



# Overcoming the Lack of Hydrographic Data

## Unsurveyed or requires better data (0-200m deep)

- Caribbean >80%
- W. Africa >80%
- Polar regions > 95%
- Australia ~ 65%
- Greece ~ 65%
- USA ~ 40%
- UK ~ 30%
- France ~ 19%

Survey and charting status 2013

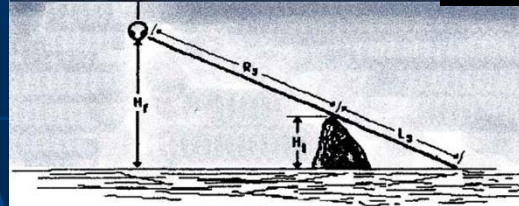
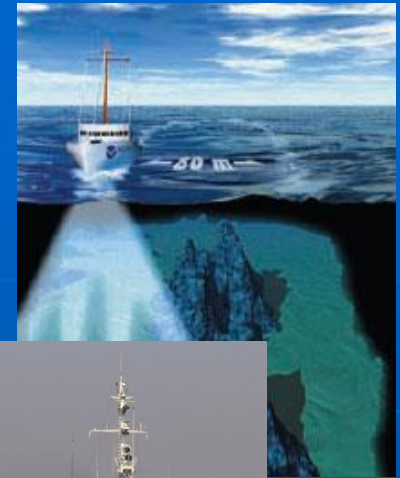
(source: IHO C-55)



# Global surveying capacity

35% reduction in government fleet  
in 25 years

- IHC 2012



# So, what can we do ?

- Raise Awareness
  - States
  - Public
  - Mariners
- IHO M-2 – *The need for hydrographic services*
- More hydrographic capacity building – technical cooperation – IHO-IMO-IALA



- Encourage increased data collection

## Gathering data for the common good

- Holistic government and regional survey and data gathering programmes

- *Infomar* (Ireland)
- *Mareano* (Norway)
- *EMODNET* (EU)
- *OECS* ?, *others* ? .....

- The HCA Declaration ...

*...multi-party multi-disciplinary collaborative projects ...*



## Declaration:

In considering how to achieve its agreed survey and charting priorities for the Antarctic region, HCA encourages multi-party, multi-disciplinary, collaborative projects that involve government, IGO's, NGO's, industry and donor organisations.

Such projects should, wherever possible:

- maximise the benefits for all parties
- minimise costs by harnessing existing infrastructure
- incorporate multi-parameter data collection programmes from the same platform

In this context, the outline proposal paper (HCA13-07.2A) presented at HCA-13 is an example that might fulfill such requirements



## Supplementary methods for obtaining more data

- Satellite derived bathymetry
- Data mining
- Volunteered Spatial Data (VSD)
  - *Crowd-sourcing* using mariners





# Crowd-Sourced Bathymetry (CSB)

## Issues to overcome

- Government exposure to liability for unassessed data
- Commercial “exploitation” of volunteered data
- Long turnaround times
- Third party “cleaning”





# The IHB has a plan ...

## IHO Crowd-Sourced Bathymetry (CSB) Programme

- Low cost – high impact
- Uses existing database infrastructure
- Non commercial
  - IHO (IHB) - led
  - volunteer based
- Wide stakeholder support



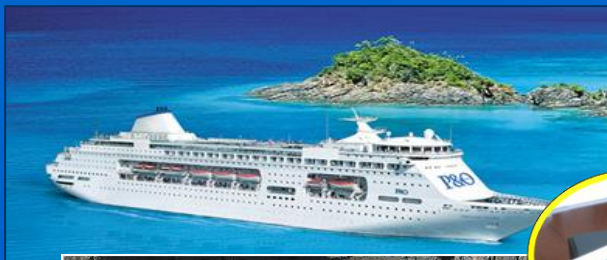
- CSB - mariners' self-help programme
- Not new
- **Not a replacement for surveys**



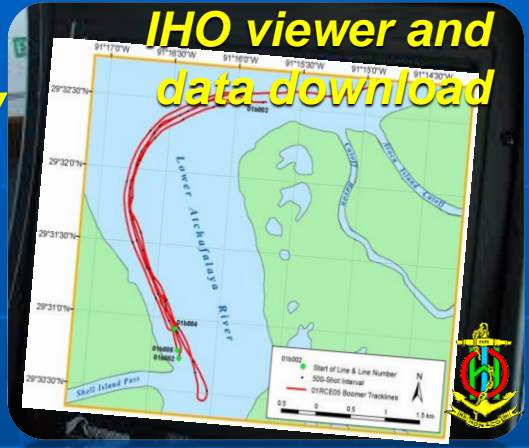
# IHO Crowd-Sourced Bathymetry (CSB)

- Proof of Concept trials starting 2014
- Aim: a logger in every professionally crewed ship





**Crowd-sourced data**



**data uploadd at mariners' convenience**

**near real-time update, view or download**

**(alerts, if required)**



**normal chart updating cycle**



**new or revised chart**

**IHO Data Centre for Digital Bathymetry**



# Other issues to be addressed

- assessing CSB data quality for use in charts
- portraying CSB data in charts
- observers' exposure to liability
  - UNCLOS
  - national laws





## IHO DCDB will become

- global CSB data store
- GEBCO data store / data portal
- global bathymetry metadata store / metadata portal



- open access to CSB and some other data
- identification of other existing data (via metadata)



# Vision

The IHO DCDB will become a principal portal that represents the global bathymetry dataset - extending from the HWL to the deep ocean



Purposely simple, low cost, low overheads







... every human activity that occurs in, on or  
under the sea benefits from hydrography  
... hydrography underpins *the blue economy*

So, doing nothing is not an option !

# Actions and Options

- Raise awareness
- Cooperative multi-agency, multi disciplinary, projects
- Data mining
- New technologies as a supplement
  - *Satellite derived bathymetry*
- VSD as a supplement
  - *Crowd-sourced bathymetry programmes*



