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

Proposal of Basic Portrayal Catalogue

Agenda Item 6.12

13 - 17 November 2023 / Singapore

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INTRODUCTION / BACKGROUND

- IHO and international organizations participating in S-100 eco-system are developing the S-XXX product specifications.
- Portrayal catalogue defines the drawing method of each feature instance within the dataset
- Since it is optional in some products, there is no way to draw S-100 datasets without a portrayal catalogue in S-100 SW
- The need for a drawing method of S-10X products for which a portrayal catalogue has not yet been developed, was raised

STATUS OF PORTRAYAL CATALOGUE

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- Status of Portrayal catalogues
  - found in the product specification register of the IHO GI Registry
  - S-100 Resource page of the IHO Github
  - Officially released portrayal catalogues are S-101 and S-129
  - other product specifications have been developing or have not begun

Product Specification	S-101	S-102	S-104	S-111	S-124	S-129
Compliant to S-100	S-100 Ed.5.0.0	S-100 Ed.5.0.0	S-100 Ed.5.0.0	S-100 Ed.5.0.0		S-100 Ed.4.0.0
Product Specification	S-101 Ed.1.1.0	S-102 Ed.2.2.0	S-104 Ed.1.1.0	S-111 Ed.1.2.0		S-129 Ed.1.0.0
DCEG[1]	S-101 Ed.1.1.0					
Feature Catalogue	S-101 Ed.1.1.0	S-102 Ed.2.2.0	S-104 Ed.1.1.0	S-111 Ed.1.2.0		S-129 Ed.1.0.0
Portrayal Catalogue	S-101 Ed.1.1.1					S-129 Ed.1.0.0
Validation Checks	S-101 Ed.1.1.1					
IHO website links	IHO S-101PT	IHO S-102PT	IHO TWCWG	IHO TWCWG	IHO NIPWG	IHO S-129PT

STATUS OF PORTRAYAL CATALOGUE

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- S-100 SW

Software Provider	Application	S-101	S-102	S-104	S-111	S-124	S-129
KHOA	KHOA S-100 viewer `Free`	Ed.1.0.0	Ed.1.0.0		Ed.1.0.0		
NIWC	NIWC S-100 viewer `Free`	Ed.1.0.0					
I4Insight	dKart S-101 Converter `Free`	Ed.1.0.0					
Teledyne CARIS	CARIS Easy view `Free`	Ed.1.x.x	Ed.2.1.0				
	HPD 4.1.36	Ed.1.1.0					
	BASE Editor 5.5.6		Ed.2.1.0				
Esri Inc	ArcGIS Pro 3.1	Ed.1.0.0					
IIC	Feature Builder[2]	Ed.1.1.0					
	Exchange Set Builder	Yes	Yes	Yes	Yes	Yes	Yes
7Cs	Analyzer for Validation	Ed.1.1.0					
	FME based S-57 to S-101 conversion	Ed.1.1.0					
ECC/PRIMAR	IHO S-100 Ed4 and Ed5 SA protection application	Support	Support	Support	Support	Support	Support
ECC	GDS(Geodata Distribution Server)	Support	Support	To be supported	Support		

NEED OF S-100 BASIC PORTRAYAL CATALOGUE

- S-100 SW
  - S-100 Viewer and Shore based ECDIS to test S-XXX datasets through the IHO GI Registry's Repository
  - portrayal catalogue is necessary to check the produced data on S-100 SW, but in many cases, a corresponding portrayal catalogues are not available
  - various S-100 based product specifications have been published in Edition 1.0.0 for the test purpose and validation
  - A method needs to be provided to draw the data produced according to product specifications

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DEVELOPMENT OF S-100 BASIC PORTRAYAL CATALOGUE

- Portrayal catalogue data model
- top level template included in RuleType is created as “main.xsl”, and the sub template is created as “Default.xsl”
- define the contents of these two rule files, for allowing to display basic symbols by linking to any feature catalogue
- To verify the S-10X application schema, feature catalogue, and sample dataset, symbols included in the basic portrayal catalogue can be specified rather than a question mark

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DRAFTING BASIC PORTRAYAL CATALOGUE

- Basic portrayal catalogue can be the minimum ways to check TDS in S-100 SW
- In order to define the minimum expression method included in the portrayal catalogue, a rule can be defined according to the primitive (Point, Curve, Surface) of the feature instance
- The draft of basic portrayal catalogue and the screen of testing S-122/S-123/S-127 TDS in KHOA S-100 Viewer

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Point rule

```
<xsl:template match="*[@primitive='Point']">
    <pointInstruction>
        <featureReference>
            <xsl:value-of select="@id"/>
        </featureReference>
        <viewingGroup>21010</viewingGroup>
        <displayPlane>OVERRADAR</displayPlane>
        <drawingPriority>15</drawingPriority>
        <symbol reference="USRPNT01"/>
    </pointInstruction>
    <xsl:if test="featureName!= ''">
        <textInstruction>
            <featureReference>
                <xsl:value-of select="@id"/>
            </featureReference>
            <viewingGroup>26</viewingGroup>
            <displayPlane>UNDERRADAR</displayPlane>
            <drawingPriority>12</drawingPriority>
            <textPoint horizontalAlignment="Right" verticalAlignment="Center">
                <element>
                    <text>
                        <xsl:apply-templates select="featureName" mode="text"/>
                    </text>
                    <xsl:call-template name="textStyle">
                        <xsl:with-param name="style">default</xsl:with-param>
                    </xsl:call-template>
                </element>
                <offset>
                    <x>2</x>
                    <y>0</y>
                </offset>
                <areaPlacement placementMode="VisibleParts"/>
            </textPoint>
        </textInstruction>
    </xsl:if>
</xsl:template>
```

Curve rule

```
<xsl:template match="*[@primitive='Curve']">
    <lineInstruction>
        <featureReference>
            <xsl:value-of select="@id"/>
        </featureReference>
        <viewingGroup>36050</viewingGroup>
        <displayPlane>UNDERRADAR</displayPlane>
        <drawingPriority>6</drawingPriority>
        <xsl:call-template name="simpleLineStyle">
            <xsl:with-param name="style">solid</xsl:with-param>
            <xsl:with-param name="width">0.32</xsl:with-param>
            <xsl:with-param name="colour">CHGRF</xsl:with-param>
        </xsl:call-template>
    </lineInstruction>
    <xsl:if test="featureName!= ''">
        <textInstruction>
            <featureReference>
                <xsl:value-of select="@id"/>
            </featureReference>
            <viewingGroup>26</viewingGroup>
            <displayPlane>UNDERRADAR</displayPlane>
            <drawingPriority>12</drawingPriority>
            <textPoint horizontalAlignment="Center" verticalAlignment="Center">
                <element>
                    <text>
                        <xsl:apply-templates select="featureName" mode="text"/>
                    </text>
                    <xsl:call-template name="textStyle">
                        <xsl:with-param name="style">default</xsl:with-param>
                    </xsl:call-template>
                </element>
                <offset>
                    <x>2</x>
                    <y>0</y>
                </offset>
                <areaPlacement placementMode="VisibleParts"/>
            </textPoint>
        </textInstruction>
    </xsl:if>
</xsl:template>
```

Surface rule

```
<xsl:template match="*[@primitive='Curve']">
    <lineInstruction>
        <featureReference>
            <xsl:value-of select="@id"/>
        </featureReference>
        <viewingGroup>36050</viewingGroup>
        <displayPlane>UNDERRADAR</displayPlane>
        <drawingPriority>6</drawingPriority>
        <xsl:call-template name="simpleLineStyle">
            <xsl:with-param name="style">solid</xsl:with-param>
            <xsl:with-param name="width">0.32</xsl:with-param>
            <xsl:with-param name="colour">CHGRF</xsl:with-param>
        </xsl:call-template>
    </lineInstruction>
    <xsl:if test="featureName!= ''">
        <textInstruction>
            <featureReference>
                <xsl:value-of select="@id"/>
            </featureReference>
            <viewingGroup>26</viewingGroup>
            <displayPlane>UNDERRADAR</displayPlane>
            <drawingPriority>12</drawingPriority>
            <textPoint horizontalAlignment="Center" verticalAlignment="Center">
                <element>
                    <text>
                        <xsl:apply-templates select="featureName" mode="text"/>
                    </text>
                    <xsl:call-template name="textStyle">
                        <xsl:with-param name="style">default</xsl:with-param>
                    </xsl:call-template>
                </element>
                <offset>
                    <x>2</x>
                    <y>0</y>
                </offset>
                <areaPlacement placementMode="VisibleParts"/>
            </textPoint>
        </textInstruction>
    </xsl:if>
</xsl:template>
```

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- KHOA S-100 Viewer (v.1.0.22)
  - https://github.com/S-100ExpertTeam/khoa-s100-viewer/releases/tag/v1.0.22

New version.

KHOA S-100 Viewer 1.0.18 is now available.

About KHOA S-100 Viewer

KHOA S-100 Viewer is a GIS software that complies with the IHO S-100 standard.
This project was released as open source project in December 2021. (OpenS100)

Supported S-100 based standards

- S-101 Electronic Navigational Chart
- S-102 Bathymetric Surface
- S-111 Surface Currents
- S-122 Marine Protected Areas
- S-123 Marine Radio Services
- S-124 Navigational Warnings
- S-127 Marine Traffic Management

License

KHOA S-100 Viewer will release under the LGPLv3.

Releases 2

KHOA S-100 Viewer 1.0.22 Latest
last week

+ 1 release

Packages

No packages published

Contributors 4

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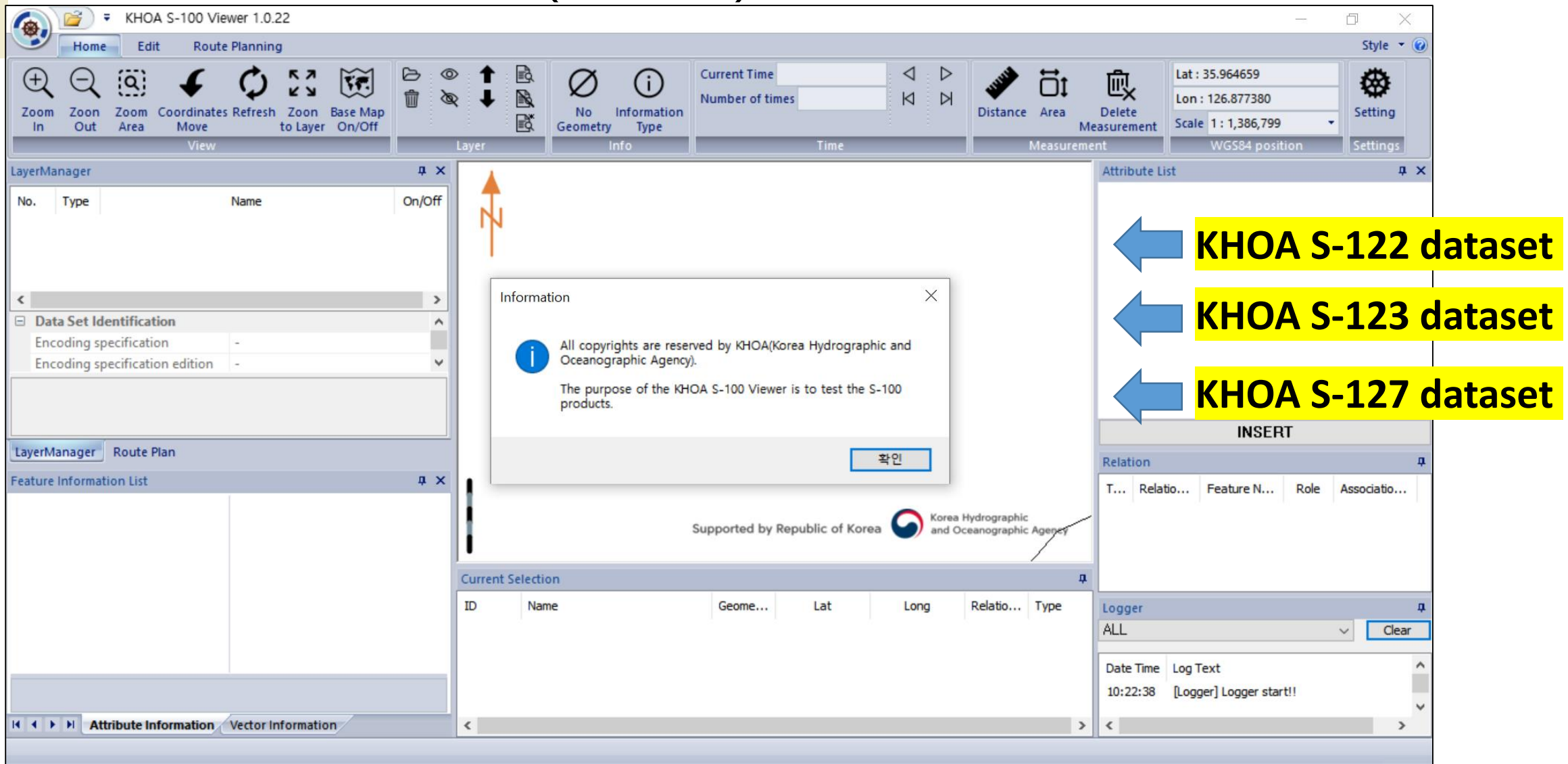
DRAFTING BASIC PORTRAYAL CATALOGUE

International Hydrographic Organization

- KHOA S-100 Viewer (v.1.0.22)



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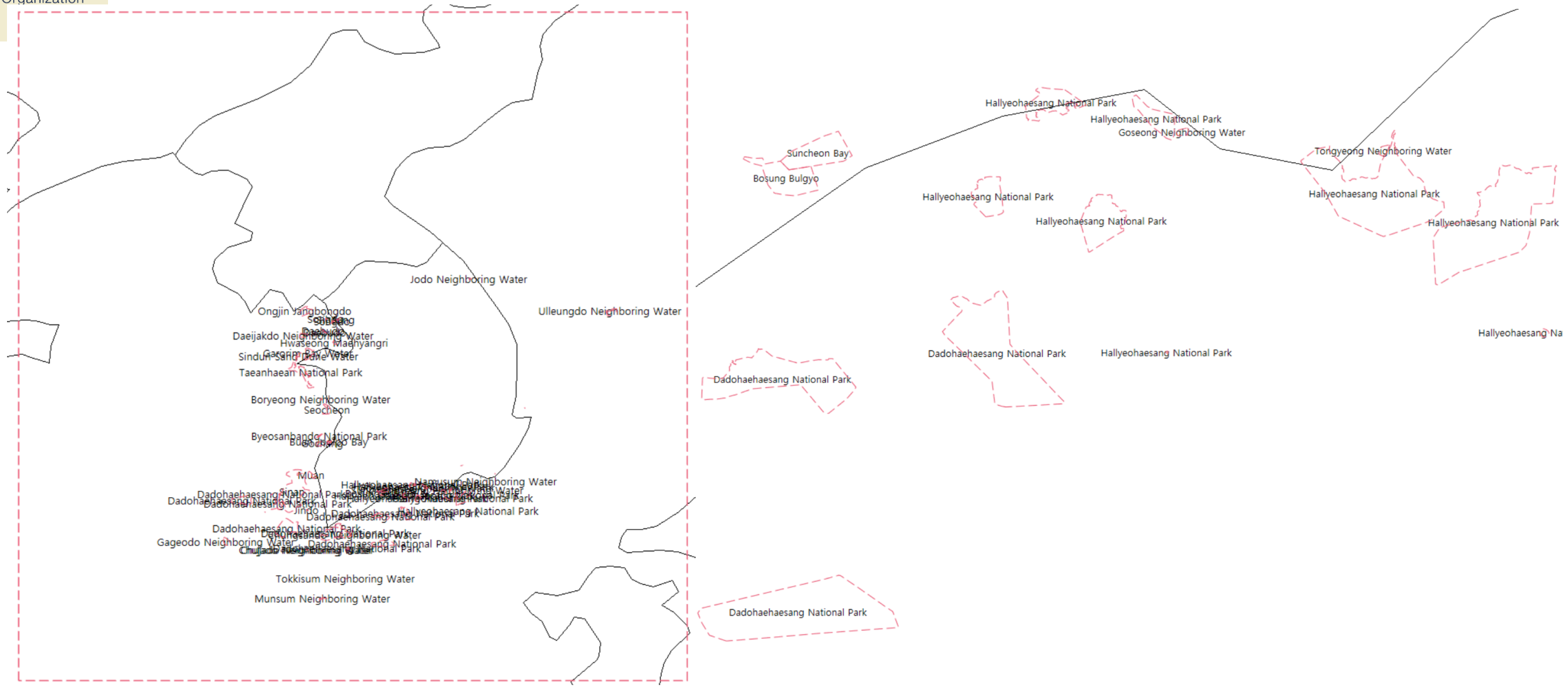
- S-122 MPA - TDS



DRAFTING BASIC PORTRAYAL CATALOGUE

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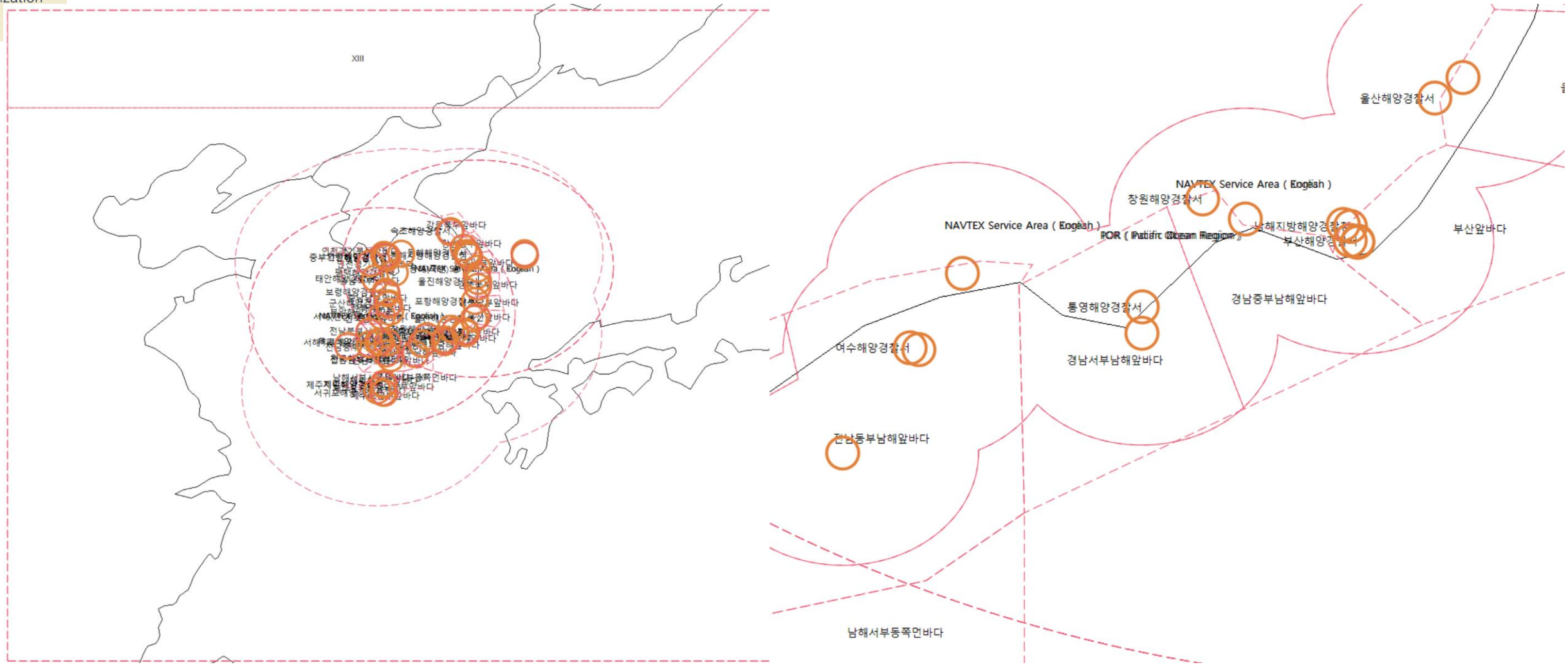
- S-123 MRS - TDS



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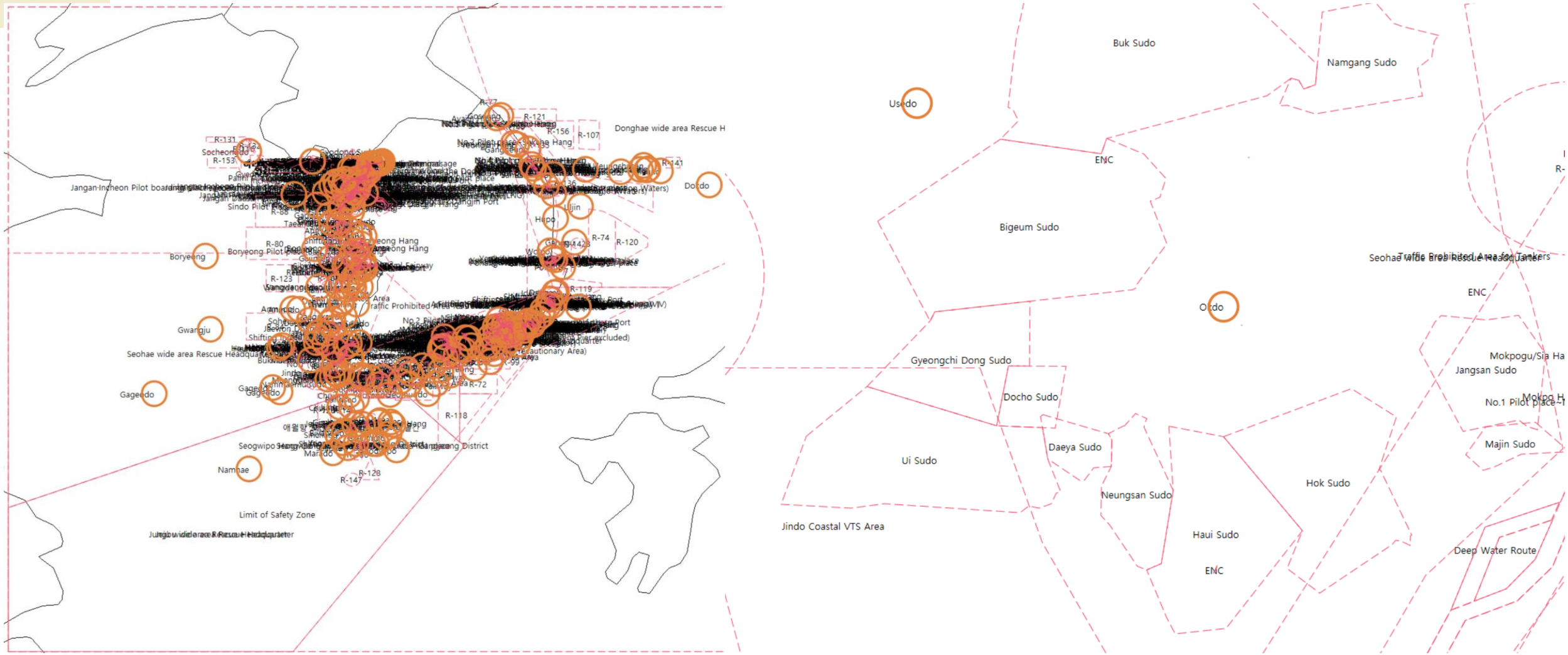
- S-127 MTM - TDS



- Recommendations
  - It is recommended to develop a basic portrayal catalogue that allows to review the test data of the S-XXX product specification for which a portrayal catalogue has not been developed, and to revise the relevant parts of S-100 that are necessary to implement the basic portrayal catalogue.

- Action Required of S-100WG
  - The S-100WG is invited to:

    a. discuss the need of basic portrayal catalogue

    b. approve the development of basic portrayal catalogue and improvement of S-100 if needed