

STATEMENT OF PROBLEM

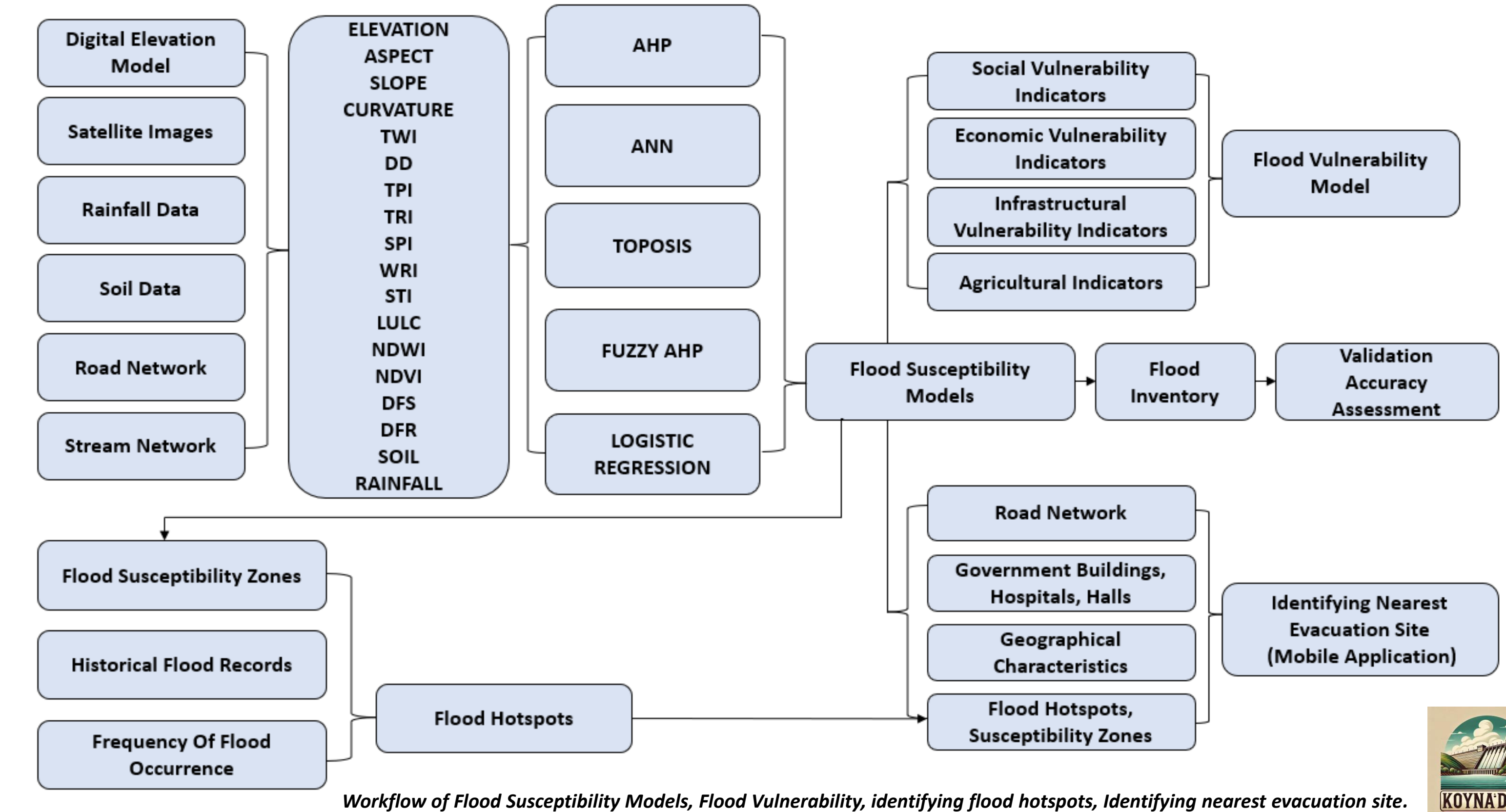
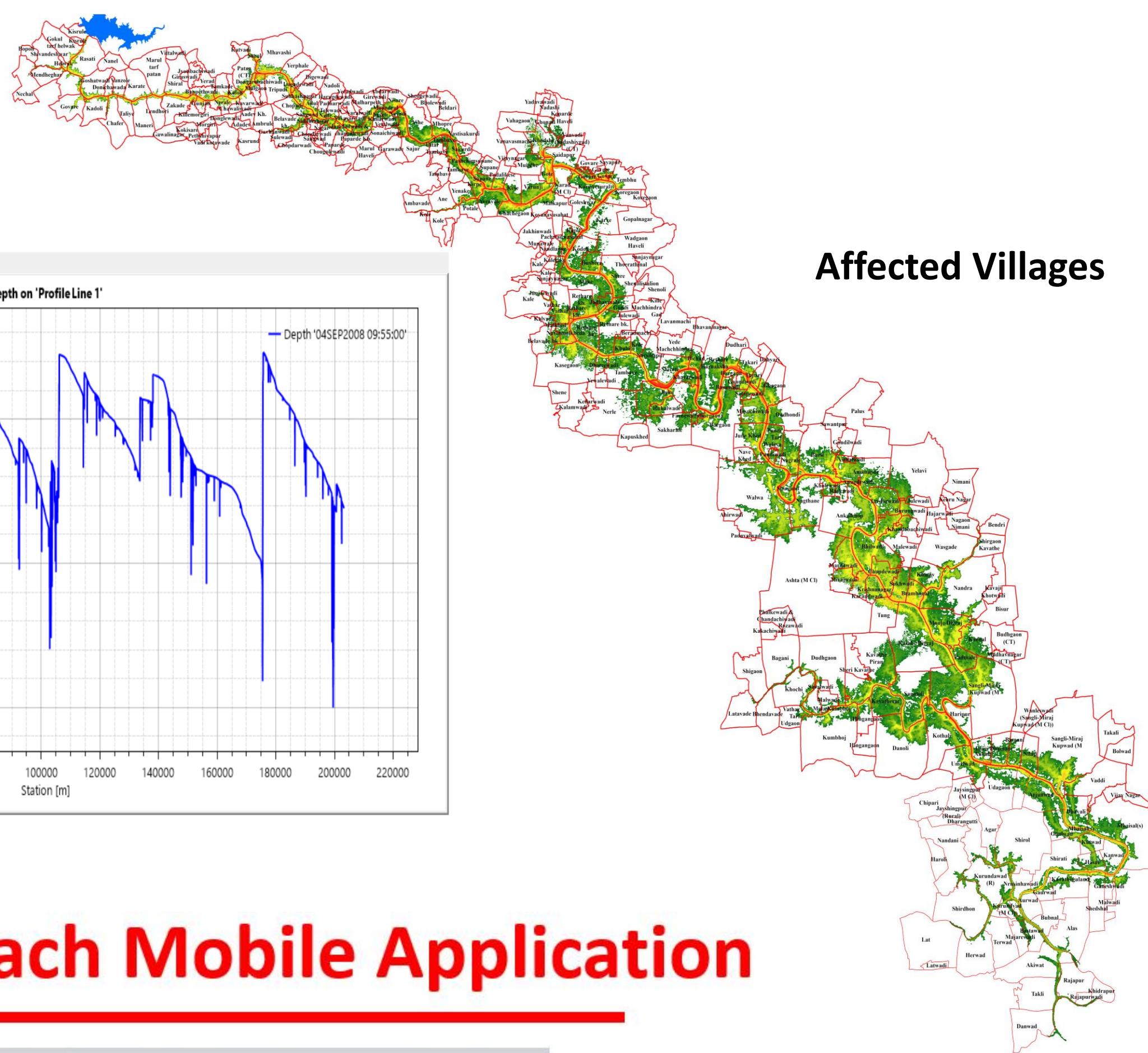
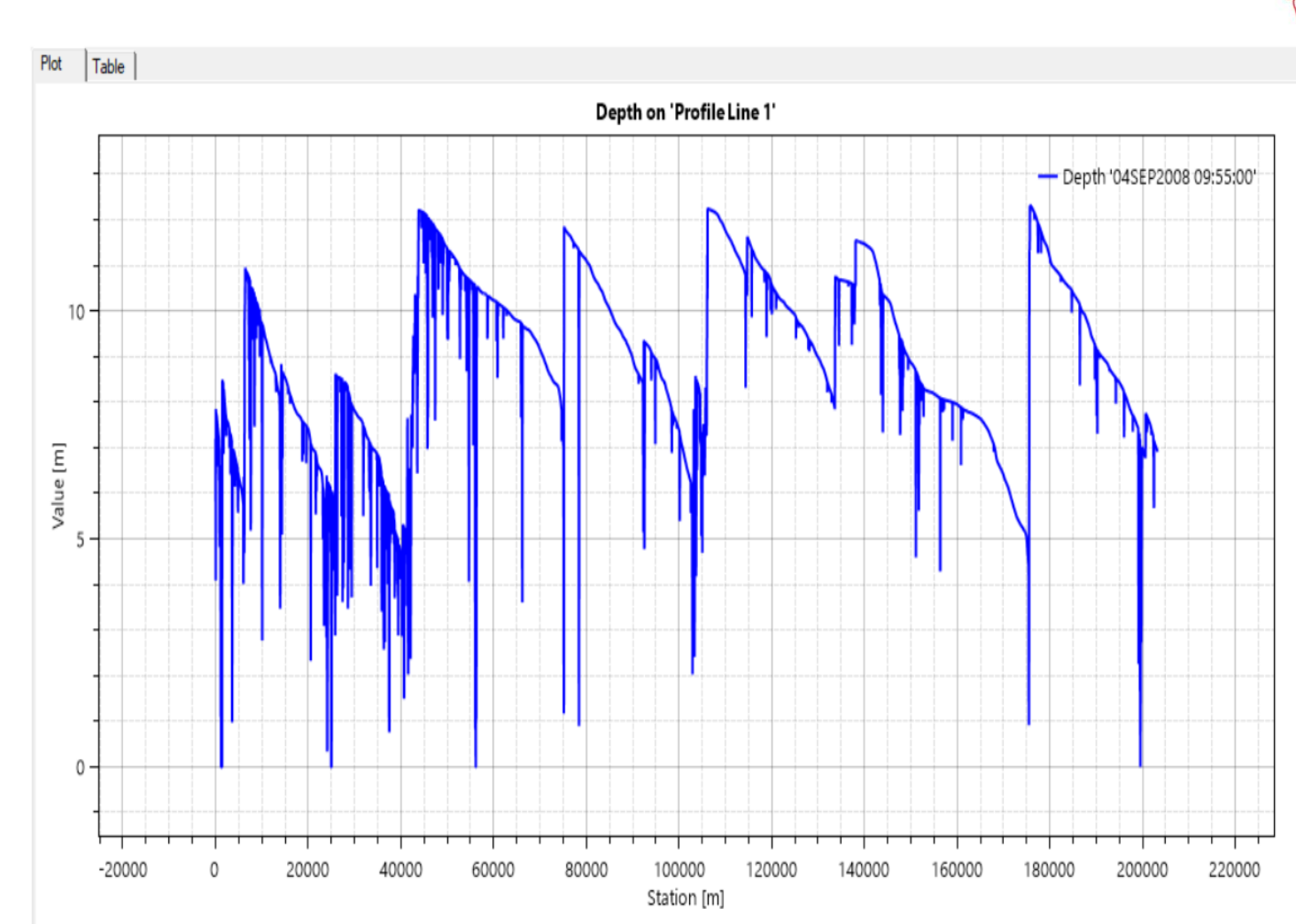
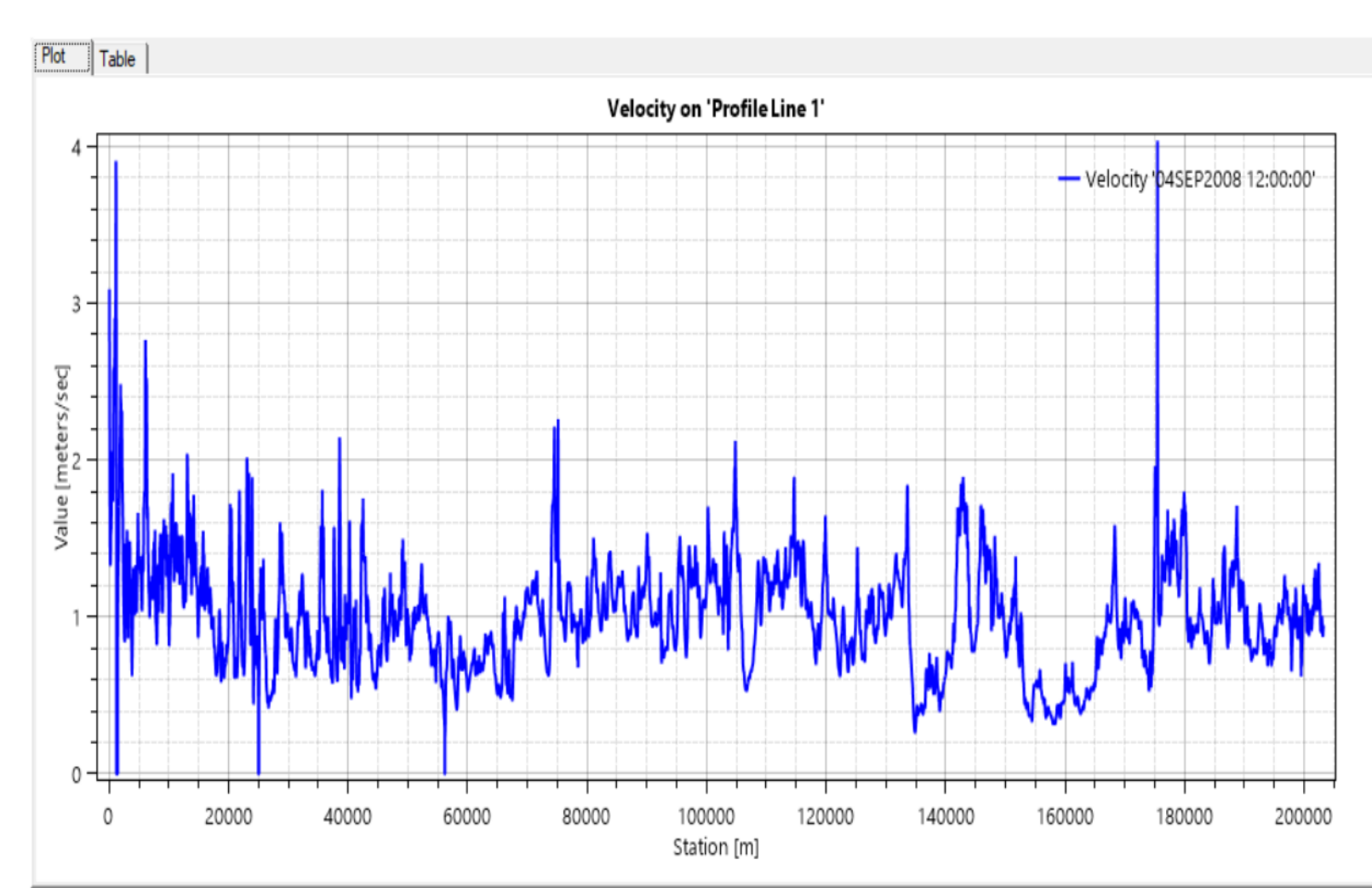
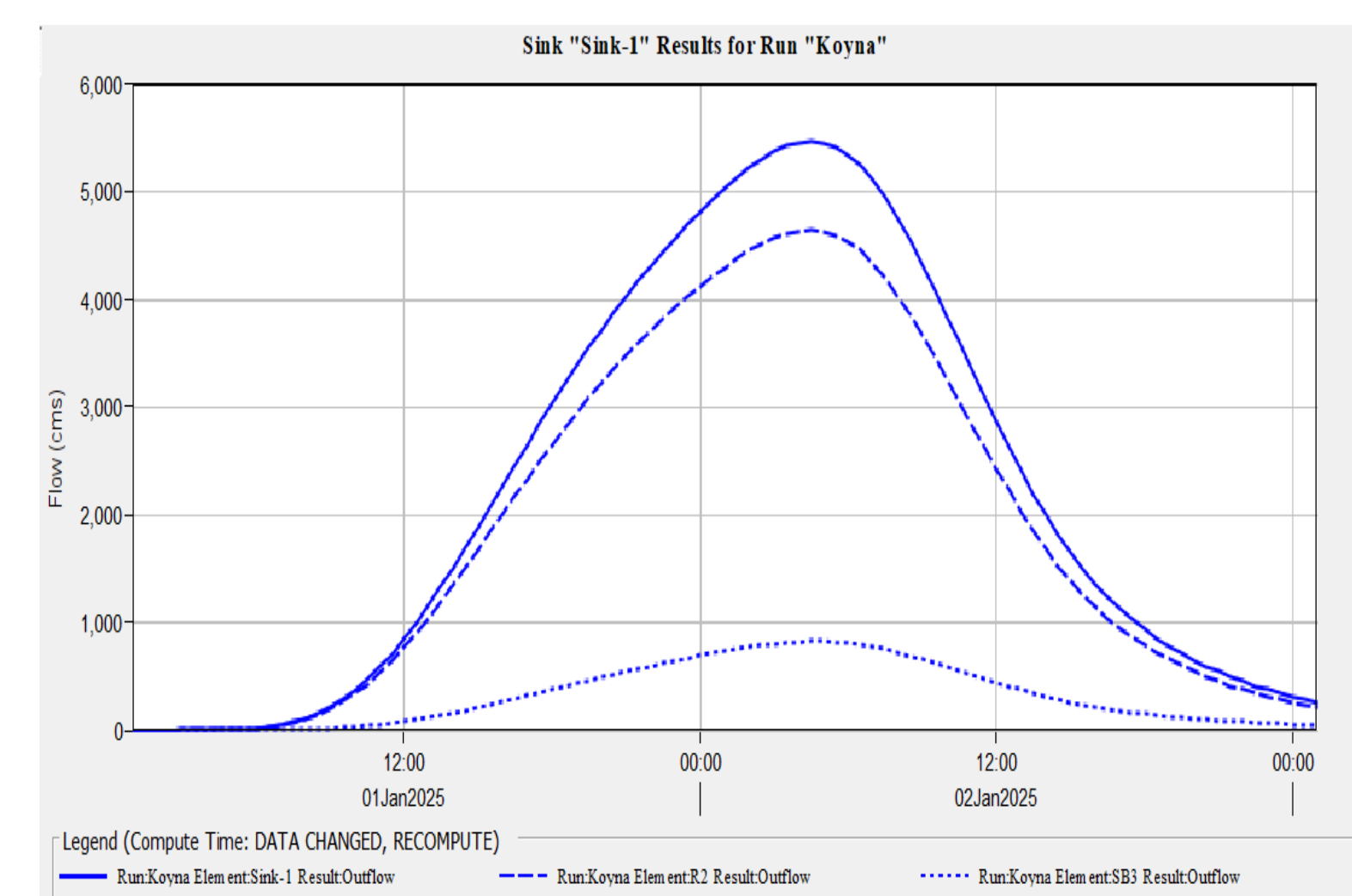
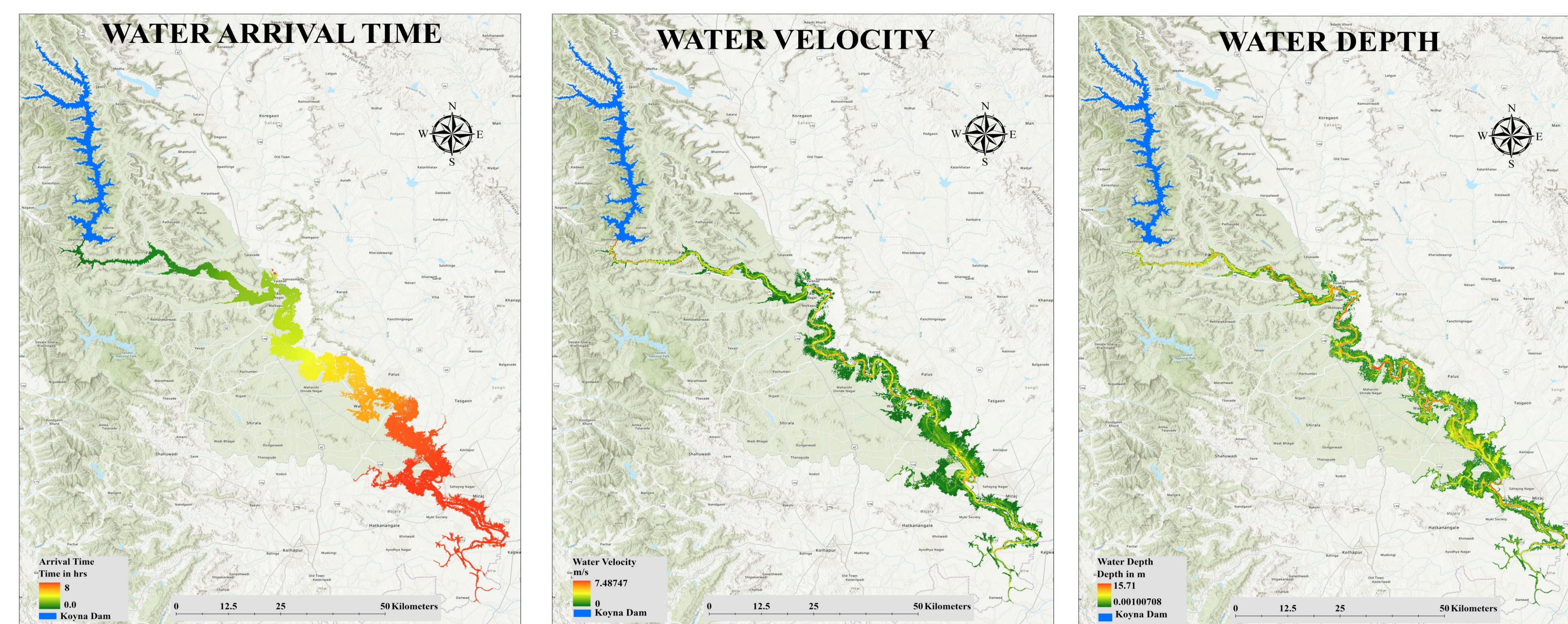
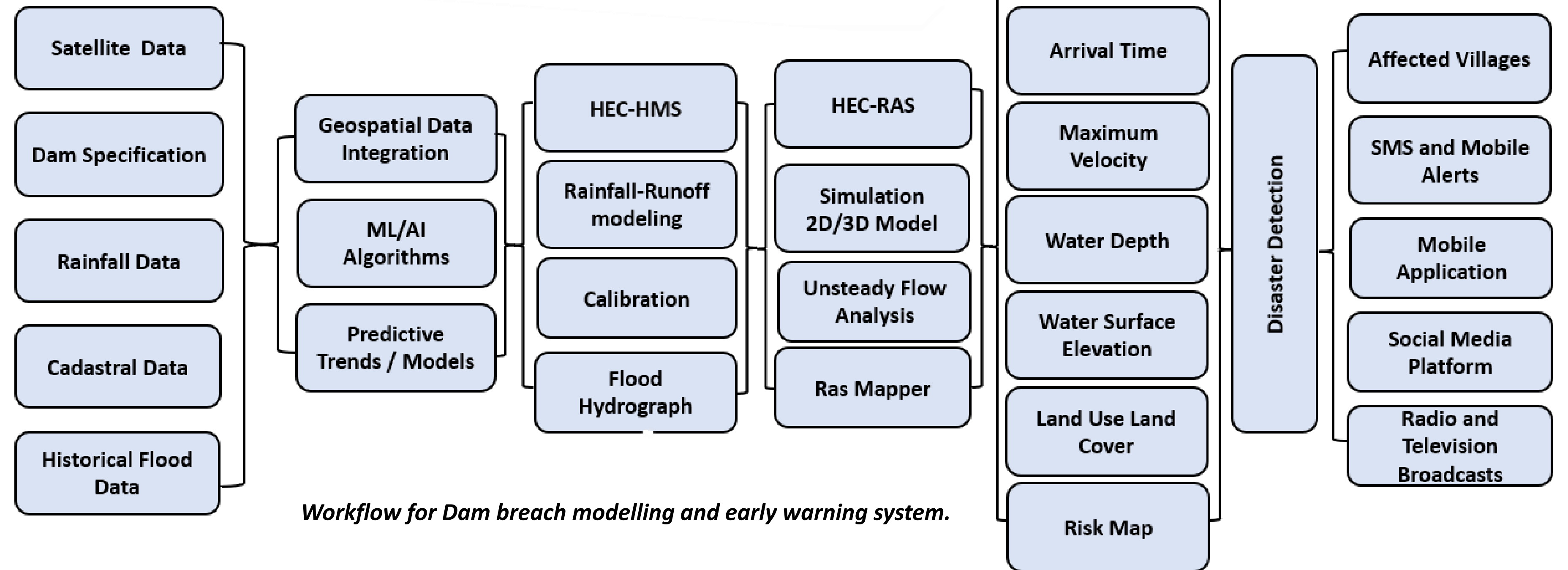
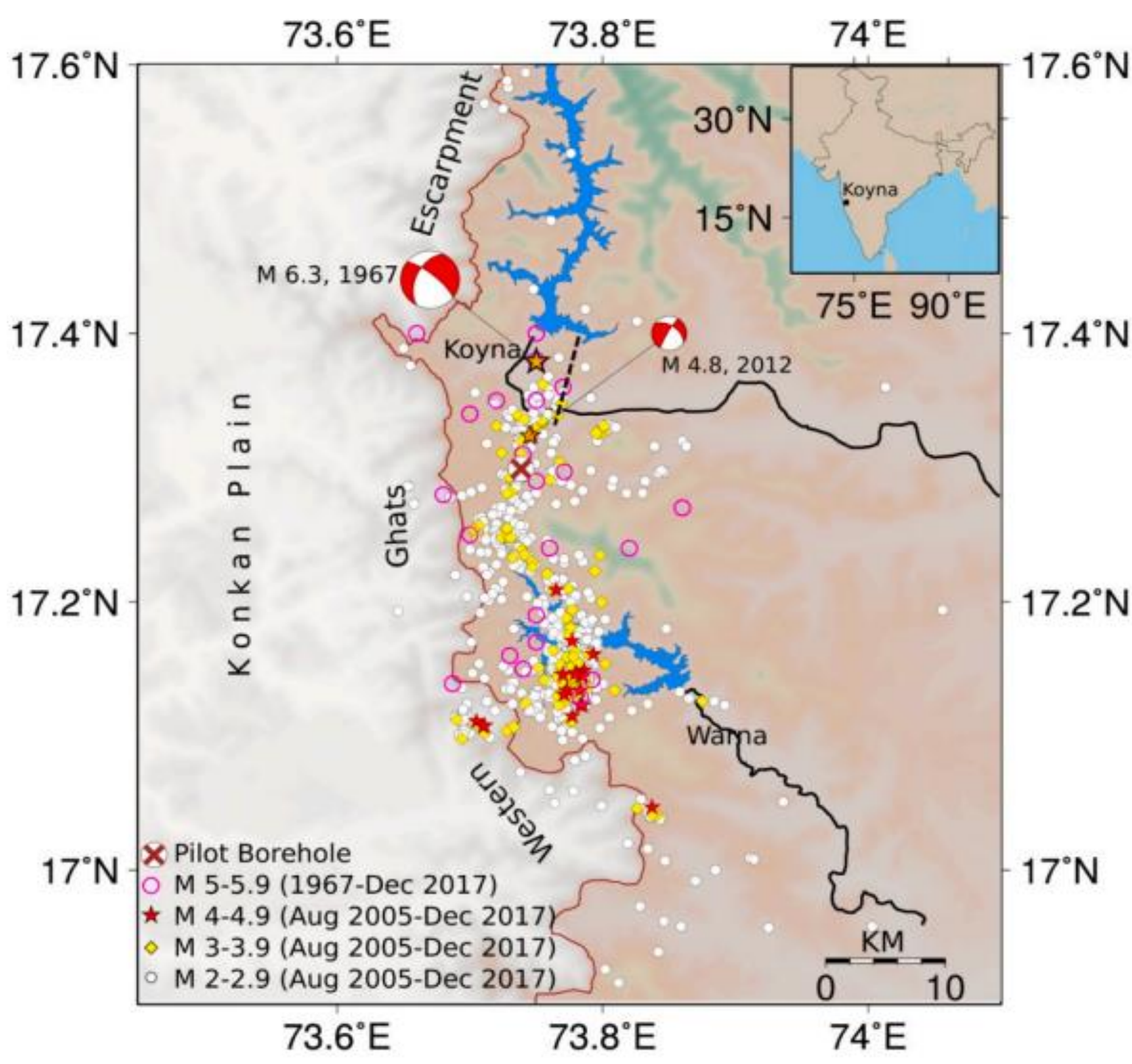
- ✓ The Koyna Dam, located in a seismically active region.
- ✓ Considering the high risk of a dam failure, which could lead to devastating floods, there is an urgent need for an integrated system.
- ✓ Currently, there is no integrated system for real-time dam breach analysis in India.

SOLUTION TO THE PROBLEM

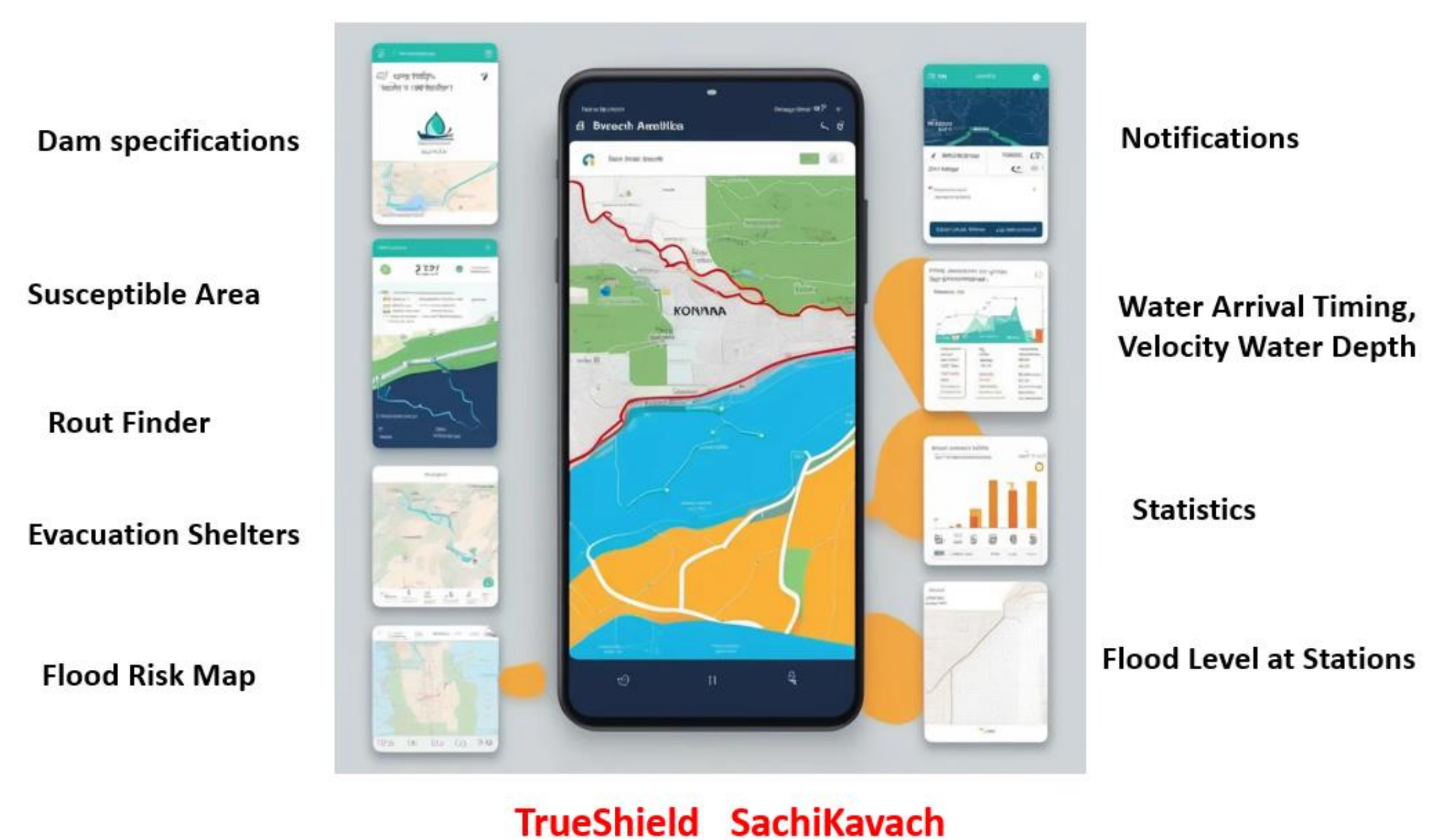
- ✓ By developing a comprehensive solution that incorporates advanced hydrological and hydraulic modeling, near real-time monitoring, evacuation planning, and automated early warning systems.
- ✓ By providing timely alerts and effective evacuation strategies, the system will enhance disaster preparedness, mitigate flood risks, and protect vulnerable populations from potential dam-related disasters.

OBJECTIVE

- ✓ To develop a dam breach analysis model for accurate prediction of breach scenarios at Koyna Dam.
- ✓ To design a GIS-based evacuation planning system for optimizing safe routes and identifying nearby shelters.
- ✓ To implement a mobile application for IoT based real-time alerts and critical evacuation information to at-risk populations.



SachiKavach Mobile Application



CONCLUSIONS:

- The hydraulic modeling results reveal that nearly 300 villages and 10 lakh people could be affected.
- Layers depicting water velocity, depth, and surface elevation are invaluable for effective disaster management.
- The IoT-based early warning system ensures timely dissemination of alerts.
- Mobile application plays a critical role in facilitating safe and efficient evacuations.