



The Lack of Hydrographic Data

- *Crowd-Sourced Bathymetry* -

Survey and charting status 2013

(source: IHO C-55)

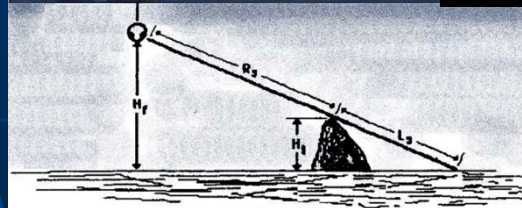
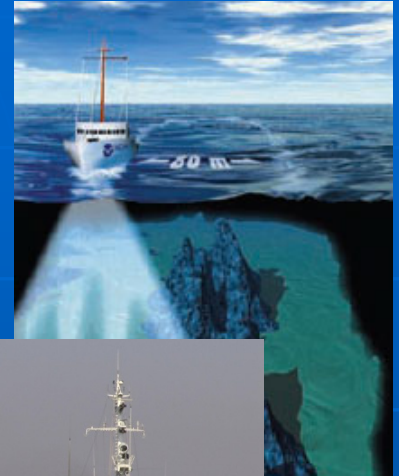
Unsurveyed or requires better data (0-200m deep)

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



Global surveying capacity

- 35% reduction in government fleet in 25 years



So, what can we do ?

- Raise Awareness
 - States
 - Public
 - Mariners
- More hydrographic capacity building – technical cooperation – IHO-IMO-IALA



- Encourage increased data collection
 - Holistic government survey and data gathering programmes
 - Infomar (Ireland)
 - Mareano (Norway)
 - EMODNET (EU)
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 - “Gathering data for the common good”
- *Crowd-sourcing* programmes using mariners
- Satellite derived bathymetry



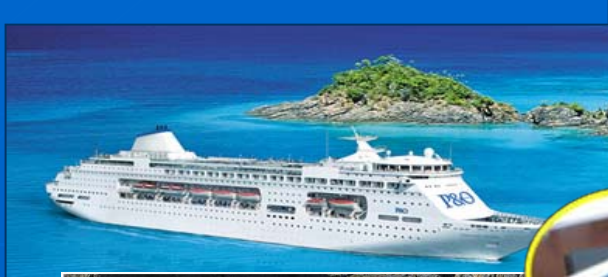
IHO Crowd-Sourced Bathymetry (CSB)

- Low cost – high impact
- Commercial programmes exist
- Non commercial
 - IHO - led
 - community based
- IHO/PYA initiative
- Concept trials starting 2014
- Aim: a logger in every professionally crewed ship



- Mariners' self-help programme
- Not new
- Not a replacement for surveys
- Issues:
 - Liability ?
 - Quality and reliability ?
- Is some data better than no data ?
- What is the alternative ?!





Crowd-sourced data



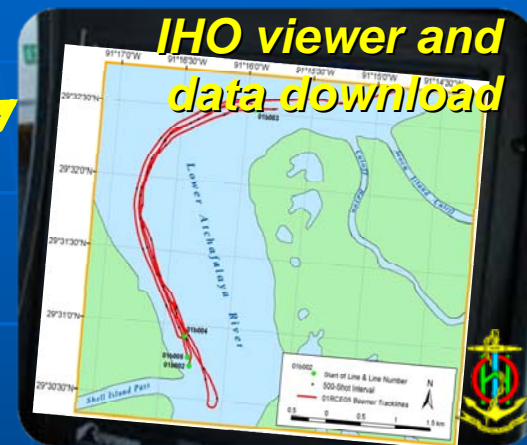
*data uploaded at
mariners' convenience*

*near real-time update, view
or download*

(if required)

*normal chart
updating cycle*

**IHO viewer and
data download**



**IHO Data Centre for
Digital Bathymetry**



new or revised chart



CSB: Issues to be addressed

- assessing CSB data quality for use in charts
- portraying CSB data in charts
- exposure to liability
 - observers
 - publishers





Higher resolution maps of the Moon and Mars

So, doing nothing is not an option