



# S-121 Maritime Limits and Boundaries

Update on development of new open data standard

# Background



The **United Nations Convention on the Law of the Sea (UNCLOS)**, or Law of the Sea Convention, is an international law that defines the rights and responsibilities of nations with respect to their use of the world's oceans.



The **International Hydrographic Organisation's (IHO) S-100** is a universal hydrographic data model that supplies a framework for the development of digital products used by hydrographic, maritime and GIS communities.

# Background

## UN Sustainable Development Goal 14

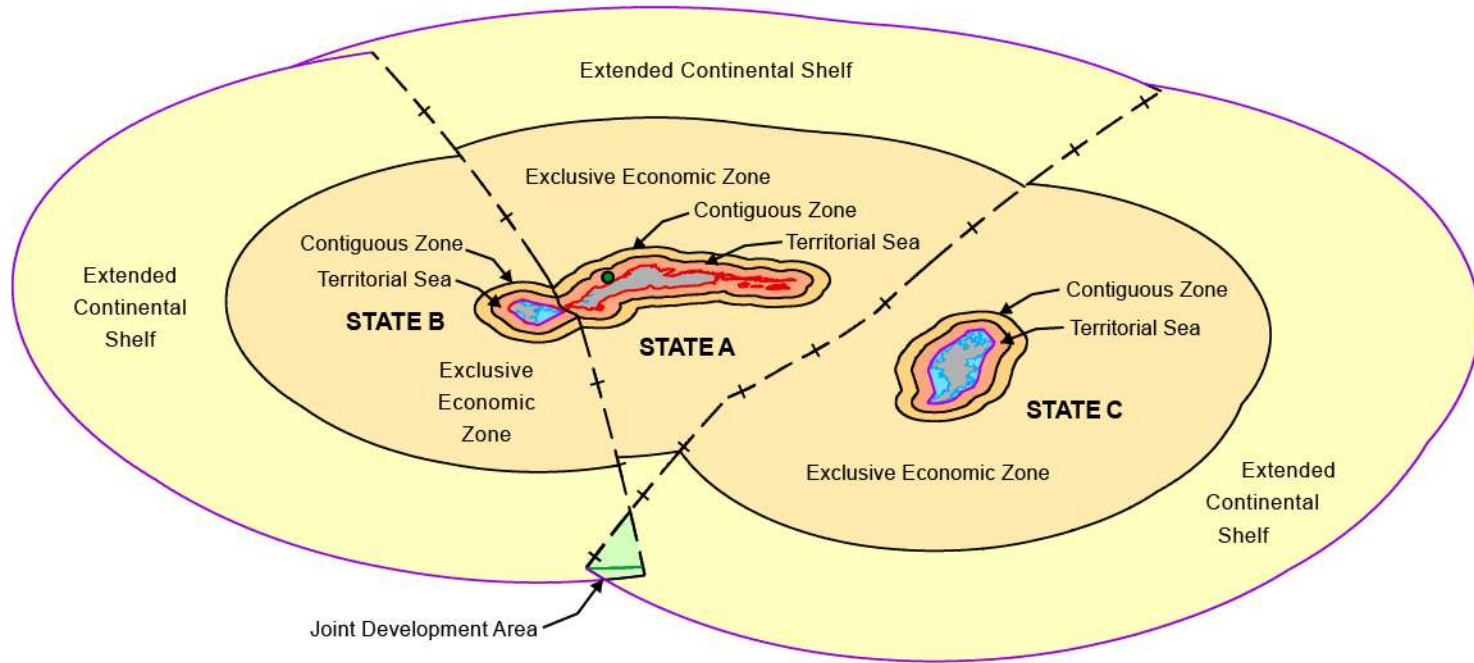
Conserve and sustainably use the oceans, seas and marine resources for sustainable development.



### Target C

Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want.

# Example Maritime Boundaries



# What is an open data standard?

An open data standard is publically available, it doesn't require proprietary software to access the data.

An ESRI Shapefile is an example of an open data standard, the ESRI corporation has made the technical specification freely available (since 1998).

The technical specification provides details about how the data is structured, the details of the **data schema** and **data encoding**.

An Application Programming Interface (**API**) is developed by a software programmer to allow computer programs to interpret the data.

# Spatial Data Standards



## ISO 19152: Land Administration Domain Model (LADM)

- Reference model (abstract, conceptual schema)
- Applies to land and water, below/above surface
- Basic classes:
  - Parties
  - Rights, Responsibilities, Restrictions (RRR)
  - Spatial Administrative Units
    - spatial sources (GIS data)
    - spatial representations (text description)

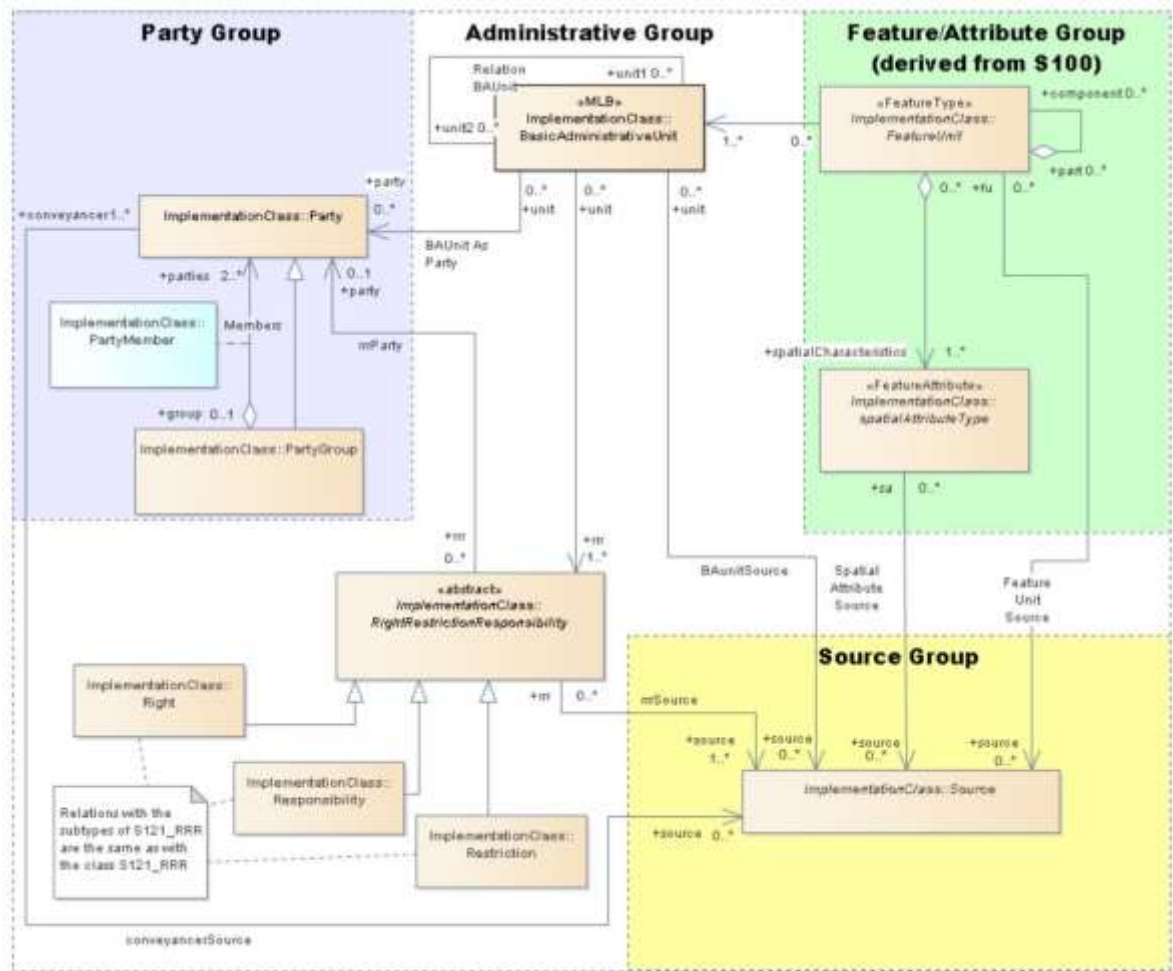
# Spatial Data Standards



**S-100** provides the data framework to use and extend the ISO 19000 series of geospatial standards for the development of the next generation of ENC products, as well as other related digital products required by the hydrographic, maritime and GIS communities.

- online registry based on the ISO 19135 standard (Procedures for Registration of Geographical Information Items), has been established for the registration, management and maintenance of the various dictionaries of items recognised under the S-100 framework. The registry contains the following principal subordinate registers:
  - Feature Concept Dictionary (FCD) Register
  - Portrayal Register (under development)
  - Metadata Register (not established)
  - Data Producer Code register (contributing agencies)

# Data Schema





# Data Format (encoding)

The format for the data is **dependent upon its use**.

**Production**– An approved dated set of MLB data for use in production of other data products. Data is formatted in S-100 format (or in some cases in S-57 format) in a manner supported by the production GIS system.

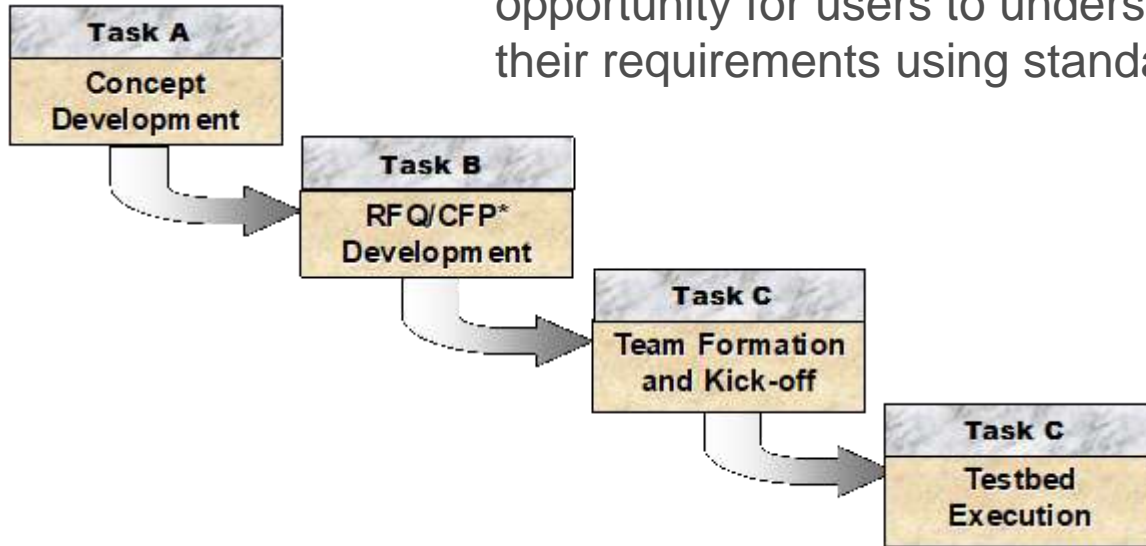
**Legal Declaration** – Data is provided as official legal declaration of MLB objects including supporting information that can be used to verify the correctness of the data. It is important that legal support data be simple to interpret. Since only sections of the data will be extracted and examined the efficiency of the data format is not important. The data may be verbose, but it must be easy to read by humans examining the data.

**General Public Release** – An approved dated set of MLB data that may be distributed to the general public for use. Data is provided as an S-100 dataset encoded as a GML or KML file, in a GIS vendor specific file format or through an MSDI service.

# OGC Innovation Program – developing the API



**OGC Pilot Projects** apply and test OGC standards in real world applications using Standards Based Commercial Off-The-Shelf (SCOTS) products that implement OGC standards. Pilot projects are an opportunity for users to understand how to best address their requirements using standards-based architectures.



# Contributing Organisations





## Questions?

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