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Regional Meeting on IMAP Implementation: Best Practices, Gaps and Common Challenges

Rome, Italy, 10-12 July 2018

Agenda item 3: Proposed IMAP Common Indicators Data Standards and Data Dictionaries

Coast and Hydrography: Data Standards and Data Dictionaries for Selected IMAP Common Indicators

Note by the Secretariat

In the framework of the Programme of Work and Budget for 2018–2019 of UN Environment/MAP (Decision IG.23/14), INFO/RAC is working on the implementation of a fully operative Info-MAP system and on an IMAP compatible Data and Information System, connected to MAP Components' information systems and other relevant regional knowledge platforms.

The EU funded EcAp MED II Project is supporting the development of a Pilot IMAP compatible Data and Information System (Pilot IMAP Info System), which would lay down the basis for building a fully operational IMAP Info System, by the end of the initial phase of IMAP, as provided for by Decision IG.22/7.

INFO/RAC has developed the draft data standards and data dictionaries for ten selected IMAP Common Indicators (Common Indicators 1, 2, 6, 13,1 4, 15, 16, 17, 22 and 23). The following criteria were used for selecting these Common Indicators as part of the Pilot IMAP Info System:

a) maturity of Common Indicator in terms of monitoring experiences and best practices;
b) data collection and availability representing all IMAP clusters;
c) availability of common indicator guidance fact sheets and/or metadata templates.

The purpose of this document is to present to the Contracting Parties the initially proposed data standards and data dictionaries for feedback and guidance towards their further development in the area of coast and hydrography.

Based on the preliminary discussion by the present meeting, work will continue by the CORMON Coast and Hydrography Meetings, with the view of finalizing data standards and data dictionaries and making the respective component of the Pilot IMAP Info System fully operational by mid-2019. This would allow the Contracting Parties to upload their data generated as appropriate from the implementation of national monitoring programmes based on IMAP.

Data dictionaries are a set of information describing the contents, format, and structure of a database and the relationship between its elements. It is a crucial component of any relational database, invisible to most database users. Typically, only database administrators interact with the data dictionary.

In a relational database, the metadata, of which the data dictionary is composed of, includes the following:
- names of all tables in the database and their owners,
- names of all indexes and the columns to which the tables in those indexes relate,
- constraints defined in tables, including primary keys, foreign-key relationships to other tables, and not-null constraints.

Data dictionaries store and communicate metadata about data in a database, a system, or data used by applications. For groups of people working with similar data, having a shared data dictionary facilitates standardization by documenting common data structures and providing the precise vocabulary needed for discussing specific data elements. Shared dictionaries ensure that the meaning, relevance, and quality of data elements are the same for all users. Data dictionaries also provide information needed by those who build systems and applications that support the data. Lastly, if there is a common, vetted, and documented data resource, it is not necessary to produce separate documentation for each implementation.

The selected common indicators for the **Coast & Hydrography** cluster of the Pilot IMAP Info System are as follows:

Common Indicator15, Location and extent of the habitats impacted directly by hydrographic alterations (EO7);
Common Indicator 16, Length of coastline subject to physical disturbance due to the influence of man-made structures (EO8)

Hydrography:

The draft Metadata and Data Dictionaries for Hydrography C.I. **15** is still under review process. A close cooperation with PAP/RAC experts was established in order to align the metadata with IMAP factsheets.

Coastal ecosystems and landscapes:

The draft Metadata and Data Dictionaries for Coast C.I. **16** were developed based on the *IMAP Factsheets* and in close cooperation with PAP/RAC.

Due to the different kind of information requested, the metadata template presents a different structure compared to other Common Indicators.

Data Standards and Data Dictionaries for IMAP Common Indicator 16
EO8 Coastal ecosystems and landscapes
Indicator: *Length of coastline subject to physical disturbance due to the influence of manmade structures*
GIS information standards:
- Artificial structures
- Coastline artificial/natural

Name of GIS layer: Artificial_structures
Type of GIS Layer: polyline
Geographical Reference Systems: WGS 84 decimal degree

Attribute table:

Field	Description
ASCODE	Mandatory. Integer. Code of type of artificial infrastructure. The following code list should be used: 1 Breakwaters 2 Seawater/Revetments/Sea dike 3 Groins 4 Jetties 5 River mouth structures 12 Port and marinas 21 Land reclamation (from the 1980's onward)
ASDES	Optional. Text. Description of type of artificial infrastructures
Municipal	Optional. Text. Name of municipality or local administrative region where the polygon is located
CPCODE	Mandatory. Text. Two-letter code of Country
Year	Mandatory. Text. Year of production of the information layer.

Name of GIS layer: Coastline_AN
Type of GIS Layer: polyline
Geographical Reference Systems: WGS 84 decimal degree
Attribute table:

Field	Description
CPCODE	Mandatory. Text. Two-letter code of Country
Municipal	Optional. Text. Name of municipality or local administrative region where the segment of coastline is located
ART_NAT	Mandatory. Integer. Code for type of segment of coastline. Use the following code list: 0 Natural coastline 1 Artificial coastline
Year	Mandatory. Text. Year of production of the information layer

| Ref Year | Year of the reference coastline used to represent natural and artificial segments |

Type of GIS Layer: polygon
Geographical Reference Systems: WGS 84 decimal degree
Attribute table:

Field	Description
SHAPE_Leng	Mandatory. Double precision. Length of polygon calculated by GIS software (for ex. ArcGIS or QGIS)
SHAPE_Area	Mandatory. Double precision. Area of polygon calculated by GIS software (for ex. ArcGIS or QGIS)
CPCODE	Mandatory. Text. Two-letter code of Country
Municipal	Optional. Text. Name of municipality or local administrative region where the artificial infrastructure is located
Year	Mandatory. Text. Year of production of the information layer.