



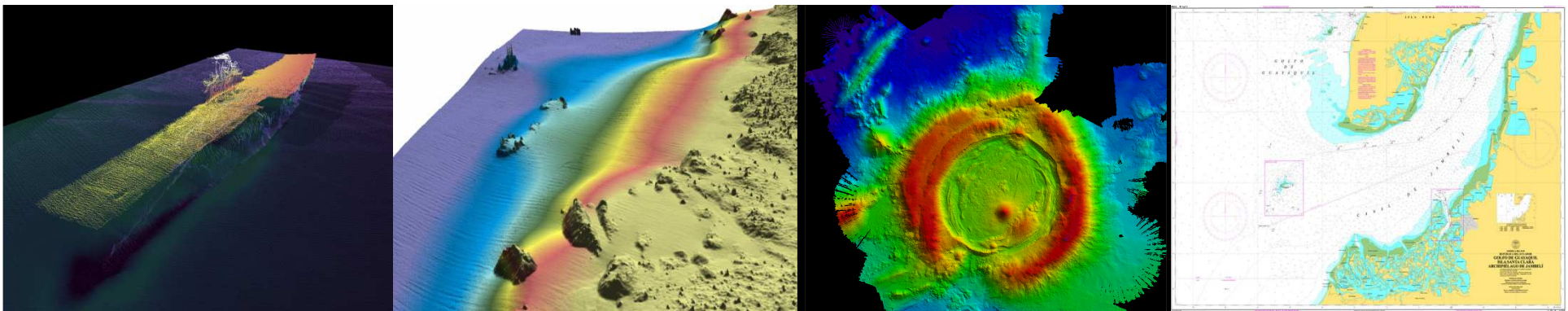
# CARIS *Ping-to-Chart Solution™* & Capacity Building Activities

13<sup>th</sup> Eastern Atlantic Hydrographic Commission  
Casablanca, Morocco - September 18th 2014

Patrícia Gaspar

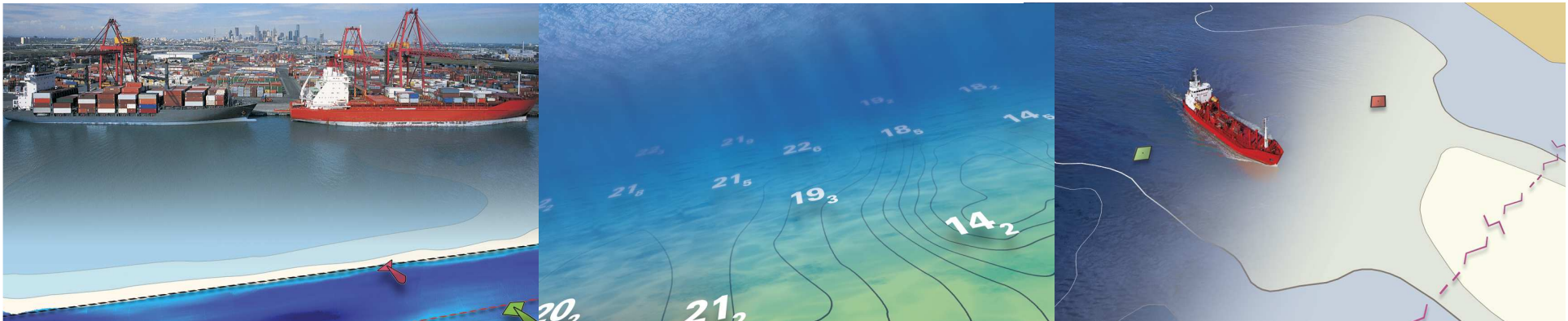
# The company

- Specializing in marine GIS Solutions
- Continuous Improvement and Innovation
- Solutions developed for the maritime community



# Key Market Segments

- Chart Production
- Hydrographic Survey Processing
- Port & Waterway Management



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## CARIS Ping-to-Chart Workflow

PROCESSING



ANALYSIS



PRODUCTION

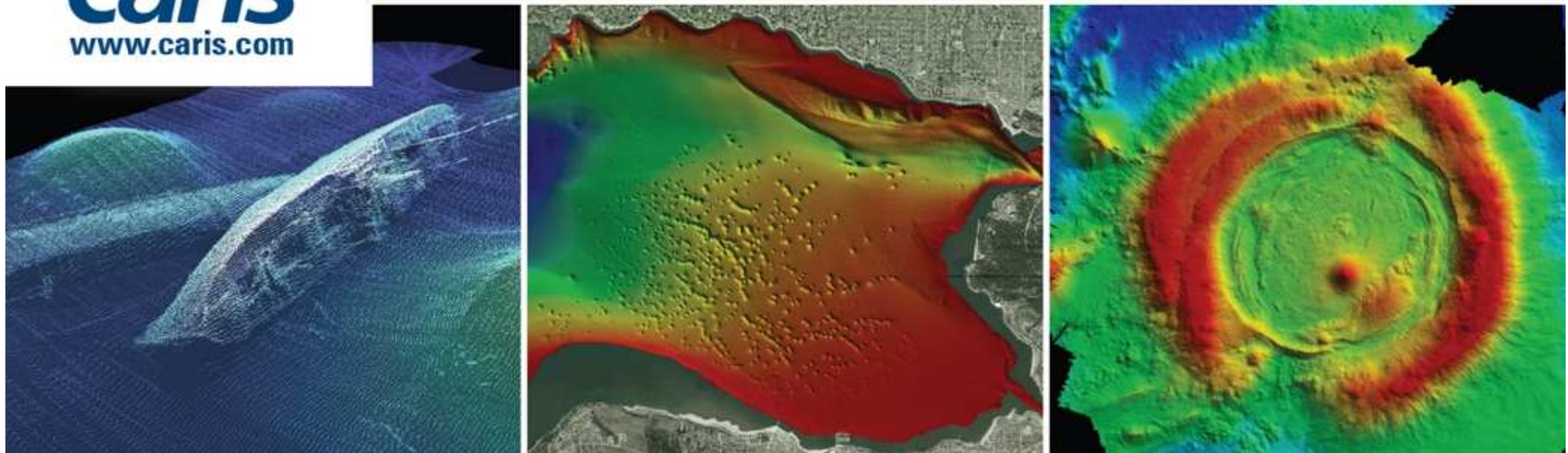


DISCOVERY



WORKFLOW MANAGEMENT

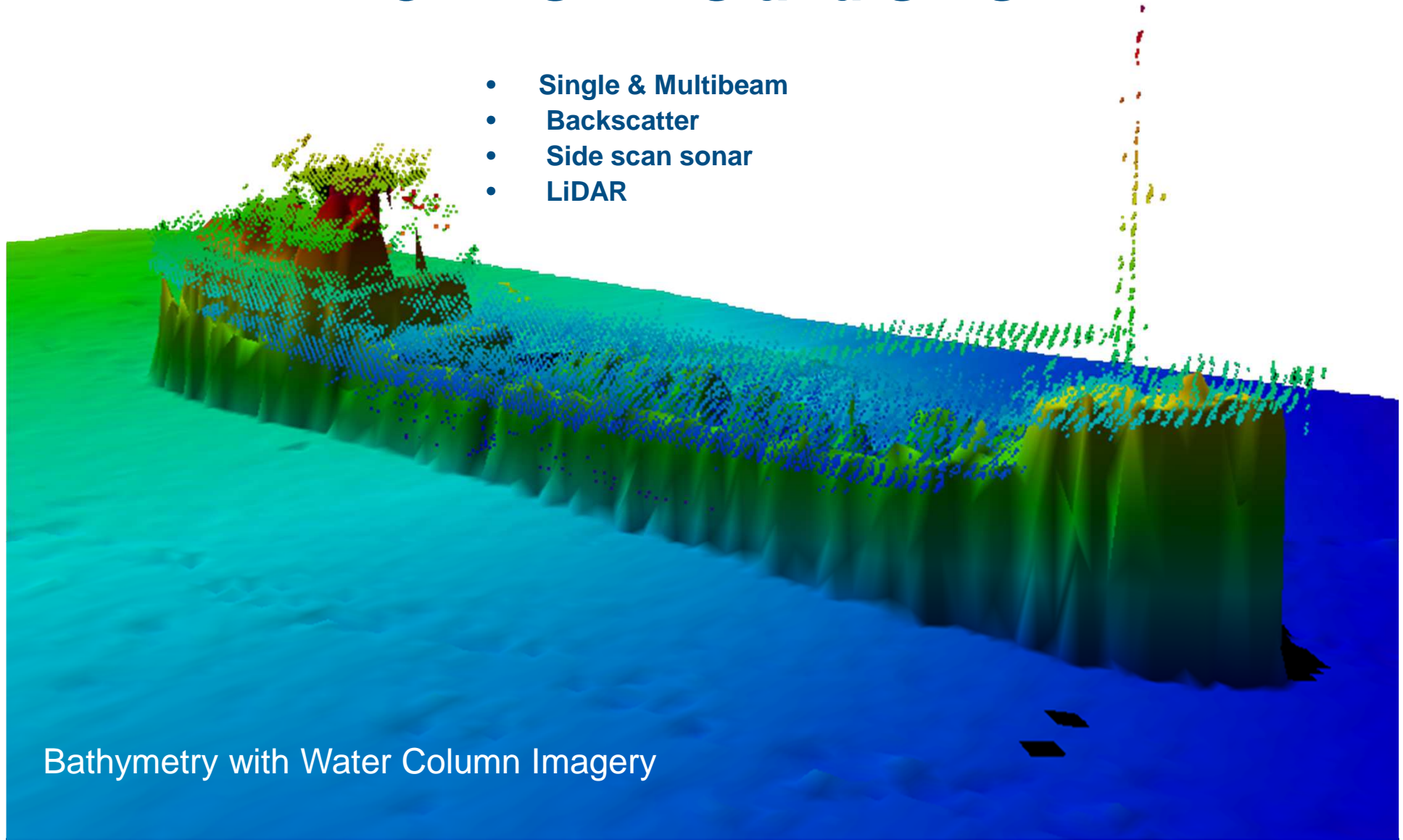
# PROCESSING



**Mosaic**      **CUBE**      **WCI**      **SAS**      **Geocoder**      **Tide**  
**Side scan sonar**      **Sound velocity**      **Bathymetry**  
**Automation**      **Imagery**      **Surface creation**

# CARIS HIPS and SIPS

- Single & Multibeam
- Backscatter
- Side scan sonar
- LiDAR



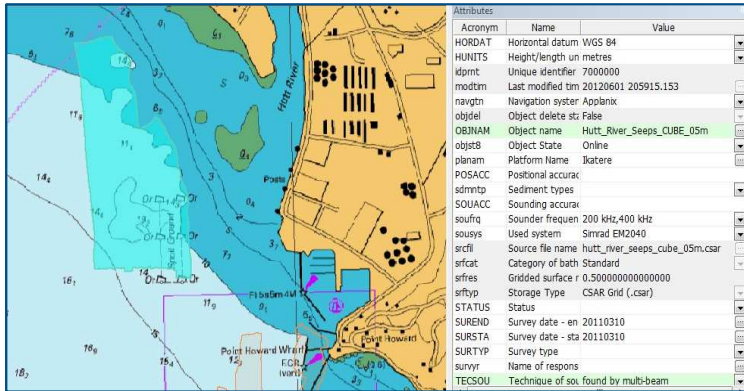
Bathymetry with Water Column Imagery

# ANALYSIS

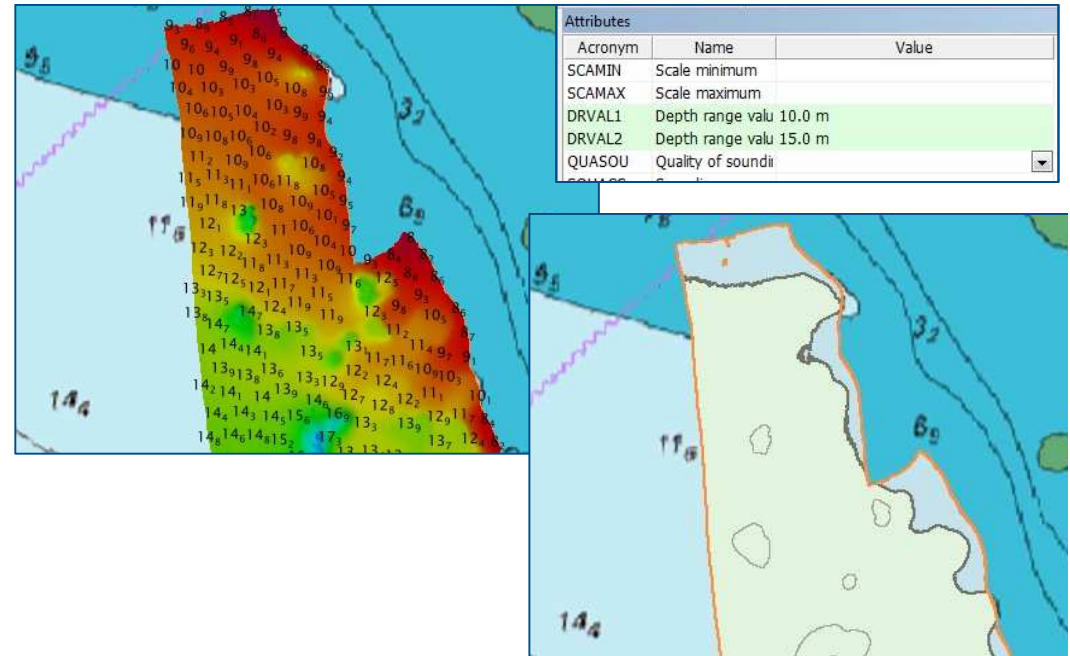


- Surface difference*
- Port Maintenance*
- Depth soundings*
- Data management*
- S-57 / S-100*
- Law of the Sea*
- Profiles*
- Database solution*
- Combine surfaces*
- Desktop solution*
- Volumes*
- Analysis*
- S-102*
- Contours*
- Shoal detection*

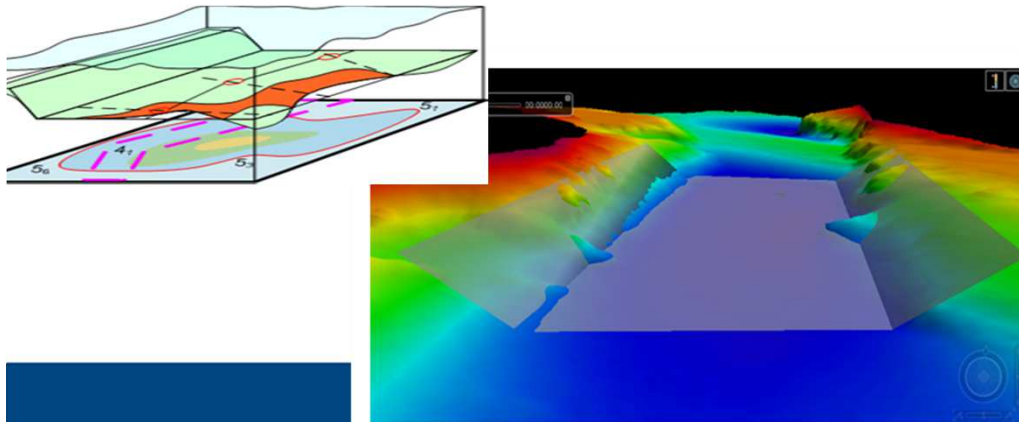
## Survey Management



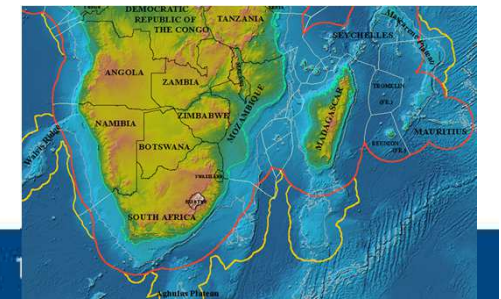
## Product Creation



## Port & Waterway Analysis

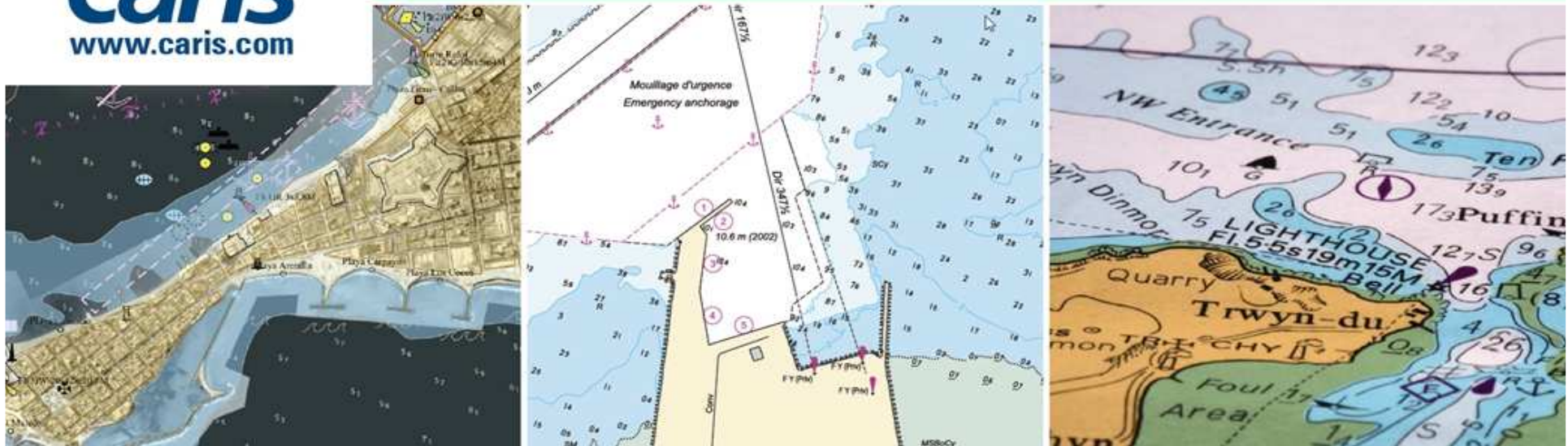


## Limits & Boundaries





# PRODUCTION



**Vector products**

**Paper charts**

**Production**

**Desktop solution**

**Raster products**

**Database solution**

**AML**

**INT1 / INT2**

**Inland ENC**

**Data management**

**S-57 / S-100**

CARIS Paper Chart Composer - [Sheet View]

File Create Edit View Tools Select Certify Window Help

Port Louis:Sheet:P

Calibri 11 B I U

Layers

- Port Louis
  - Sheet
    - Panel Port Louis
      - Panel Data: Port Louis
      - Deleted Objects

Layers Draw Order

Chart Properties

Acronym	Name	Value
BDRYP	Border Type	
DEPDAT	Depth Datum	
DEPUNT	Depth Units	
GRINT	Graticule Interval	
HGHTDA	Height Datum	
HGHTUN	Height Units	

Properties Chart Properties

Selection

Feature ID	Acronym	Name	Geometry	Latitude	Longitude	Depth	Object T...
1C 000000...	BOYCAR	Buoy, car...	Point	50-21.40N	004-08.5...		Geograp...

Attributes

Acronym	Name	Value
NATCON	Nature of constru	
NOBJNM	Object name in r	
OBJNAM	Object name	S Winter
PEREND	Periodic date enc	
PERSTA	Periodic date stai	
STATIS	Status	

Coordinates

Latitude
1 50-21.40N



# DISCOVERY



*Web services*

*OGC*

*Discovery*

*WMTS*

*WFS*

*Open data*

*Download*

*GML*

*INSPIRE*

*WMS*

*Metadata*

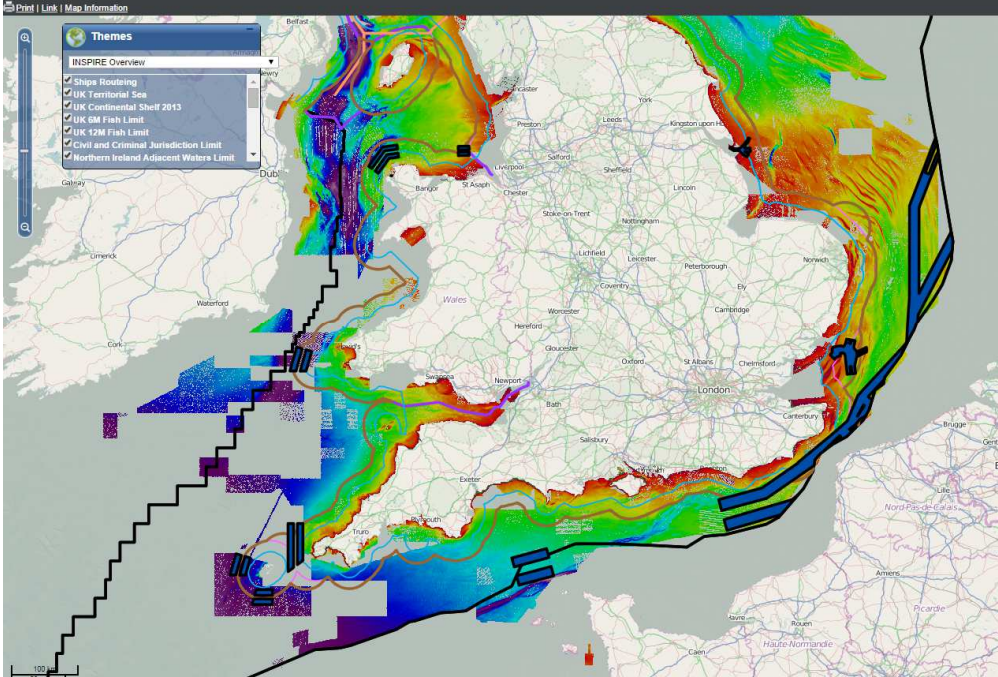
*WCS*

*Data Distribution*

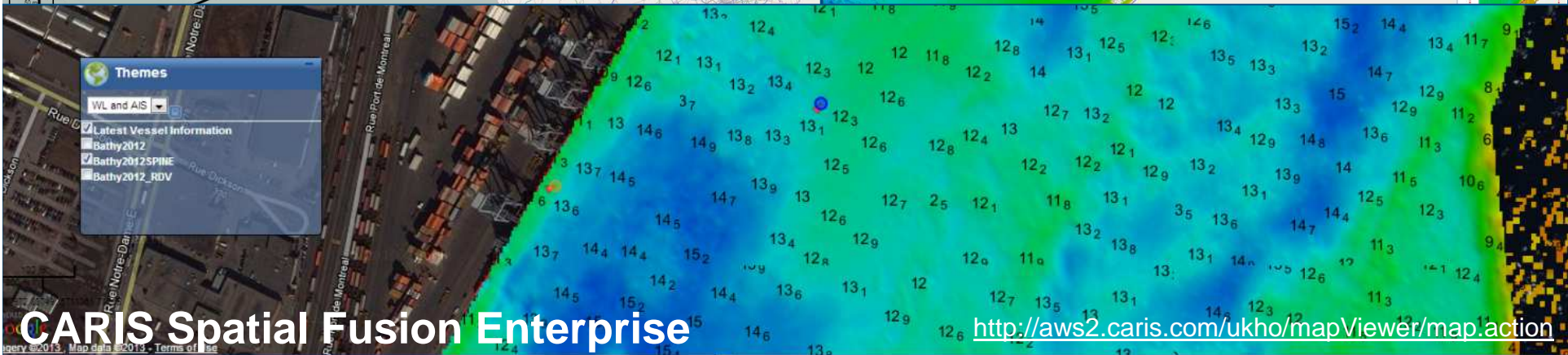
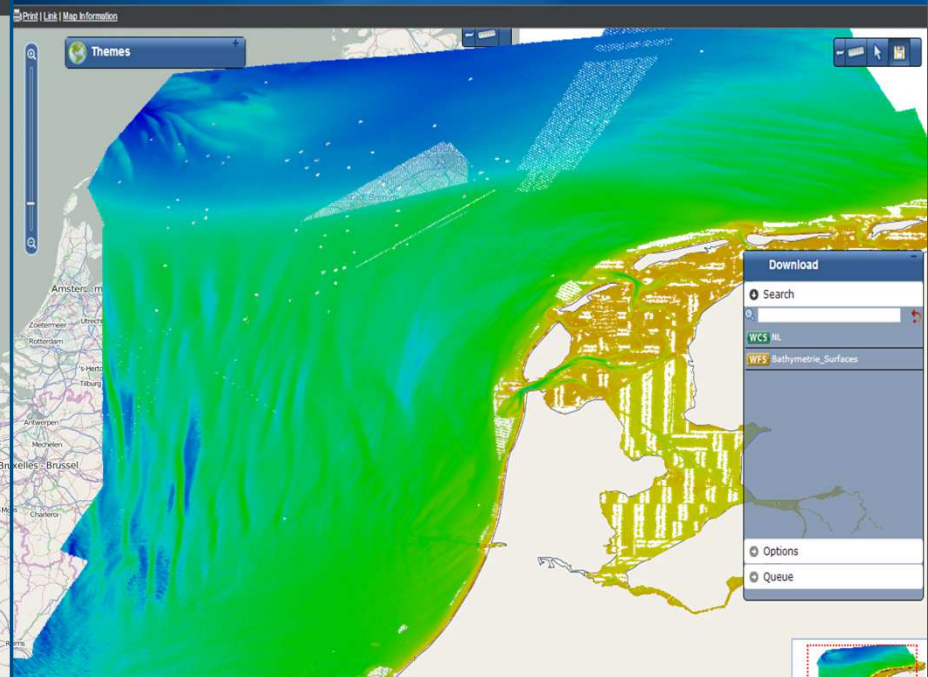
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UKHO INSPIRE Portal & Bathymetry DAC



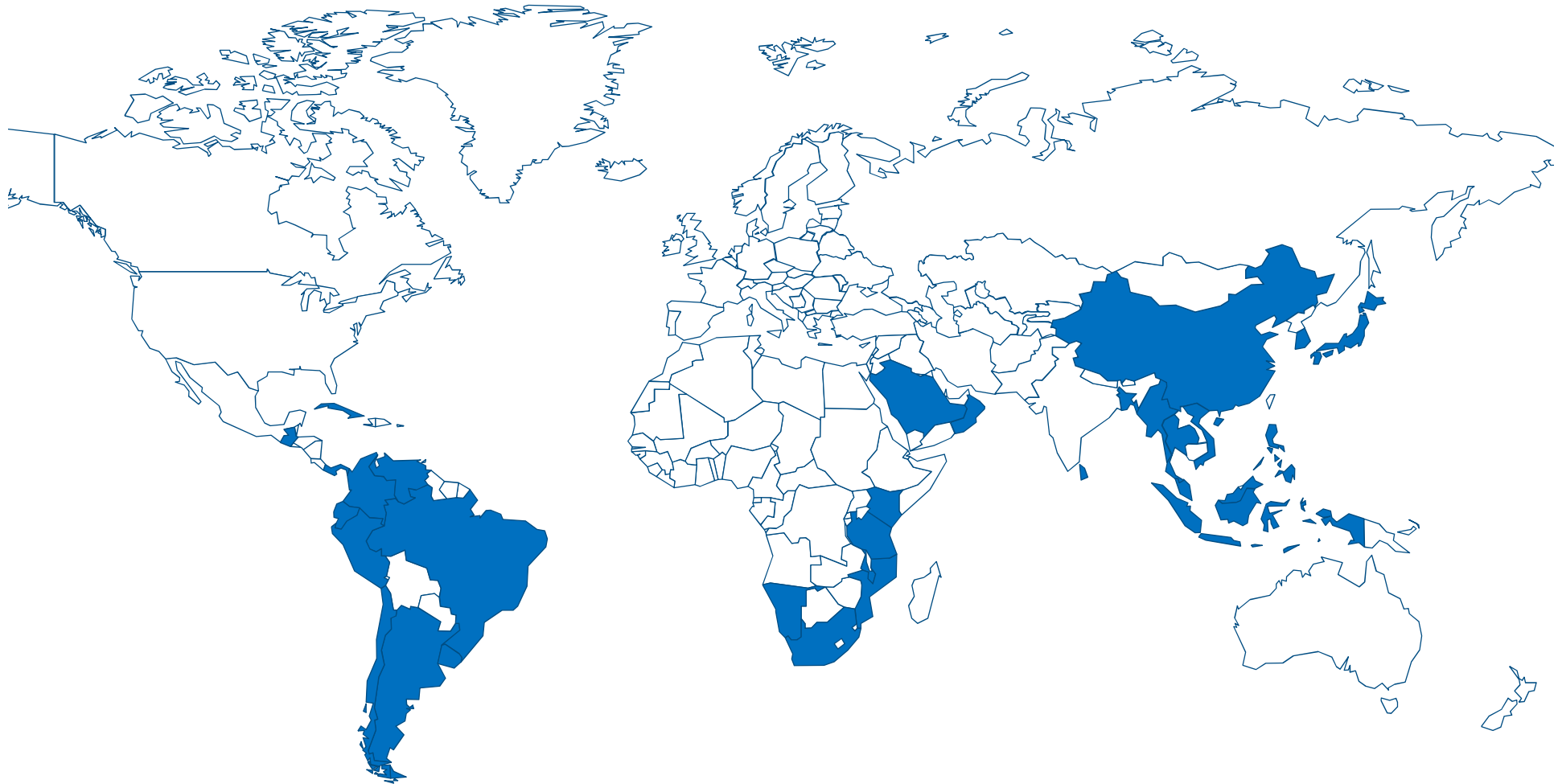
CARIS Spatial Fusion Enterprise Viewer



CARIS Spatial Fusion Enterprise

<http://aws2.caris.com/ukho/mapViewer/map.action>

mmsi	imo	vessel_name	callsign	vessel_type	vessel_type_code	vessel_type_cargo	length	width	flag_country	flag_code	destination	eta	draught	longitude	latitude	sog	cog	rot	heading	



**Activities in the period 2009-2014**

# Summary Activities 2009-2014

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**Coast Map IO Training - Bathymetric Processing Techniques. Bangkok, Thailand, 2009.**



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KONGSBERG



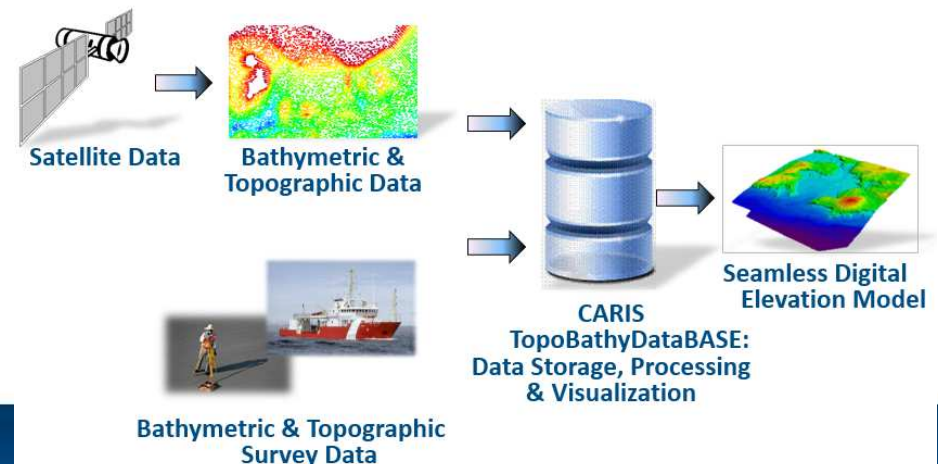
**Hydrographic Surveying and Nautical Charting Training Course. Antigua & Barbuda, 2011**



*IHO sponsored course for Meso American & Caribbean Sea Hydrographic Commission*



**Coast Map IO - Implementation of TopoBathy DataBase. Maputo - Mozambique, 2012**



# Summary Activities 2009-2014

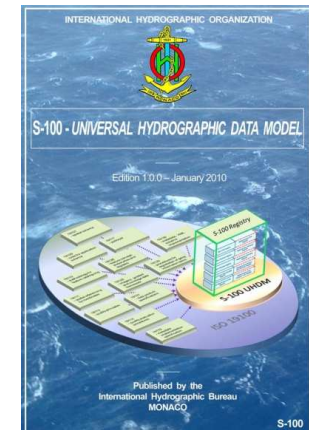
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**Database Design & Management MSDI Courses  
Thailand, South Korea, Sri Lanka & Brazil (all 2012)**



**South East Pacific HC, S-100 Workshop  
Guayaquil – Ecuador, 2013**



**Nautical Chart & ENC Production Workshops  
Colombo, Sri Lanka (2013). Yangon, Myanmar (2014).  
Dhaka, Bangladesh (2014).**

## Extraordinary International Hydrographic Conference

October 6 - 10, 2014

Monaco,

Visit CARIS at stand 14

## Teledyne UTS Boston

October 7 - 9, 2014

Boston, Massachusetts, United States

## Hydro 14

October 28 - 30, 2014

Aberdeen, United Kingdom

Visit CARIS at stand 44

## HYPACK 2015

January 5 - 8, 2015

San Antonio, Texas, United States

Visit CARIS at stand 3

## US Hydro 2015

March 16 - 19, 2015

National Harbor, Maryland, United States

Visit CARIS at stand 31-32

## Ocean Business 2015

April 14 - 16, 2015

Southampton, United Kingdom

Visit CARIS at stand N10

## CARIS B.V. Heeswijk, The Netherlands



## BASE Editor 4.1 training

January 26 - 29, 2015

Heeswijk, The Netherlands



CARIS | THE MARINE GIS EXPERTS

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