



Hydrographic Services and Standards Committee

Report on Improvement of the S-100 Registry and
Registry Interface Demonstration

HSSC-8

Agenda 5.1

KHOA / IHO Secretariat

Background

- ✦ **S-100** provides the data framework for the development of the next generation of hydrographic-related products such as ENC, Nautical Publications, Ice, Weather, Tides, Currents; as well as other digital products required by the maritime and other GIS communities.
- ✦ **S-100 Infrastructure** currently consists of:
 - S-100 Geospatial Information (GI) Registry
 - S-100 Feature Catalogue Builder (FCB)
 - S-100 Portrayal Catalogue Builder (PCB)



Background (2)

- ✦ **S-100 Geospatial Information(GI) Registry** is the entire information system in which the collection of hydrographic-related Registers are located.
 - Current Registers: Feature Concept Dictionary; Portrayal; [Metadata]; Product Specification; and Data Producer Code.
- ✦ **KHOA has continued to support the development of the new Registry**



The screenshot displays the IHO Geospatial Information Registry website. The header includes the IHO logo and the text "IHO Geospatial Information Registry". Below the header, there is a navigation menu with options: HOME, INTRODUCTION, GI REGISTERS, and PROPOSAL. The "GI REGISTERS" menu is expanded, showing sub-options: PCD, Portrayal, Product Specification, and Agency Code. The main content area is titled "Portrayal Register" and contains a search form with fields for Domain (set to "IHO Hydro"), Item Type (set to "Symbol"), Status (set to "Valid"), and Name. A "Go to Index" button is also present. Below the search form, there is a table titled "IHO Hydro [Symbol]" with the subtitle "Symbol: 172 items found". The table has columns for No., Name, Status, and Date Accepted. The table lists 10 items, each with a small icon representing a hydrographic symbol.

No.	Name	Status	Date Accepted
572	SYMBOL005	Valid	
571	SYMBOL004	Valid	
570	SYMBOL003	Valid	
569	SYMBOL02	Valid	
568	SYMBOL01	Valid	
567	SYMBOL006	Valid	
566	SYMBOL001	Valid	
565	SYMBOL011	Valid	
564	SYMBOL010	Valid	
563	SYMBOL009	Valid	

<http://registry.iho.int>



Progress on Improvement of S-100 Registry

★ Improvement of the Registry Interface (since HSSC-7):

- Feature Concept Dictionary Register and Portrayal Register (partly).
- S-99 proposal procedures, sand box and management functions etc... (Ref: S-100WG1 9.1A (Mar 2016) and S-100TSM4 5.1A (Sep 2016)).
- 2 live trials (Feb - Mar, Aug - Sep 2016).
- IHO Registry Manager (TSSO) – Commenced 03 Oct 2016.

★ Operational from Oct 2016

INTERNATIONAL HYDROGRAPHIC ORGANIZATION
ORGANIZATION HYDROGRAPHIQUE INTERNATIONALE
IHO Geospatial Information Registry
(Version 2.1)

Welcome to the S-100 Geospatial Information Registry (Version 2.1)

This registry is owned by the International Hydrographic Organization (IHO) and is managed by the International Hydrographic Bureau (IHB). The site contains many registers of hydrographic information together with registers of supplementary information owned by specialist domain experts. Each register type is further sub-divided into domains e.g. hydrographic, nautical publications, sea, inland ENC etc. The administration of this registry conforms to IHO Publication S-99 (Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry) a copy of which can be downloaded [here](#).

You are free to view this geospatial information registry without registering, but if you wish to apply for submitting organization status to the registers and domains an application form can be found [here](#).

Note: You are not required to register as a submitting organization to propose new codes in the Data Producer Code Registers.

Once accepted as a submitting organization you are free to submit proposals to any register.

Any difficulties experienced using this site should be reported to the Registry Manager.

Registry Owner
International Hydrographic Organization. [\(contact details\)](#)

Registry Manager
UKHO on behalf of the International Hydrographic Bureau. [\(contact details\)](#)

Submitting Organizations
A list of current Submitting Organization members can be viewed [here](#).

Executive Control Body
A list of current Executive Control Body members can be viewed [here](#).

Domain Control Body
A list of current Domain Control Body members can be viewed [here](#).

New! The registry has been updated to conform to edition 1.1.0 of IHO Publication S-99 (Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry). The major change is the removal of the concept of Main and Supplementary register types.

Old Registry

INTERNATIONAL HYDROGRAPHIC ORGANIZATION
ORGANIZATION HYDROGRAPHIQUE INTERNATIONALE
IHO Geospatial Information Registry
(Version 2.1)

Welcome to the S-100 Geospatial Information Registry (Version 2.1)

The registry is owned by the International Hydrographic Organization (IHO) and is managed by the Secretariat of the IHO. The site contains many registers of hydrographic information together with registers of supplementary information owned by specialist domain experts. Each register type is further sub-divided into domains e.g. hydrographic, nautical publications, sea, inland ENC etc. The administration of this registry conforms to IHO Publication S-99 (Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry) a copy of which can be downloaded [here](#).

The information contained in the Registry can be freely accessed. However items can only be added or changed by the managers of approved Submitting Organizations. Application to become a Submitting Organization can be made by filling the questionnaire form available [here](#). Please note it is not necessary to be a submitting organization in order to request new Data Producer codes. Requests for new Data Producer codes, or changes to existing ones should be sent to the [Registry Manager](#).

Once accepted as a submitting organization you are free to submit proposals to any register. The Registry interface undergoes periodic improvements and any difficulties using this site should be reported to the [Registry Manager](#).

Feature Concept Dictionary Register according to S-100

No.	Type	Valid	Submitted	Retired
1	Feature Type	223	232	242
2	Information Type	2	0	0
3	Simple Attribute Type	453	463	473
4	Enumerated Type	233	243	253
5	Complex Attribute Type	26	0	0
6	Code List Type	0	0	0
7	Code List Value Type	0	0	0

Portrayal Register

No.	Type	Valid	Submitted	Retired
1	Portrayal	122	0	0

Registry Owner: International Hydrographic Organization
Registry Manager: UKHO on behalf of the International Hydrographic Bureau
Submitting Organizations: List of current Submitting Organization members
Executive Control Body: List of current Executive Control Body members
Domain Control Body: List of current Domain Control Body members

New Registry



Progress on Improvement of S-100 Registry (2)

★ Registration of New Items (FCD Register)

- Proposals to IHO Hydro, WMO Weather Domains:
 - 17 Features; 163 Attributes (Simple and Complex); 199 Enumerates.
- 330 Proposals processed with 55 Rejected.
- New Submitting Organization and Domain Control Body requests for the WMO Weather, IALA and WMO Ice Domains.

★ Enhancements to the Registry Interface (in progress)

- More “user friendly”;
- Automated feedback functionality (“push” rather than “pull”);
- Guidelines for Registry/Register Manager(s); Submitting Organizations; Domain Control Bodies.



Future work items

★ S-100 GI Registry

- FCD Register
 - Completion of S-101 item registration to support FCB and PCB (in progress);
 - Review of Concept Dictionary data model and proposal procedure (implementation of S-99);
- Portrayal Register (end of 2016);
- Product Specification Register (required);
- Data Producer Code Register (required);
- Metadata Register (on hold);
- Review of S-99 based on “lessons learned” (required).



Future work items (2)

✦ Connection with S-100 FCB and PCB

- S-100 FCB connection (end of 2016);
- S-100 PCB setup and connection (required).

[Refer to the S-100WG Report]



Demonstration



IHO Geospatial Information Registry

Alpha Code(Acronym):

Definition(Description):

Complex Line Symbol:



KHOA of ROK

[Join](#) | [Sign In](#)

HOME
INTRODUCTION
GI REGISTERS
PROPOSAL

Welcome to the S-100 Geospatial Information Registry (Version 2.1)

This registry is owned by the International Hydrographic Organization (IHO) is managed by the Secretariat of the IHO. The site contains many registers of hydrographic information together with registers of supplementary information owned by specialist domain experts. Each register type is further sub-divided into domains e.g. hydrographic, nautical publications, ice, inland ENC etc. The administration of this registry conforms to IHO Publication S-99 (Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry) a copy of which can be downloaded [here](#).

The information contained in the Registry can be freely accessed, however items can only be added or changed by the managers of approved Submitting Organizations. Application to become a Submitting Organization can be made by fulfilling the requirements of the prerequisite form available [here](#). Please note: It is not necessary to be a submitting organization in order to request new (S-62) Data Producer codes. Requests for new Data Producer codes, or changes to existing codes should be sent to the following email address (adcs@iho.int).

Once accepted as a submitting organization you are free to submit proposals to any register. The Registry interface undergoes periodic improvements and any difficulties using this site should be reported to the [Registry Manager](#).

Feature Concept Dictionary Register according to S-100

No.	Type	Valid	Superseded	Retired
1	Feature Type	289	237	267
2	Information Type	1	0	0
3	Simple Attribute Type	472	202	50
4	Enumerated Type	2912	465	151
5	Complex Attribute Type	36	0	1
6	Code List Type	0	0	0
7	Code List Value Type	0	0	0

Portrayal Register

No.	Type	Valid	Superseded	Retired
1	Symbol	572	0	0
2	Line Style	55	0	0
3	Area Fill	26	0	0
4	Font	4	0	0

Registry Owner

Registry Manager

Register Managers

Submitting Organizations

Executive Control Body

Domain Control Body

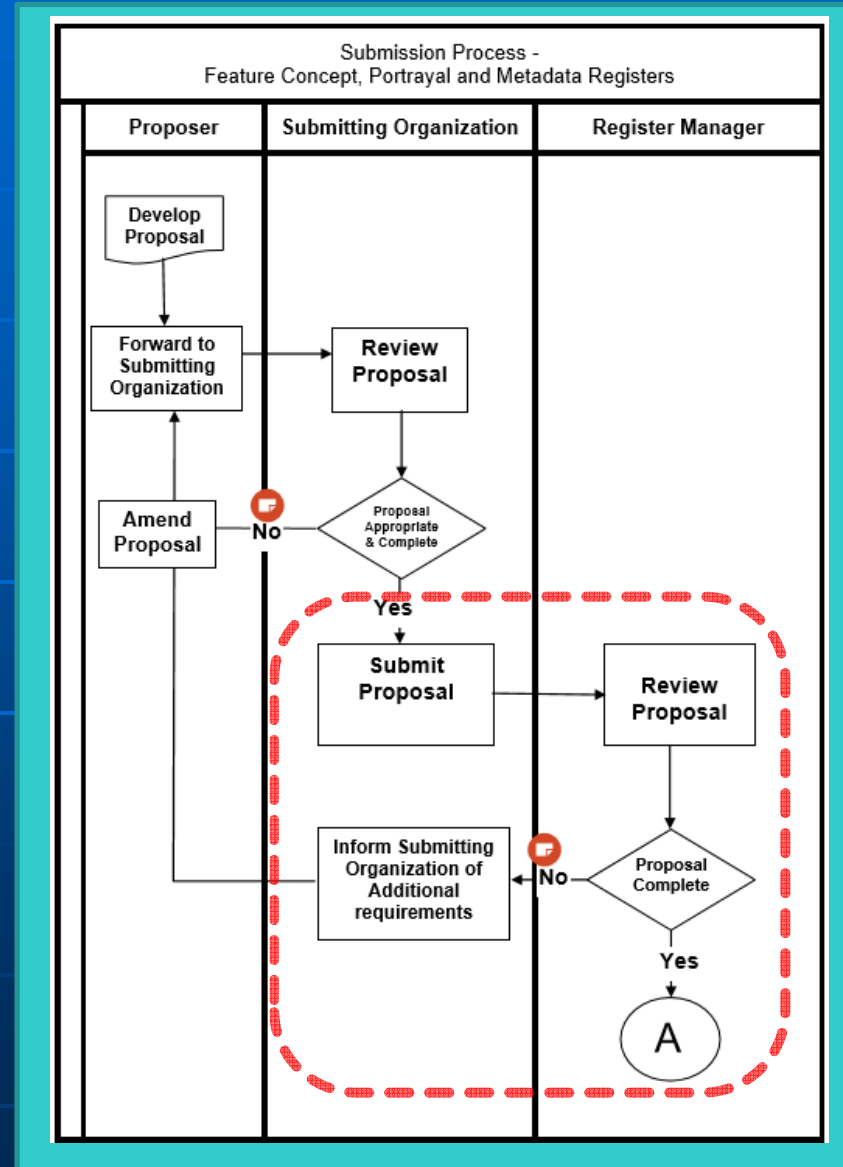


Demonstration(2)

✦ Proposal process (FCD Register):

Proposer(SO) → submit →
Reviewed(RM) → forward →
Decision(DCB) → Finalise(RM)
→ Available for Use

S-99: Operational Procedure



Action requested of HSSC

- ✦ Note progress made on the IHO GI Registry since HSSC7.
- ✦ Acknowledge the work of the Republic of Korea (KHOA) regarding the improved S-100 Registry;
- ✦ Request KHOA to support further development on S-100 Registers (Product Specification; Data Producer Registers) and stabilization of the FCD and Portrayal Register.



My Work | My Info | Sign Out



Definition(Description):
Alpha Code(Acronym):
KHOA of ROK
Complex Line Symbol:

HOME INTRODUCTION GI REGISTERS PROPOSAL

FCD Portrayal

Proposal : FCD

Select Category

Item Type :


Proposal Type :

Domain :


Continue



My Work | My Info | Sign Out



IHO Geospatial Information Registry



Definition(Description):
Alpha Code(Acronym):
Complex Line Symbol:

HOME INTRODUCTION GI REGISTERS PROPOSAL

FCD Portrayal

Proposal : FCD

Select Category

Item Type : Simple Attribute Type ▼

Proposal Type : Addition ▼

Domain : IHO Hydro ▼

Continue



MyWork : FCD Register

Details	
Item Type :	Simple Attribute
Proposal Type :	Addition
Domain :	IHO Hydro
AlphaCode :	Unspecified
Simple AttributeName:	Time of Day End
Alias :	Unspecified
CamelCase :	timeOfDayEnd
Data Type :	Time
Definition :	The time corresponding to the end of an active period.
Reference :	
Definition Source :	Unspecified
Similarity to Source :	Unspecified
Int1 :	<input type="text" value="v"/>
S4 :	<input type="text" value="v"/>
Remarks :	The "time of day end" must be encoded using 2 digits for the hour (hh), 2 digits for the minutes (mm) and 2 digits for the seconds (ss). This conforms to ISO 8601:2004.
Submitting Organization :	IHB
Proposed Change :	New attribute.
Justification :	Remodelled attribute to amend data type to TI (time) and for use as a more generic attribute. This attribute will replace the S-57 attribute TIMEND.
Date Proposed :	2016-11-09

[List](#)
[Submit](#)
[Edit](#)
[Delete](#)



IHO Geospatial Information Registry

Definition (Description):
Alpha Code (Acronym):
Complex Line Symbol:

KHOA of ROK

HOME INTRODUCTION GI REGISTERS PROPOSAL

MyWork : FCD Register

Proposal Status

Decision Status : -

Disposition Status : Not Yet Determined

Assigned Domain Control Body :

No	Organization	Name	Determined Date	Status
1	IHO (S-100WG)	JuliaPowell	Not yet	Not yet DeterMined

Notes : Accepted, however note that this attribute is intended to supersede the S-57 attribute TIMEND (timeEnd). Supersession proposal will need to be submitted on approval. (by Jeff Wootton, 2016-11-09, Assign DCB)

[List](#)

Details

Item Type : Simple Attribute

Proposal Type : Addition

Domain : IHO Hydro

AlphaCode : Unspecified

Simple AttributeName : Time of Day End

Alias : Unspecified

CamelCase : timeOfDayEnd

Data Type : Time



MyWork : FCD Register

Proposal Status

Decision Status :

-

Disposition Status :

Not Yet Determined

Notes :

Accepted, however note that this attribute is intended to supersede the S-57 attribute TIMEND (timeEnd). Supersession proposal will need to be submitted on approval. (by. Jeff Wootton, 2016-11-09, Assign DCB)

List

Accept

Reject

Supplement

Details

Item Type :

Simple Attribute

Proposal Type :

Addition

Domain :

IHO Hydro

AlphaCode :

Unspecified

Simple AttributeName:

Time of Day End



MyWork : FCD Register

Proposal Status

Decision Status :

-

Disposition Status :

Accepted

Notes :

Accepted, however note that this attribute is intended to supersede the S-57 attribute TIMEND (timeEnd). Supersession proposal will need to be submitted on approval. (by. Jeff Wootton, 2016-11-09, Assign DCB)
(by. Julia Powell, 2016-11-09, Accept)

[List](#)

Details

Item Type :

Simple Attribute

Proposal Type :

Addition

Domain :

IHO Hydro

AlphaCode :

Unspecified

Simple AttributeName:

Time of Day End

AlphaCode:

Unspecified



[My Work](#) | [My Info](#) | [Sign Out](#)



IHO Geospatial Information Registry

Definition(Description):

Alpha Code(Acronym):



KHOA of ROK

Complex Line Symbol:

HOME
INTRODUCTION
GI REGISTERS
PROPOSAL

MyWork : FCD Register

Proposal Status

Decision Status : -

Disposition Status : Accepted

Assigned Domain Control Body :

No	Organization	Name	Determined Date	Status
1	IHO (S-100WG)	JuliaPowell	2016-11-09	Accept

Accepted, however note that this attribute is intended to supersede the S-57 attribute TIMEND (timeEnd). Supersession proposal will need to be submitted on approval. (by: Jeff Wootton, 2016-11-09, Assign DCB)
(by: Julia Powell, 2016-11-09, Accept)

Notes :

List

Complete

Details

Item Type : Simple Attribute

Proposal Type : Addition

Domain : IHO Hydro

AlphaCode : Unspecified

Simple AttributeName : Time of Day End

Alias : Unspecified



MyWork : FCD Register

Proposal Status

Decision Status : Final

Disposition Status : Accepted

Assigned Domain Control Body :	No	Organization	Name	Determined Date	Status
	1	IHO (S-100WG)	JuliaPowell	2016-11-09	Accept

Notes : Accepted, however note that this attribute is intended to supersede the S-57 attribute TIMEND (timeEnd). Supersession proposal will need to be submitted on approval. (by, Jeff Wootton, 2016-11-09, Assign DCB)
 (by, Julia Powell, 2016-11-09, Accept)
 (by, Jeff Wootton, 2016-11-10, Finalize)

[List](#)

Details

Item Type : Simple Attribute
Proposal Type : Addition
Domain : IHO Hydro
AlphaCode : Unspecified
Simple AttributeName : Time of Day End
Alias : Unspecified
CamelCase : timeOfDayEnd
Data Type : Time





- HOME
 - INTRODUCTION
 - GI REGISTERS
 - PROPOSAL
- FCD · Portrayal · Product Specification · Agency Code

FCD Register

· Domain: IHO Hydro · Item Type: Simple Attribute Type · Status: Valid

· Search: Name time of day end [Go to index](#)

All Type : 1 items found

No.	Alpha Code(Acronym)	Camel Case ID	Name	Date Accepted
1		timeOfDayEnd	Time of Day End	2016-11-10

