Evolution of ISA Data Management Strategy

Deep Dive into Seabed Geospatial Data Management

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Outline

1. Introduction of ISA
2. Data Management Strategy
3. GIS Integration
4. Data Sharing Initiatives
Introduction of ISA
Introduction
ISA Mandate*
Exploration Activities
Environmental baseline
Annual Report and Digital Data Submission
Compilation in ISA DeepData
Public and Expert users

*UNCLOS, Art. 145 & Art. 143 (2)
Introduction of ISA

• ISA administers the mineral resources

• Control and organize current & future exploration activities

• Under Article 143, Par 2 of UNCLOS, ISA required to promote and encourage MSR

• ISA SD 4.3 – Share data in an open and transparent manner

• ISA SD 4.4 – Promote access to non-confidential information & data
Data Management Strategy
Data Management Strategy

• The LTC requested a Data Management Strategy for the Authority in 2015

Key Findings

• Data segments were disjointed
• Data gathering tools lacked standardization
• Data was not FIAR
• Possible data lose due to outdated technology
## Data Management Strategy Tasks

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
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<tbody>
<tr>
<td>DeepData</td>
<td>New database developed to replace outdated CDR database</td>
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<tr>
<td>Reporting template standardization</td>
<td>The standardization of how data should be reported and incorporation of metadata as being required</td>
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<td>FAIR</td>
<td>Adoption of the FAIR data principles in the Authority’s data management.</td>
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<td>Public data shared online</td>
<td>Web interface developed to collect data from providers and make non-confidential data publicly available</td>
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<td>Migration of historic data</td>
<td>Data lifecycle management was introduced to the Authority to ensure data assets are efficiently stored.</td>
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<td>Collaboration</td>
<td>Identify relevant databases that will improve data quality and useability.</td>
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Data Management Strategy
What is DeepData

https://data.isa.org.jm/isa/map
What DeepData Contains

Data is separated based on confidentiality status

Structured vs Unstructured data

Data on mineral resource assessment (Geological data)*

Environmental baseline data
- Biological parameters
- Physical parameters
- Geochemical parameters

GIS functionality for visualization
DeepData Process Flow

DeepData Framework of Data Flow

Public Access

Internet

Public Data

Validate ETL

Database

Confidential Data

Metadata Catalogue

Reports

Maps

Tables

Graphs

Contractor Templates

Reports

Templates

Metadata

Legal & Technical Commission

International Seabed Authority

International Seabed Authority
GIS In the Data Management Strategy

• Development of a GIS Data Policy
  • Standardized datum
  • Standardized projection

• Requesting that data providers follow ISO 19115, ISO 19139: Geographic Information Metadata standards

• Customized basemap to remove territorial boundaries and names

• Enabling the latest ESRI data visualization features in DeepData
Data Sharing Initiatives
Data Sharing Initiatives

- OBIS
- DeepData
- IHO
- WORMS
Strategic partnership to advance deep-sea taxonomic standardization

Developing taxonomic tools to standardize data exchange

OBIS

IHO

IHO

Advances policy making and increase public knowledge

Training for ISA Data providers

DeepData
On 8 Jun, 2021
ISA joined IODE network as a node for OBIS of IOC-UNESCO

Developing taxonomic tools to standardize data exchange

Training for ISA Data providers

OBIS

DeepData

IHO

iWORMS

Increases public access to georeferenced records of deep-sea species
ISA and IHO developed a partnership agreement for bathymetric data. Based on ISA regulations, bathymetric data is classified as confidential. ISA obtains permission from 8 contractors to share bathymetric data. ISA and IHO will host a joint side event at World Ocean Conference to launch Area 2030.