



8th S-100 Working Group (S-100WG) Meeting

Status of S-1XX sample dataset and Application to S-100 Viewer

Agenda Item 6.14

13 - 17 November 2023 / Singapore



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INTRODUCTION / BACKGROUND

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- KHOA developed and provided the S-100 Viewer and OpenS-100 for testbed support
- The S-100 edition referenced by the S-1XX product specifications is different, and the availability of sample data and FC/PC is to be different for each product.
- Aims to investigate the status of S-1XX sample data and to apply each sample data to KHOA S-100 Viewer/OpenS-100

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STATUS OF S-1XX PRODUCT SPECIFICATION DEVELOPMENT

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- Status of each product specification

ID	Title	PS Ver.	S-100 Ver.	Status	FC	PC	DCEG	TDS
S-101	Electronic Navigational Chart	1.1.0	5.0.0	Published	0	0	0	0
S-102	Bathymetric Surface	2.2.0	5.0.0	Published	0	Δ	0	0
S-104	Water Level Information for Surface Navigation	1.1.0	5.0.0	Published	0	X	0	0
S-111	Surface Currents Product Specification	1.2.0	5.0.0	Published	0	X	0	0
S-121	Maritime Limits and Boundaries	1.0.0	4.0.0	Published	0	X	0	X
S-122	Marine Protected Areas	1.0.0	3.0.0	Published	0	X	0	0
S-123	Marine Radio Services	1.0.0	3.0.0	Published	0	X	0	0
S-124	Navigational Warnings	1.0.0	5.0.0	Published	0	0	X	X
S-125	Marine AtoN	0.0.3	4.0.0	Development	0	0	DCEG	0
S-127	Marine Traffic Management	1.0.0	4.0.0	Published	0	X	0	0
S-128	Catalogue of Nautical Products	1.0.0	4.0.0	Published	0	X	0	X
S-129	Under Keel Clearance Management Product Specification	1.1.0	5.0.0	StakeholderReview	0	X	0	X
S-130	Polygonal Demarcations of Global Sea Areas	1.0.0	5.0.0	Published	0	X	0	X
S-131	Marine Harbour Infrastructure	1.0.0	5.0.0	Published	0	Δ	X	X



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STATUS OF S-1XX SAMPLE DATASET

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- The S-1XX TDS (S-100 Resources page)
 - S-164 TDS, KHOA TDS, UKHO MDP (Marine Data Portal), NOAA PMN (Precision Marine Navigation Program), and SHOM TDS.
 - **UKHO MDP**: S-101, S-102, S-104, S-111, S-121 and S-122 TDS available in UKHO's Marine Data Portal
 - **NOAA PMN**: NOAA's Precision Marine Navigation Program provides S-102 and S-111
 - **SHOM TDS**: SHOM provides TDS for S-101, S-102, S-111
 - **S-164 TDS**: S-101 TDS subgroup produces and supports the S-164 subgroup
 - KHOA TDS: KHOA produces S-101, S-102, S-104, S-111, S-122, S-123 and S-127 TDS



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APPLICATION OF S-1XX SAMPLE DATASET TO KHOA VIEWER/OPENS-100

- FC/PC version applied

Product ID	FC Version	PC Version
S-101	1.1.0	1.1.2-Draft
S-102	2.2.0	Internal PC
S-104	1.1.0	Internal PC
S-111	1.2.0	Internal PC
S-121	1.0.0	Internal PC
S-122	1.0.0	Internal PC

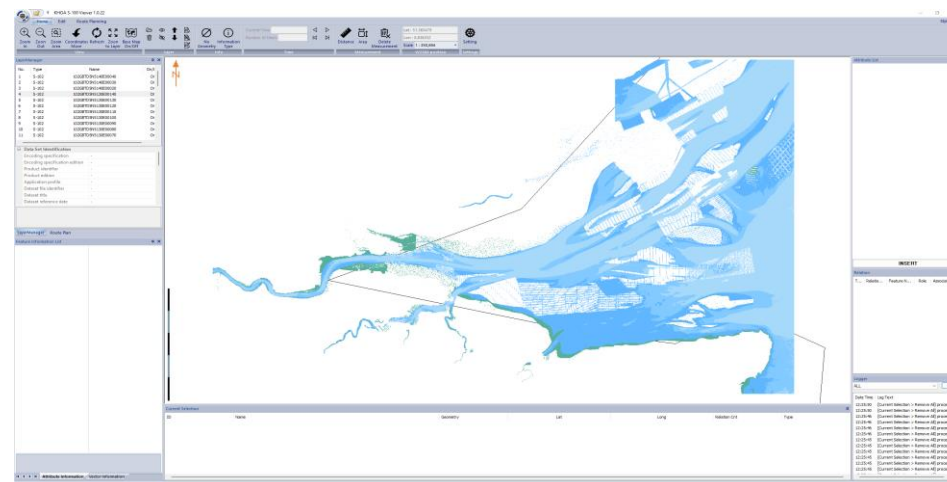
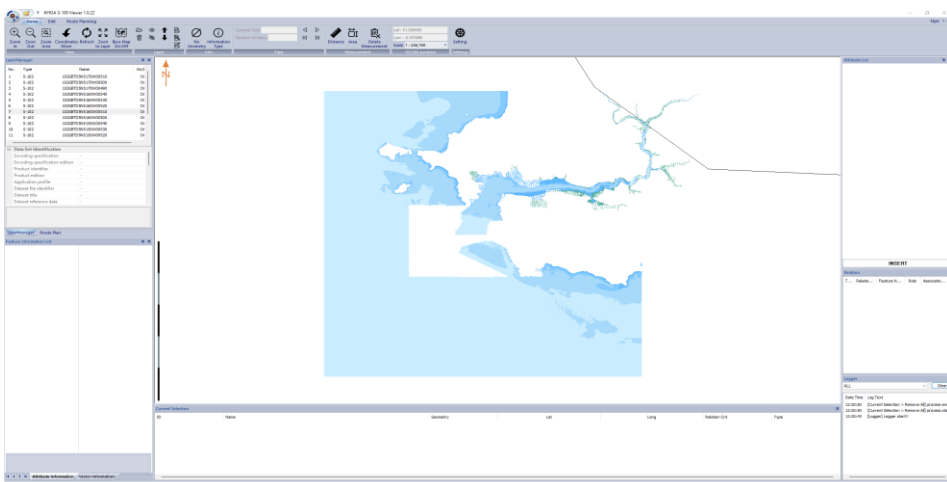
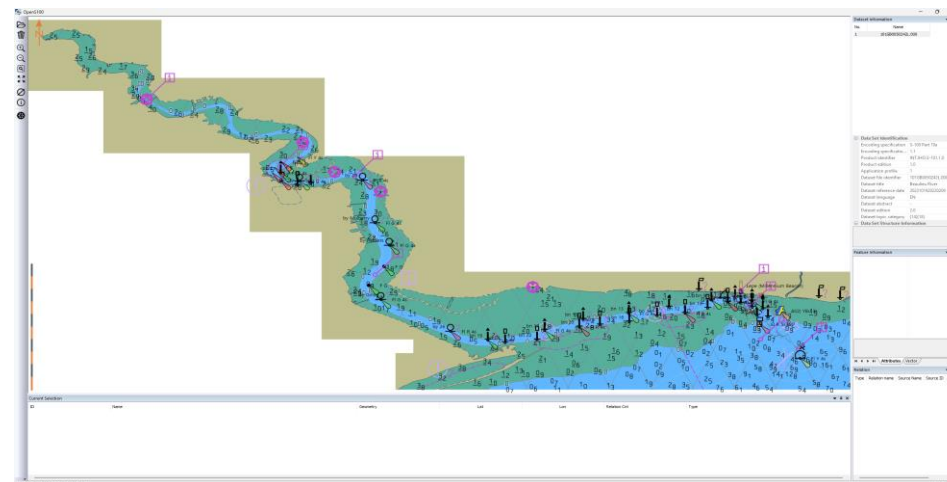
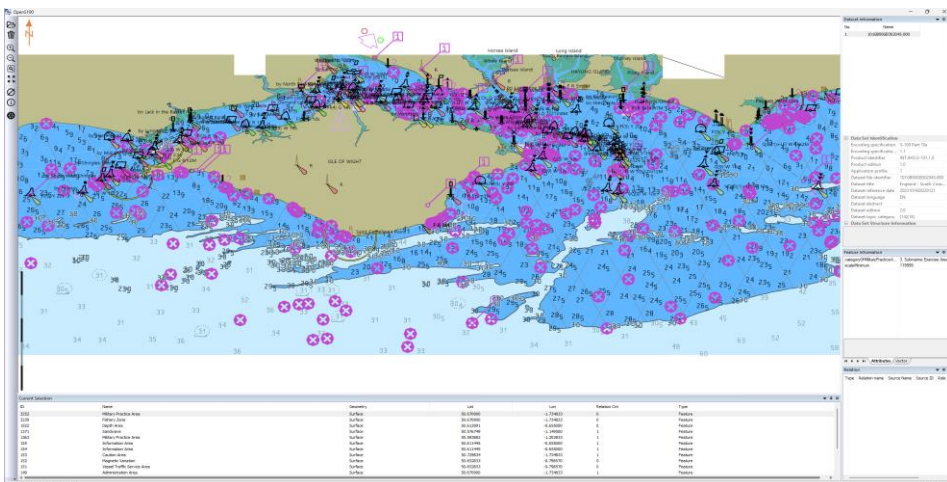


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APPLICATION OF S-1XX SAMPLE DATASET TO KHOA VIEWER/OPENS-100

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- UKHO TDS
 - No issues on S-101, S-102





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APPLICATION OF S-1XX SAMPLE DATASET TO KHOA VIEWER/OPENS-100

International Hydrographic Organization

- UKHO TDS

- KHOA S-100 Viewer supports only when Feature Instance ID starts with 01 (WaterLevel.01), but UKHO S-104 data starts with WaterLevel.03, so an error occurs in KHOA Viewer
- An error occurs because the axisName attribute of S-104 is different. It is necessary to include the axisName attribute in the S-104 data and process data using this attribute value.

104UK_20210401T000000Z_SolentAndAppr_dcf2.hdf5

- > Group_F
- > WaterLevel
 - > WaterLevel.03
 - > Group_001
 - > Group_002
 - > Group_003
 - > Group_004
 - > Group_005

geometryValues at /WaterLevel/WaterLev

Table Import/Export Data

0-based

	0	
	lat	long
0	-2.466666	50.566666
1	-2.433333	50.566666
2	-2.25	50.616665
3	-2.216666	50.616665
4	-1.95	50.616665

geometryValues at /WaterLevel/Wa

Table Import/Export Data

0-based

	0	
	longitude	latitude
0	125.13	34.05
1	128.81	35.02
2	129.39	36.36
3	128.95	37.77

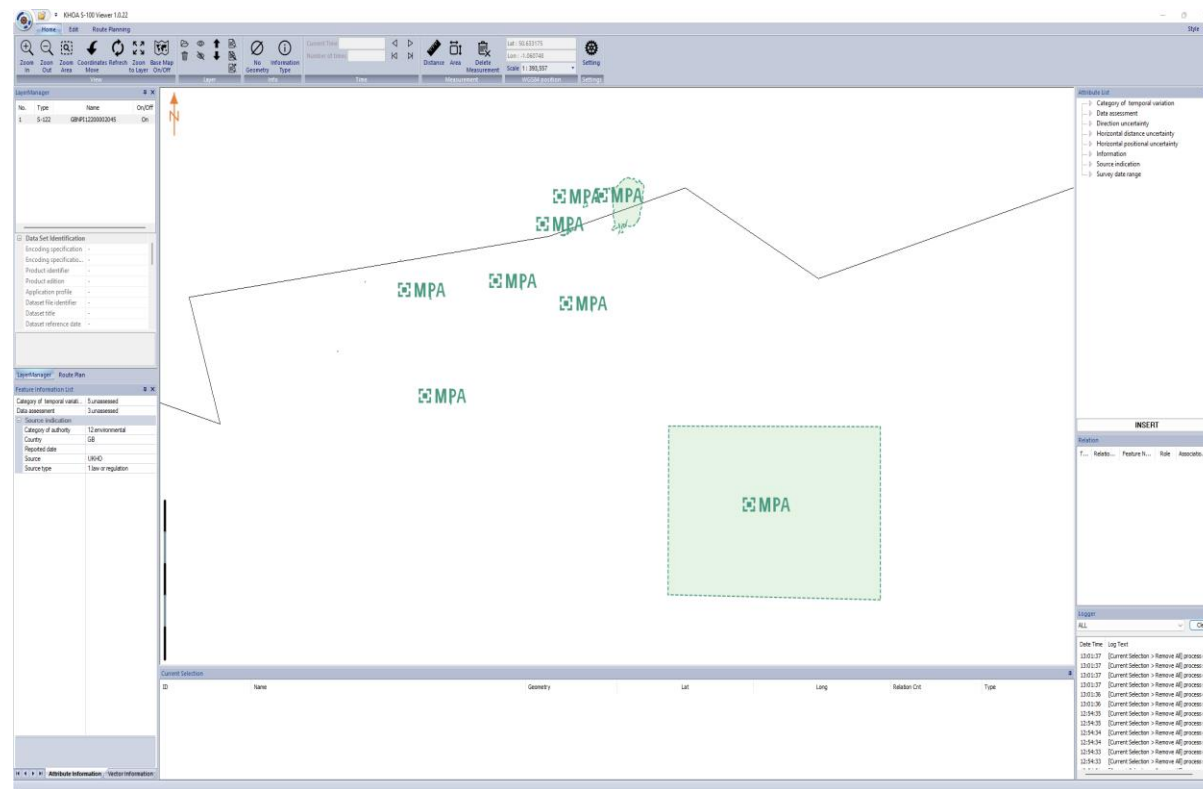
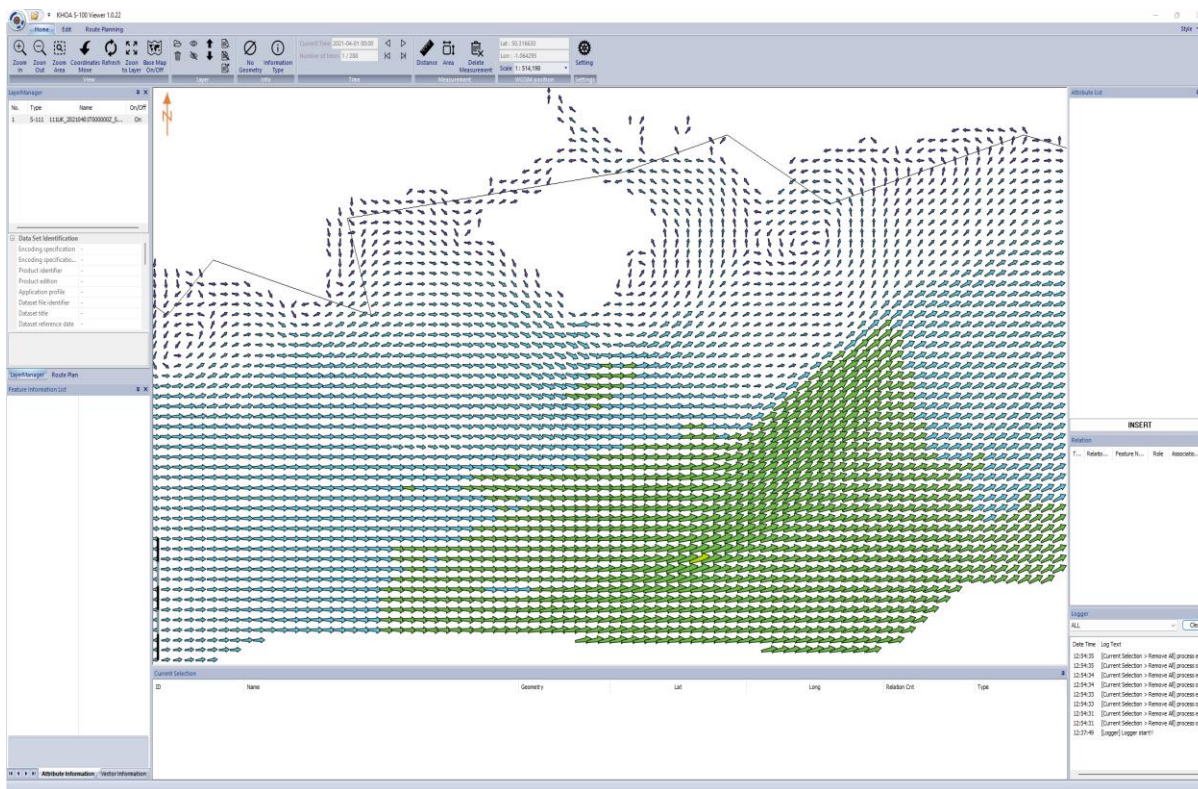


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APPLICATION OF S-1XX SAMPLE DATASET TO KHOA VIEWER/OPENS-100

International Hydrographic Organization

- UKHO TDS
- No issues on S-111 and S-122





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APPLICATION OF S-1XX SAMPLE DATASET TO KHOA VIEWER/OPENS-100

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- UKHO TDS

- For S-121, KHOA S-100 Viewer does not support the xml namespace called fme and does not support the method of including features in featureMember. The current KHOA S-100 Viewer does not support various types of prefixes

```
<gml:FeatureCollection xmlns:fme="http://www.safe.com/gml/fme" xmlns:xsi="http://www.w3.org/2001/XMLSchema"
xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:gml="http://www.opengis.net/gml" xsi:schemaLocation="http://www.safe.com/gml/fme S121_MDP_dataset_2.xsd">
  <gml:boundedBy>
    <gml:Envelope srsName="EPSG:4326" srsDimension="2">
      <gml:lowerCorner>47.4354 -14.892947999999999</gml:lowerCorner>
      <gml:upperCorner>63.8870667 3.3985499999999997</gml:upperCorner>
    </gml:Envelope>
  </gml:boundedBy>
  <gml:featureMember>
    <fme:Limits gml:id="idf484d076-4e86-4986-b67d-33a40553e79a">
      <fme:categoryOfLegislativeFeature>Port Baseline</fme:categoryOfLegislativeFeature>
      <fme:collectionName>United Kingdom Baselines</fme:collectionName>
      <fme:name>United Kingdom Port Baseline</fme:name>
      <fme:name2/>
      <fme:dateStart>30062014</fme:dateStart>
      <fme:dateEnd/>
      <fme:source>UK Hydrographic Office</fme:source>
      <fme:locationByText>United Kingdom</fme:locationByText>
      <fme:datum>WGS_84</fme:datum>
      <fme:spatialType>Limit</fme:spatialType>
      <fme:comment>Test data, not official illustration of UK limits</fme:comment>
      <fme:releasabilityType>Controlled</fme:releasabilityType>
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    </fme:Limits>
  </gml:featureMember>
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      <fme:categoryOfLegislativeFeature>Port Baseline</fme:categoryOfLegislativeFeature>
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      <fme:name>United Kingdom Port Baseline</fme:name>
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      <fme:dateEnd/>
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      <fme:spatialType>Limit</fme:spatialType>
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      <gml:curveProperty>
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```

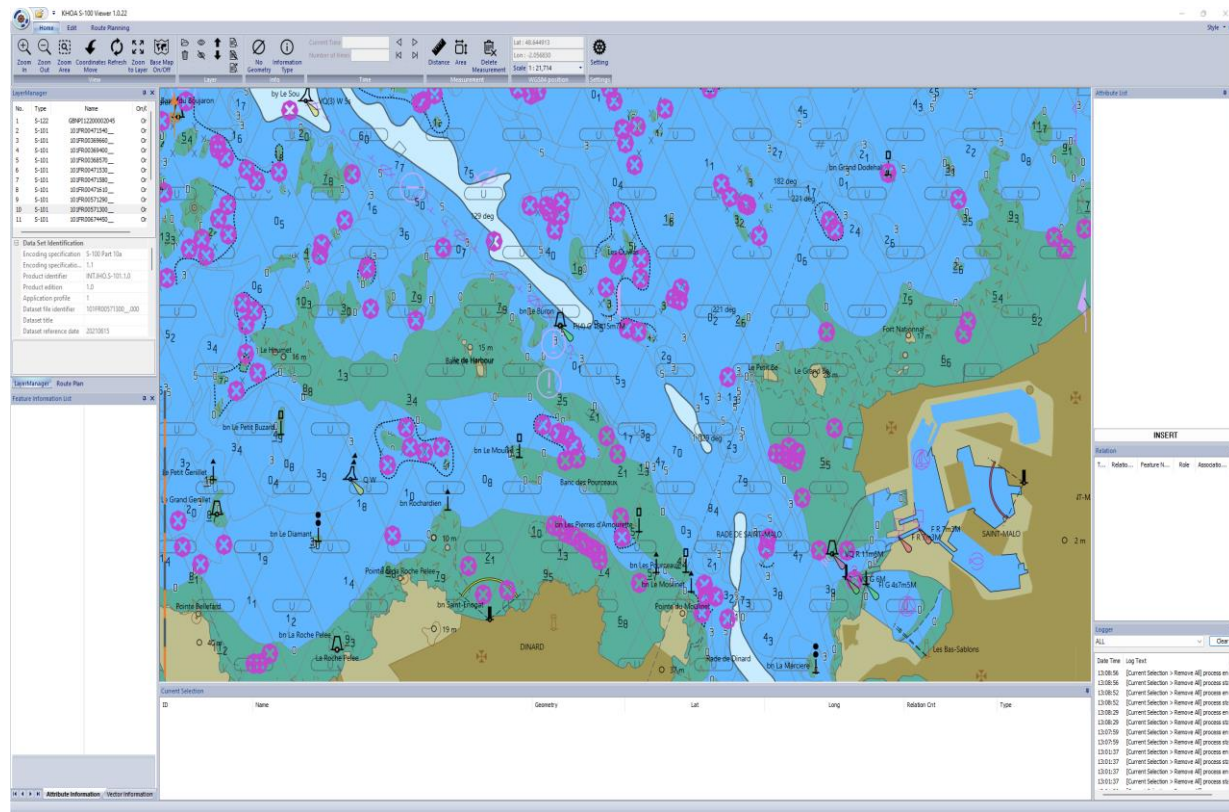
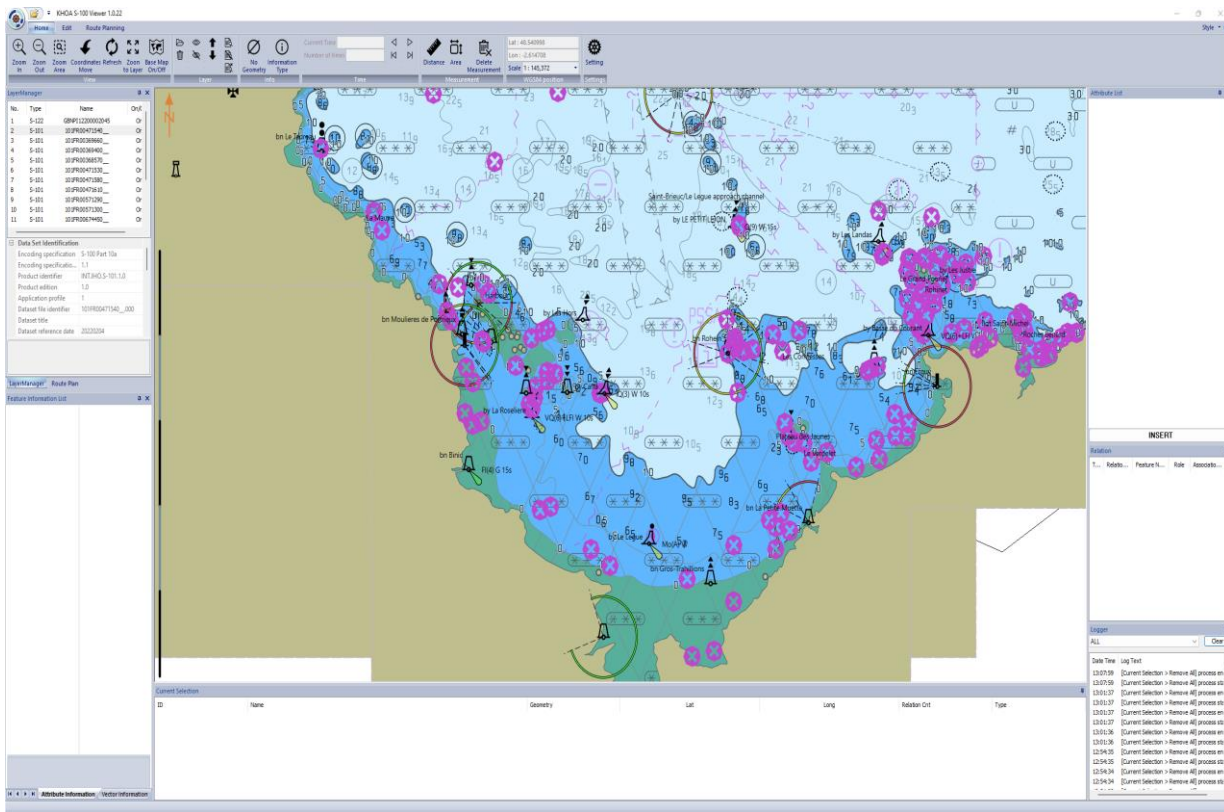
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<imember>
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</imember>
<member>
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    <beaconShape></beaconShape>
    <geometry>
      <S100:pointProperty>
        <S100:Point gml:id="1">
          <gml:pos>129.6126549 35.0339641</gml:pos>
        </S100:Point>
      </S100:pointProperty>
    </geometry>
  </S125:BeaconCardinal>
</member>
</S125:DataSet>
```



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APPLICATION OF S-1XX SAMPLE DATASET TO KHOA VIEWER/OPENS-100

- SHOM TDS
 - no issues with SHOM's S-101, S-102, and S-111 TDS



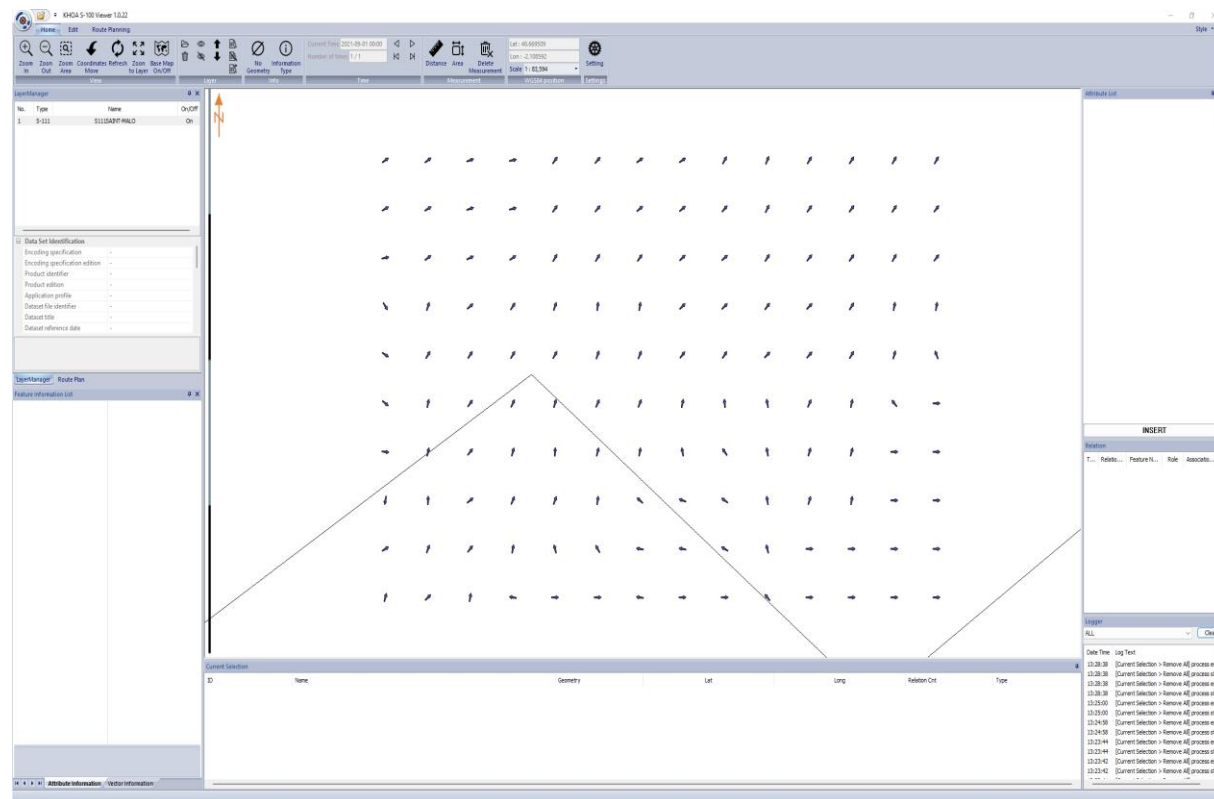
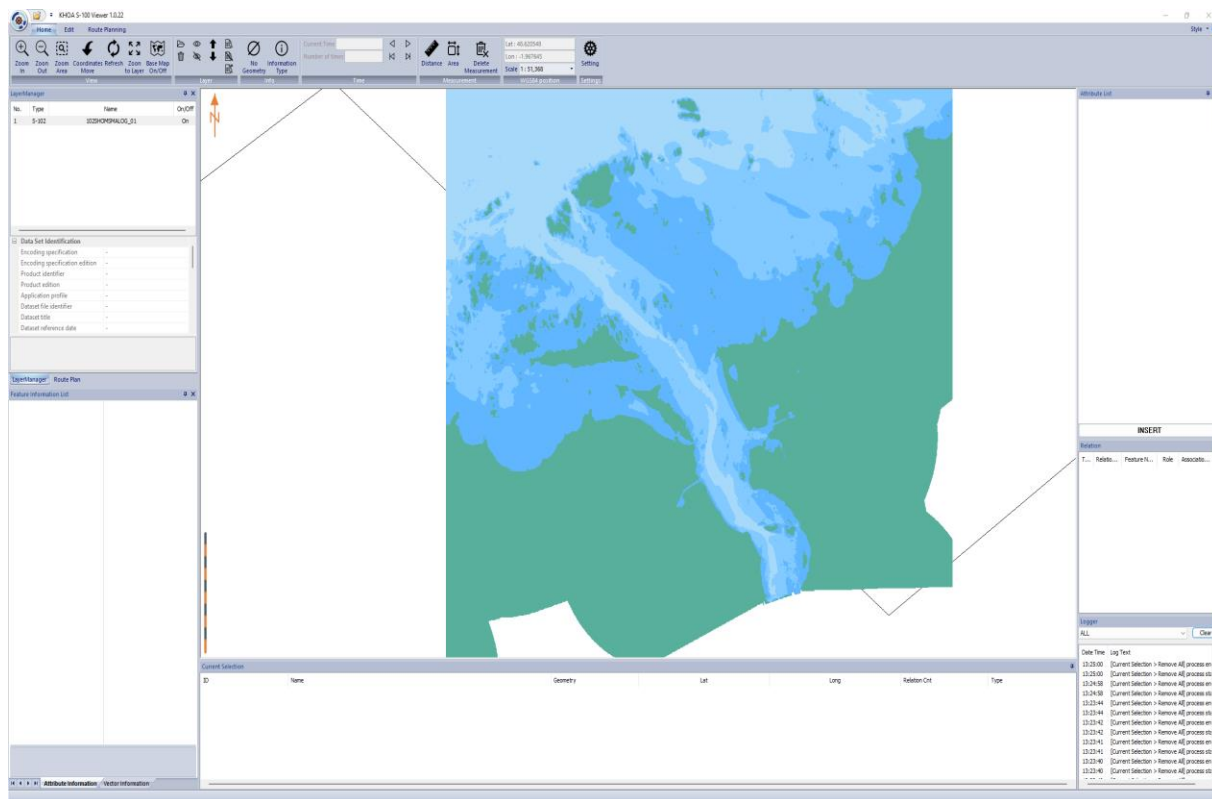


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APPLICATION OF S-1XX SAMPLE DATASET TO KHOA VIEWER/OPENS-100

International Hydrographic Organization

- SHOM TDS
 - no issues with SHOM's S-101, S-102, and S-111 TDS



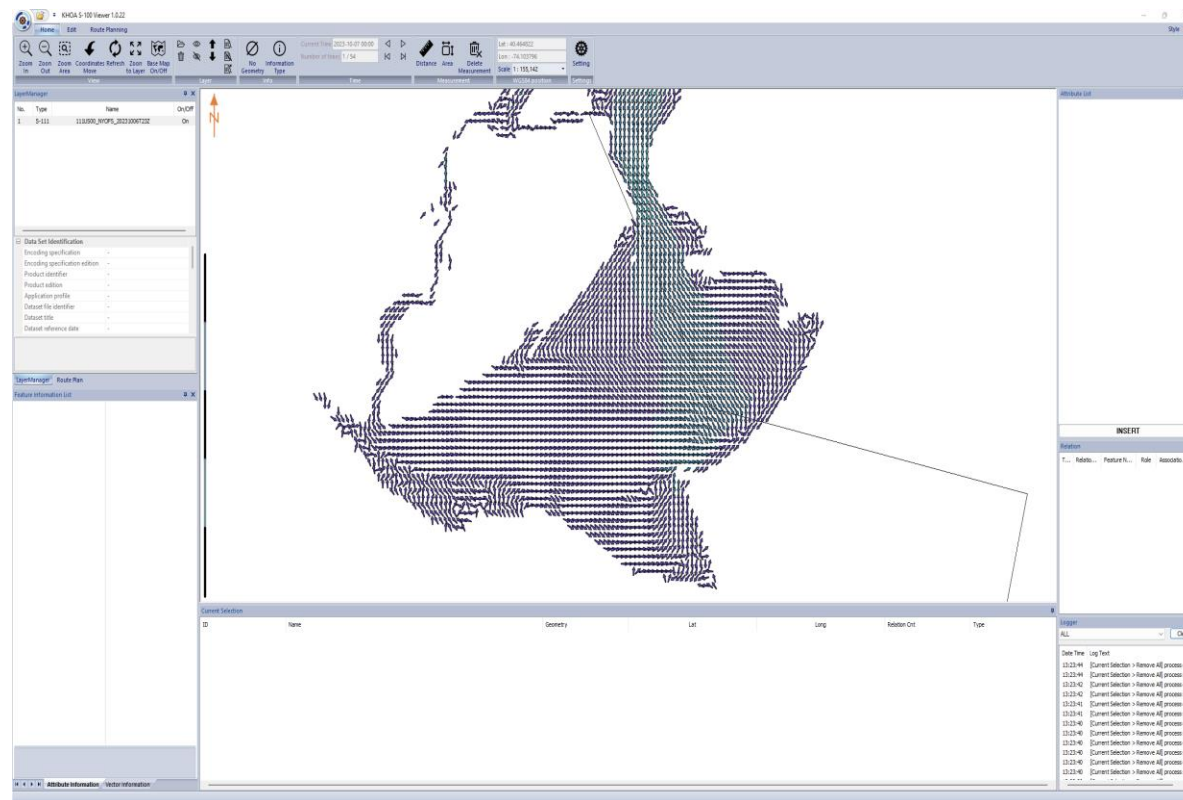
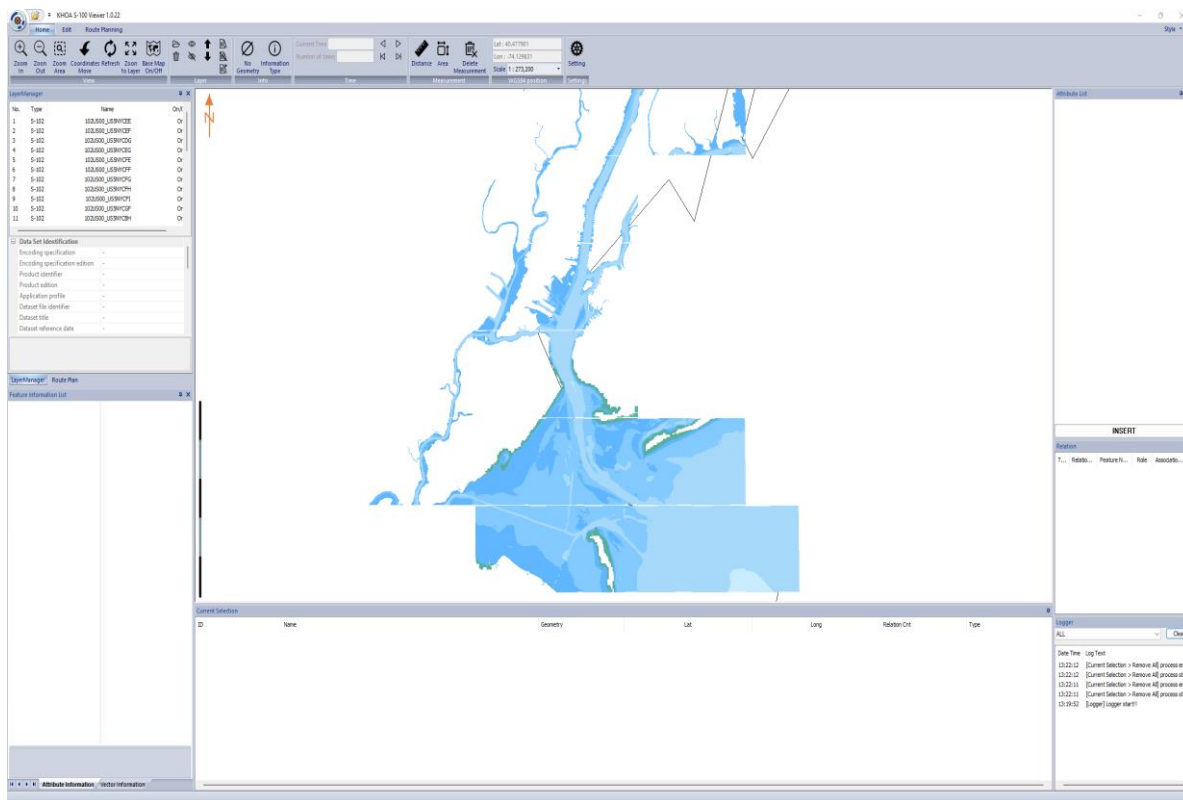


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APPLICATION OF S-1XX SAMPLE DATASET TO KHOA VIEWER/OPENS-100

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- NOAA TDS
 - No issues on S-102 and S-111

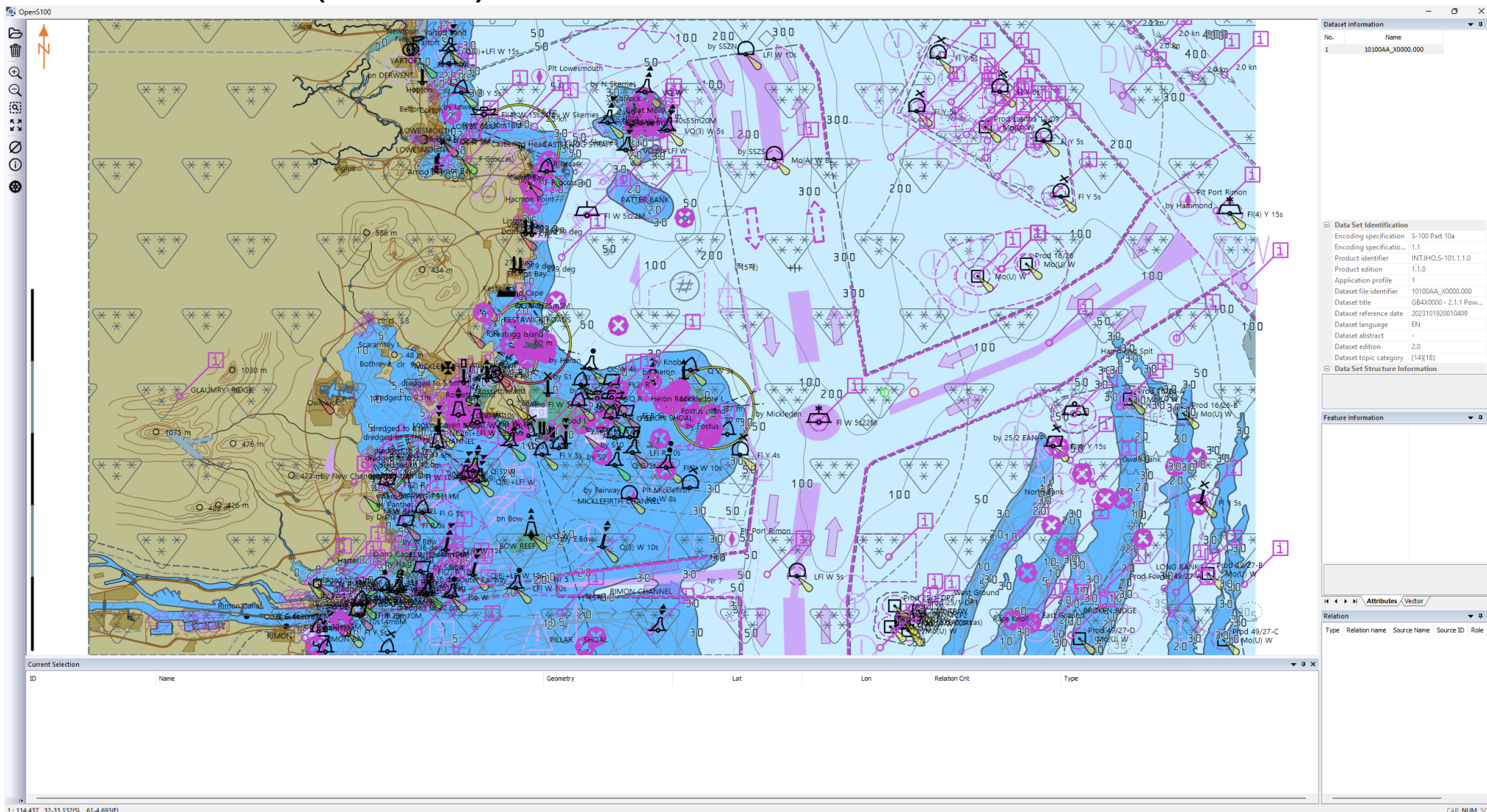




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APPLICATION OF S-1XX SAMPLE DATASET TO KHOA VIEWER/OPENS-100

- S-164 TDS (S-101)





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- Recommendations

- It's recommended to refer the issues discovered during the process of applying the S-1XX sample data to KHOA S-100 Viewer/OpenS-100, and related actions are recommended if necessary.

- Action Required of S-100WG

- The S-100WG is invited to:
 - a. note the investigation and research results on the sample dataset and application to KHOA Viewer/OpenS-100
 - b. note the plan of KHOA to continue the test of S-1XX TDS and FC/PC using KHOA S-100 Viewer/OpenS-100