

## Paper for Consideration by S-121 PT & S-100 WG

### Supporting a Standard-based Exchange Format for Maritime Limits and Boundaries

<b>Submitted by:</b>	Canadian Hydrographic Service & Geoscience Australia
<b>Executive Summary:</b>	S121 is a product specification for Marine Limits and Boundaries for the administration of the marine domain. It allows for the representation of marine areas and their associated rights restrictions and responsibilities in alignment with the UN Convention of the Law of the Sea (UNCLOS) while also allowing freedom for States to represent their claims and views. The standard is based on S-100 and also in the ISO standard 19152 Land Administrative Domain Model.
<b>Related Documents:</b>	S-100, ISO 19152, HSSC7-05.1G INF8, HSSC7-06.1C INF9
<b>Related Projects:</b>	S122 Marine Protected Areas

#### *The proposed IHO S-121 Standard*

Our planet's oceans are subdivided by international and national laws into many areas and zones. Certainty over the locations of these zones and the rights, restrictions and responsibilities that apply to them facilitates the development of the world's ocean resources while providing for the protection of the marine environment and safety of navigation.

At the highest level, these zones define where States exercise sovereignty and sovereign rights, and identify areas beyond national jurisdictions that fall under international jurisdiction. Together, these entities describe the common framework for the Law of the Sea.

Maritime Limits and Boundaries (MLBs) are the constructs used to delineate maritime zones and forms the legal foundation of the marine domain. These maritime zones are established in law by their geographic limits and where such limit is delimiting two neighbouring States, this limit is described as a maritime boundary, hence the term Maritime Limits and Boundaries (MLBs).

To effectively distribute MLBs for the due publicity obligations under the Law of the Sea Convention and operational purposes, there needs to be a standard framework which ensures compatibility between users and encodes the legal character of the MLBs.

In January 2010, by adopting the S-100 Universal Hydrographic Data Model, the International Hydrographic Organisation (IHO) embarked on the development of a versatile standard framework aligned with the International Organization for Standardization (ISO) 19100 Geographic Information / Geomatics series of standards. The IHO S-100 standard aims to support a wide range of users by developing digital products and transfer standards for the marine community beyond the core hydrographic applications of the IHO. The standard opens the possibility of better marine administration by facilitating the integration of Hydrographic, Scientific and Legislative information.

The Maritime Limits and Boundaries standard - S-121 represents an essential extension of S-100 for the administration of the marine domain. It enables MLBs to be described in terms of what they are, what they embody and what they are used for. S-121 establishes a framework for communicating in a digital form the geographic extents of marine areas and the associated rights and restrictions that apply to

them. The framework has been developed to rigorously apply the provisions of the United Nations Convention of the Law of the Sea (UNCLOS), while allowing sufficient flexibility to accommodate the diverse implementations of the Convention by States under domestic laws.

The primary purpose of S-121 is to allow States to communicate official digital representations of their maritime limits and boundaries to the public and international community. The standard is designed to be acceptable as a method for States to fulfil their deposit obligations under the Convention. S-121 is established to depict, describe and communicate national maritime limit or boundary positions without prejudice to maritime boundary disputes. S-121 does not seek to resolve disputes between States: Where disputes exist, the standard will facilitate visibility of those disputes by allowing each party to publish its own position. The S-121 secondary purpose is to provide a flexible and expandable framework able to support other maritime delimitation requirements such as defining areas of overlapping jurisdiction and Joint Development Areas, or any other management areas.

The current vision for this standard is to leverage the capabilities of the ISO 19152 Land Administration Domain Model. ISO 19152 supports the legal description of associated rights, restriction and responsibilities along with providing proper referencing through sourcing and versioning. This additional capability aligns the standard with legal practices of traceability. The use of the ISO 19152 standard leverages the significant community investment made in land administration, with which the management of maritime boundaries and limits has much in common. The use of ISO 19152 provides a foundation to extend S-121 into the management of other regulated boundaries, such as marine reserves and fisheries. Alignment with the land domain model will facilitate consistent administration of the littoral zone for those states that adopt S-121 for their marine spaces and ISO 19152 for their land jurisdiction.

The S-121 standard is designed to provide a flexible management and communication solution that can support any type of MLBs for the broadest range of users including the Owner State, other States, the international community, government organizations, courts of law, private industry, academic institutions, and the general public. By construction, the standard also remains compatible with S-101 (Electronic Nautical Chart Product Specification) to allow for the depiction of the MLB information encoded by the standard to be displayed in electronic navigation charts.

The S-121 takes a practical step toward achieving the vision of S-100 as it was established: to expand the user base and better accommodate the requirements of our digital world. By building on ISO 19152, the S-121 framework provides the capacity to more efficiently and consistently administer across the land and maritime domains. It is essential that we evolve current practices to provide a foundation for sustainable administration of the world's blue economy. Use of the S-121 standard will reduce costs of enforcement and compliance, and will support the extension of the digital economy into the offshore.