Understanding NOAA's S-100 based metadata format

Introduction:

S-100, the Universal Hydrographic Data Model, makes a provision for the Discovery Metadata for Information Exchange Catalogues in **S-100 Part 4a**. This profile provides a specification for describing and creating exchange catalogues that enables users to identify, discover and manage content of the S-100 exchange sets. More importantly, it leverages XML to allow machine-to-machine discovery and exchange of information about geographic datasets commonly produced by hydrographic organizations. Its purpose is the creation of metadata records that provide information about the identification, spatial and temporal extent, quality, application schema, spatial reference system, and distribution of digital geographic data. It is applicable to the cataloguing of datasets, clearinghouse activities, and the full description of geographic and non-geographic resources.

For information exchange, there are several categories of metadata required: metadata about the overall exchange catalogue, metadata about each of the datasets contained in the catalogue, and metadata about the support files that make up the package.

How is Discovery Metadata maintained for Precision Marine Navigation Dissemination?

For the initial prototype release of S-100 based products, discovery metadata is maintained at the product level. So for each product type there is a S-100 Metadata Discovery Catalog generated as products are update. So for example, the S-111 surface currents product line creates an exchange set after each model run that contains the relevant discovery metadata for that run. This is stored in two separate places – there will always be a catalog.xml file stored within each model run, but there is also a second Exchange Set Catalog that is stored at a static path that is overwritten each time a new forecast run becomes available. For S-111 more information can be found here: https://noaa-s111-pds.s3.amazonaws.com/README.html

What type of information is stored in the catalog.xml?

The catalog.xml file stores all the discovery information that is needed for systems to discover and ingest the latest datasets that are available for that specific product. Below is an example of metadata associated with S-111.

General Information:

- Dataset Name
- File Path
- Digital Signature – At this time, the datasets are unsigned

Geographic Coverage information for the dataset