

NEW MANGALORE PORT, KARNATAKA

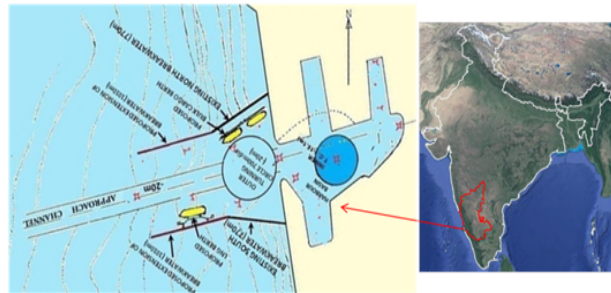
Background

New Mangalore Port is a deep-water, all-weather man made Lagoon type port at Panambur, Mangalore in Karnataka state of India. It is located to the north of confluence of Gurupura (Phalguni) river to Arabian sea. It consists of 7.5 Km approach channel, 570 m Turning circle with draft of 15.4 m & 15.1 m, two rubble mound type South & North Breakwaters each 770 m long.

Studies Conducted

More than 45 major studies during last 50 years covering the following aspects:

- The location of the site and initial planning of the port layout is based on model studies carried out at CWPRS. Initially, a physical model to scale 1:100 (GS) was developed.
- An important decision of port entrance facing west despite the waves being critical from this direction was taken after conducting many trials on this model. This decision helped in optimising the channel length for any given depth. It was very useful for further developmental stages of the port as well.
- A physical wave model having Random Sea Wave Generation system along with computerized Data Acquisition System was developed to a scale of 1:100 (G.S.) at CWPRS during 1994.
- A number of port expansion studies were conducted for the development of Southern Dock Arm berthing structure. Later, during 2004, model was upgraded by changing the scale to 1:120(G.S.) by simulating more areas for the developmental studies of Deep Draft Multipurpose Berth and Western Dock Arm.
- CWPRS was also involved in conducting a number of field studies including Radio Active Tracer studies for identifying disposal site for the dredged material.
- Mathematical model studies were carried for assessment of wave tranquility, tidal hydrodynamics, ship manoeuvring and ship mooring.



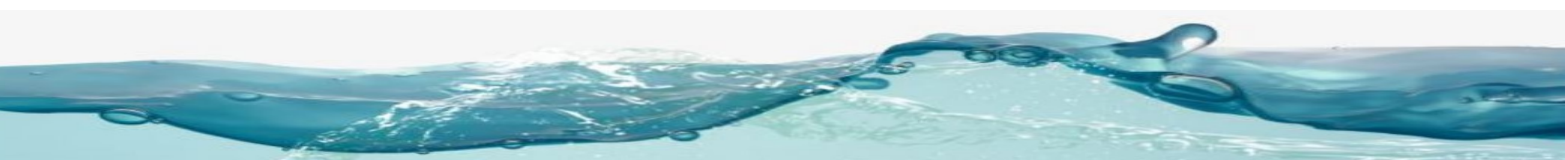
Location of New Mangalore Port



Physical Model : Testing for outer harbour development

Outcome and Benefits

- Optimum alignment of approach channel normal to the bathymetry contours.
- Minimum length of breakwaters taking advantage of the phenomenon of wave attenuation along channel.
- Optimum alignment for various berthing structures under different stages of development.
- Identification of suitable disposal grounds for dredged material.
- Analysis and prediction of the formation of hard patches in the approach channel and suggesting preventive measures to avoid costly dredging





Central Water and Power Research Station, Pune

Ship Moored at NMPT

