## 13. Real-time operation during the 2022 floods

Models are being run in real-time for 2022 (June to October) using real-time rainfall data obtained from IMD Hyderabad and Gandhinagar and rainfall forecast data from IMD WRF/GEFS. Flood alerts were disseminated through Bhuvan, NDEM, and National Hydrology Project Geo-portals. Godavari flood alerts were also given to Andhra Pradesh State Disaster Management Authority (APSDMA) during floods in the Godavari River in 2022.

Spatial flood early warning using very high-resolution Digital Terrain Models (ALTM DTM) is a new dimension to the conventional flood early warning. These models can give spatial flood alarms before the flood event with a sufficient lead time to minimize the damage to property and life. Apart from the spatial flood alarm, these models provide flood depth and velocity in the spatial domain, which is a vital input in flood damage assessment. Flood discharge forecast accuracy is more than 85%, with a lead time of 50 hours at the downstream forecast station (Koida). Inundation simulation accuracy (simulated using ALTM DTM) is also found to be more than 80%. This study will help improve flood forecasting lead time (2 days or more) with more accurate flood discharge computations in the spatial domain thus, providing timely relief and rescue operations during floods, flood disaster risk reduction, and flood disaster management in the Godavari and Tapi Basins.
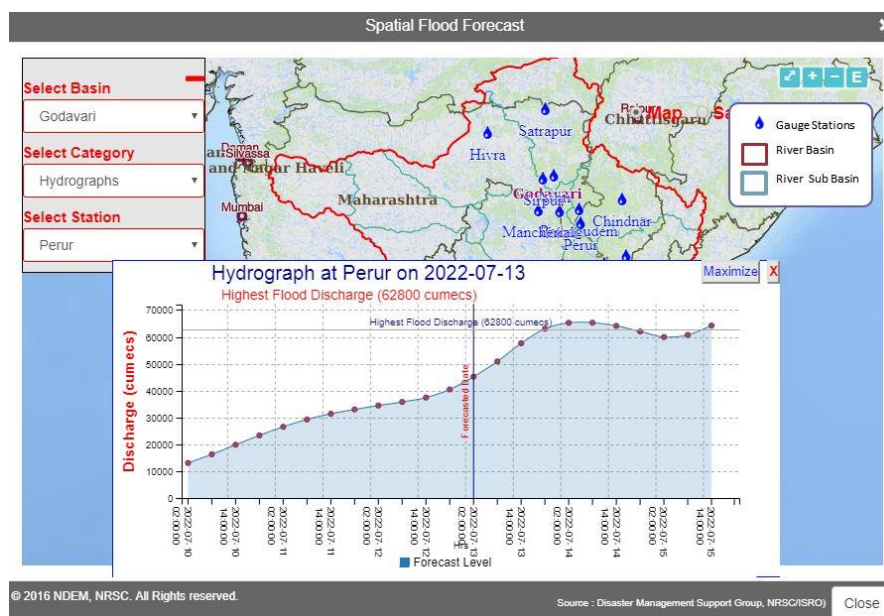
Flood Forecast at Perurin Godavari River (13.07.2022)
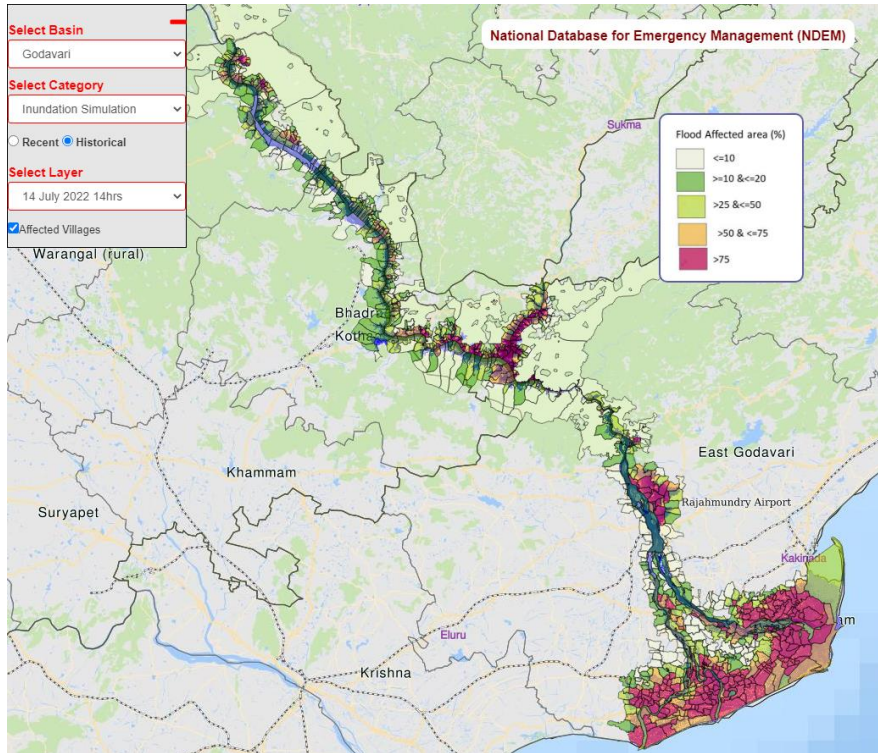
Village affected during July 2022 flood event in Godavari River.
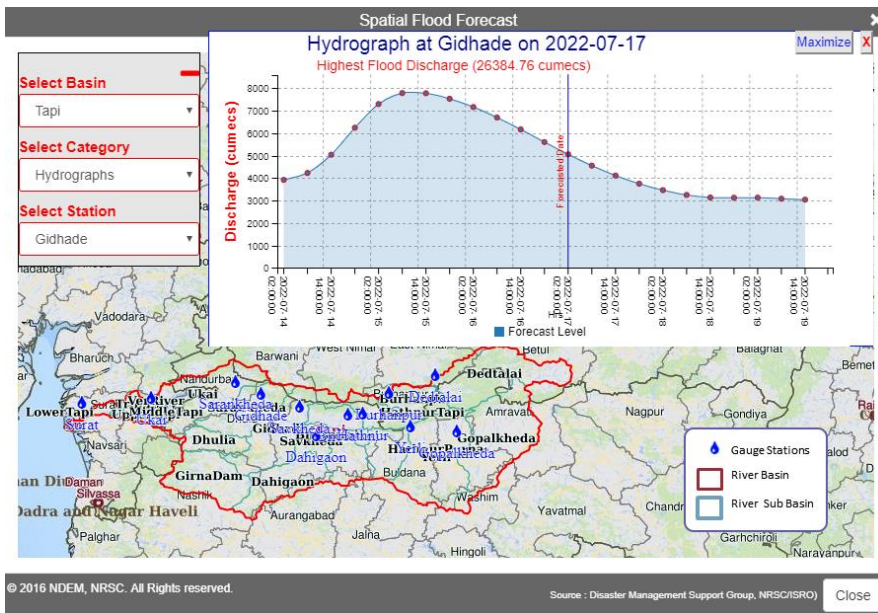
Flood Hydrograph at Gidhade in Tapi River (17 Jul 2022)