WMO OMM
World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
世界气象组织

WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

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Ref.: 22230/2023-L2 MS/ETR

Our ref.: 22230/2023/MS/ETR/FEL 18 October 2023

Annexes: 3 (available in English only)

Subject: WMO Development of Competency in Weather Forecasting course to support the Early Warnings for All initiative

Action required: For information and action as appropriate

Dear Sir/Madam,

In support of capacity development and implementation of the Early Warnings for All (EW4All) initiative in National Meteorological and Hydrological Services (NMHSs), the WMO Regional Training Centre (RTC) in the Agency for Meteorology, Climatology and Geophysics of the Republic of Indonesia (BMKG-RTC Indonesia) has designed, in collaboration with WMO, a training course for the development of competency in weather forecasting. The training course will enable current forecasters from WMO Regional Association V (South-West Pacific) (RA V) to follow tested forecast procedures, in line with the required WMO competencies, in support of the implementation of the EW4All initiative.

The training will run for a duration of 3 weeks, from 27 November to 15 December 2023. Annexes I and II to this circular letter contain a brief description of the course, its format, expected learning outcomes and qualifications to be attained.

You are invited to submit an application of an interested and qualified candidate for consideration. All applications will be reviewed by WMO in collaboration with BMKG-RTC Indonesia. Selection for this course will be made on a competitive basis.

Any interested candidate should first apply to BMKG-RTC Indonesia and forward a duly completed application form (Annex III) with the relevant attachments to apply.rtcbmkg@bmkg.go.id copied to fel@wmo.int no later than **30 October 2023**. Selected candidates will be notified by BMKG-RTC Indonesia and will be contacted by WMO for the preparation of the travel logistics. Thereafter, selected candidates will receive a Request for Financial Assistance (RFA) form to complete and send back to WMO along with the admission letter and a copy of the selected candidate's passport, no later than **6 November 2023**. Please note that while we encourage Members to cover the expenses of their participants to attend the course, WMO is prepared to support one participant from selected Members.

To: Permanent Representatives of Members of Regional Association V (limited distribution)

cc: Hydrological Advisers

May I take this opportunity to assure you of my unwavering commitment to competency development related activities in support of the EW4All initiative and thank you for your continued cooperation in this endeavour.

Yours faithfully,

Prof. Petteri Taalas
Secretary-General

THE AGENCY FOR METEOROLOGY, CLIMATOLOGY AND GEOPHYSICS OF THE REPUBLIC OF INDONESIA (BMKG) JAKARTA, INDONESIA

1	**Host Member**	**Indonesia**
2	Host institution	BMKG
3	Website	https://pusdiklat.bmkg.go.id/
4	Locations (city) of institution	BMKG Training Facility, Citeko, West Java BMKG HQ-Kemayoran, Jakarta
5	Address of institution	Jl. Angkasa I No 2 Kemayoran Jakarta Pusat 10720 Indonesia
6	Course type	Face to face at BMKG
7	Main course content	• Climate variability and its driver • The role of mesoscale and local convective phenomena in developing extreme weather in the tropics • Global and mesoscale numerical weather prediction (NWP) model strengths and limitations • Development of limited area model (LAM) in NWP • NWP regional model for high-impact weather analysis • Analysis of multi-numerical model approach for detecting high-impact weather • Case study on ensemble probabilistic system and weather forecast uncertainty to identify high-impact weather events • Case study on weather radar and satellite analysis for nowcasting • Application of ocean numerical model for marine extreme weather • Introduction to ocean forecasting system (coupling model atmosphere-wave-ocean) • Use of NWP models for volcanic ash and turbulence analysis • Implementation of Flash Flood Guidance System (FFGS) for early warnings • Forest fire forecast and mitigation • Multi-hazard early warning systems (MHEWS) in the context of Early Warnings for All (EW4All) • Fundamentals of Impact-based Forecast and Warning Services (IBFWS) • Application of IBFWS • Application of the four components of an early warning system • Service delivery techniques for early warnings
8	Duration of study	3 weeks
9	Course dates	From 27 November to 15 December 2023

10	Target Region and Members	WMO Regional Association V Members
11	Basic requirements	Meteorologist with BSc degree or equivalent, with 2 years of work experience
12	Language	English
13	Number of awards	30
14	Application form	Mandatory – duly endorsed and signed by the Permanent Representative
15	Admission from Institution	Mandatory
16	Application closing date	BMKG: **30 October 2023** WMO: After selection process, **6 November 2023**
17	Documents to send to WMO	1. Pre-admission letter from BMKG-RTC Indonesia 2. Request for Financial Assistance (RFA)
18	Contact information	Ms Ratih Prasetya apply.rtcbmkg@bmkg.go.id; ratih.prasetya@bmkg.go.id copy to fel@wmo.int

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THE AGENCY FOR METEOROLOGY, CLIMATOLOGY AND GEOPHYSICS OF THE REPUBLIC OF INDONESIA (BMKG) JAKARTA, INDONESIA

Course location

Regional Training Centre facilities in Citeko, West Java and BMKG headquarters in Jakarta.

Course description

WMO and BMKG are collaborating to conduct a training programme entitled The WMO Development of Competency in Weather Forecasting course for RA V Members, to be held in 2023. The training programme will be conducted in face-to-face mode (classroom).

The training course will consist of acquiring knowledge and skills to improve operational early warning services in participants' respective countries. Topics covered include: the role of mesoscale and local convective weather phenomena in developing extreme weather; global and mesoscale numerical weather prediction (NWP); the limited area model of NWP; ensemble probabilistic system and weather forecast uncertainty to identify high-impact weather; radar and satellite analysis for nowcasting; WMO flash flood guidance system for early warnings; forest fire forecast mitigation; multi-hazard early warning systems in the context of Early Warnings for All (EW4All); fundamentals of impact-based forecast and warning services; and service delivery techniques for early warnings.

Expected learning outcomes

By the end of the course, students will have successfully achieved the following outcomes and be able to:

- Understand the role of global, mesoscale and local scale weather phenomena in developing high-impact weather in the tropics;
- Identify high-impact weather utilizing multi-numerical model approach, ensemble probabilistic system (EPS) and weather forecast uncertainty;
- Describe the four components of an early warning systems (GMAS, SWIC, CAP, EW4All);
- Apply the development of limited area models (LAM) of numerical weather prediction (NWP) in specific regions;
- Apply the Flash Flood Guidance System (FFGS) for early warnings;
- Operate the Impact-based Forecast Warning Services (IBFWS)
- Demonstrate service delivery techniques for early warnings.

Association to standards

- Basic Instructional Package for Meteorological Technicians (BIP-MT) as described the in *Guide to the Implementation of Education and Training Standards in Meteorology and Hydrology* (WMO-No. 1083);
- *Technical Regulations* (WMO-No. 49), Volume I – General Meteorological Standards and Recommended Practices;
- *WMO Guidelines on Multi-hazard Impact-based Forecast and Warning Services* (WMO-No. 1150);
- *Guidelines for Implementation of Common Alerting Protocol (CAP)-Enabled Emergency Alerting* (WMO-No. 1109);
- Accredited by The Agency of Meteorology, Climatology and Geophysics (BMKG).

Course objectives

The performance criteria to be addressed by the training, in accordance with the WMO competency framework for public weather service forecaster and advisors, are:

- Forecast hazardous weather phenomena, including spatial extent, onset/cessation, duration, intensity, and temporal variations;
- Ensure that warnings are prepared and issued in accordance with national thresholds for hazardous weather, national formats, practices, codes and technical regulations on content, accuracy, and timeliness;
- Validate meteorological and hydrological data, products, forecasts and warnings (timeliness, completeness, accuracy);
- Monitor the functioning of operational systems and take contingency actions when necessary.

Target audience and qualifications

The primary audience will be weather forecasters (30 persons) from RA V Members. Participants have at least a bachelor's degree or an equivalent level of academic training. Participants are expected to have two years of experience as weather forecasters, have basic knowledge and skills of weather forecasting, preferably be under the age of 35 years old and have sufficient command of spoken and written English.

Programme overview

Title: The WMO Development of Competency in Weather Forecasting course

Duration: From 27 November to 15 December 2023

Location: BMKG Regional Training Centre facilities in Citeko, West Java, and BMKG headquarters in Jakarta

Goal: The goal of this course is to enable participants to provide warning information through the implementation of an early warning system in their respective countries based on their needs.

Language used: The course will be conducted in English.

Application and selection process

Applications must include:

- A letter of motivation in English, limited to 200 words;
- A CV;
- Relevant certified qualifications;
- A nomination letter from the relevant Permanent Representative (PR).

All applications will be handled in accordance with protection of private information requirements.

Applications for consideration should be forwarded to: BMKG (apply.rtcbmkg@bmkg.go.id)
Clearly mark the subject of the email as: BMKG – Forecaster competency course 2023.
Copy to: Education and Training Office, WMO (fel@wmo.int)

Deadlines for application: **30 October 2023** to BMKG-RTC Indonesia. Following the selection process, the deadline for submission of a Request for Financial Assistance (RFA) form, with a copy of the admission letter and passport to WMO: **6 November 2023**.

Only successful applicants will be notified by email by BMKG and WMO.

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APPLICATION FORM

THE WMO DEVELOPMENT OF COMPETENCY IN WEATHER FORECASTING COURSE FOR RA V MEMBERS
BMKG

27 November to 15 December 2023
Citeko, Indonesia

Please read the notes and instructions on the last page before completing this application form

A.	**PERSONAL**	
1.	First name	
2.	Surname	
3.	Country	
4.	Date of birth *(DD/MM/YYYY)*	
5.	Sex	M / F
6.	Passport number	
7.	Do you have a disability?	Yes / No
	If yes, please specify	
8.	Permanent home address	
	(number, street, postal code, town)	
9.	Telephone *(mobile)*	
10.	Email	
11.	Professional contact	
	Name	
	Telephone *(office)*	
	Professional links	
12.	Would you request financial assistance to participate in the course? Yes / No	

B.	**EDUCATION**
Have you completed the Basic Instruction Package for Meteorologists (BIP-M)?	Yes / No

C. GENERAL			
1. Give details of work experience in meteorology			
Name of organization	Start and end date	Brief description of role and responsibilities	Reason for leaving
2. Write a brief statement setting out clearly why you have chosen this course and how you intend to use it after graduation			

I declare that to the best of my knowledge all the information on this form is true and correct.

Signature _____ Date _____

D. PERMANENT REPRESENTATIVE ENDORSEMENT

Signature _____ Date _____

Notes and instructions:

Please read these notes and instructions carefully before completing this application form. Be sure to read every section and that the information you provide is accurate.

1. Incomplete application forms will not be considered.
2. Closing dates for the application process are published and will be strictly adhered to.
3. You must supply all the information requested or explain why you cannot provide it.
4. A certified copy of the passport document must be included in the application.
5. Successful candidates will be contacted by telephone or email. Please ensure that your contact details are correct.