



# METEOROLOGICAL GEOPHYSICAL AND CLIMATOLOGICAL AGENCY-INDONESIA

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**BMKG**

PO. Box 3540 JKT, Website : <http://bmkg.go.id>

## VOS Program in Indonesia

Presented on Fourth International PMO Workshop, Orlando, 8-10 December 2010



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# **INFORMATION ON MARINE METEOROLOGICAL SERVICES**

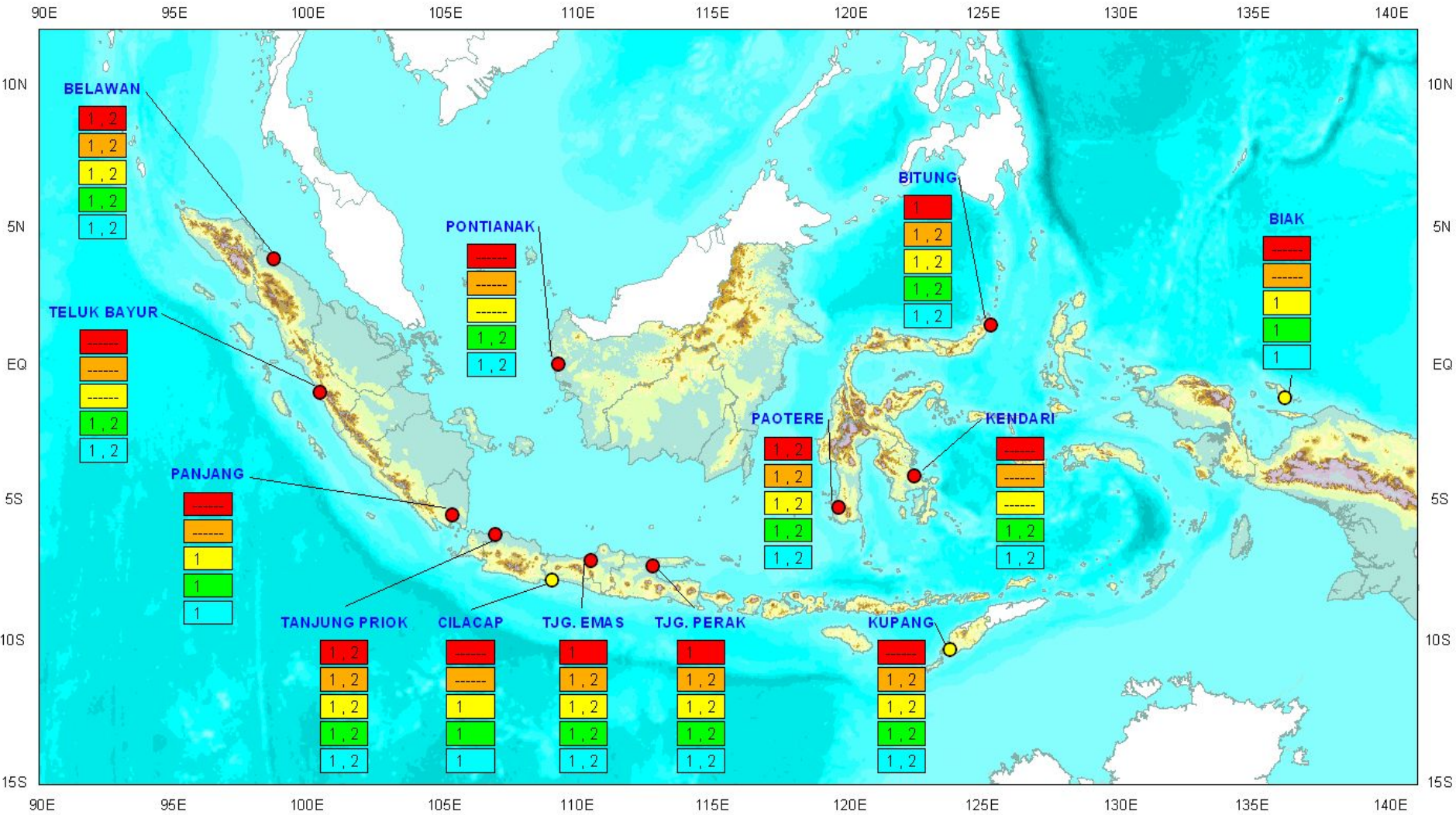




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

# **OFFICES OF MARINE METEOROLOGICAL SERVICES**






- 1. BMKG Head Office Jakarta**
- 2. Marine Meteorological Station of Tanjung Priok – North Jakarta**
- 3. Marine Meteorological Station of Belawan- North Sumatera**
- 4. Marine Meteorological Station of Teluk Bayur – West Sumatera**
- 5. Marine Meteorological Station of Panjang Lampung-South Sumatera**
- 6. Marine Meteorological Station of Tanjung Emas – Central Java**
- 7. Meteorological Station of Cilacap – Central Java**
- 8. Marine Meteorological Station of Tanjung Perak – East Java**
- 9. Marine Meteorological Station of Pontianak – West Kalimantan**
- 10. Marine Meteorological Station of Bitung – North Sulawesi**
- 11. Marine Meteorological Station of Kendari –Northeast Sulawesi**
- 12. Marine Meteorological Station of Paotere Makassar – South Sulawesi**
- 13. Meteorological Station of El-Tari – East Nusatenggara**
- 14. Meteorological Station of Biak - Papua**

## EXISTING OF MARINE METEOROLOGY STATION AND ITS AUTHORITY



-  STAMET. MARITIM (SK. 170/ME-007/KB/KBMG-2006)
-  STAMET. NON MARITIM YANG MEMBERIKAN LAYANAN INFORMASI MARITIM (SK. 170/ME-007/KB/KBMG-2006)

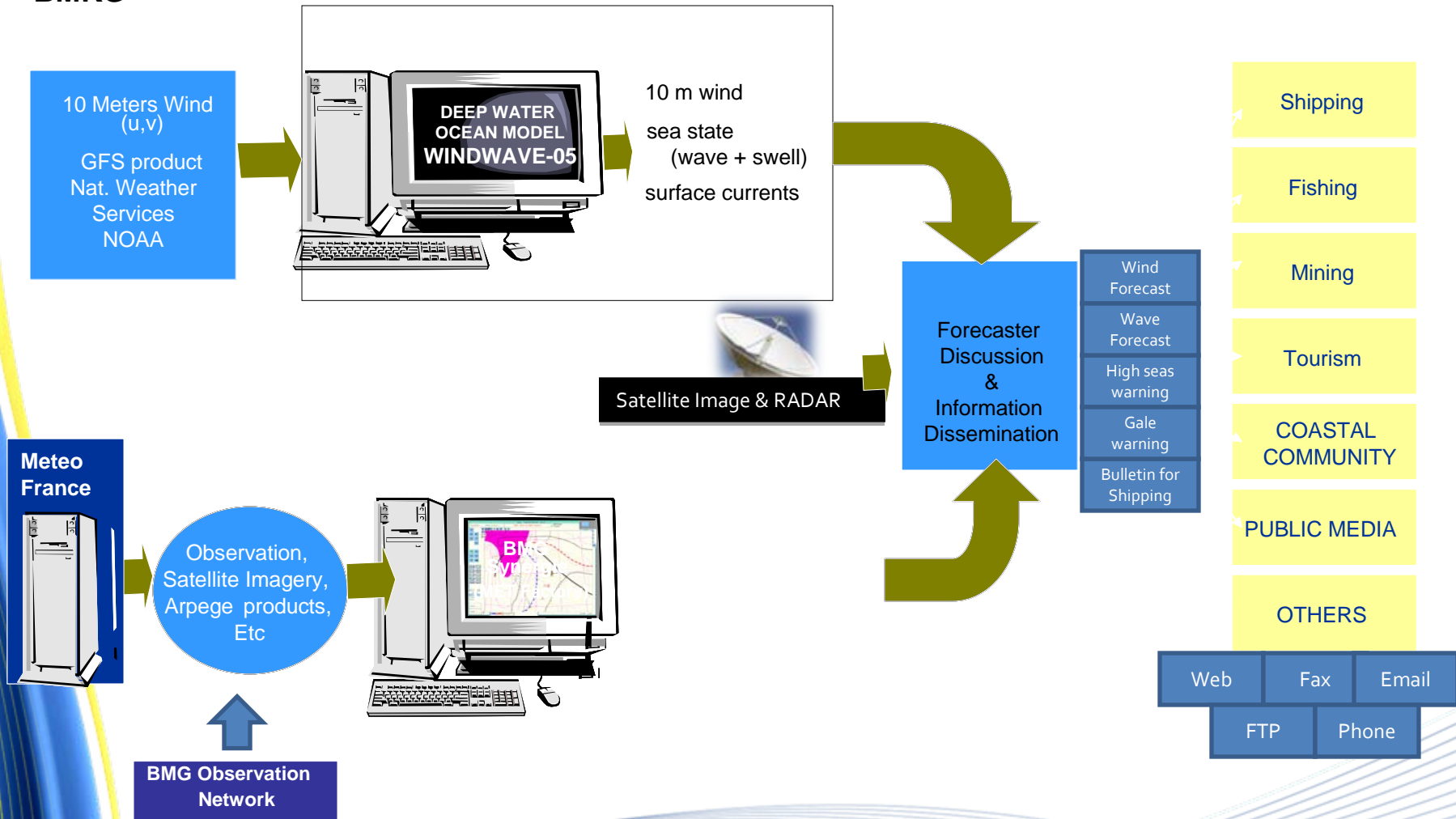
-  Belum Memberikan Layanan Informasi
-  Prakiraan Cuaca Maritim
-  Prakiraan Cuaca Maritim dan Prakiraan Tinggi Gelombang

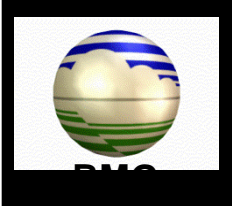
-  2005
-  2006
-  2007
-  2008
-  2009



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# MARINE FORECASTING AND SERVICES FLOW CHART





# WINDWAVES-05

The screenshot shows the WINDWAVES-05 software interface. At the top, there is a title bar with the window name 'Windwaves-05' and a standard Windows window control set. Below the title bar is a menu bar with 'About ..'. The main interface area is dark blue and contains several panels. On the left, there is a 'Running : MD04' status bar. Below it, there are several icons representing different facilities: a globe, a map with a yellow 'F!', a map of Indonesia, a map with a grid, a map with a color scale, a map with a black 'A', and a map with a black 'F'. Callout boxes point to these icons with the following descriptions: 'Model Setting' (pointing to the globe icon), '6 hourly & weekly mapping' (pointing to the 'F!' icon), 'Model Running' (pointing to the Indonesia map icon), 'Monthly mapping' (pointing to the grid map icon), 'Calling GIS Arc view' (pointing to the color scale map icon), 'Point Analysis to produce tabular data' (pointing to the 'A' map icon), and 'Point Forecast to produce tabular forecast' (pointing to the 'F' map icon). A large blue arrow labeled 'operational' points from the 'Model Setting' callout to a yellow box containing operational parameters. The yellow box is titled 'Running twice a day' and lists: Domain : 25 S – 25 N, 80 E – 150 E; Resolution : 0.5 x 0.5 degree square; Input : GFS 10 m wind; Initial Con. : Latest hindcast. At the bottom of the screenshot is a Windows taskbar with various open applications and the system clock showing 9:19 AM on Sunday, April 08, 2007.

Today : Sunday , April 08, 2007 9 :19:35 AM

Running : MD04

**MAIN FACILITIES**

- Model Setting
- 6 hourly & weekly mapping
- Model Running
- Monthly mapping
- Calling GIS Arc view
- Point Analysis to produce tabular data
- Point Forecast to produce tabular forecast

**Running twice a day**

**operational**

Domain : 25 S – 25 N, 80 E – 150 E  
Resolution : 0.5 x 0.5 degree square  
Input : GFS 10 m wind  
Initial Con. : Latest hindcast

Start | Alur System... | Search Res... | prakiraan O... | Alur System... | WINDWAVES | GEO TRAINI... | CR\_Indonesia | Presentasi S... | Internal\_06... | JABOTABEK... | Windwave... | 9:19 AM



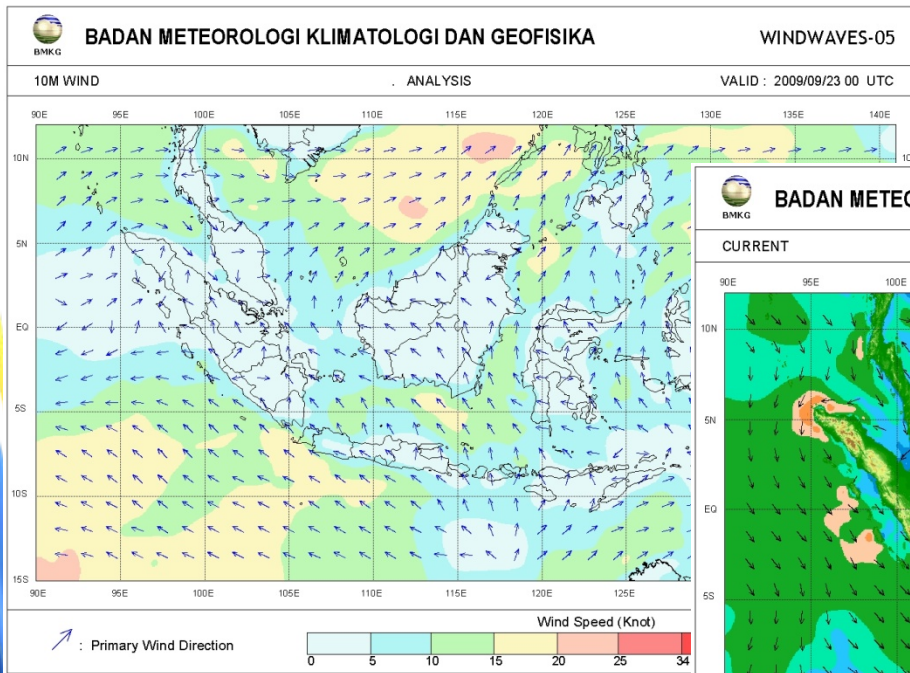
# PRODUK BMG's OCEAN MODEL (WINDWAVES-05)

## WIND & SURFACE CURRENT ASSOCIATED

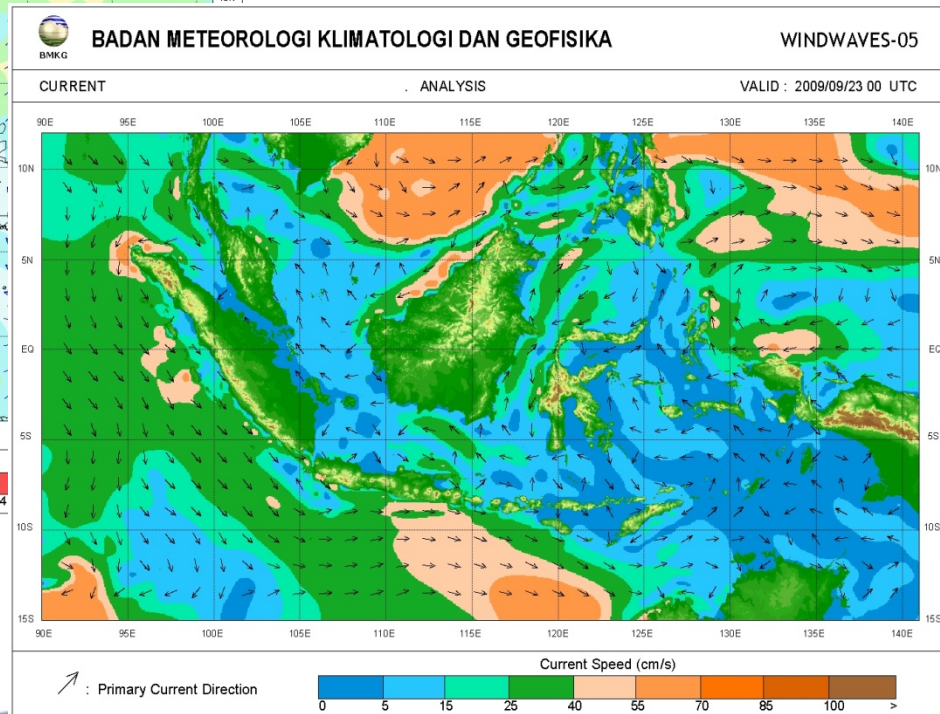
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FORECAST TIME 168 OURS, TIME INTERVAL 6 HOURS

### 10 METER WIND



### SURFACE CURRENT





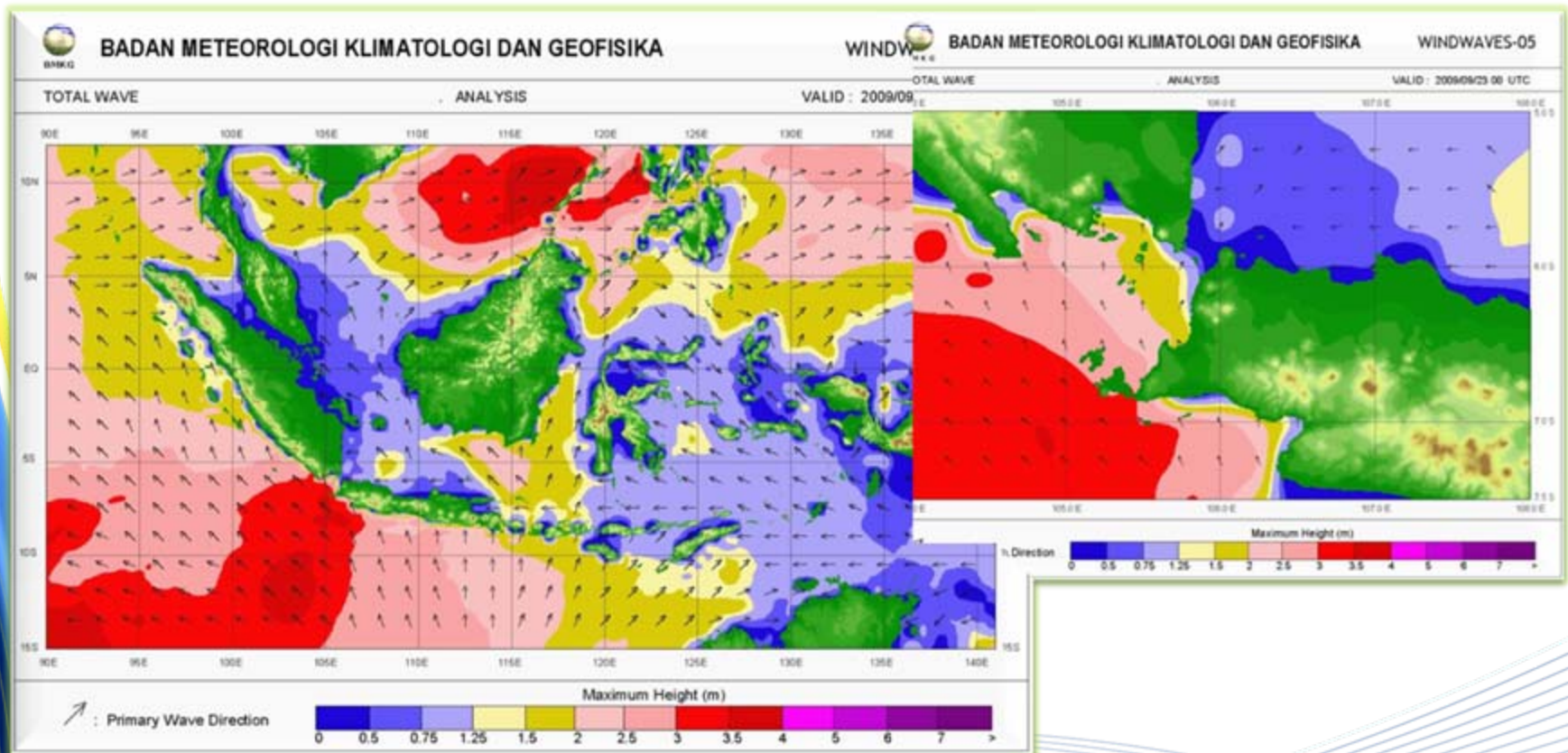
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# PRODUCTS OF BMKG'S OCEAN MODEL (WINDWAVES-05)

WINDWAVES-05 CAN BE OPERATED IN HIGH RESOLUTION AND ZOOMING FOR PARTICULAR AREA IN DETAIL AND ACCURATELY.

## TOTAL WAVE FORECAST

ZOOMING SUNDA STRAIT FOR DISPLAYING WAVE FORECASTING IN DETAIL







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# MARINE METEOROLOGICAL SERVICES

## PRODUCTS

Daily Forecasting

Weekly Forecasting (Average)

Indonesia Bulletin For Shipping

Forecasting for each area of responsibility

Port Weather Forecasting

Weather Forecasting for cross line

Warning : High Wave, Coastal Inundation  
and Tropical Cyclone

Informasi khusus meteorologi martim (atas permintaan)  
Dikenai beaya PNBK kecuali untuk kegiatan SAR dan KNKT

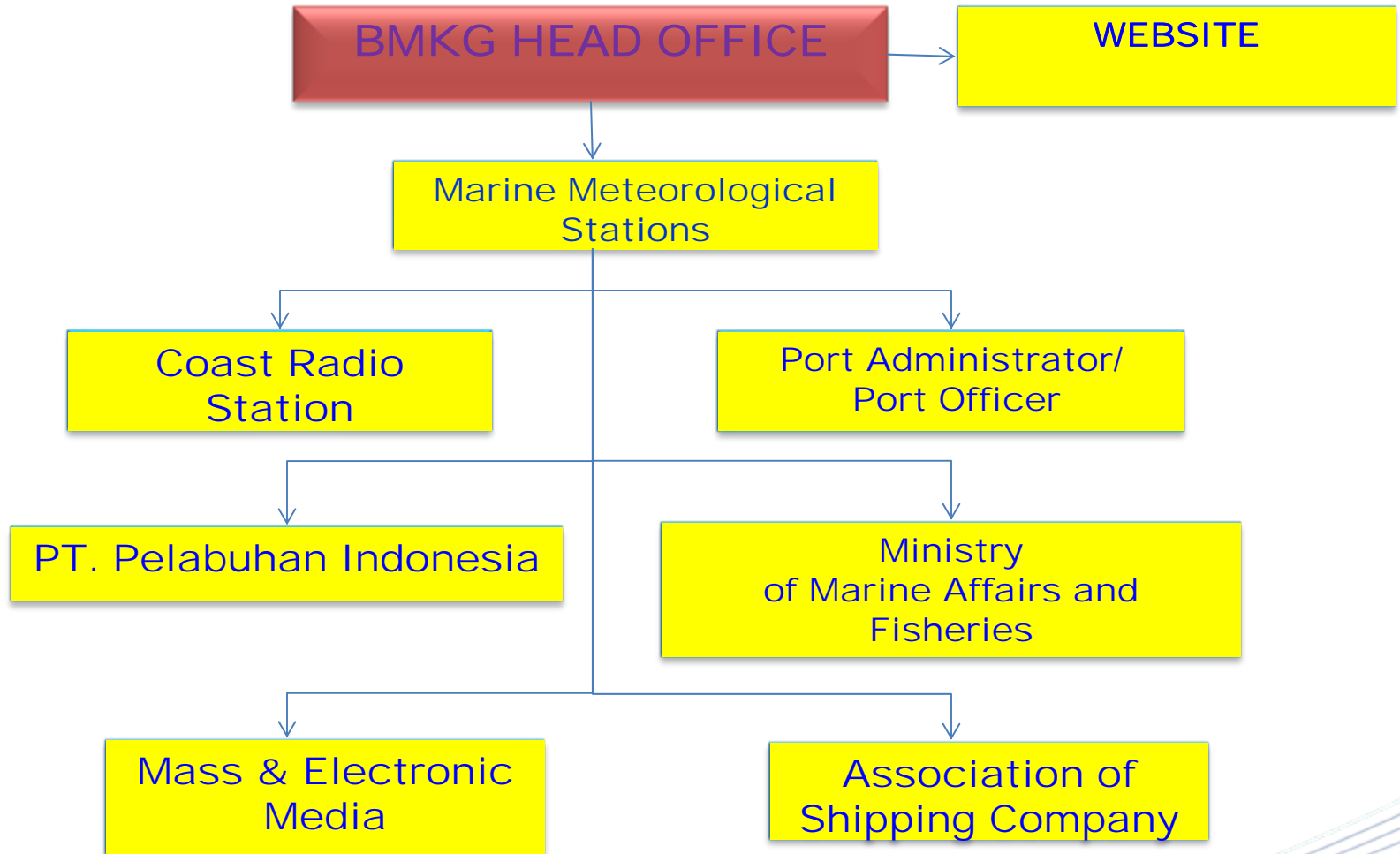
Weather

- Wind Surface
- Wave
- Swell
- Current Surface



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# FLOW OF HIGH WAVE EARLY WARNING DISSEMINATIONS





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# WEBSITE MARINE METEOROLOGICAL INFORMATION

<http://maritim.bmg.go.id>

The screenshot shows the website's header with the BMKG logo and the text "Badan Meteorologi Klimatologi dan Geofisika Informasi Meteorologi Maritim". Below the header is a navigation bar with links for "DAILY FORECAST", "WEEKLY", "WARNING !", and "ARPEGE MODEL". The main content area is divided into several sections:

- FORECAST:** Contains two items: "Prakiraan gelombang harian ...." and "Prakiraan gelombang mingguan ...", each with a small image and a "detail" link.
- BULLETIN:** Features a large image of a ship at sea and a list of links: "Weather Bulletin for Shipping", "Buletin Cuaca untuk Pelayaran", "Cuaca Jalur Penyebrangan", and "Prakiraan Gelombang 7 Hari".
- WARNING !:** Includes "Warning gelombang tinggi ..." and "Daerah gelombang tinggi ..." with "detail" links, and "TCWC Jakarta (Tropical Cyclone Warning Centre)" with a "detail" link.
- MORE INFORMATION:** Provides contact details for BMG PUSAT, including address, phone, fax, and email.

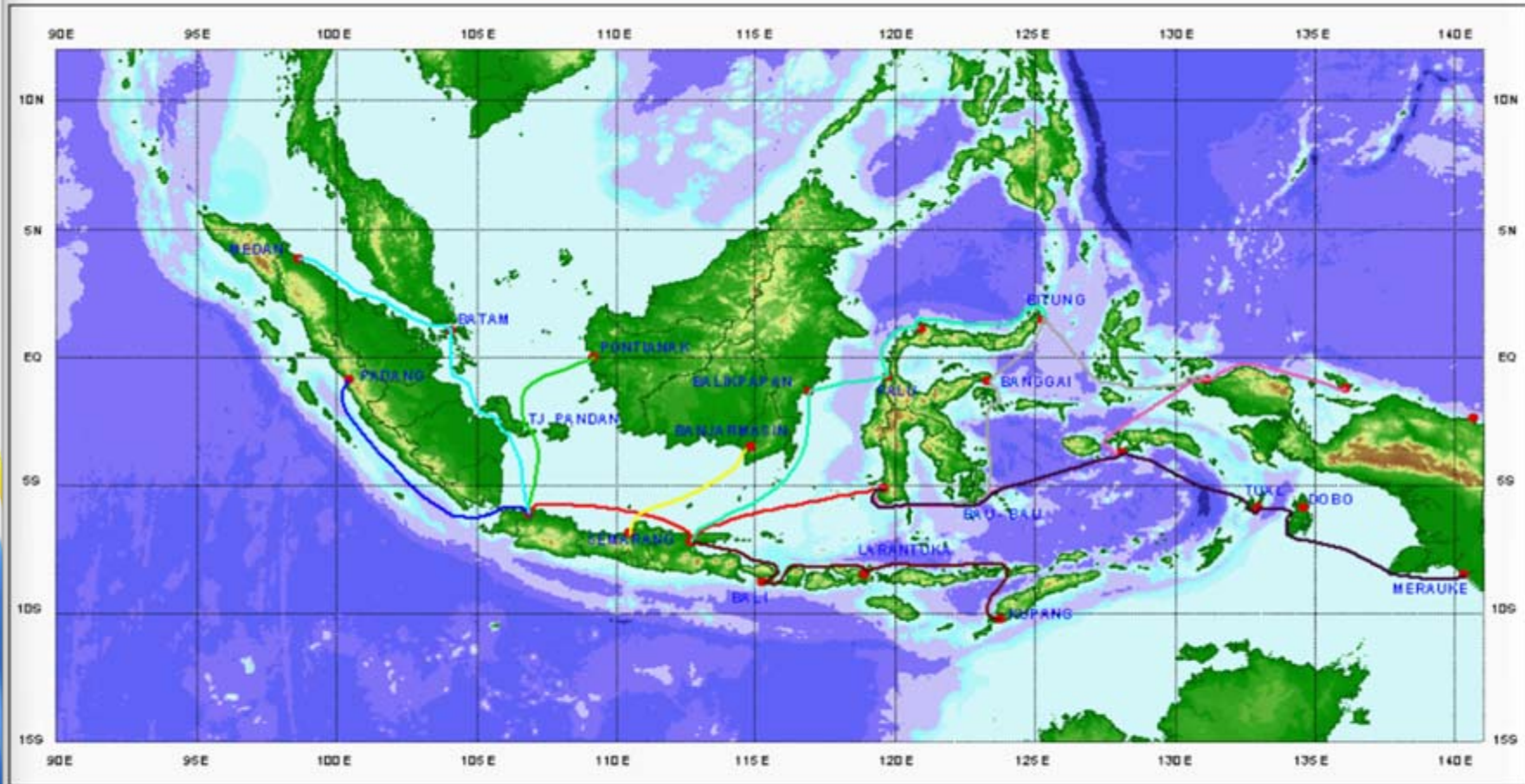
At the bottom, a blue banner reads "INFORMASI CUACA ANGKUTAN LEBARAN JALUR LAUT (14 - 29 SEPTEMBER 2009)".



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# Fam Voyage - Validation Route

## RUTE VALIDASI PRAKIRAAN MODEL GELOMBANG



- |                     |                        |                   |                    |
|---------------------|------------------------|-------------------|--------------------|
| JAKARTA - MEDAN     | SEMARANG - BANJARMASIN | SURABAYA - BITUNG | MAKASSAR - MERAUKE |
| JAKARTA - PADANG    | JAKARTA - MAKASSAR     | MAKASSAR - KUPANG | PORTS              |
| JAKARTA - PONTIANAK | MAKASSAR - SORONG      | MAKASSAR - BIAK   |                    |



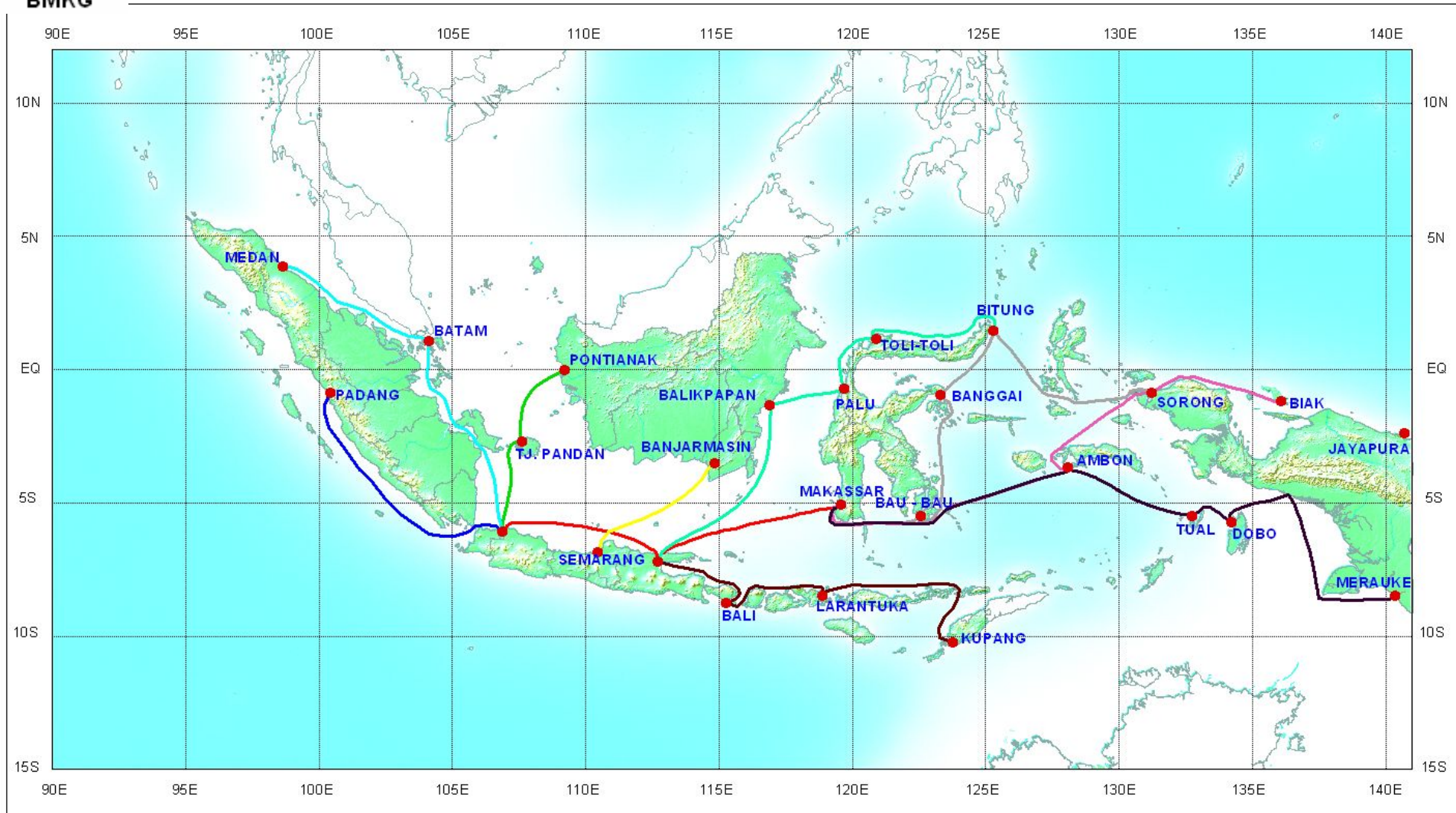
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# Implementation of Voluntary Observing Ship Programme



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# ROUTES OF AUTOMATIC WEATHER STATION on SHIP PROGRAM



- |                     |                        |                   |                    |
|---------------------|------------------------|-------------------|--------------------|
| JAKARTA - MEDAN     | SEMARANG - BANJARMASIN | SURABAYA - BITUNG | MAKASSAR - MERAUKE |
| JAKARTA - PADANG    | JAKARTA - MAKASSAR     | MAKASSAR - KUPANG | PORTS              |
| JAKARTA - PONTIANAK | MAKASSAR - SORONG      | MAKASSAR - BIAK   |                    |



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## ROUTES OF AUTOMATIC WEATHER STATION ON SHIP PROGRAM (2010)



1. KAPAL PELNI KM. GUNUNG DEMPO (JAKARTA - JAYAPURA) - BMKG PUSAT

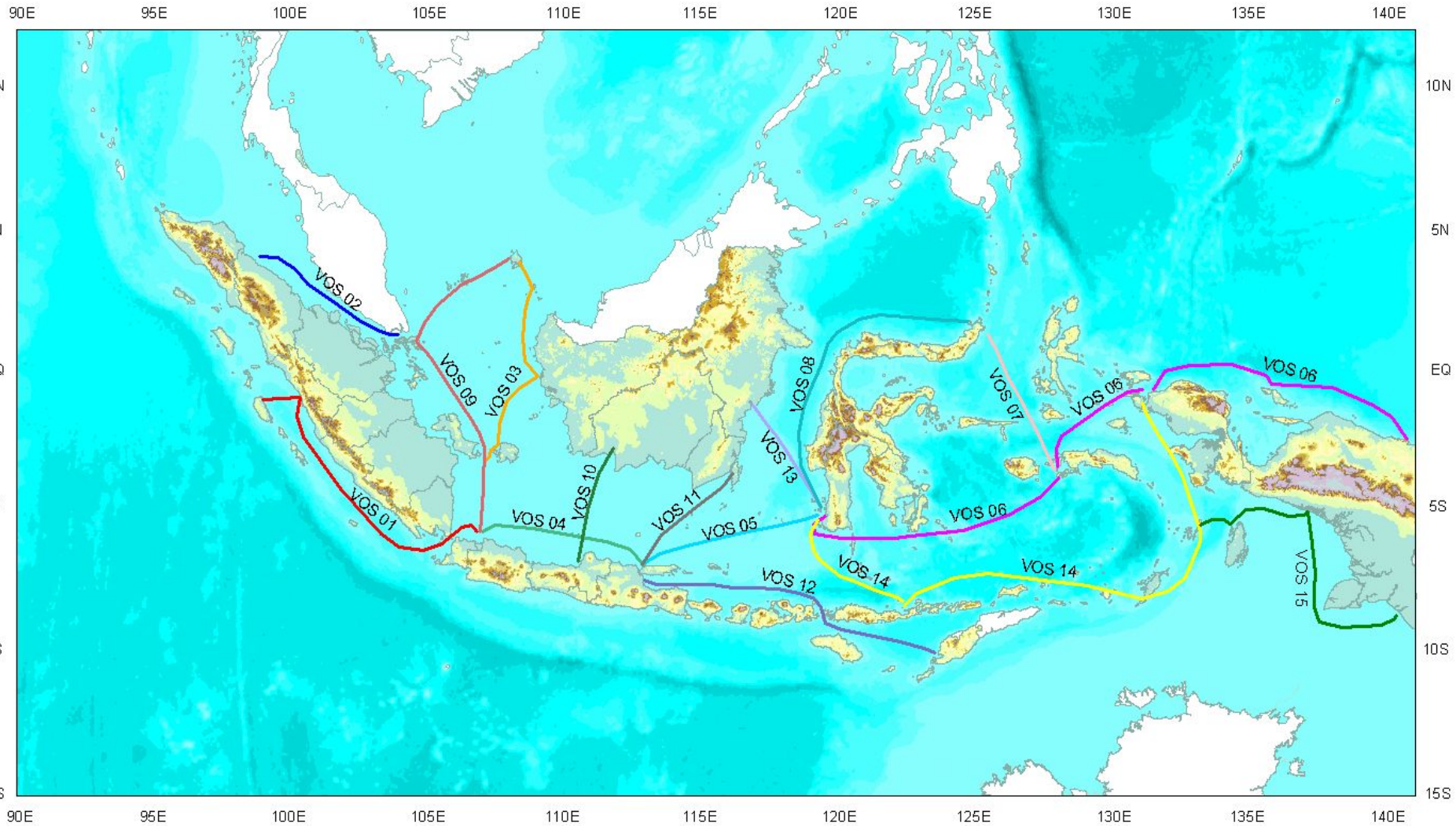
● PORTS

2. KAPAL PELNI KM. DOROLONDA (SURABAYA - BITUNG) - BMKG PUSAT

3. KAPAL PELNI KM. LAWIT (PONTIANAK - JAKARTA - TELUK BAYUR) - STAMAR. TANJUNG PRIOK



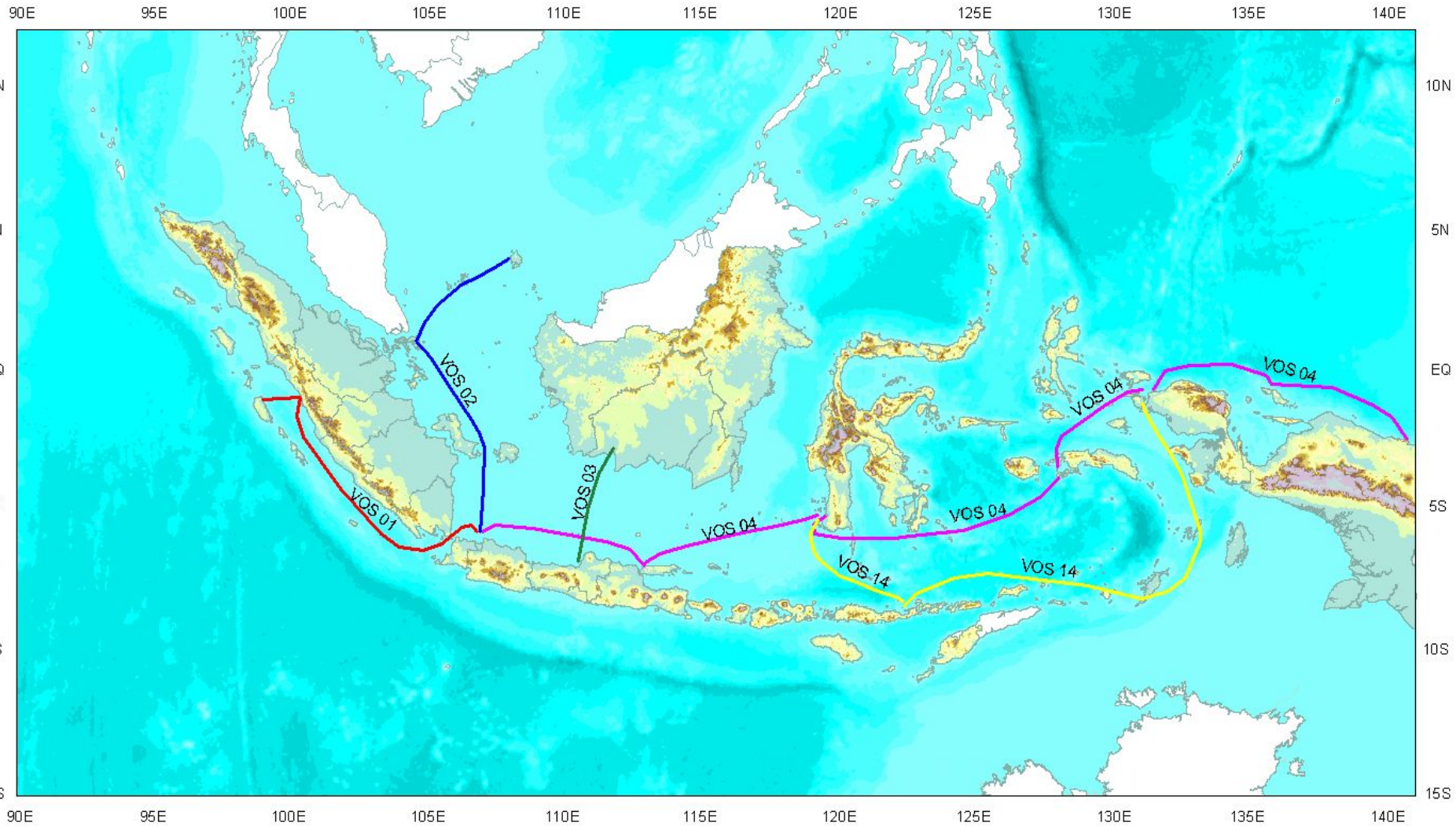
## ROUTES OF VOLUNTARY OBSERVING SHIP PLAN







## ROUTES OF VOLUNTARY OBSERVING SHIP PLAN (to be implemented in 2010 - 2011)



— : RUTE PELAYARAN KAPAL



# Planning Program

- Conduct the surface current mapping and wave monitoring system using High Frequency (HF) Radar.
- Deployment of buoys/moorings
- Develop a regional or high resolution model for ocean and coastal area
- Develop the existing WINDWAVE version.



**Indonesian VOS Program Support**  
**By**  
**Mr. Robert Luke**  
**23, 27-28 September 2010**  
**Jakarta-Indonesia**



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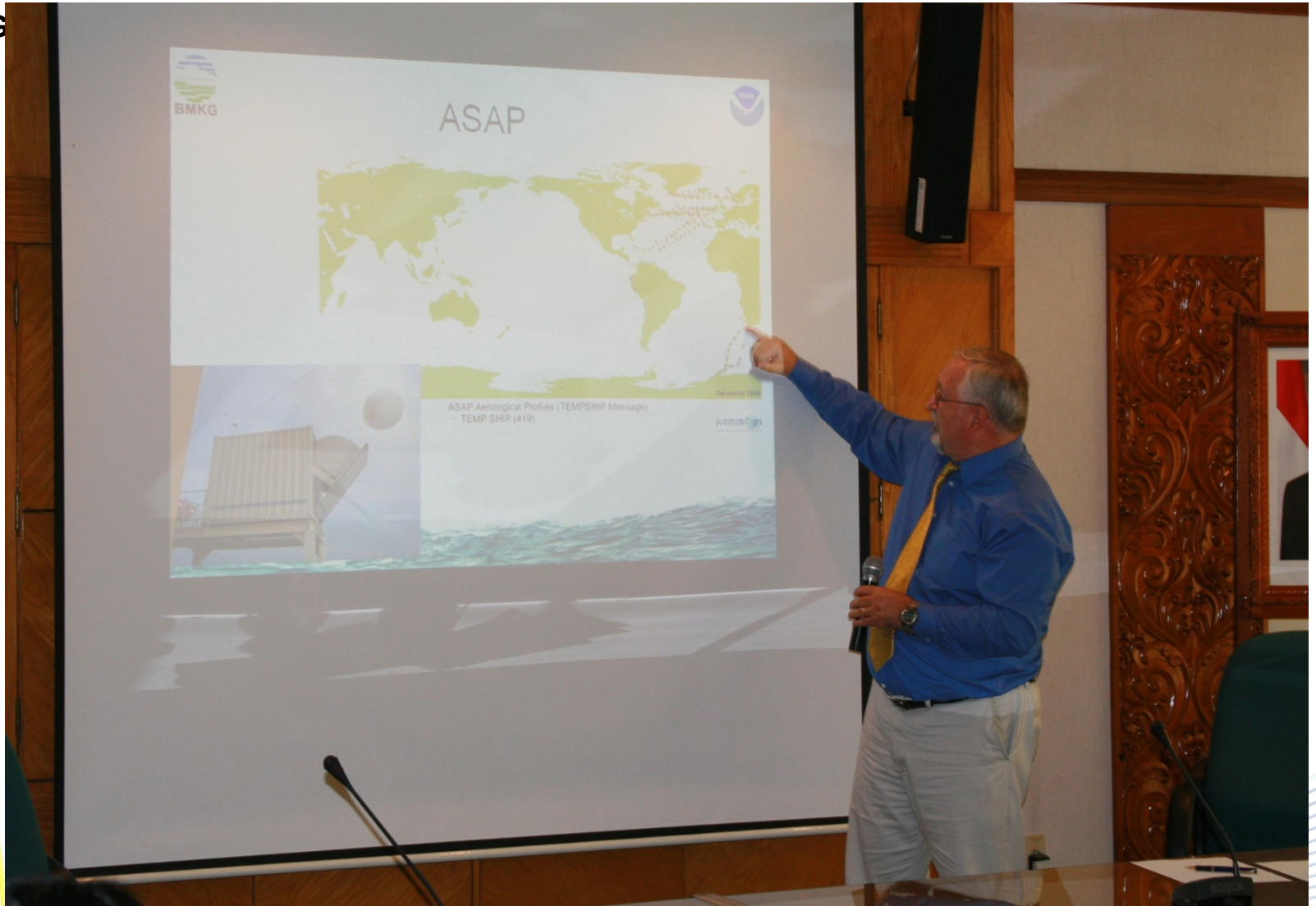


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**THANK YOU....**  
**TERIMA KASIH**