



# International Hydrographic Organization

## Directorate of Hydrography and Navigation

### Navy Hydrographic Centre

## Tidal and Water Level Working Group Meeting (TWLWG)

Silver Spring, Maryland, USA (April , 21 – 24 2015)



# National Presentation - Brazil



## Summary

- Introduction
- An overview of our present situation
- Revitalization of the Brazilian tidal station network



# National Presentation - Brazil



An overview of our present situation

Superintendence of  
Safety Navigation

Survey  
Division

Section of  
Elements

Section of  
Bathymetry

Section of  
Morphology

Section of  
Tides

Section of  
Geodesy



# National Presentation - Brazil



## An overview of our present situation

### ➤ Chart Datum/ Hydrographic Datum

- a) Maritime areas - MLWS calculated by Courtier-Balay Criterium
- b) River areas - Amazon and Paraguay Basins –  
Percentile 10 with 20 years of river height observation



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## An overview of our present situation

- Planning of Hydrographic Survey - requirements for water level data acquisition / tidal zoning/ soundings reductions
- Analysis of Hydrographic Survey - checking tidal data adopted for soundings reduction
- Tidal information for Navigational Charts (M-4)



# National Presentation - Brazil



## An overview of our present situation

- National Tide Tables for 53 stations
- Technical instructions and proceedings for tide issues (ISO 9001 / M-3)
- Data collection and processing of 4 permanent stations located in Rio de Janeiro
  - Ilha Fiscal
  - Ponta da Armação
  - Ilha do Boqueirão
  - Ilha Rasa



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## An overview of our present situation

- Loading Tidal System based on historical tidal stations form
- Harbours support
- Periodic training courses on maintenance and operation tide stations



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## An overview of our present situation

- 2009 – GLOSS Brazil Program coordination and support
- Thinking about updating chart datum from MLWS to LAT





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## An overview of our present situation

Updating Chart datum from MLWS to LAT

### Problems!!!

- Short time series
- Different time series
- Lack of support from harbours and other Government Institutions



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## Brazilian Tidal Station Network



Stations	Institutions	Status
Rio Grande	FURG/CHM	Not installed
Imbituba	IBGE	Operating
Cananéia	IO-USP	Out of operation
Ilha Fiscal	CHM	Operating
Macaé	IBGE	Out of operation
Tubarão	VALE	Not installed
Ilha da Trindade	INPE/CHM	Out of operation
Salvador	IBGE/CHM	Operating - Station is online
Fernando de Noronha	INPE	Out of operation
Fortaleza	IBGE	Operating - Station is online
Ponta da Madeira	VALE	Not installed
Arq. de São Pedro e São Paulo	INPE	Out of operation



# National Presentation - Brazil

## Brazilian Tidal Station Network



Stations	Institutions	Status
Ponta da Armação	CHM	Operating
Boqueirão	CHM	Operating



# Thanks!



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Lt. Cmd. Adriano Vieira  
Email [adriano@chm.mar.mil.br](mailto:adriano@chm.mar.mil.br)  
Phone +55 21 2189 3026

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