IIC TECHNOLOGIES

Database Driven Hydrography

The Case for Combined S5 and S8 Knowledge

SEPHC
Cartagena, Colombia
August, 2017

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Overview

IIC TECHNOLOGIES

- Cartographic Challenges
- Past/Present Approaches
- Database Drive Approach
- Community of Practice
- Challenges

Challenges

Faster throughput to product from survey.

- we know how do surveys
- we need to get the product to market

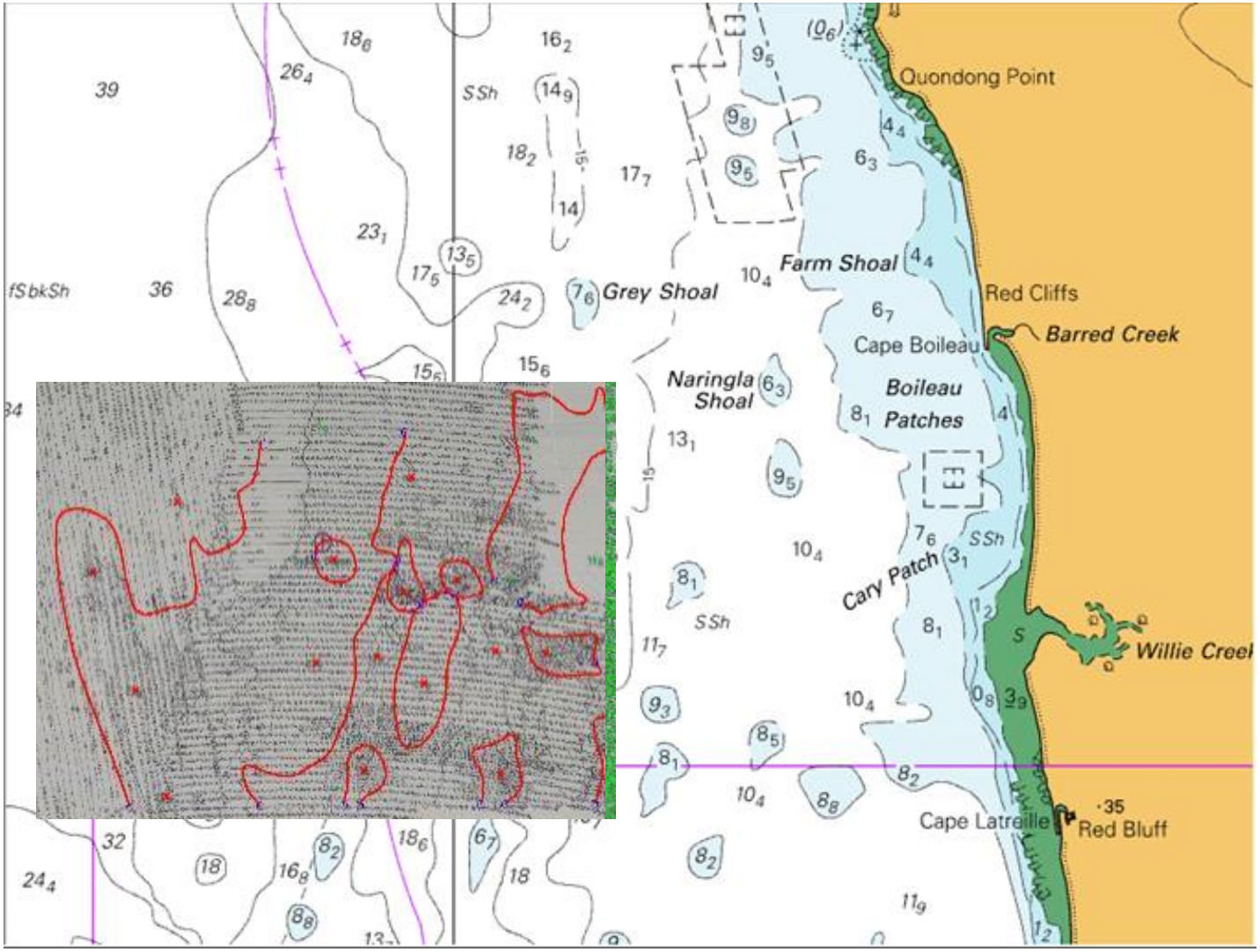
Supporting Under Keel Clearance needs of future shipping such as panamax, post panamax, and drone shipping

- beyond traditional products

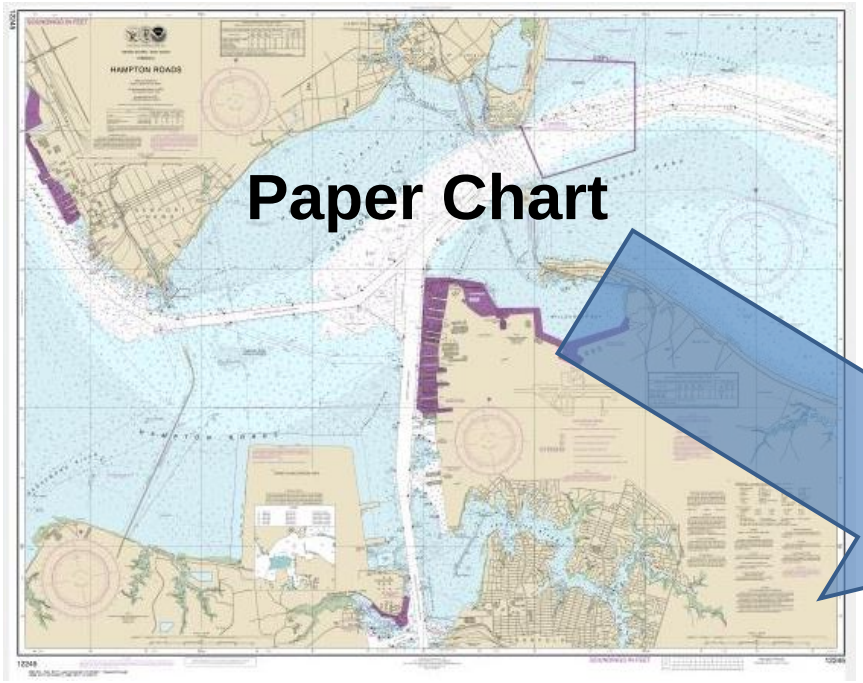
Better integration of hydrographic information with other stakeholder agencies to support disaster management, coastal erosion, environmental agencies, coastal security, etc.

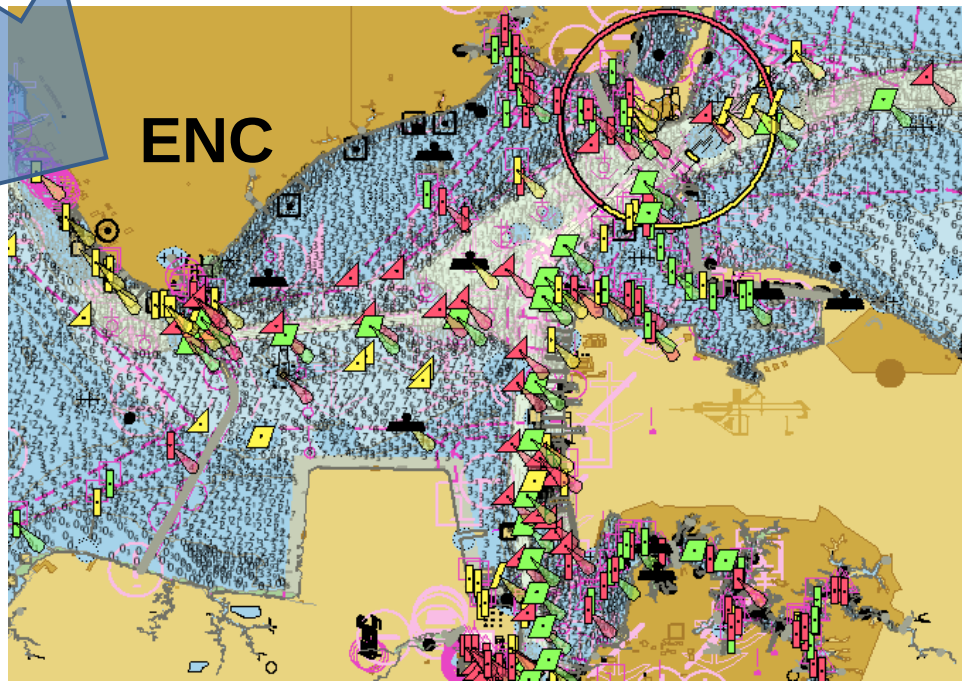
- SDI, MSDI, OGC

Present Approach – data collection

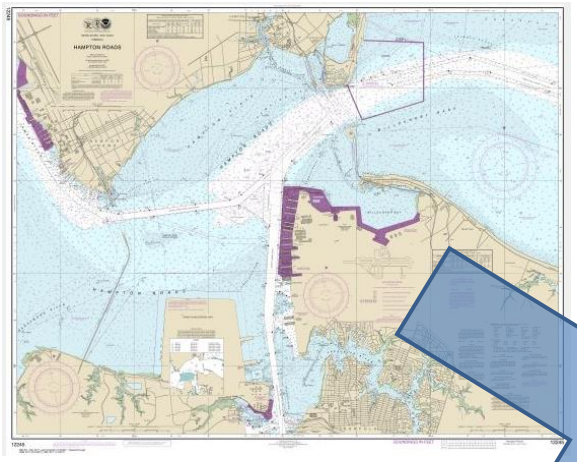


Past Approach – chart compilation

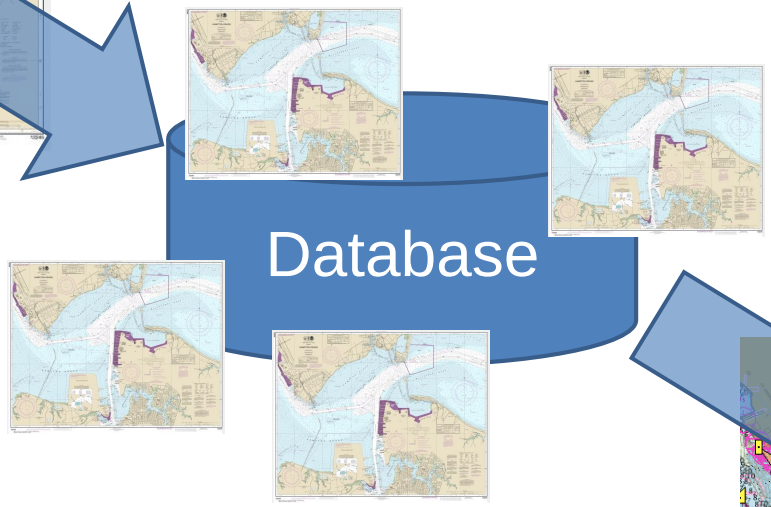


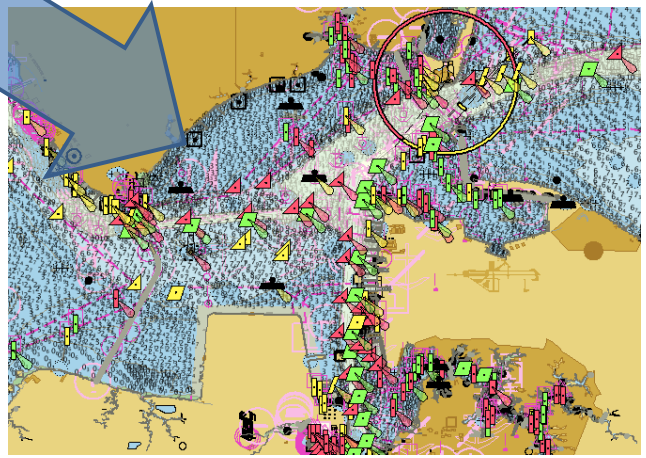


Present Approach – chart compilation



Paper Chart





ENC

Less than perfect

S t r e t c h i n g

Technologies

Database Driven Approach

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Formula!!!!

$$Charting^{2017} = f\,(Hydrography, Cartography, Oceanography)$$

"Ping to Database"

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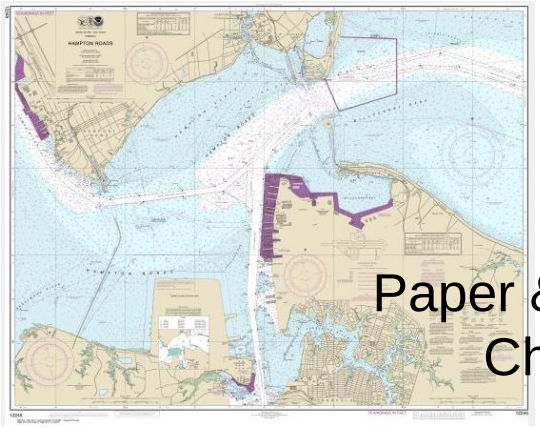
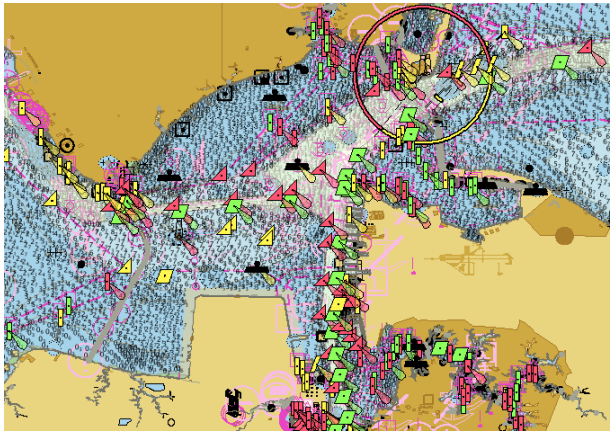
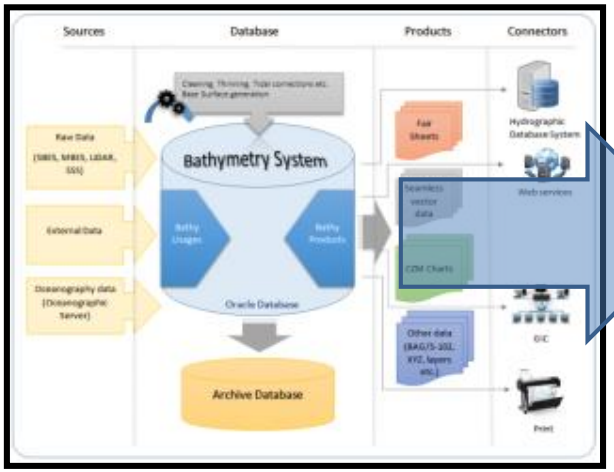
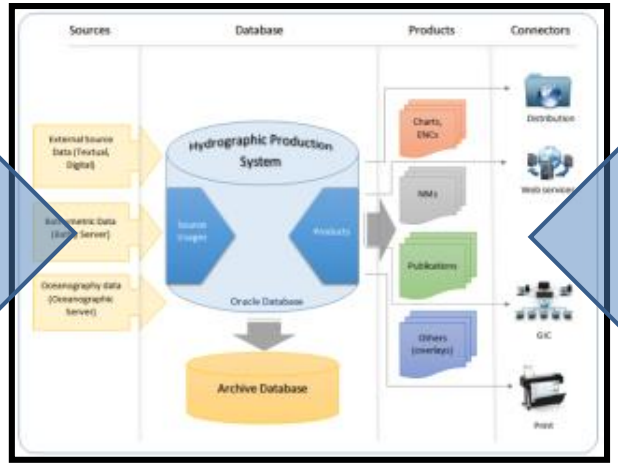


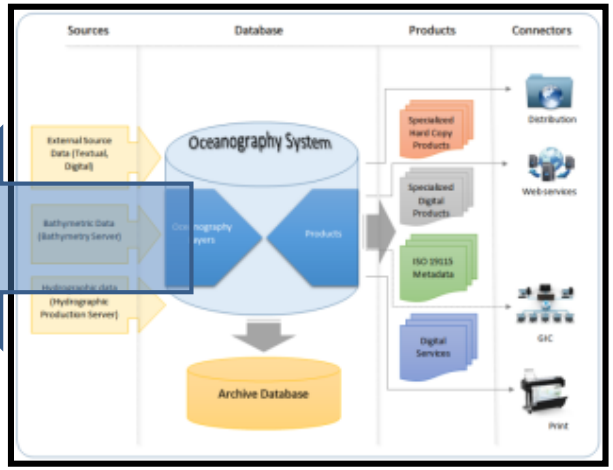
Paper & Raster Charts

ENCs









Bathymetric Database **Hydrographic Database** **Oceanographic Database**

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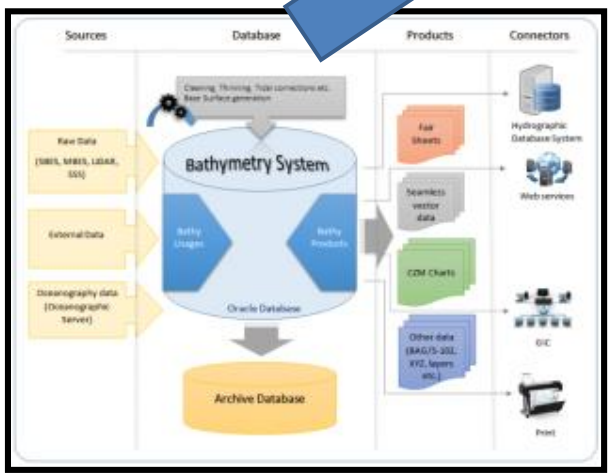
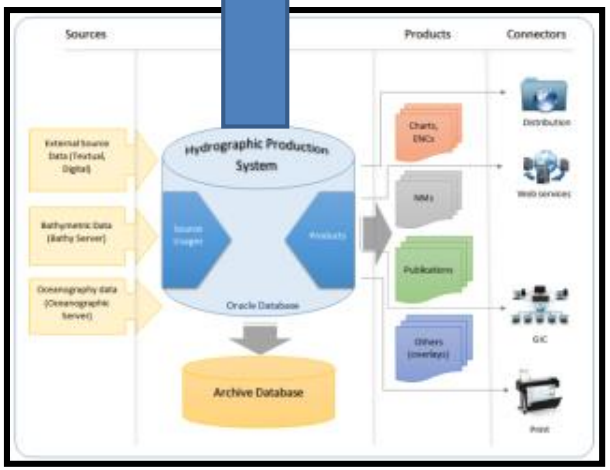
More than just nautical charts

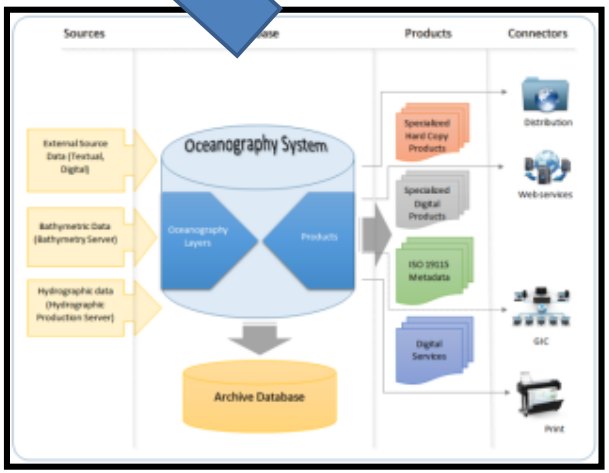
GeoPortal (supporting MSDI)



Bathymetric Database



Hydrographic Database



Oceanographic Database

Bathy Database Workflow

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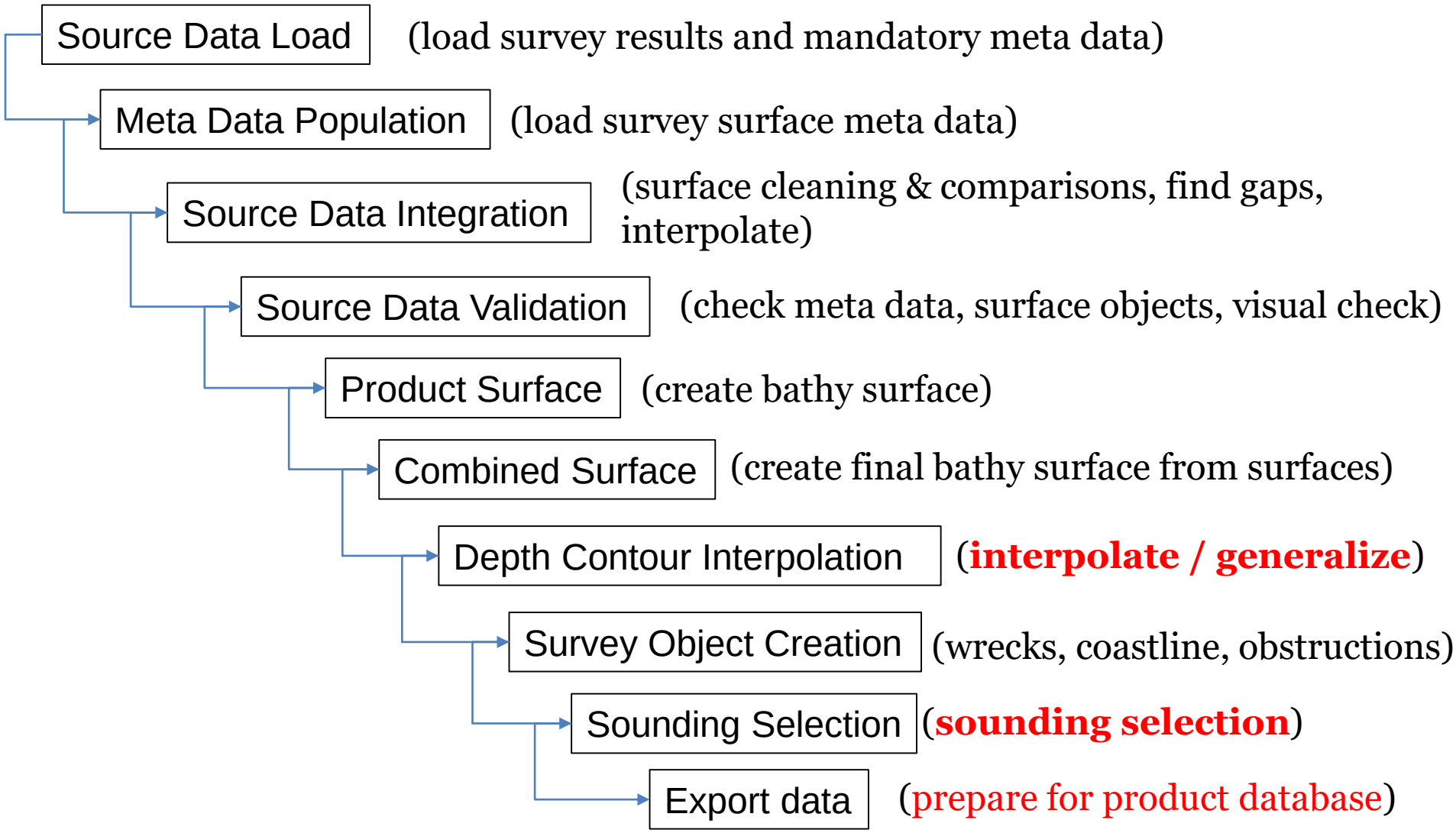
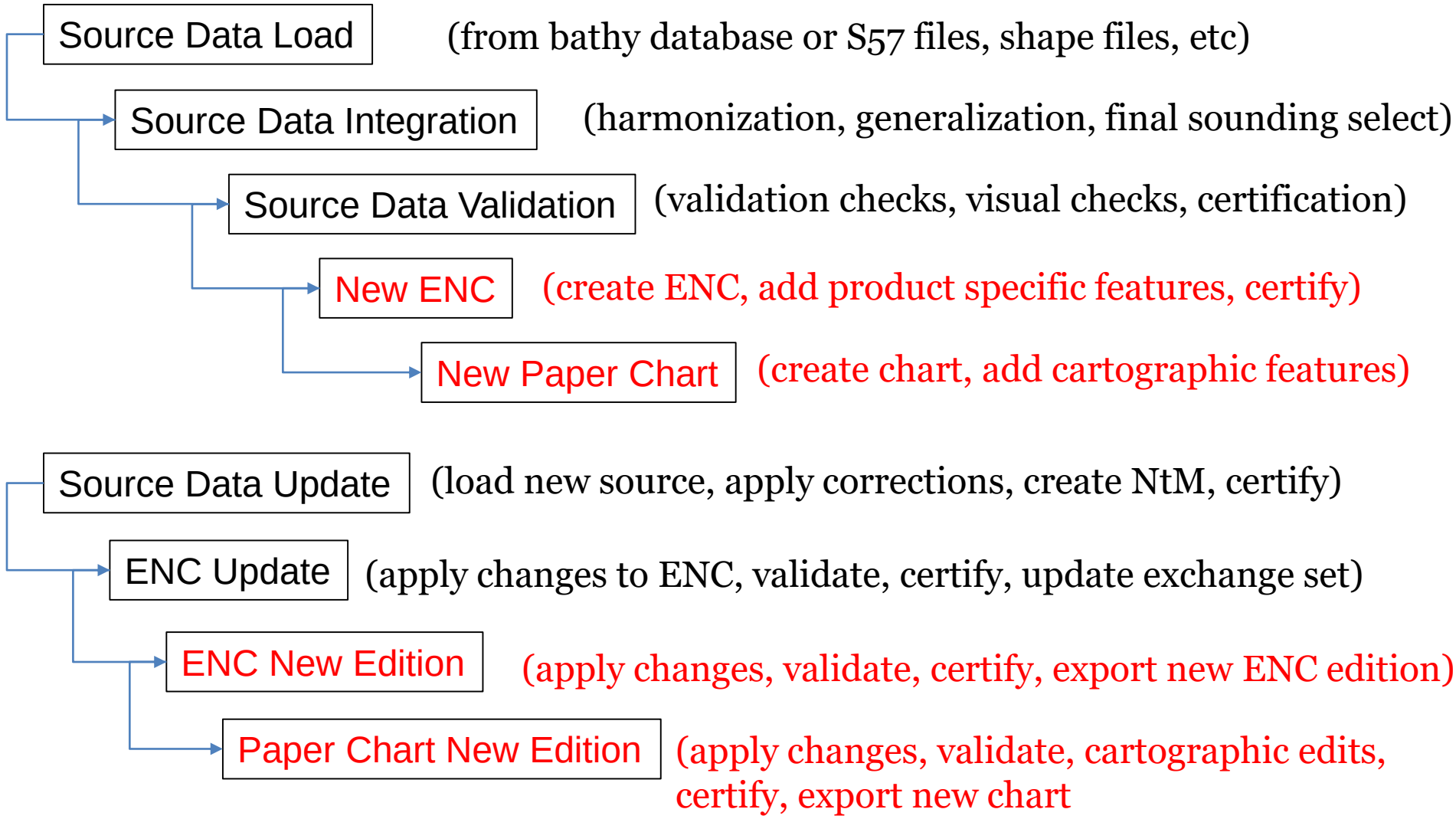
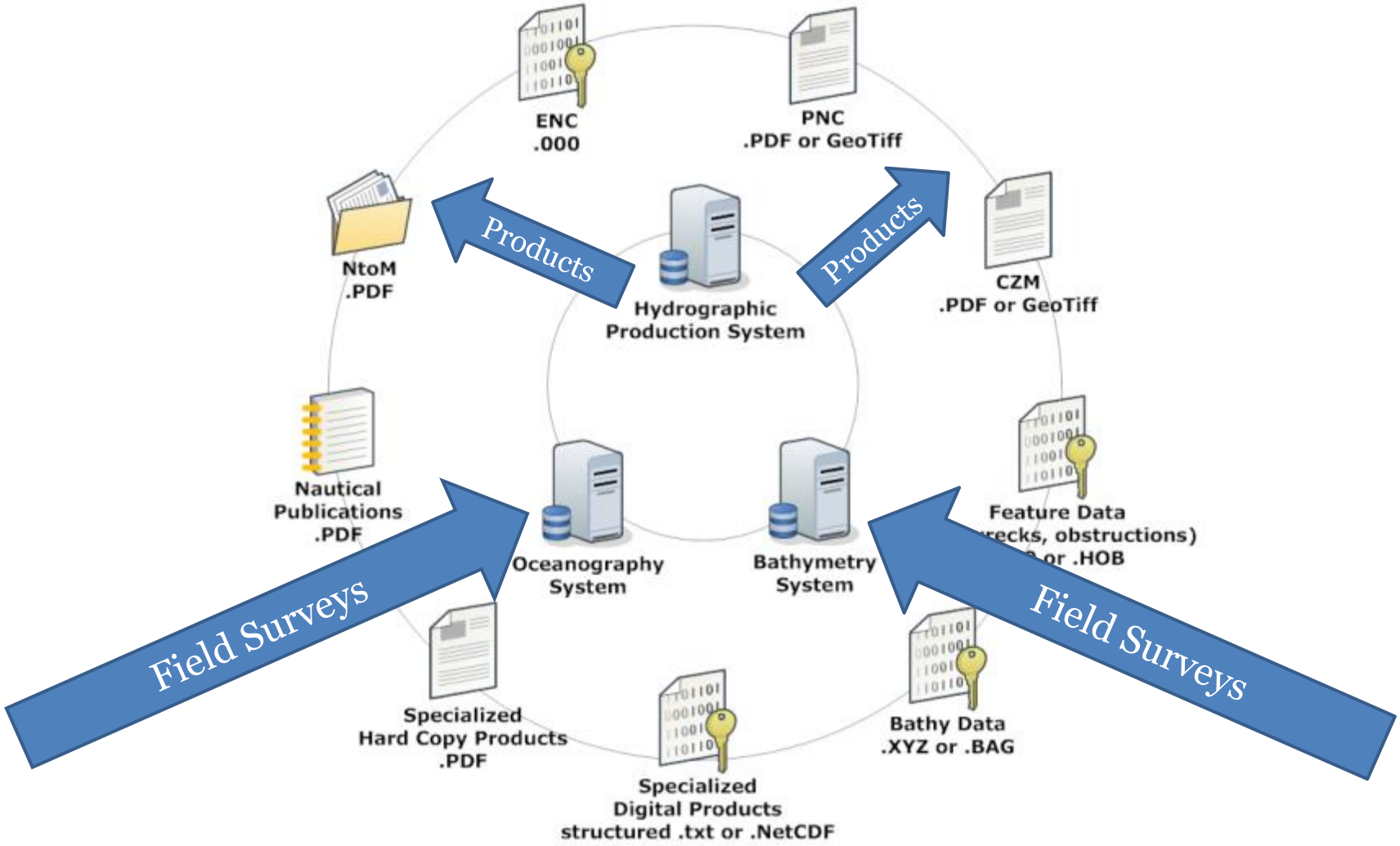


Product Database Workflow

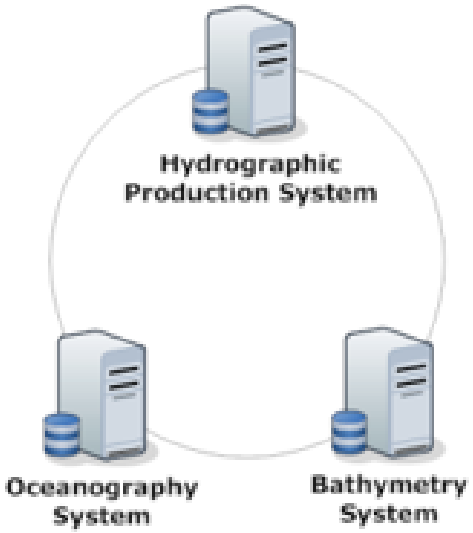


Bathy and Product Database Overview



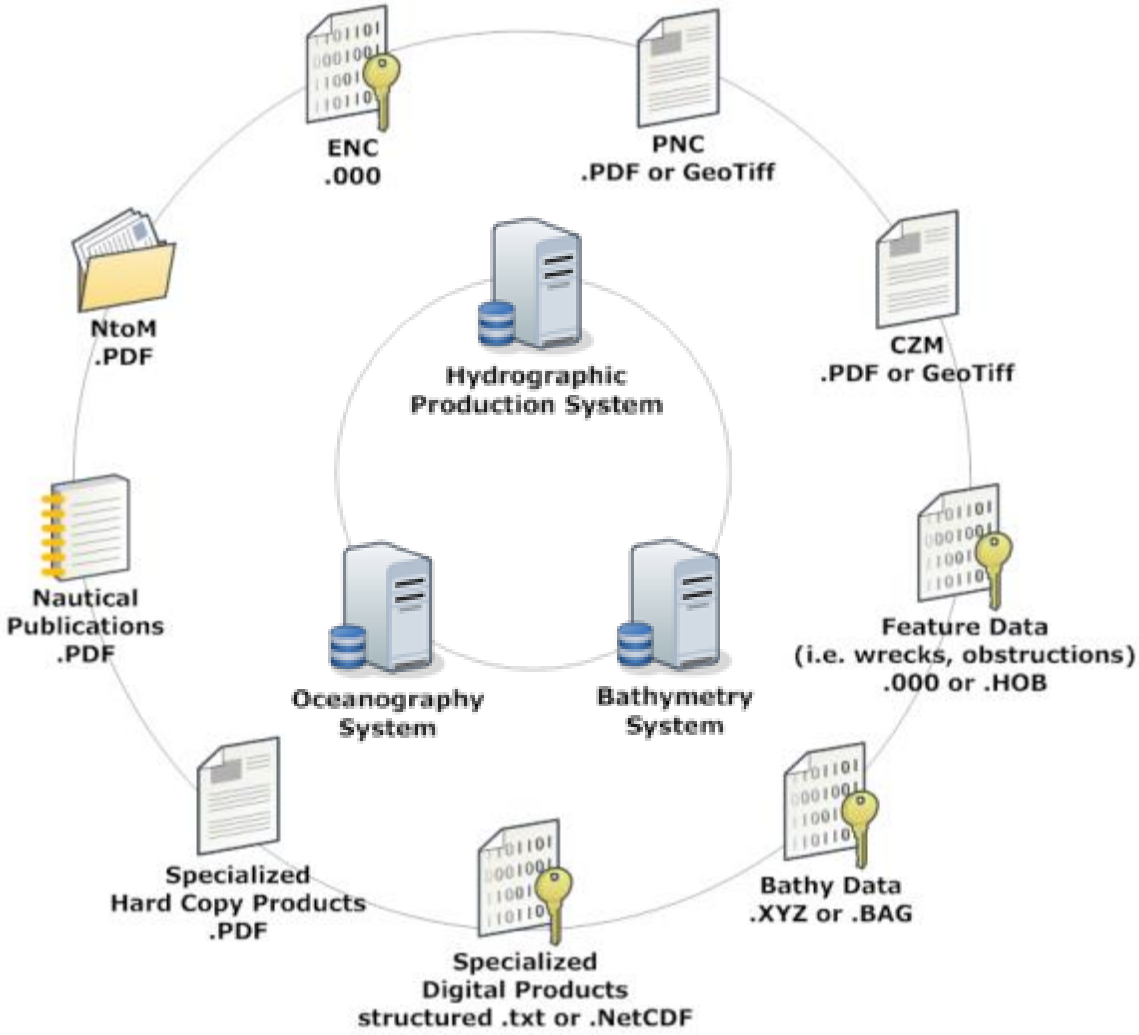
“”Ping to Database” Deliverables

Remote Connection
Or
Database Extraction



Field Survey

HO Product Management / Distribution



Community of Practice

- Standards of Competency
- Education & Training
- Research & Development
- Hydrographic Certification

IBSC & Training and Education

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INTERNATIONAL FEDERATION OF SURVEYORS

INTERNATIONAL HYDROGRAPHIC ORGANIZATION

INTERNATIONAL CARTOGRAPHIC ASSOCIATION

STANDARDS OF COMPETENCE FOR CATEGORY "A" HYDROGRAPHIC SURVEYORS

Publication S-5A
First Edition
Version 1.0.1 - June 2017

STANDARDS OF COMPETENCE FOR CATEGORY "B" HYDROGRAPHIC SURVEYORS

Publication S-5B
First Edition
Version 1.0.1 - June 2017

STANDARDS OF COMPETENCE for Nautical Cartographers

Publication S-8
Third Edition
Version 3.1.0 - December 2014

CCOM JHC

Cat A S5

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Cat A S5

UNIVERSITY OF MARYLAND 18 56

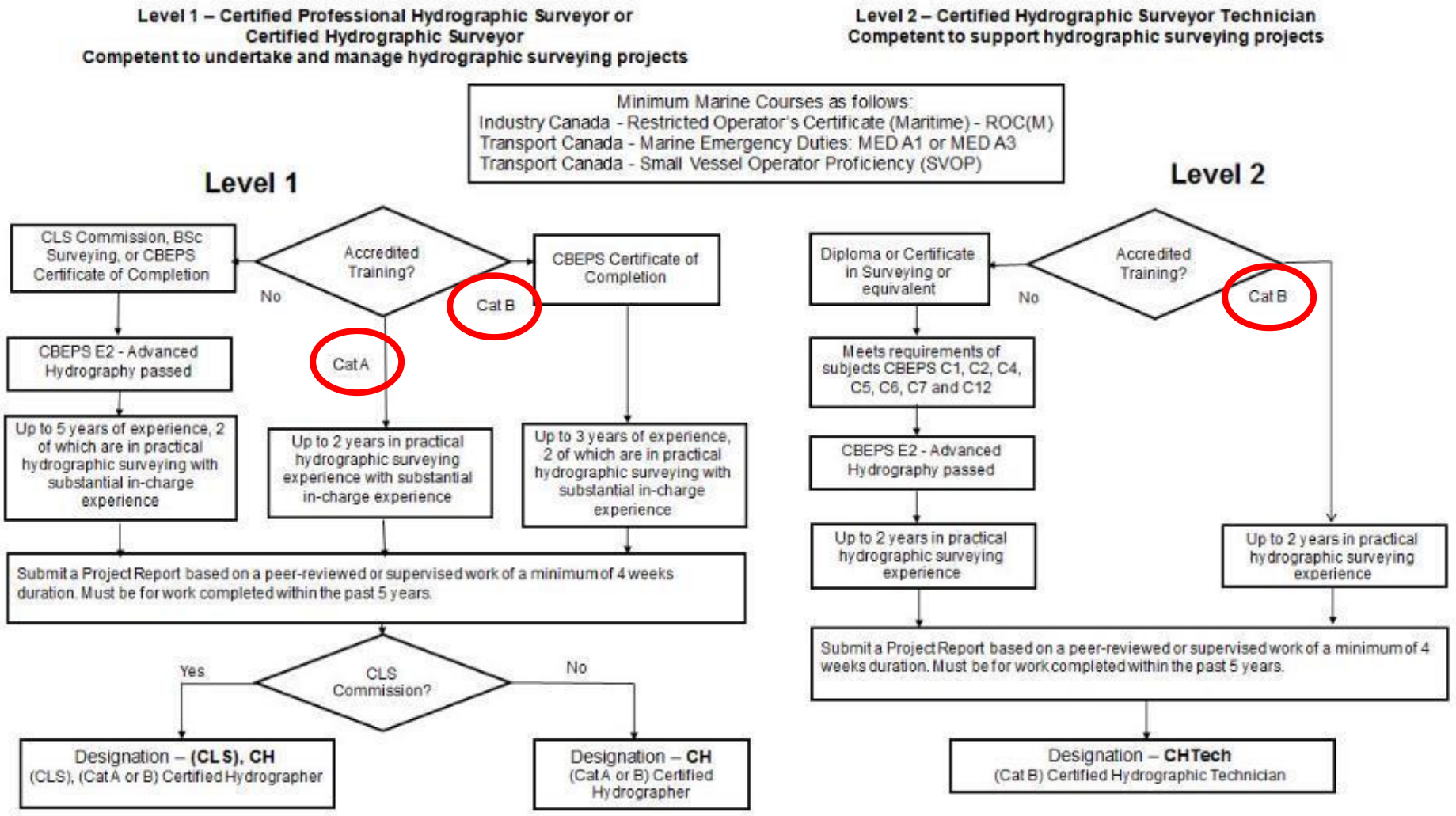
Cat B S8

IIC ACADEMY
TRANSFORMING BUSINESS - ENRICHING LIVES

Cat B S5 & S8

Canadian Ocean Mapping Research and Education Network (COMREN)

Certification Scheme for Individuals



Certificate of Recognition

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N°170

FIG/IHO/ICA International Board on
Standards of Competence for Hydrographic Surveyors
and Nautical Cartographers (IBSC)

CERTIFICATE OF RECOGNITION

The FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers, having reviewed the scheme for individual recognition **"System for Certifying and Recognizing the Competency of Individuals as Hydrographic Surveyors in Canada"** submitted by the ASSOCIATION OF CANADA LANDS SURVEYORS -ACLS (CANADA) against the "Standards of Competence for Hydrographic Surveyors", S-5 Edition 11. 1.0, and being satisfied that it meets the requirements prescribed for a national level (Canada), hereby awards this certificate of recognition for a period of six (6) years.

Signed at Monaco

Prof. Dr. Nicolas Seube
Chairman of the Board
This day the 15 of April 2016

“Ping to Database” Approach Summary…

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Perform Survey

- Clean data (as automatically as possible)

Bathymetric Database processes…….

- Store result in bathymetric database as a single “master product surface” using variable resolution (dense inshore, sparser in deeper water). Older data gets superseded at this point.
- Generate contours and selected soundings in at the largest required scale
- Identify shoals, wrecks, other features of interest

Product Database processes…..

- Load up generated product sources (contours, soundings, other features) into Source Database
- Update the products based on those sources

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Challenges

- Quality Control
- Workflow Processes
- Monitoring
- Education and Training
- Certification

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Gracias