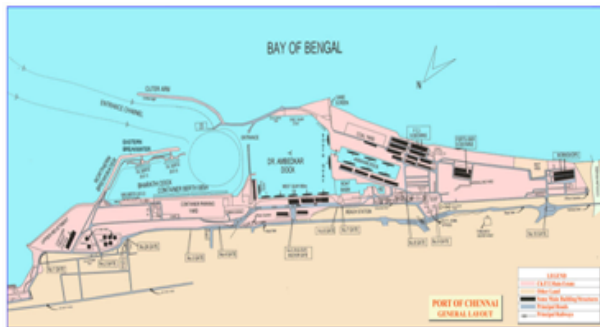


CHENNAI PORT, TAMIL NADU

Background

Chennai Port, the third oldest major port in the country, is located on east coast of India. At Chennai, maritime trade started way back in 1639. However, an artificial modern harbor was built and began operations during 1881. Located on the open coast, the port is vulnerable to the cyclones and high littoral drift prevailing along this region. The port has expanded from time to time with modern harbor facilities for handling the increasing traffic. Space restriction is a major constraint for further developments of the port; hence a satellite port was established at Ennore during 2004 to divert some traffic from this port.



Physical Model of Chennai Port

The physical wave model of Chennai Port is in operation at the CWPRS from 1950. The model was upgraded from time to time to accommodate development studies. The model is constructed to a scale of 1:150(G.S.) with rigid bed with regular wave generation system for waves incident from North-East and South-East. Computerized multi-Channel data acquisition system is used for wave data acquisition in the model.

Layout of Chennai Port

Studies Conducted on following areas (Since 1950 – till Date)

- Storms in the Bay of Bengal and their effect on Chennai (Madras) Harbour.
- Layout of berths along South Quay and layout of Oil Docks etc.
- Study of embankment for protection of Chennai (Madras) Harbour.
- Model Studies for Bharati dock.
- Problems during construction of breakwaters.
- Study of development of Outer Harbour.
- Tranquillity studies for breakwater layouts.
- Tranquillity studies for all berths.
- Reclamation bund for ammonia plant.
- Harbor resonance studies in Bharati Dock
- Sand trap location and design.
- Groyne field establishment.
- Design of Breakwaters, Reclamation Bund
- Wave tranquillity studies for Fisheries harbor development
- Optimization of extension of Fisheries harbor breakwaters by Random wave model studies



Chennai Port Physical Model



Wave tranquillity studies with random waves





View of Chennai Port

Outcome and Benefits

- Optimization of breakwater alignment and length
- Prediction of siltation & quantum of dredging
- Location of dumping ground.
- Wave tranquillity in harbour basin.
- Alignment of breakwaters along with safe and economical design.

