

Marine Data Management in Indonesia

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Abstract

The Indonesian waters is a national asset that provides natural resources, energy sources, and food resources, and serves as transportation route between islands, trading area, and natural defense. In the effort to develop Indonesian marine areas, marine data are important for various activities and applications such as navigation, sea transportation, fishery, marine disaster mitigation, environment monitoring and marine resource production. Marine data management is beneficial in predicting marine climate/weather and environmental conditions, protecting marine life, mitigating marine environment changes due to human activities, and promoting advancement of marine science.

The end-to-end data management systems, implemented for integrated observing system, must have the flexibility to serve large variety of requirements. Data and information management (DIM) lies at the heart of GOOS (Global Ocean Observing System). DIM will address the issue of how the marine data flow to services and products. The DIM system is likely to be based on a distributed computer-linked network of data processing centers or nodes, and to include a Data Information management service that provide coordination as well as advice to users on the practical aspects and to create products of local interest.

This paper presents a system design of marine data and information center in Indonesia. This system is developed by adopting the distributed database concept of the Infrastructure Data Spatial National (IDSN) program. Considering many institutions

collecting marine data, a distributed model is very compatible to be applied in Indonesia. The system in the concept comprises of two systems, one system in the national data center and one system located in the nodes (data provider institutions). The National Data Center system is a gateway to the member nodes. The application of this national data center system may be in the form of web portals, where the portal supply various marine information, members nodes list, and equipped with a search engine that can perform information search for each member node.