Operational oceanographic services for the growth of blue economy in India

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Advisories and forecasts of ocean state, circulation, warnings on marine hazards, and information on living and non-living resources are essential for safe operations and increased productivity in the marine environment. These contribute to the growth of blue economy in India. For the past several years, the Indian National Centre for Ocean Information Services (INCOIS), Hyderabad has been providing services such as ocean state forecasts, potential fishing zone advisories, marine hazard warnings and operation-specific advisories/forecasts/information to the stakeholders. The economic benefits of these services are found to be substantial. This article outlines the major services provided by INCOIS which support the blue economy sectors in India.

Keywords: Blue economy, marine hazard early warning services, ocean state forecast, operational oceanography, potential fishing zone advisories.

2 million km^2 is rich in living and non-living resources. Fisheries is one of the major livelihoods of millions in India. Yet, the share of the maritime sector is estimated to be only around 4% of the country's GDP (https://incois.gov.in/documents/Blue_Economy_policy.pdf). To ensure that the contribution of BE to total GDP increases many-fold, the Government of India (GoI) has recently outlined the Blue Economy Policy (https://incois.gov.in/documents/Blue_Economy_policy.pdf).

Major thrust areas identified in India's BE Policy are (a) energy, (b) food, (c) tourism, (d) transport, (e) resources, (f) freshwater and (g) strategy. All these sectors, which operate mainly in the coastal and high seas, require accurate and timely predictions/projections of ocean parameters, both physical and of the ecosystem, in different timescales ranging from a few days to a few decades. These predictions are essential for making policies, planning, infrastructure development and operational facilities. The forecasts are