C-FLOWS : Chennai Flood Warning System

Dashboard

- CHENNAI SMART CITY
- CHENNAI FLOOD VULNERABILITY
- 3D VISUALIZATION
- ONLINE DATA HUB
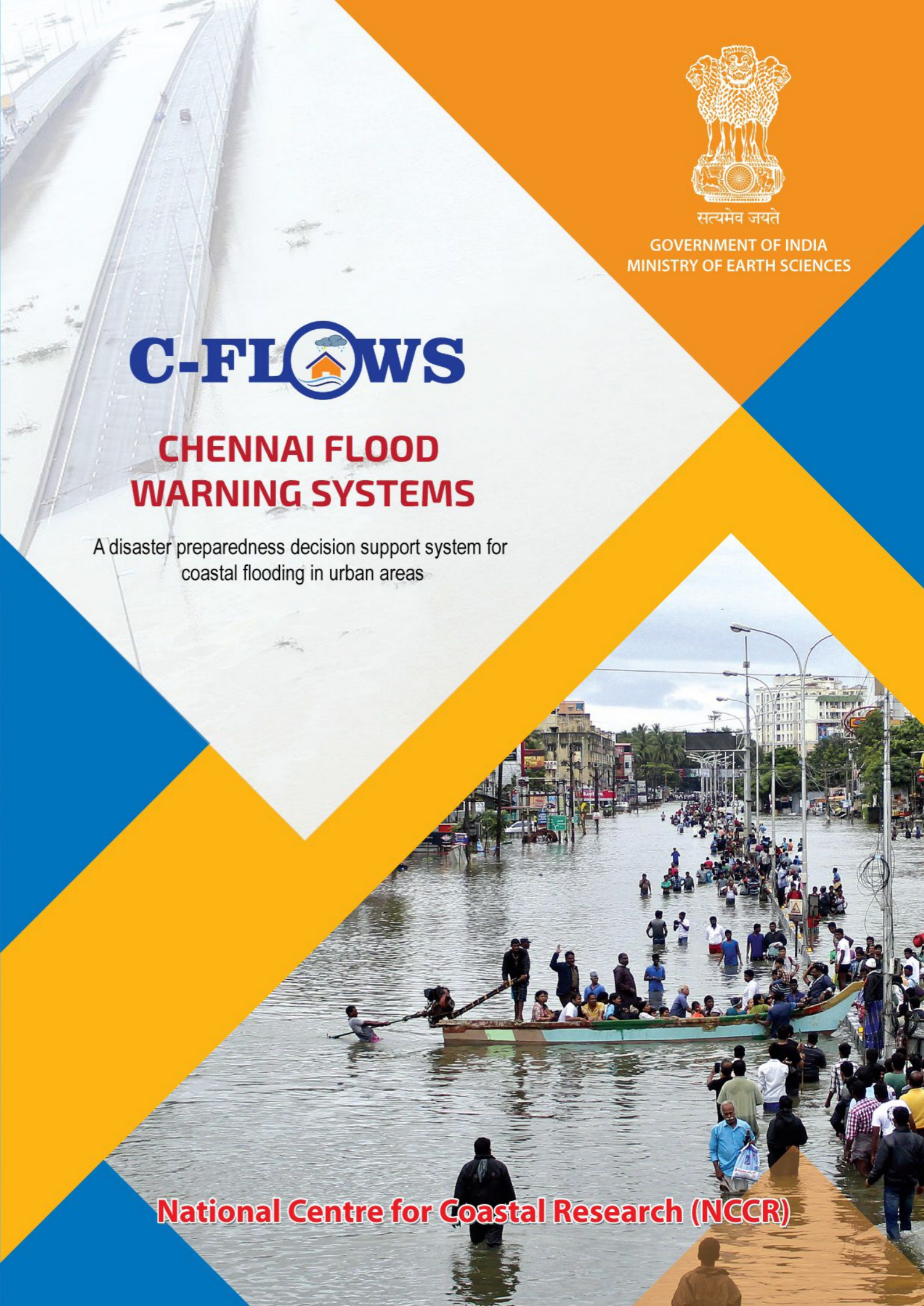- FLOOD INFO-CROWD SOURCING
- DECISION SUPPORT SYSTEM

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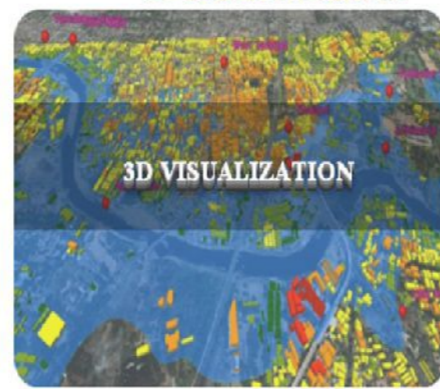
GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES

C-FLOWS

CHENNAI FLOOD WARNING SYSTEMS

A disaster preparedness decision support system for coastal flooding in urban areas

National Centre for Coastal Research (NCCR)

C-FL🌧️WS

CHENNAI FLOOD WARNING SYSTEMS

C-FLOWS - An Integrated WebGIS based Decision Support System to aid the Tamil Nadu Government in Flood Mitigation and Relief Operations

CHENNAI SMART CITY

Chennai Smart City houses a GIS database of all datasets pertaining to Chennai (administrative boundaries, infrastructure, drainage, buildings etc) that can be used for planning and management purposes at all times.

ONLINE DATA HUB

Online Data Hub is a data input module that receives Meteorological data, ocean state data, field observations, satellite data, discharge and flow data from various institutions.

FLOOD VULNERABILITY

This module houses the Flood Inundation Library from which the expert system selects the closest scenario based on the forecasted rainfall and tidal conditions. Simultaneously models will also be run in real time based on the actual datasets.

FLOOD CROWD SOURCING

Three mobile based applications are built into the system as a part of the operations related to
1. Flood Preparedness   2. Flood Management
3. Fishermen safety

3D VISUALIZATION

A 3D GIS based visualisation module drapes the inundation scenarios on the urban landscape for better visualization of the flooded and non flooded areas.
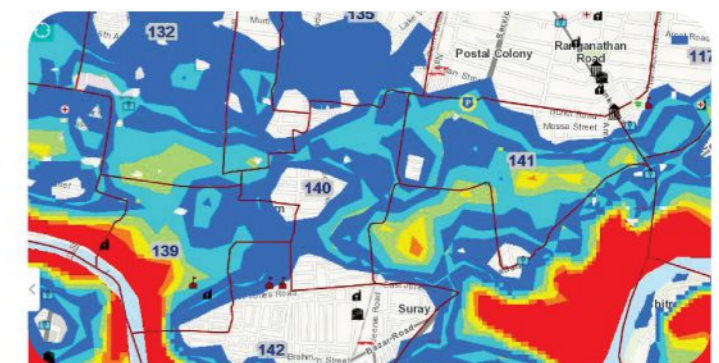
DECISION SUPPORT SYSTEM

This is the heart of the DSS and will enable the decision maker to take appropriate decisions based on queries related to ward-wise inundations, severely affected locations, flood depth, movement and mobilisation of resources, shelters etc.
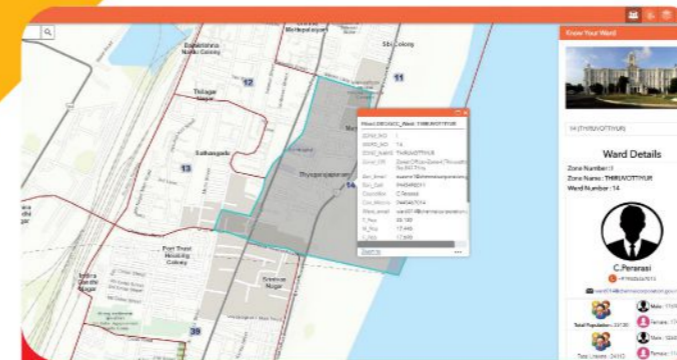

The coastal city of Chennai is prone to flooding and in a bid to tackle and address the problem of Urban Flooding , the Ministry of Earth Sciences and the Tamil Nadu State Government have developed a fully operational Chennai Flood Warning System (C-FLOWS)as a decision support tool for relief and mitigation operations especially during flooding.

C-FLOWS will be hosted and made operational at the National Centre for Coastal Research (NCCR) with meteorological data inputs from the India Meteorological Department (IMD), National Centre for Medium Range Weather Forecasting (NCMRWF) and ocean state forecast data from the Indian National Centre for Ocean Information Services (INCOIS).

C-FLOWS has been developed by NCCR as a culmination of the project initiated by the office of the PSA, Govt. of India and premier Institutes like IIT-Delhi, IIT-Madras and IRS-Anna University. Mirror images of C-FLOWS will be setup in the Office of the Commissioner of Revenue Administration, Greater Chennai Corporation (GCC) and IMD.
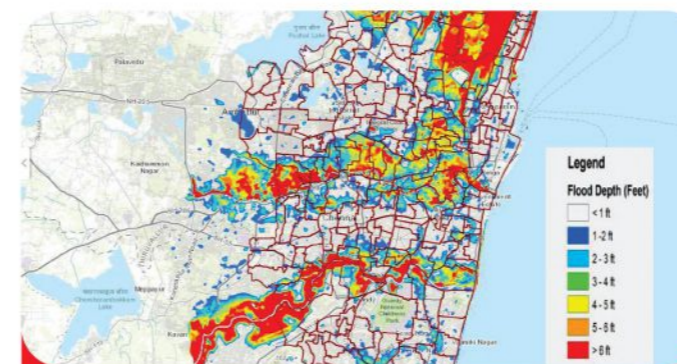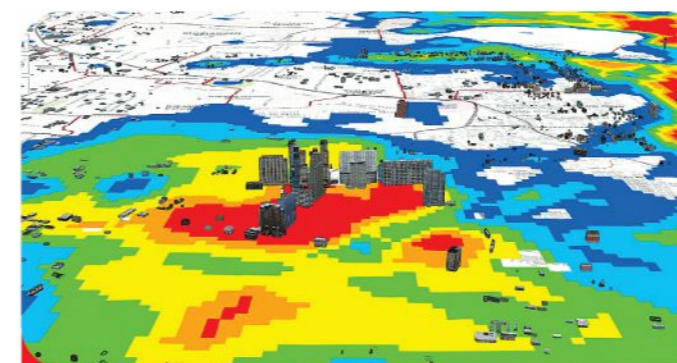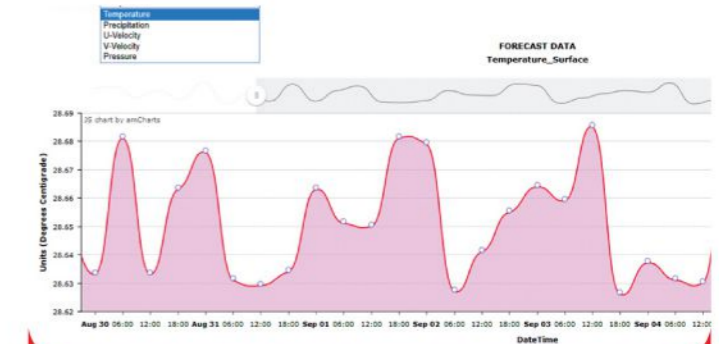
C-FLOWS is one of the first operational system for urban flooding in the country and would be of benefit to the State Government in the relief and mitigation operations.