

CLIMATE SERVICES FOR COASTAL AREA MANAGEMENT IN INDONESIA



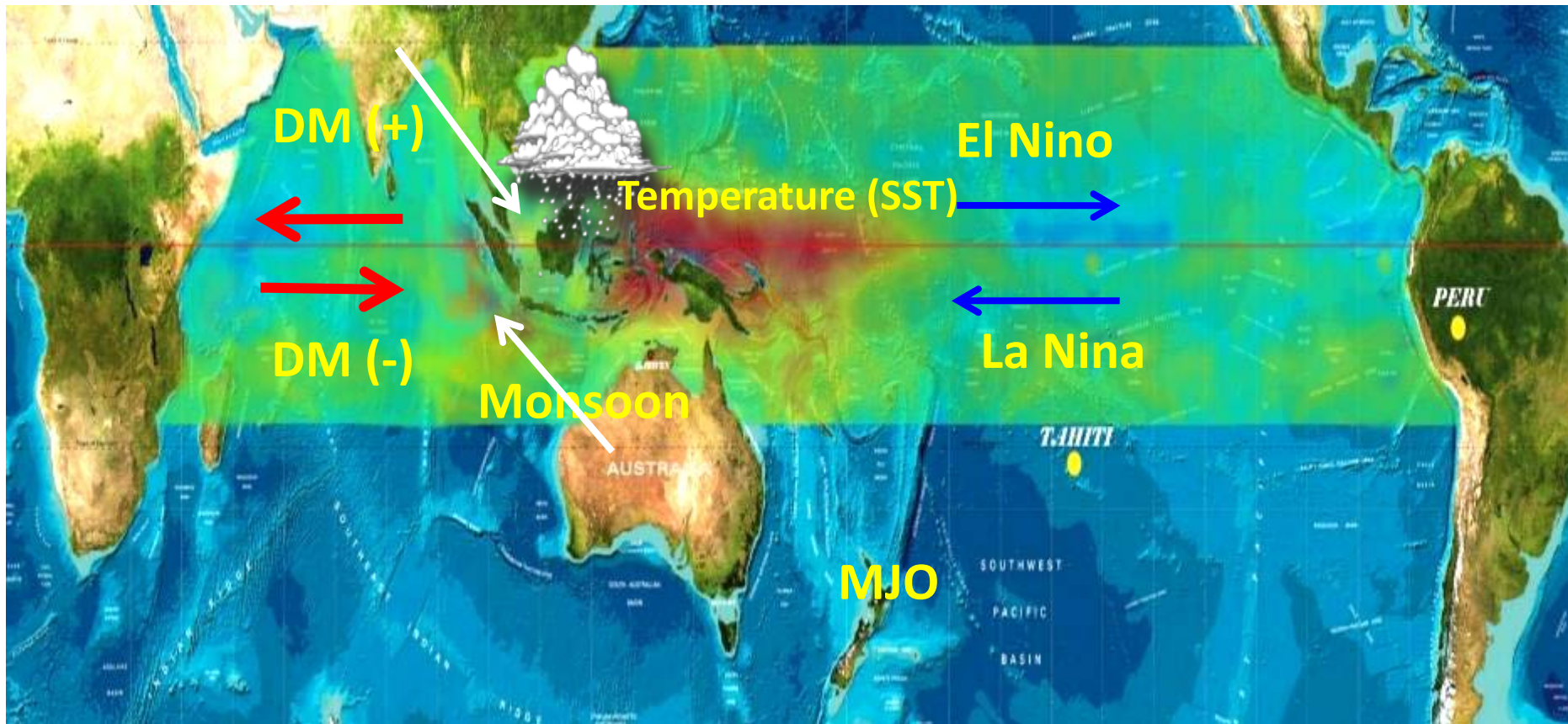
BADAN METEOROLOGI KLIMATOLOGI DAN GEOFISIKA
2016



OUTLINE

- COASTAL HAZARD ISSUES
- BMKG MARINE INFORMATION PRODUCTS
- COOPERATIVE PROGRAMS
 - PUBLIC AWARENESS
 - CIFDP

ATMOSPHERE-OCEAN INTERACTION PROCESSES DRIVING INDONESIAN CLIMATE



1. Indonesia is tropical area which position between two oceans (Indian & Pacific) and 2 continents (Australia & Asia)
2. 60% of the total population of Indonesia (approx 140 Million) live in coastal region
3. Indonesia is an island country which coastal line length of 99, 93 KM, that is the second longest in the world (after America)

RECENT ISSUES

Semarang Pos
MEDIA ONLINE

Harian Kompas | Kompas TV

KOMPAS.com

Kamis, 25 Februari 2016

Megapolitan

NEWS EKONOMI BOLA TEKNO ENTERTAINMENT OTOMOTIF HEALTH FEMALE PROPER

NASIONAL REGIONAL MEGAPOLITAN INTERNASIONAL OLARAGRA SAINS SURAT PEMBACA INDEKS

TAG #Sandiaga Uno #Damayanti #Maroef Sjamsoeddin #Riza Chalid #Sudirman Said #Setya Novanto

News / Megapolitan

Hari Ini, Hujan Deras dan Banjir Rob Landa Jakarta

Kamis, 12 Februari 2015 | 05:45 WIB



Anak-Anak memanfaatkan banjir di Jalan Masjid At-Taqwa, Kembangan, Jakarta Barat sebagai wahana berenang gratis, Selasa (10/2/2015).

JAKARTA, KOMPAS.com — Pada Kamis (12/2/2015) ini, hujan dengan tingkat intensitas tinggi seperti pada Minggu (8/2/2015) malam diprediksi akan kembali mengguyur wilayah Jakarta. Selain intensitasnya tinggi, cakupan wilayah yang akan diguyur hujan juga lebih luas.

Kepala Bidang Cuaca Ekstrem Badan Meteorologi, Klimatologi, dan



EKONOMI INDONESIA MENGHADAPI
AXIS Gelar Bazaar Irit di Yogyakarta

OLARAGRA

HIBURAN

KESEHATAN

Rob



Bagian Jakarta Utara Tendam Banjir Rob

Bagja Arjawinangun
2015 - 19:32 WIB

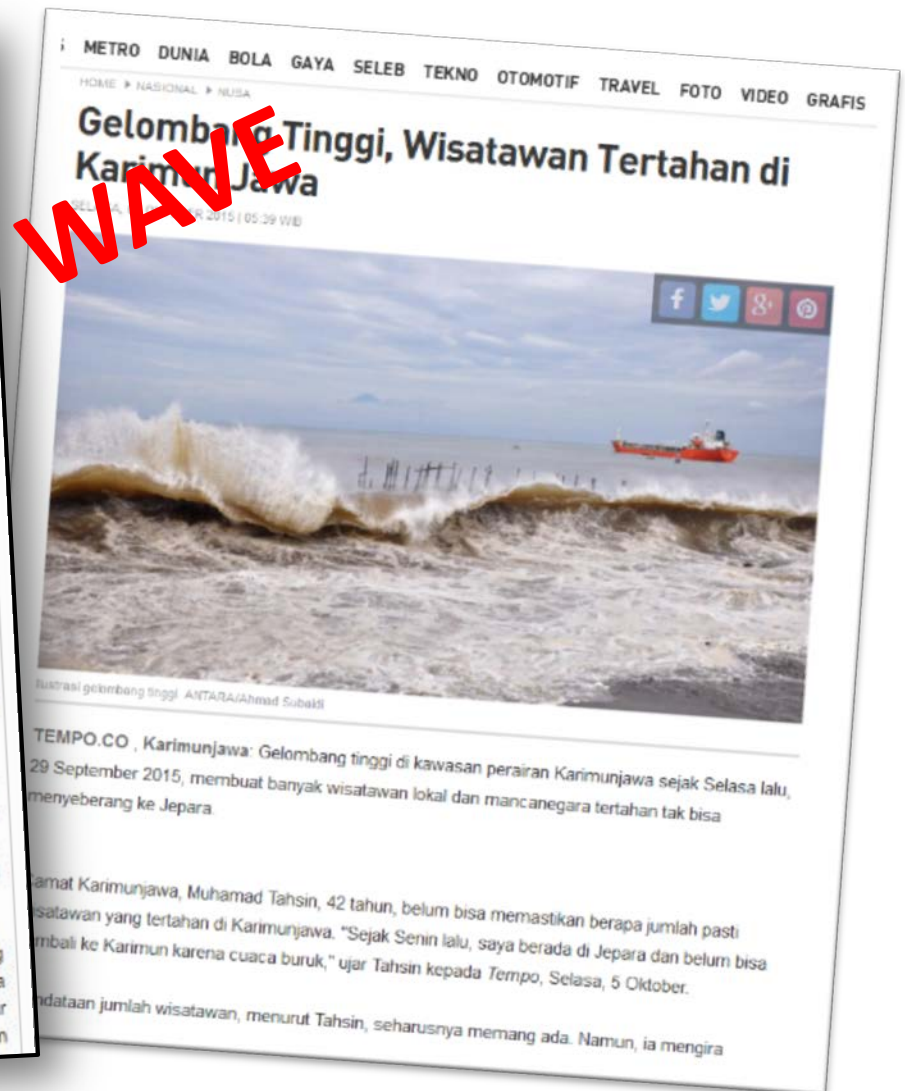


Sebagian wilayah Jakarta Utara saat ini tergenang banjir. Namun banjir kali ini disebabkan dari naiknya permukaan air laut atau rob. (Ilustrasi/Sindophoto)

Komaruddin Bagja
Arjawinangun
Reportase

JAKARTA - Sebagian wilayah Jakarta Utara saat ini tergenang banjir. Namun banjir kali ini disebabkan dari naiknya permukaan air laut atau rob.

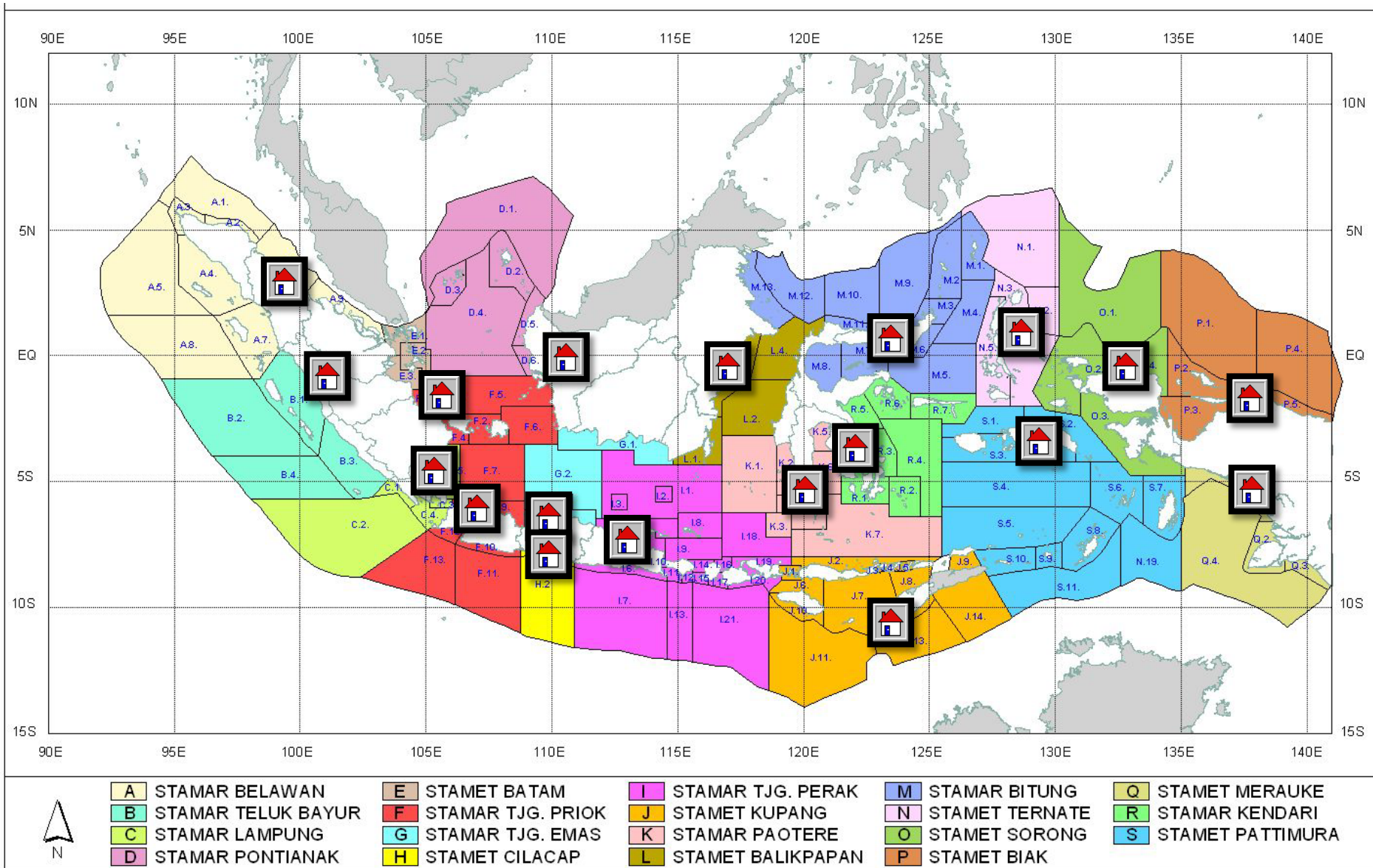
EXTREME CLIMATE EVENT





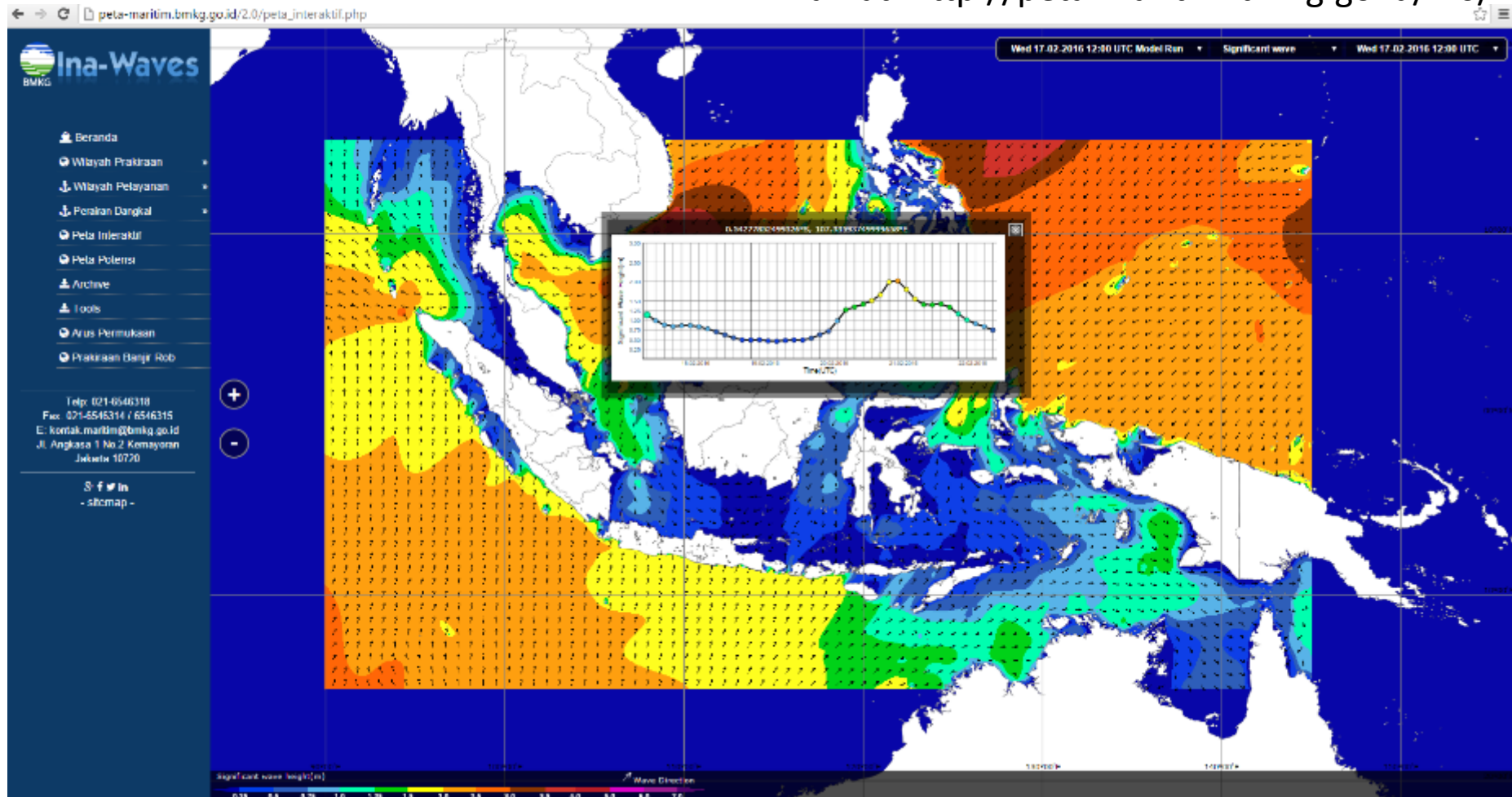
BMKG MARINE INFORMATION PRODUCTS

BMKG's Marine Services Area

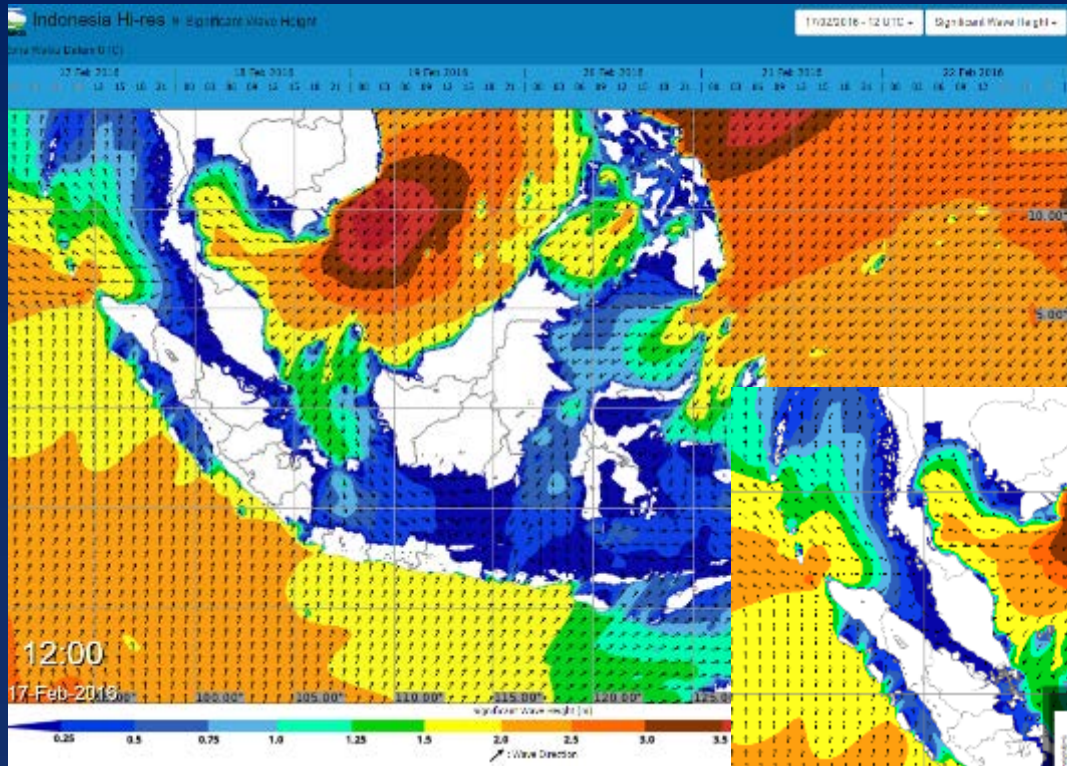


INTERACTIVE DAILY WAVE HEIGHT MAP

Alamat: <http://peta-maritim.bmkg.go.id/2.0/>

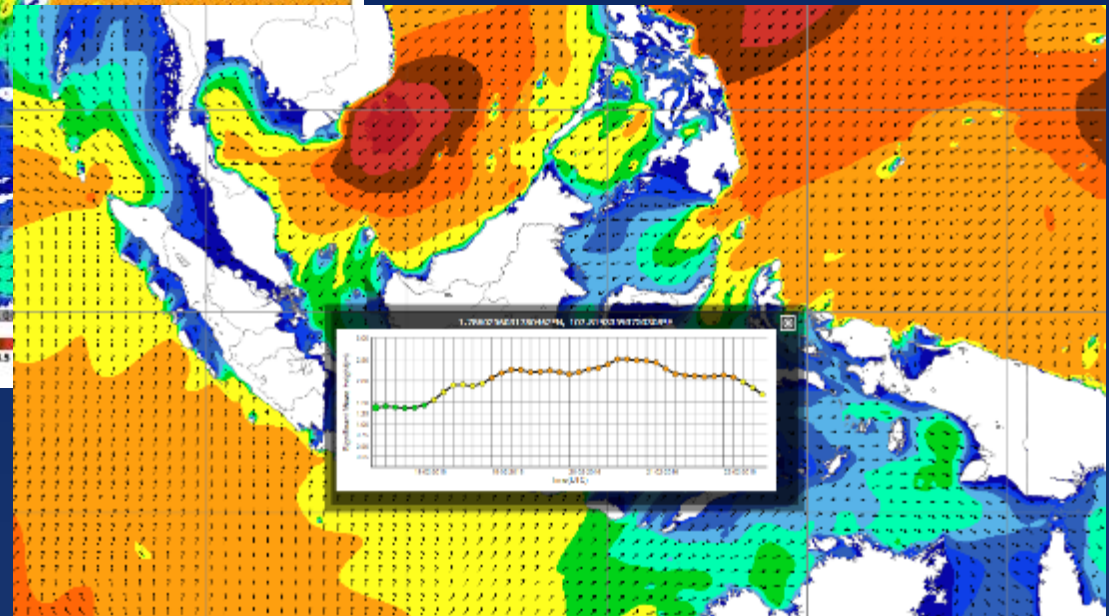


DAILY WAVE HEIGHT FORECAST



Informasi Prediksi Gelombang
hingga 7 Hari ke depan.
Updated: 18 Februari 2016

Alamat akses:
<http://peta-maritim.bmkg.go.id/2.0/>



WAVE HEIGHT ADVISORY



BADAN METEOROLOGI KLIMATOLOGI DAN GEOFISIKA

Jl. Angkor 1 No. 2 Kemayoran, Jakarta 10720
Telp. 021-6546318 Fax. 021-6546314 / 6546315
Email : kontak.maritim@bmkg.go.id

PERINGATAN DINI GELOMBANG TINGGI

Nomor : ME.301/PD/16/TMM/10/BMKG-2016

Berlaku 18 Februari 2016 pukul 07:00 WIB - 19 Februari 2016 pukul 07:00 WIB

TINGGI GELOMBANG 1.25 - 2.50 M (MODERATE) BERPELUANG TERJADI DI :

- LAUT ANDAMAN
- SELAT MALAKA BAGIAN UTARA
- PERAIRAN UTARA DAN BARAT ACEH
- PERAIRAN BARAT KEP. NIAS DAN KEP. MENTAWAI
- PERAIRAN BENGKULU HINGGA BARAT LAMPUNG
- SELAT SUNDABAGIAN SELATAN
- PERAIRAN SELATAN JAWA
- PERAIRAN SELATAN BALI HINGGA LOMBOK
- SAMUDERA HINDIA BARAT SUMATERA
- SAMUDERA HINDIA SELATAN JAWA HINGGA NUSATENGGA BARAT
- PERAIRAN KEP. NATUNA DAN KEP. ANAMBAS
- LAUT NATUNA
- SELAT MAKASSAR BAGIAN TENGAH DAN UTARA
- LAUT SULAWESI BAGIAN TENGAH DAN TIMUR
- PERAIRAN KEP. SANGHE DAN KEP. TALAUD
- PERAIRAN BITUNG - MANADO
- LAUT MALUKU
- PERAIRAN UTARA HALMAHERA
- LAUT IRI MALEIRA
- PERAIRAN UTARA PAPUA BARAT DAN PAPUA
- PERAIRAN KEP. KAI DAN KEP. ARU
- PERAIRAN AMAMPAPE - AGATS

TINGGI GELOMBANG 2.50 - 4.0 M (ROUGH) BERPELUANG TERJADI DI :

- LAUT CINA SELATAN
- SAMUDERA PASIFIK TIMUR PHILIPPINA

Jakarta, 18 Februari 2016

Praktisiwan,

Iman, S.Si

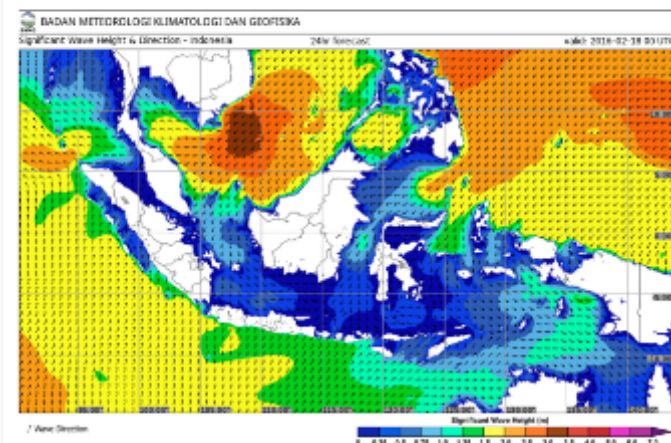
NIP. 197903122006041004

Kamis, 18 Februari 2016

Jumat, 19 Februari 2016

Berlaku mulai 07:00 WIB - Kamis, 18 Februari 2016 sampai 19:00 WIB - Kamis, 18 Februari 2016

Peta Prakiraan Tinggi Gelombang



0.5 - 1.25 m (Slight) :

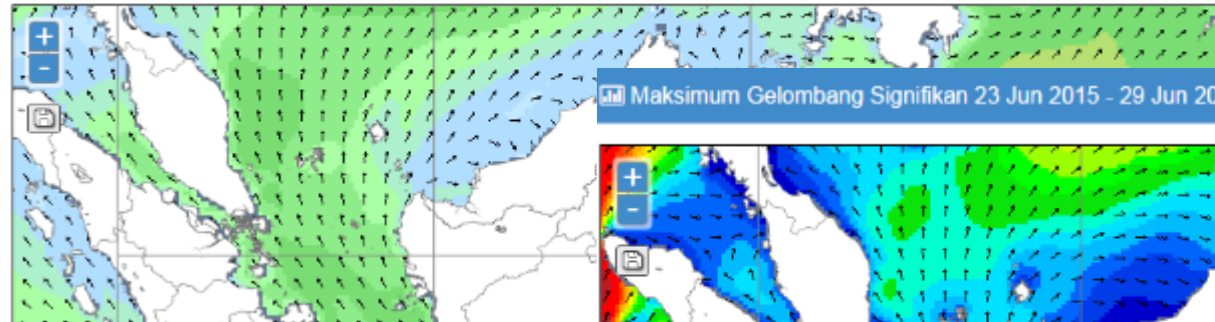
Perairan timur Kep. Simeulue, Perairan timur Kep. Nias - Sibolga, Perairan timur Kep. Mentawai - Padang, Perairan selatan P. Sumba, Laut Sawu, Perairan Kupang - P. Rote, Samudera Hindia selatan NTT, Laut Timor, Laut Natuna bagian selatan, Perairan timur Bintan, Perairan timur Kep. Lingga, Selat Gelasa, Selat Karimata, Laut Jawa bagian barat dan tengah, Selat Makassar bagian tengah dan utara, Perairan Kalimantan Utara, Laut Sulawesi bagian barat dan tengah, Perairan utara Sulawesi, Teluk Cenderawasih, Perairan Kep. Raja Ampat - Sorong, Perairan selatan Kep. Banggai - Kep. Sula, Laut Buru - Laut Seram, Perairan selatan P. Buru - P. Seram, Perairan Latak - Kaituma, Laut Banda, Perairan Kep. Belau - Kep. Tanimbar, Perairan Kep. Semesta - Kep. Leti, Laut Arafuru, Perairan Yos Sudarso - Merauke

1.25 - 2.50 m (Moderate) :

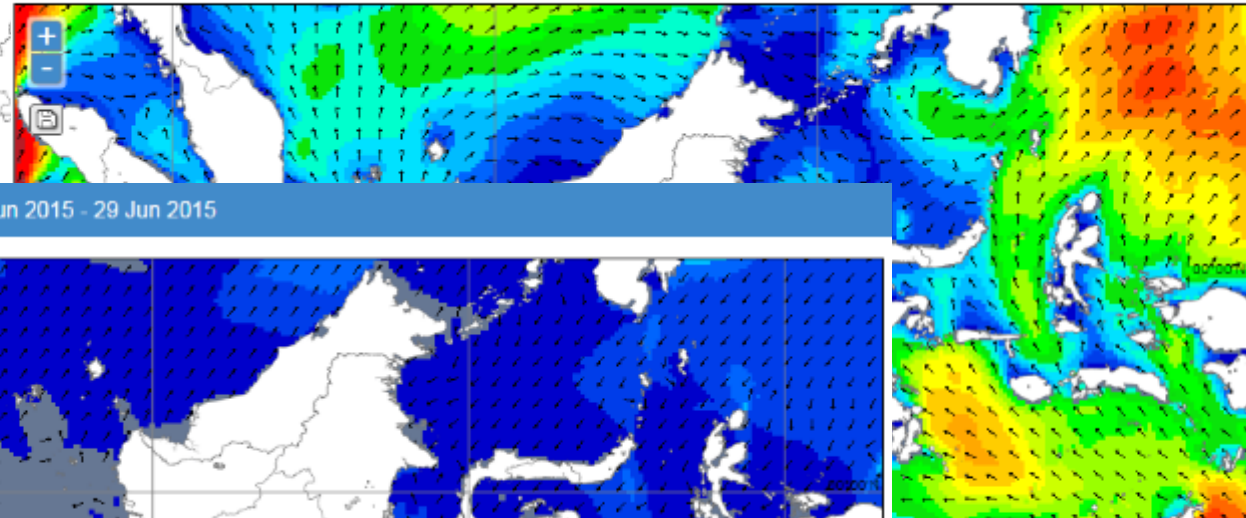
Laut Andaman, Selat Malaka bagian utara, Perairan utara dan barat Aceh, Perairan barat Kep. Nias, Perairan barat Kep. Mentawai, Perairan Bengkulu hingga barat Lampung, Selat Sunda bagian selatan, Perairan selatan Jawa, Perairan selatan Bali hingga NTB, Samudera Hindia barat Sumatera, Samudera Hindia selatan Jawa hingga NTB, Perairan Kep. Natuna dan Kep. Anambas, Laut Natuna bagian utara, Laut Sulawesi bagian timur, Perairan Kep. Sanghe dan Kep. Talud, Perairan Bitung - Manado, Laut Maluku, Perairan utara Halmahera, Laut Halmahera, Perairan utara Papua Barat dan Papua, Samudera Pasifik utara Halmahera - Papua, Perairan timur Philipina, Perairan Kep. Kai - Kep. Aru, Perairan Amamapape - Agats

MONTHLY MEAN WAVE HEIGHT AND SURFACE WIND

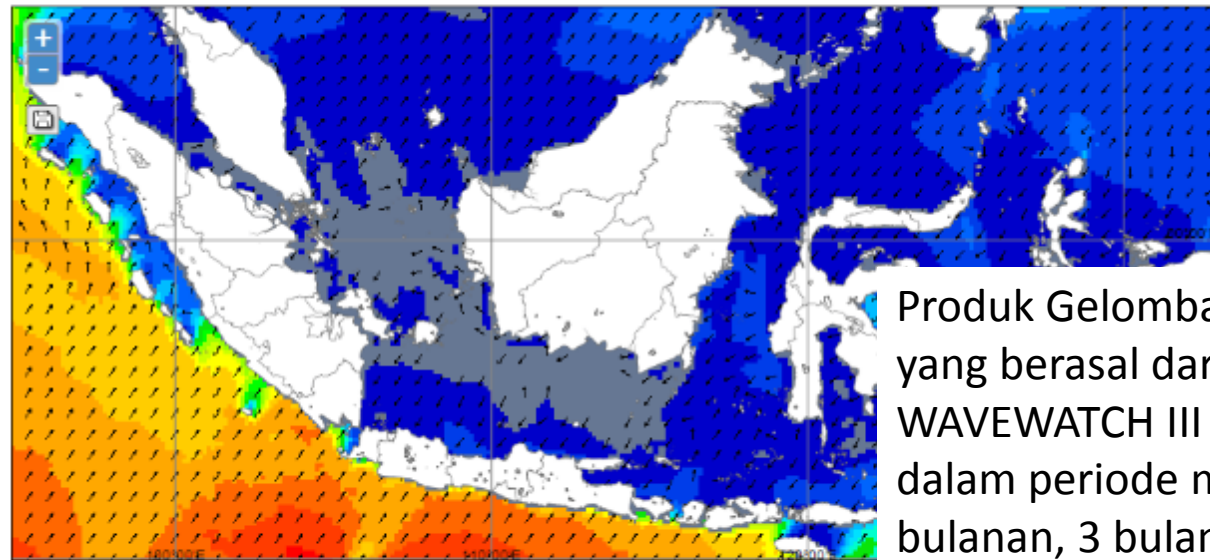
Rata-Rata Angin Permukaan 23 Jun 2015 - 29 Jun 2015



Maksimum Gelombang Signifikan 23 Jun 2015 - 29 Jun 2015



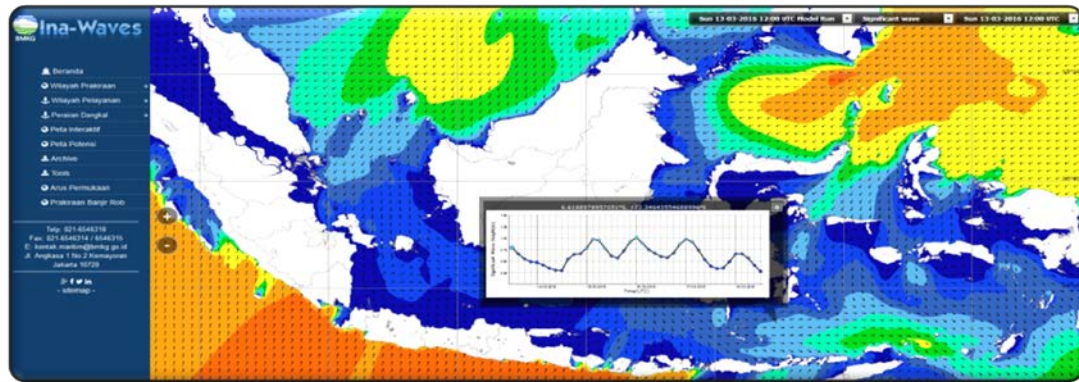
Rata Rata Primary Swell 23 Jun 2015 - 29 Jun 2015



Produk Gelombang dan Angin yang berasal dari output model WAVEWATCH III dan SWAN dalam periode mingguan, bulanan, 3 bulanan, dan 12 bulanan.



SMS GATEWAY



Indonesian Weather Bulletin for Shipping

Issued by BMKG at : 08:27 WIB Senin, 14 Maret 2016
Valid to : 10:00 WIB Selasa, 15 Maret 2016

PART I WARNING

ROUGH SEA OCCURS IN WESTERN OF CENTRE JAVA TO WEST NUSA TENGGARA WATERS, INDIAN OCEAN SOUTHERN OF WEST JAVA TO WEST NUSA TENGGARA.

PART II GENERAL SITUATION FOR MARCH 13, 2016 12:00 UTC

CONVERGENCE AREA IN BANDA SEA, BABAR AND TANIMBAR ISLANDS WATERS, ANAFURU SEA, NORTHWESTLY TO NORTHEASTLY LIGHT TO MODERATE FLOW IN NORTHERN PART OF INDONESIA, SOUTH-WESTERLY TO NORTH-WESTERLY LIGHT TO MODERATE FLOW IN SOUTHERN PART OF INDONESIA

PART III FORECAST

NORTHWESTERLY TO NORTHEASTLY 3 TO 4 BF OCCURS IN SOUTH CHINA SEA, ANAMBAS TO NATUNA ISLANDS WATERS, NATUNA SEA, RIU ISLANDS WATERS, KARIMATA STRAIT, WESTERN OF KALIMANTAN WATERS, BANOKA TO BELTUNG ISLAND WATERS, GELAGA STRAIT, BANGSA STRAIT, EASTERN OF KALIMANTAN WATERS, SAWASSAR STRAIT, SULAWESI SEA, NORTHERN OF SULAWESI WATERS, TOMINI GULF, SULA ISLAND WATERS, BURU TO SERAM SEA, NORTHERN OF HALMAHERA WATERS, HALMAHERA SEA, SOBOENG TO RAJA AMPAT ISLAND WATERS, NORTHERN OF MANOKWARI TO BIAK ISLAND WATERS, CENDRAWASIH GULF AND PACIFIC OCEAN NORTHERN OF WEST PAPUA TO PAPUA WATERS, SANGHE TO TALAUD ISLAND WATERS, NORTHERN AND PART OF MALUKU SEA, 4 TO 5 BF OCCUR IN SOUTHERN PART OF MALUKU SEA.

NORTHEASTLY TO EASTERLY 2 TO 3 BF OCCURS IN WESTERN OF ACEH TO MENTAWAI ISLAND WATERS, 3 TO 4 BF OCCURS IN ANDAMAN SEA, NORTHERN PART OF MALAKA STRAIT, NORTHERN OF ACEH WATERS, SOUTHEASTLY TO SOUTHERLY 3 TO 4 BF OCCURS IN WESTERN OF BENGALU TO ENGANO WATERS, WESTERN OF BENGALU TO LAMPUNG WATERS, SOUTHERN PART OF SUNDRA STRAIT, SOUTHERN PART OF JAVA WATERS, SOUTH-WESTERLY TO NORTH-WESTERLY 3 TO 4 BF OCCURS IN SOUTHERN OF BALI TO SUMBA ISLAND WATERS, SAWU SEA, SOUTHERN OF ROTE TO KUBANG WATERS, JAVA SEA, NORTHERN OF JAVA WATERS, BALI SEA, SUNBAYA SEA, BONE GULF, SELANAR ISLANDS WATERS, SUNBAYA TO FLORES WATERS, AND SOUTHERN OF AMBON WATERS, 4 TO 5 BF OCCURS IN TIRIKI SEA, FLORES SEA, BAKI SEA, SEMPAU TO LETTI ISLANDS WATERS, SABAR TO TANIMBAR ISLANDS WATERS, KAI TO ARU ISLAND WATERS, ARAFURU SEA, SOUTHERN OF YOS SUDARSO TO MERAKE WATERS.

Kondisi Perairan Indonesia

Indonesia



BMKG Info

(Server)

Indonesian Agency for Meteorology
Climatology and Geophysics



Request Info



Replied Info



(Server)

Ministry of Maritime and Fisheries
Affairs



**PUBLIC AWARENESS PROGRAM
TO ENHANCE FISHERIES' LITERACY**

GOAL OF CFS



- To introduce BMKG Marine Information to fishermen
- To better understand BMKG marine information product
- To develop cooperation among BMKG, national institution and stakeholders
- To develop communication system among BMKG, extension workers in fisheriy



ROVING SEMINARS FOR CAPTURE FISHERY



PPN Pengembangan - Bali



PPN Kendari



PPN Ambon



PPN Brondong - Jatim



COASTAL INUNDATION FORECASTING DEMONSTRATION PROJECT (CIFDP)



COASTAL INUNDATION FORECASTING DEMONSTRATION PROJECT INDONESIA (CIFDP-I)

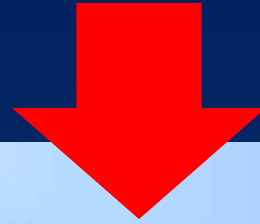
Cooperation among related institutions at national level to develop a coastal inundation system under WMO assistance



**EARLY WARNING ON COASTAL
INUNDATION SYSTEM**

COASTAL INUNDATION FORECASTING DEMONSTRATION PROJECT INDONESIA (CIFDP-I)

PILOT PROJECT



**BOTH LOCATIONS HAVE FREQUENT FLOOD FROM
COASTAL INUNDATION**

COASTAL INUNDATION OCCURRENCE



JAKARTA

SEMARANG





COASTAL INUNDATION PROBLEM IN SEMARANG





THANK YOU

INTERNATIONAL MARINE COOPERATION PROGRAM

2013

2014

2015

2016

2017

2018

2019

2020

CIFDP-I

**COASTAL
INUNDATION
FORECAST
(WMO)**

NOAA

Indonesia
PRIMA,
April – MAY
2015
(Baruna I
Jaya BPPT)

**MIRAI
YMC
CRUISE
(Nov-
Des
2015)**

Indonesia
PRIMA
Februari
2016
(Baruna
Jaya I BPPT)
ONGOING

YMC

YEAR OF MARITIME
CONTINENT is Join
research on
maritime continent
(April 2017 –
October 2019).

TPOS 2020

Observing
ocean-
atmospheric
at Pacific
Ocean

