

Focusing the National Agenda on Stewardship of Oceans

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Oceans contribute to the economy of the country as well as influence weather and climate. Thus it is in our vital interest to protect oceans. It is necessary to understand the use of ocean and its interaction with society. The major areas are:

- i. *Natural Ocean Resources*: Oceans provide fish, minerals and energy. The availability of various resources as well as their distribution is critical to the national economy. India has undertaken geophysical and bathymetric surveys to explore and assess mineral and energy resources. A novel fishery service helps fishermen to improve catch-per-unit effort.
- ii. *Warning and Mitigation of Natural Hazards*: Early warning systems for cyclones, tsunamis and storm surges provide appropriate advisories for planning relief and rescue measures to the administration. Vulnerability maps are also produced for planning mitigation measures.
- iii. *Safe Marine Operations*: The forecasting of ocean state parameters such as waves, currents, sea surface temperatures, mixed layer depth, etc. are vital for shipping, offshore operations as well as fishing. An efficient and indigenously developed ocean state forecasting system has been helping to plan various operations in the sea.
- iv. *Ocean's Role in Climate*: Seasonal and intra-seasonal variability is largely controlled by oceans. The warming of sea can affect frequency and intensity of cyclones.
- v. *Coastal and marine ecosystem* health affects livelihood of coastal communities. Ecosystem models are being developed for sustainable use of the ecosystems.
- vi. *Ocean Observations and Information Systems*: Large number of satellite and in-situ platforms provide information on oceans, which have been organized to develop decision support tools.

The various services related to societal benefits are being improved and web and location-based services have been introduced.