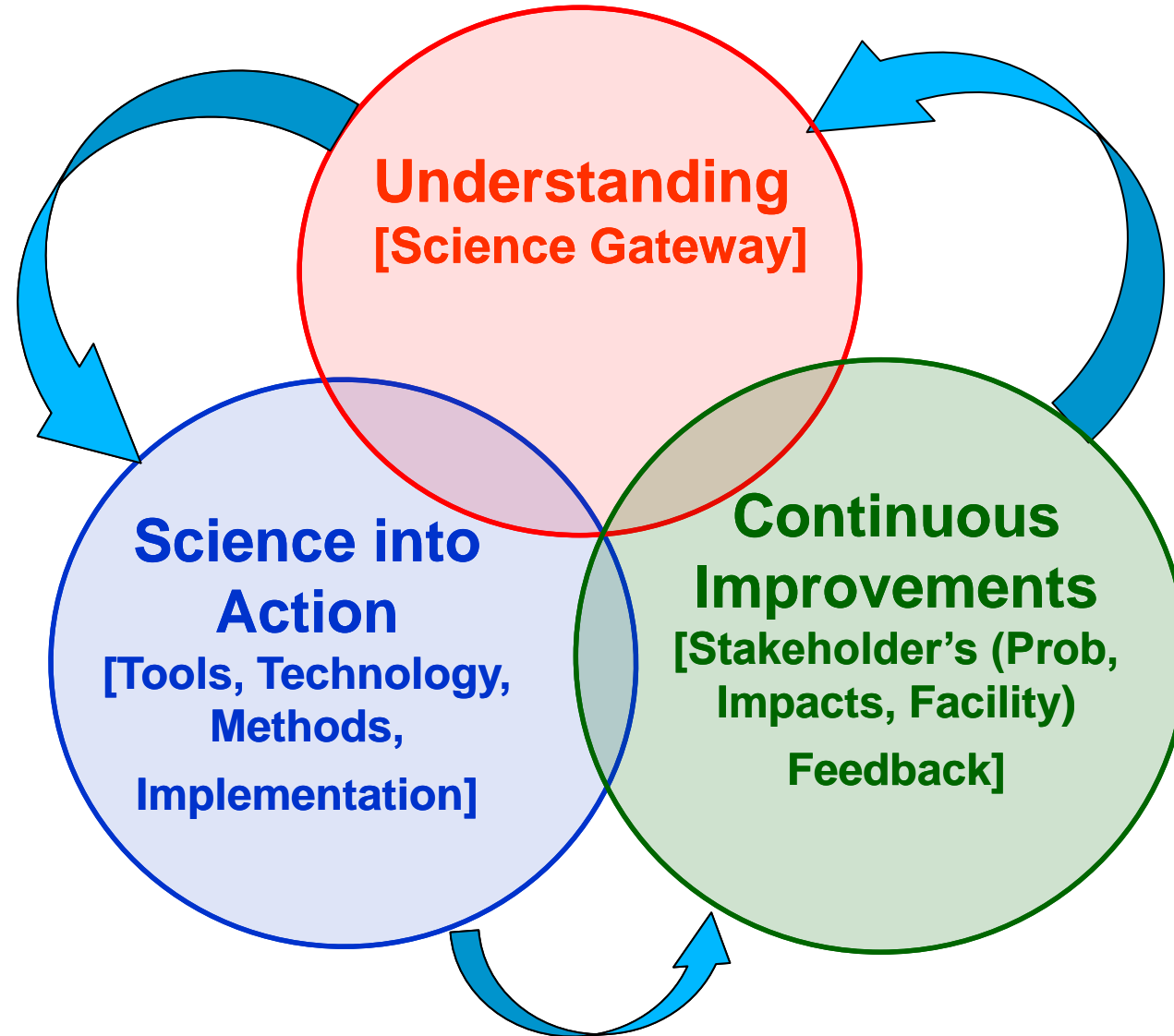


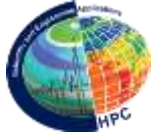
Climate Change: Impacts on Variability





Approaches

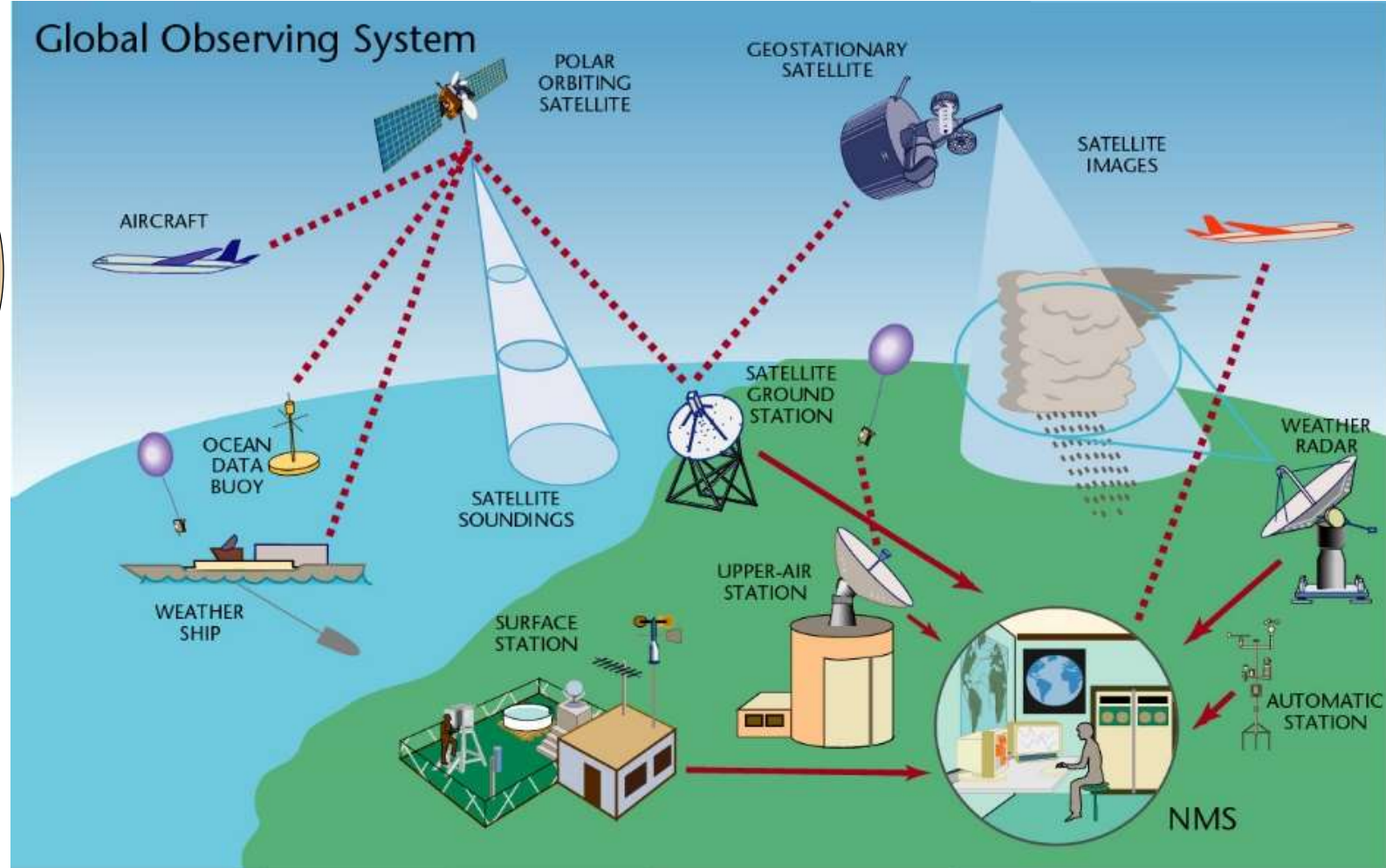
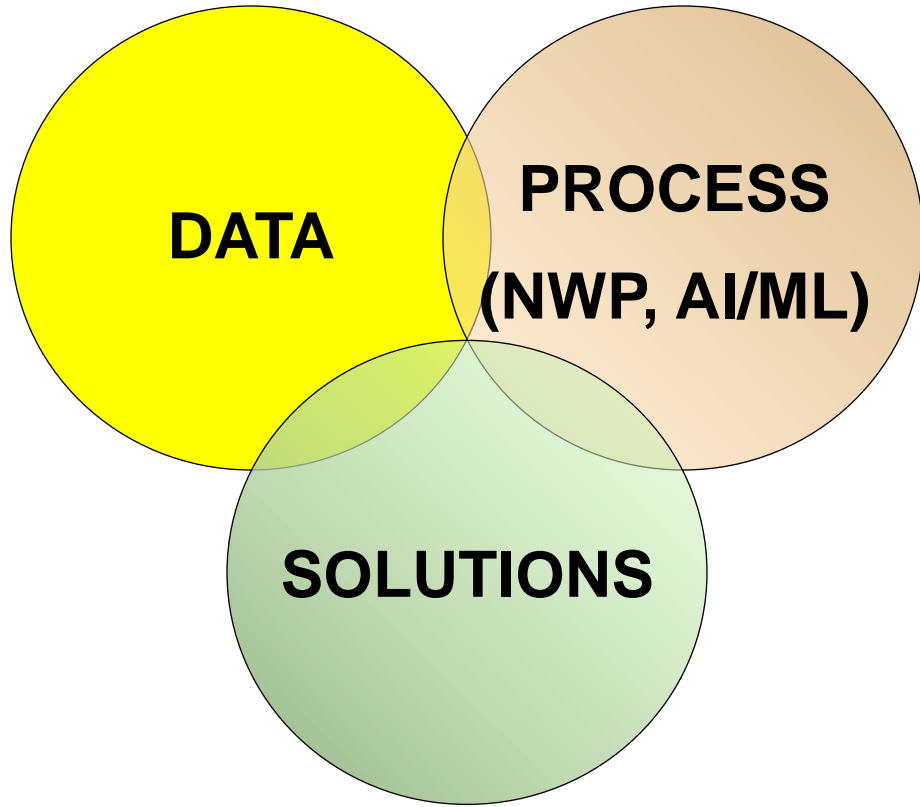




Integrated Climate Actions

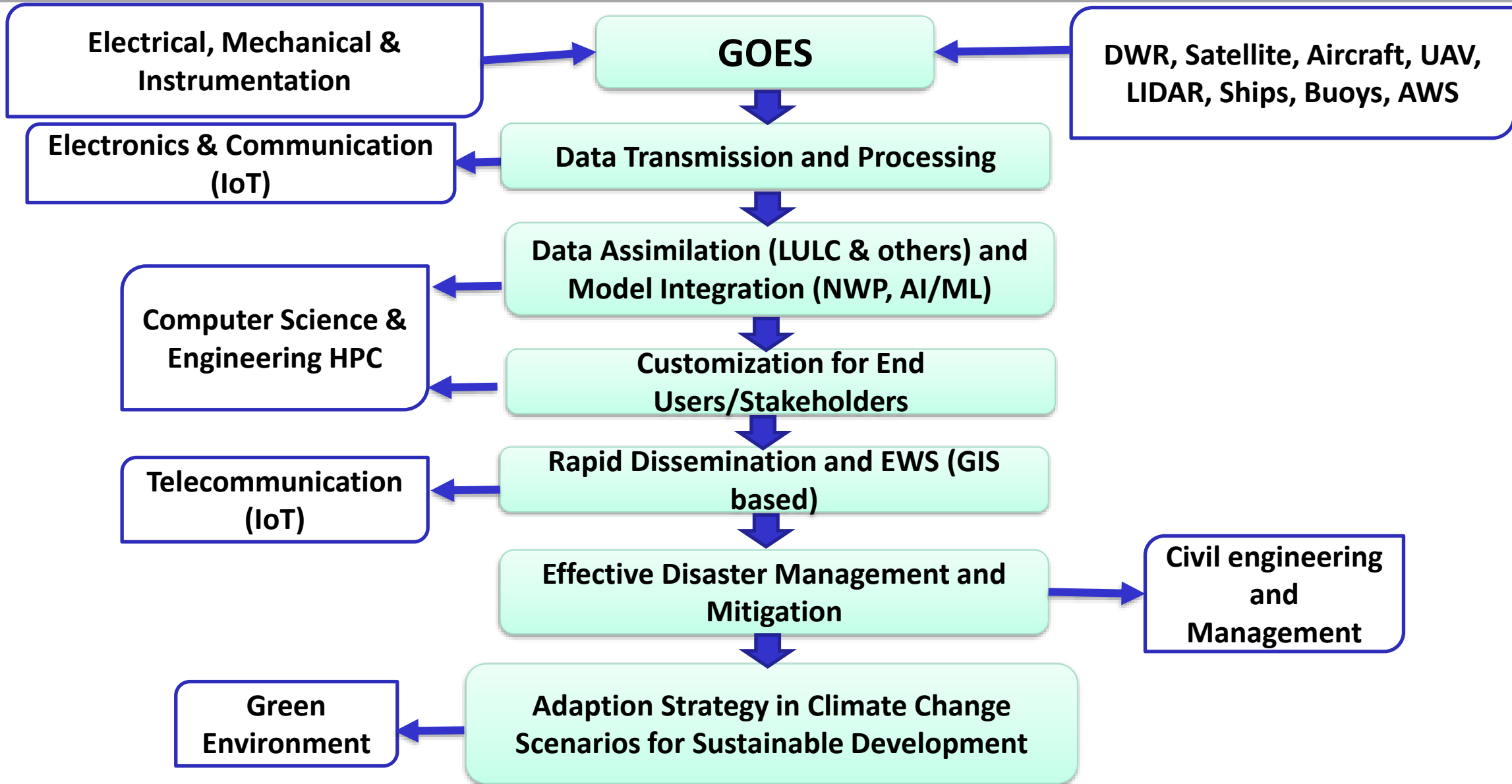


Example: Integrated Weather Forecast



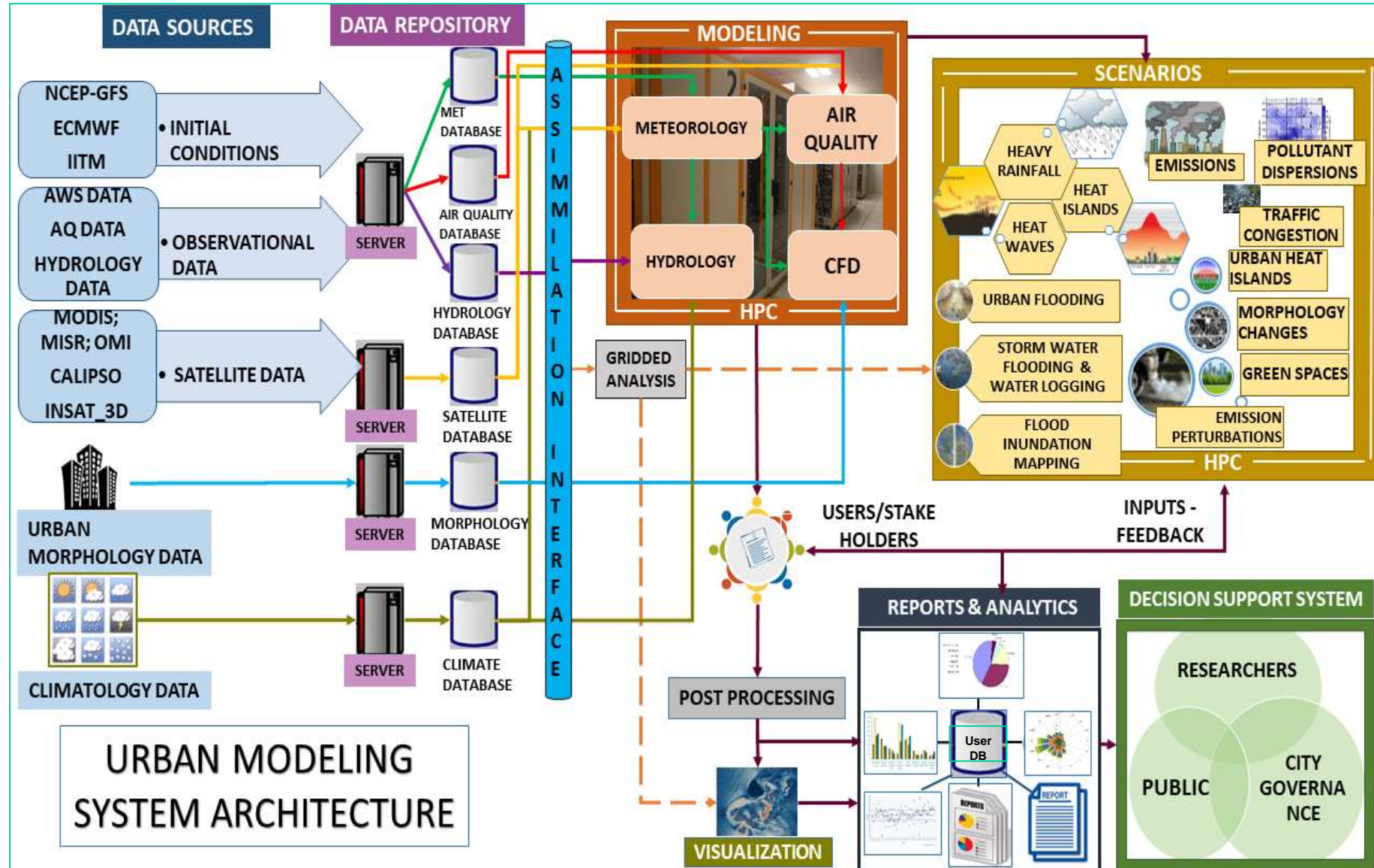


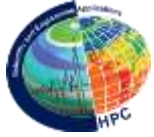
Multi-discipline & Multi-dimensional Collective Action



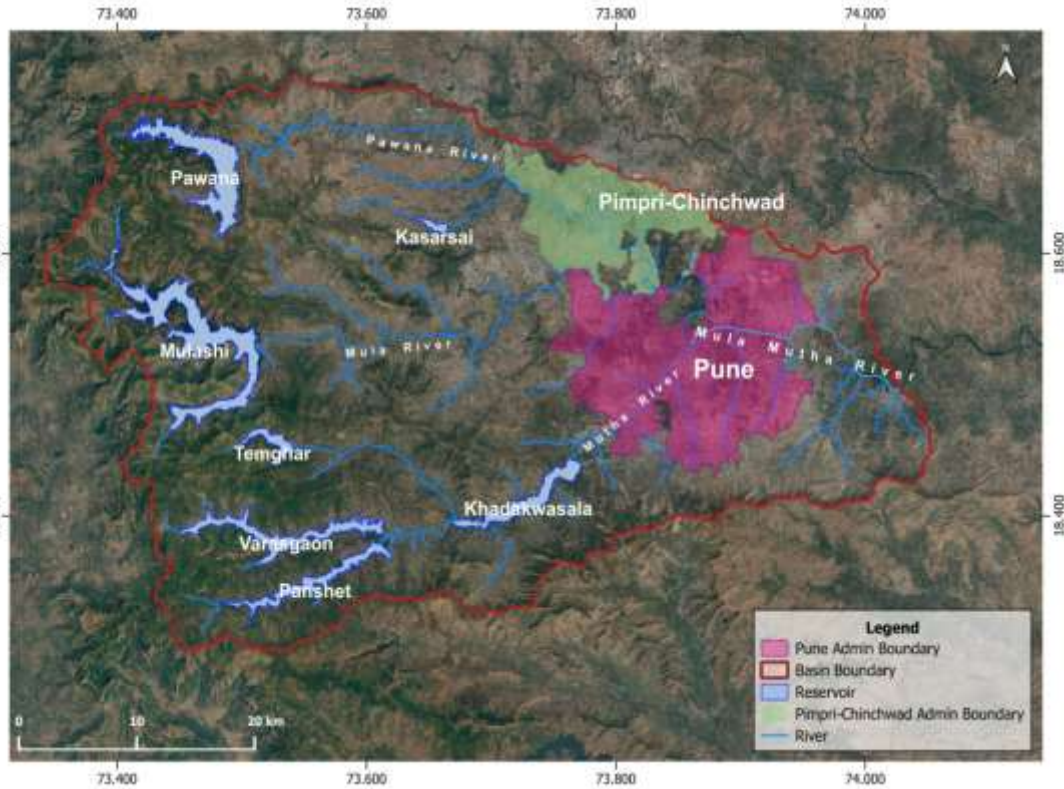
Collective Climate Actions

Urban extremes: An example





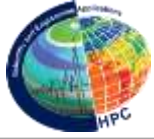
Digital Twin: An Example of Urban Flood



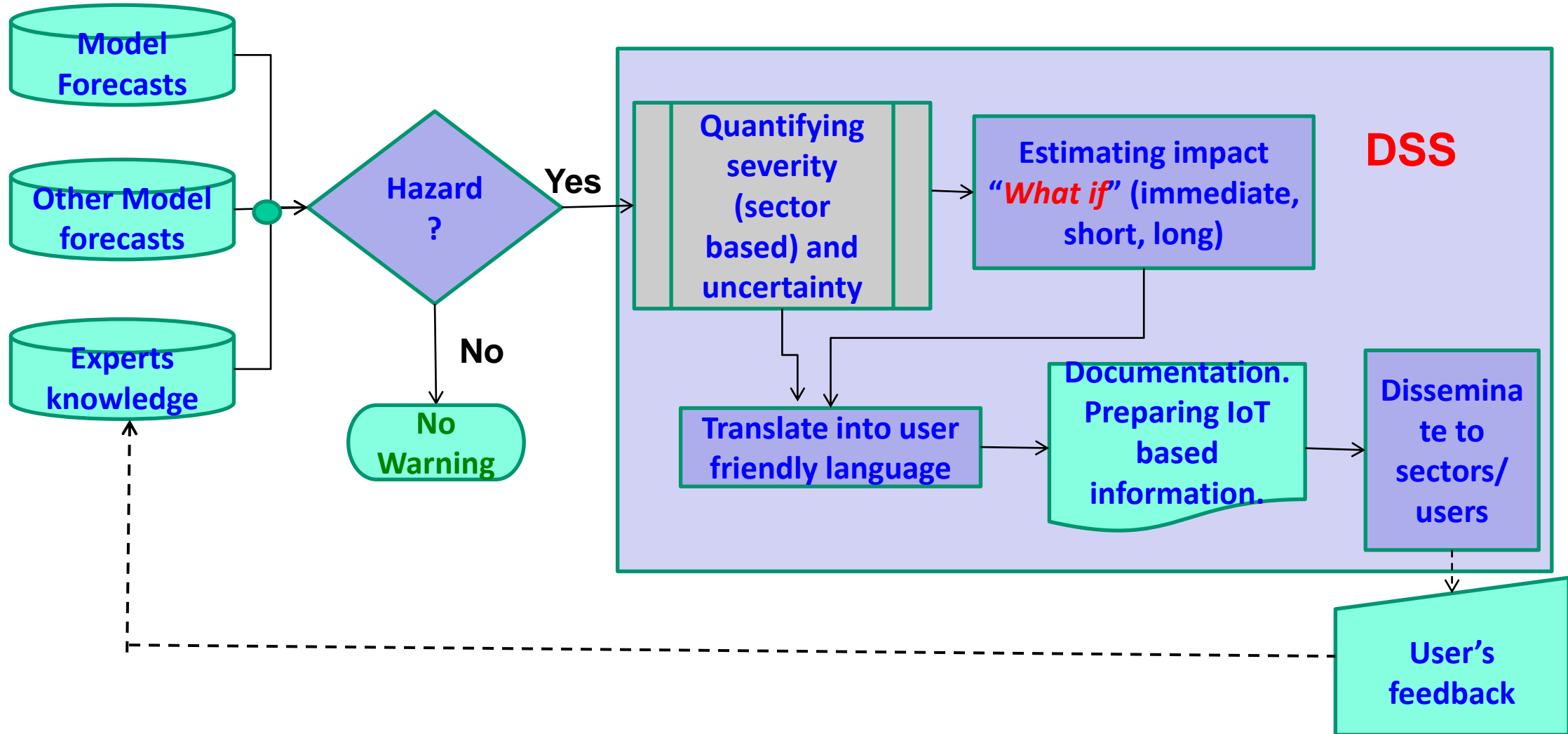
Contributing Reservoirs and Free Catchment for Pune Urban Flooding

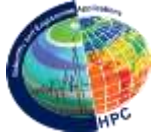


Simulated Flooded Areas – Mula Mutha Confluence, Ward level Flooding- Wakdewadi Slum, Kamgar Putala, Bhairoba Nala, All Peths, Erandwane, Bhide Bridge



Develop a concept of DSS





Common Warning Systems to Many User's



Weather Hazards

Thunderstorms, squall lines

Low-pressure, depressions, and cyclonic systems

Wind speed

Heavy rainfall events

Floods (Urban , River line, Reservoir management)

Hot days, moistening (Un-comfortability)

Heat stress and Heat waves situations

Sectors

Municipal corporations /and Smart city authorities

Agricultural sector

Hydrological sector

Water management sector

Power sectors (Wind, Solar, Grid management)

Aviation sector

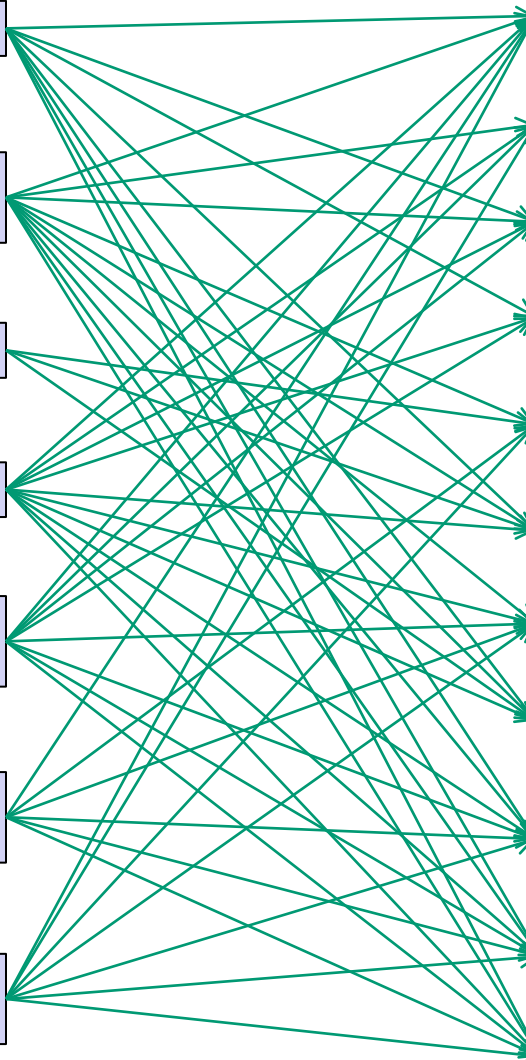
Health Sector

Fisheries and Merchant Navies

Transport and Trip management sectors

Administration (Traffic Police)

Disaster management sector





Challenging Sectors



- **Data (Quality, period, interoperable, accessible)**
- **Understanding the process**
- **Prediction**
- **Application**
- **Management**





Thanks

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