



IHB File No. S3/8151/MSDIWG

CIRCULAR LETTER 41/2008  
28 April 2008

IHO MARINE SPATIAL DATA INFRASTRUCTURE WORKING GROUP  
- Request for Information -

- References:
- a) 17<sup>th</sup> IHC Decision 22 – *Establishment of a Working Group on Marine Spatial Data Infrastructure Development*
  - b) IHB Circular Letter 122/2007 dated 18 December – *Report on the 19<sup>th</sup> CHRIS Meeting*

**This Circular Letter seeks Member States' input by 6 June 2008**

Dear Hydrographer,

1. The 17<sup>th</sup> International Hydrographic Conference decided that the CHRIS should establish a Marine Spatial Data Infrastructure Working Group (MSDIWG) to analyze and recommend the level and nature of the IHO role in assisting Member States in support of their national Spatial Data Infrastructure (NSDI). The MSDIWG is tasked with submitting a report with recommendations to CHRIS/20 in November 2008 for subsequent consideration at the 4<sup>th</sup> Extraordinary International Hydrographic Conference in 2009.

2. National Spatial Data Infrastructure is the term used to cover a range of concepts, processes, relationships and physical entities that, taken together, provide for integrated management of spatial data and information. The term covers:

- the processes that integrate technology, policies, criteria, standards, and the people necessary to promote geospatial data sharing throughout all levels of government;
- the structure of practices and relationships among data producers and users that facilitates data sharing and use;
- the defining of actions and ways of accessing, sharing and using geographic data that enable far more comprehensive analysis at all levels of government, commercial, not-for-profit sectors and academia; and
- a description of the hardware, software and system components necessary to support these processes.

In order to complete its task, the MSDIWG is requesting information on the current status of MSDI in each Member State and also on aspirations for the future. Responses should be submitted using the questionnaire at Annex A to this Circular Letter. The questionnaire should be returned to the IHB ([info@ihb.mc](mailto:info@ihb.mc)) by **6 June 2008**.

On behalf of the Directing Committee  
Yours sincerely,

Captain Robert WARD  
Director

**Marine Spatial Data Infrastructure (MSDI) Survey**

**QUESTIONNAIRE and SELF ASSESSMENT SHEETS**

*(to be returned to the IHB by 6 June 2008*

*E-mail: [info@ihb.mc](mailto:info@ihb.mc) - Fax: +377 93 10 81 40)*

**Note:** The boxes will expand as you type your answers

**Member State:**

Contact Details:

Name	<input type="text"/>
Position / Job title / Role	<input type="text"/>
Organisation	<input type="text"/>
Address	<input type="text"/>
Telephone contact	<input type="text"/>
E-mail contact	<input type="text"/>

1. Please complete the Self Assessment/Completion Sheets overleaf **before** answering the following questions.

*Covering Notes on filling in the Self Completion/Assessment Sheets are provided in Appendix 1 to Annex A.*

*Explanatory information designed to assist you to identify the appropriate Level of activity is provided in Appendix 2 to Annex A.*

2. What activities and plans do you have / will you be putting in place to develop an MSDI over the next 3 years?" *Write in against each attribute*

SDI Strategy & Policy	<input type="text"/>
People & Communication	<input type="text"/>
Data Management	<input type="text"/>
Data Framework / Standards	<input type="text"/>
Data Dissemination	<input type="text"/>

3. What do you consider to be the main barriers to either achieving where you want to be in 3 years' time or in making progress in developing your MSDI? *Write in against each attribute*

SDI Strategy & Policy	<input type="text"/>
People & Communication	<input type="text"/>
Data Management	<input type="text"/>
Data Framework / Standards	<input type="text"/>
Data Dissemination	<input type="text"/>

4 What assistance could the IHO offer to enable you to reach your goals for NSDI and MSDI over the next 3 years and beyond? *Write in against each attribute*

SDI Strategy & Policy  
People & Communication  
Data Management  
Data Framework / Standards  
Data Dissemination


# IHO Spatial Data Infrastructure (SDI) Self Assessment/Completion Sheet 1

**STATUS IN 2008**

**Highlight or circle the most appropriate description in each category:**

Category	Status Description				
	Level 1	Level 2	Level 3	Level 4	Level 5
<b>Spatial Data Strategy / Policy</b>	No NSDI Policy or MSDI Strategy exists.	Either NSDI Policy or MSDI strategy in development.	Both NSDI Policy and MSDI Strategy in development.	NSDI Policy published but MSDI Strategy not fully developed OR NSDI Policy not fully developed but MSDI Strategy in place.	NSDI Policy published and MSDI Strategy in place.
<b>People / Communicating</b>	We don't know who (or there is no one) to talk to about MSDI or SDI.	We know who to talk to but are not involved	We are communicating with others but there is no formal structure in place or the structure is in the process of development.	We are participating in the national committee structure.	We are the key player in the national committee for NSDI or MSDI.
<b>Data Management</b>	Data available only in analogue (paper) format	S-57 and / or raster format data held. No other digital data held. Paper or file-based storage.	S57 and / or digital hydrographic survey data in database, but not logical or standardised, OR if logical and standardised it is not complete. Data can be copied.	Database is complete, held by theme with metadata, and supporting all product outputs. Data responsibilities identified as unique inside HO only	Database is part of NSDI with no replication of the database. Data responsibilities identified as unique outside of HO at National level.
<b>Data Frameworks / Standards</b>	No knowledge of relevant standards or framework	Relevant standards understood but not used.	Relevant standards are understood; some frameworks available and used to a limited extent.	Relevant standards are understood and partially used.	Fully compliant with all relevant standards.
<b>Data Dissemination</b>	Data is distributed in analogue (paper) only.	Data is distributed in analogue only. Digital data is available but for use only within the HO.	The HO produces and distributes digital data via selected off-line (eg CD) media.	Digital data available via internet based methods, but for limited user groups and with limited functionality.	All data fully available in digital format; it is fully searchable, describable and system downloadable through standardised interfaces.

## IHO Spatial Data Infrastructure (SDI) Self Completion/Assessment Sheet 2

**STATUS IN 2011**

**Highlight or circle the most appropriate description in each category:**

Category	Status Description				
	Level 1	Level 2	Level 3	Level 4	Level 5
<b>Spatial Data Strategy / Policy</b>	No NSDI Policy or MSDI Strategy exists.	Either NSDI Policy or MSDI strategy in development.	Both NSDI Policy and MSDI Strategy in development.	NSDI Policy published but MSDI Strategy not fully developed OR NSDI Policy not fully developed but MSDI Strategy in place.	NSDI Policy published and MSDI Strategy in place.
<b>People / Communicating</b>	We don't know who (or there is no one) to talk to about MSDI or SDI.	We know who to talk to but are not involved	We are communicating with others but there is no formal structure in place or the structure is in the process of development.	We are participating in the national committee structure.	We are the key player in the national committee for NSDI or MSDI.
<b>Data Management</b>	Data available only in analogue (paper) format	S-57 and / or raster format data held. No other digital data held. Paper or file-based storage.	S57 and / or digital hydrographic survey data in database, but not logical or standardised, OR if logical and standardised it is not complete. Data can be copied.	Database is complete, held by theme with metadata, and supporting all product outputs. Data responsibilities identified as unique inside HO only	Database is part of NSDI with no replication of the database. Data responsibilities identified as unique outside of HO at National level.
<b>Data Frameworks / Standards</b>	No knowledge of relevant standards or framework	Relevant standards understood but not used.	Relevant standards are understood; some frameworks available and used to a limited extent.	Relevant standards are understood and partially used.	Fully compliant with all relevant standards.
<b>Data Dissemination</b>	Data is distributed in analogue (paper) only.	Data is distributed in analogue only. Digital data is available but for use only within the HO.	The HO produces and distributes digital data via selected off-line (eg CD) media.	Digital data available via internet based methods, but for limited user groups and with limited functionality.	All data fully available in digital format; it is fully searchable, describable and system downloadable through standardised interfaces.

## NOTES

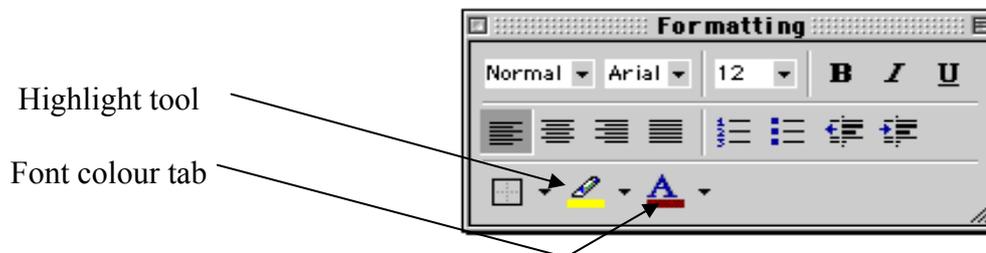
The Self Assessment Sheet and Questionnaire are intended to be completed on a PC and then submitted by e-mail.

Alternatively, the completed questionnaire can be submitted by fax; in which case print the MSDI Self Assessment Sheets before you complete it, but complete the questionnaire on-line before printing it.

### On the SDI Self Completion/Assessment Sheet ...

1 For each of the five subjects, highlight the description that best describes your organisation's current and likely status in three years' time.

*Highlight the appropriate descriptions using either the highlighting tool or the font colour tool.*



Alternatively, circle the relevant descriptions.

2. Complete one table for your current status (2008) and another for your likely status in three years' time (2011).

**Explanatory information on Level 1-5 for each activity / element on the IHO Self Completion/Assessment Sheet, designed to help you select the levels appropriate to your organisation.**

**SPATIAL DATA STRATEGY / POLICY**

**Level 1 No NSDI Policy or MSDI Strategy exists**

Description: There are no plans to develop either NSDI or MSDI strategies or policies. Little or no level of understanding of SDI requirements exists in the Hydrographic Office. No leadership and / or ownership identified at all.

**Level 2 Either NSDI Policy OR MSDI Strategy in development**

Description: Some effort made to commence the process of defining requirements for either NSDI or MSDI. Leadership and / or ownership identified but formal processes not yet in place. Some communications made but a limited level of understanding in place in the Hydrographic Office (HO).

**Level 3 Both NSDI Policy and MSDI Strategy in development**

Description: Formal processes and documentation of requirements in place and active engagement with stakeholders made. Work on framework underway but some distance from completion. Level of understanding growing with stakeholder buy-in assured. HO aware and/or participating.

**Level 4 NSDI Policy published but MSDI Strategy not fully developed OR NSDI Policy not fully developed but MSDI Strategy in place**

Description: Formal processes in place and documentation complete for one element of the requirement (either NSDI or MSDI) supported by leadership. Stakeholders fully engaged with level of understanding allowing implementation of areas completed. Work continues with established level of understanding of requirements and confirmed participation within the HO.

**Level 5 NSDI Policy published and MSDI Strategy in place**

Description: Formal processes in place and documentation complete for both NSDI and MSDI. MSDI and NSDI may or may not be up and running across sectors. Attention now on putting processes in place and/or obtaining feedback from stakeholders necessary to improve performance, depending on status. The HO is fully engaged and participating in the improvements programme.

**PEOPLE / COMMUNICATING**

**Level 1 We don't know who (or there is no one) to talk to about MSDI or SDI.**

Description: The HO is not involved in SDI development and is not aware of any SDI initiatives in the country.

**Level 2 We know who to talk to but are not involved.**

Description: The HO is not involved in SDI development but is aware of SDI initiatives in the country and knows who is involved.

**Level 3 We are communicating with others but there is no formal structure in place or the structure is in the process of development.**

Description: The HO is talking with partners about SDI developments but no concrete initiatives have yet been taken in the country. There are no formal projects or co-operative arrangements in place.

**Level 4 We are participating in the national committee structure.**

Description: The HO is part of an ongoing SDI initiative in the country but is not a leading partner.

**Level 5 We are the key player in the national committee for NSDI or MSDI.**

Description: The HO is playing a leading role in an ongoing SDI initiative in the country. The HO is either managing the project or are central to the initiative due to either technical competence or control of content resources.

## **DATA MANAGEMENT**

**Level 1 Data available only in analogue (paper) format.**

Description: All data is held in paper format. If there is any digital data, it is held by the HO in raster format.

**Level 2 S-57 and / or raster format data held. No other digital data held. Paper or file-based storage.**

Description: The only digital data available is held by the HO in S-57 and/or raster format. There is no data stored in a database but only on paper form or file-based.

**Level 3 S-57 and / or digital hydrographic survey data in database but not logical and standardised, OR if logical and standardised is not complete. Data can be copied.**

Description: Part of the data is stored in databases but can overlap and is neither necessarily unique nor exhaustive. Mutations in the data are processed on multiple locations within the HO. Not all the data is stored together with the corresponding metadata.

Not all the products are produced from databases.

**Level 4 Database is complete, held by theme with metadata, and supporting all product outputs. Data responsibilities identified as unique inside HO only.**

Description: Within the HO, the data is entirely stored together with the corresponding metadata, in only one place (except for backups) and do not overlap. The responsibilities for the data are clearly identified with respect to each data theme.

Outside the HO the same data might be stored by other organisations as well.

All products are produced from the databases.

**Level 5 Database is part of NSDI with no replication of the database. Data responsibilities identified as unique outside of HO at National level.**

Description: The databases of the HO are part of the NSDI. The data (and the corresponding metadata) are unique within the NSDI. The HO is responsible for the contributions to the NSDI. All products produced by the HO are produced from its own databases or from the databases of other organisations within the NSDI.

## DATA FRAMEWORKS / STANDARDS

**Overview:** Do you have a framework for the use of common standards, datums and guidelines (rules + policies) for interoperability between agencies providing spatial data within your country?

### **Components :**

- Common horizontal and vertical datums within your country or easy ways for conversion between several datums.
- Common base data and/or common encoding of spatial data in databases of different agencies.
- Common format for data exchange or easy ways for converting data from/to different common formats.
- Use of international standards for data encoding/access/exchange like International Standards Organisation (ISO) 19xxx series and Open Geospatial Consortia (OGC), Web Mapping Services (WMS), Web Feature Services (WFS), Geographic Mark-up Language (GML) etc.

### **Level 1 No knowledge of relevant standards or framework.**

Description : No such framework has even been considered with no idea about such standards. Every agency is doing something on their own, no cooperation between agencies. Different horizontal and/or vertical datums used for land and marine data. Marine data can't be combined with other national spatial data sources.

### **Level 2 Relevant standards understood but not used.**

Description : Heard about common standards, some discussion of creating something similar to common spatial data framework has also taken place, but no real actions or such work done. So far, hydrographic data cannot be combined with other national spatial data sources.

### **Level 3 Relevant standards are understood; some framework available and used to a limited extent.**

Description : Common standards accepted and somewhat used by some agencies, different datum issues solved (at least by conversion). Existing databases for reference data available, but not yet accessible by standardized way. Still different data encodings in different agencies and no coordination in this field. A lot of extra work for each case needed (by the end user) in order to combine marine data with other national spatial data sources.

### **Level 4 Relevant standards are understood and partially used.**

Description : Most agencies use common standards for spatial data access, datum issues solved, base data easily available and most of it also interoperable through common encoding and use of OGC standards (WMS, WFS services working in many agencies). Some extra work for each case needed (by client) in order to combine marine data with other national spatial data sources.

### **Level 5 Fully compliant with all relevant standards.**

Description : All agencies providing spatial data are using international standards for data querying/accessing. Data are interoperable because of common encoding used and base data availability. Data is available directly or by automated conversion in common national datums. It is possible seamlessly to create a new map using OGC and similar standards from different source data (including hydrographic data) so that it can be displayed and / or downloaded using for example standard GIS platforms.

## **DATA DISSEMINATION**

### **Level 1 Data in analogue (paper) format only.**

Description: The HO distributes only analogue information (eg paper charts). Digital data NOT available.

### **Level 2 Data is distributed in analogue form only. Digital data available but for use only within the HO.**

Description: The HO uses digital production methods internally. But all products for external use are analogue; no digital data is distributed to other users.

### **Level 3 The HO produces and distributes some digital data via selected off-line media.**

Description: The HO produces and distributes digital data for selected purposes via offline media, e.g. raster or S57 data via CDs.

### **Level 4 Digital data available via internet-based methods, but for limited user groups and with limited functionality.**

Description: The HO offers net-based distribution, but with limited functionality, not fully searchable, describable and system downloadable and for limited user groups.

### **Level 5 ALL data fully available in digital format; it is and searchable, describable and system downloadable through standardized interface.**

Description: The HO distributes data through national or international SDIs to all potential users with full functionality

**Note:** In this category, terms & conditions may apply (e.g. licensing costs for data, third party data agreements) to some or all of the above levels