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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Our ref.: 19948/2020/DPS/SWFP/S-Asia/SE-Asia 22 October 2020

Annexes: 2 (available in English only)

Subject: Severe Weather Forecasting programme (SWFP)–South Asia and Southeast Asia-Online Training Workshop on Severe Weather and Impact Based Forecasting and Warning Services, 1-12 February 2021

Action required: To nominate a maximum of three operational forecasters from your Service to attend the subject SWFP online training workshop and convey the nominations to WMO Secretariat as soon as possible, but no later than 20 November 2020

Dear Sir/Madam,

As you might be aware the World Meteorological Organization (WMO) Severe Weather Forecasting programme (SWFP) has been implemented in various sub-regions of the world including South Asia and Southeast Asia. SWFP makes efficient use of the 'cascading forecasting process' with contributions from the Global Data Processing and Forecasting System (GDPFS) Centres. The Numerical Weather Prediction (NWP) outputs are made available from the contributing global centres including World Meteorological Centres (WMCs) and the daily severe weather forecast guidance product is issued to the NMHSs by the relevant Regional Centre(s) in each sub-region. For the NMHSs involved in SWFP-South Asia and SWFP-Southeast Asia, the guidance product is issued by the Regional Specialized Meteorological Centre (RSMC) New Delhi and the Regional Forecast Support Centre (RFSC), Hanoi respectively.

Capacity development of the operational forecasters and public weather services (PWS) staff of the NMHSs in improving their skills in severe weather and impact-based forecasting through specialized training workshops is a salient feature of SWFP. Since 2013, several SWFP workshops have been organized in both sub-regions to develop capacity of the participating NMHSs. Last year, two such workshops were organized in Lao People's Democratic Republic (February/March 2019) and Pakistan (November 2019).

In this context, WMO, in collaboration with the UK Met Office, RSMC New Delhi, RFSC Hanoi and RSMC Hong Kong is organizing a two-week SWFP Regional Training Workshop on Severe Weather and Impact Based Forecasting and Warning Services from 1 to 12 February 2021. Due to COVID-19 and various national and international travel restrictions this workshop will be delivered remotely, online. The UK Met Office is supporting this workshop through the UK-aid funded Asia Regional Resilience to a Changing Climate (ARRCC) programme.

This online training workshop will follow a blended learning approach to training, with a mix of synchronous ("live") sessions, supplemented with online self-study modules using a range of media, to be completed outside of the facilitated sessions. The workshop will be conducted in English. An Information Note including training objectives, topics and a provisional program is attached as **Annex-I.**

To: Permanent Representatives of Members with WMO (Limited Distribution)

cc: Ms Catrina Johnson, Science Manager, Weather Analytics (The UK Met Office)

You are invited to kindly nominate, from your Service, up to three operational forecasters (preferably those currently involved in, or with recent experience in, the delivery of public weather services) to attend the subject training workshop from 1 to 12 February 2021.

Although the nominated forecasters will attend the training remotely, large parts will need to be completed in real-time. Therefore, any nomination will commit to guaranteeing participants will be available to attend all live sessions, 4 per week, and have sufficient time allocated to allow for the completion of all self-study modules, which will be a pre-requisite for the facilitated sessions. The time commitment is expected to be in the region of 25-30 hours per week. Each participant needs to have access to an individual computer or laptop, with a reliable internet connection, which allows streaming of video and sound, as well as connection to remote servers to complete self-study modules and participate in practical sessions during the remote training. If you are concerned about local internet connection or availability, especially if remote working is still taking place within your organization, and feel it may cause a barrier to participation, please contact the WMO & Met Office representatives (contact details in Annex I) as soon as possible to discuss possible options.

A prescribed nomination form is attached as **Annex II.** Its electronic copy is available on WMO Community Platform here: https://community.wmo.int/meetings/swfp-south-asia-and-southeast-asia-training-workshop-severe-weather-and-impact-based-forecasting-and-warning-services-online

Nomination forms should be completed and returned to the WMO Secretariat with a copy to the UK Met Office, at your earliest convenience, but **no later than 20 November 2020**.

I wish to thank you for your continued support to the WMO activities.

Yours faithfully,

Dr Elena Manaenkova
for the Secretary-General

Ref.: 19948/2020-1.8 S/DPS

Severe Weather Forecasting programme (SWFP) – Online Training Workshop on Severe Weather and Impact Based Forecasting and Warning Services for South Asia and Southeast Asia, 1-12 February 2021

Information Note

Training Objectives

To address the capacity building needs of operational forecasters and public weather services (PWS) staff of NMHSs of countries involved in SWFP (South Asia and Southeast Asia) and Asia Regional Resilience to a Changing Climate (ARRCC) programme (UK Met Office, in partnership with the UK Foreign, Commonwealth and Development Office (FCDO) and the World Bank).

This will be achieved through enhancing the participants' capability in the;

- interpretation of Numerical Weather Prediction (NWP), including Ensemble Prediction System (EPS) outputs;
- use of satellite-based information and radar output to help with the nowcasting of severe weather;
- understanding of impact-based forecasting and warnings services;
- communication of severe weather through impact-based forecasting and warning services provided to the general public, stakeholders and users, including disaster managers and media.

Contents/Topics/Program

The training program has been designed based on responses and feedback obtained from SWFP training needs surveys carried out in 2019 and 2020. Below is the provisional training program for the SWFP online remote training workshop. It may be subject to minor changes in terms of the scheduling of each specific session, however the topics will remain same.

Week 1	Monday 1 February	Tuesday 2 February	Wednesday 3 February	Thursday 4 February	Friday 5 February
Topics to be covered	**The Forecast Process. Severe convection & Heavy Rainfall Events. Diagnosing Severe Weather; Satellite Imagery and Radar Analysis. Nowcasting.**				
Live Sessions Times	0800-1030 (UTC)	0800-1030 (UTC)	0800-1030 (UTC)	0800-1030 (UTC)	No live session on Friday
Online Modules	Convective systems (including MCS), Heavy rainfall events (QPE/QPF), Introduction to tephigrams & convective indices, Radar theory (including Doppler), radar interpretation, RGB imagery				
Live Sessions	**Monday:** Introduction & The forecast process **Tuesday:** Tephigram and convective indices application in forecasting				

	Wednesday: Revision of satellite imagery basics **Thursday**: Nowcasting using satellite and radar diagnosis

Week 2	**Monday 8 February**	**Tuesday 9 February**	**Wednesday 10 February**	**Thursday 11 February**	**Friday 12 February**
Topics to be covered	**Forecast uncertainty. Available products (SWFP Portals). Impact Based Forecasting.**				
Live Sessions Times	08:00-10:30 (UTC)	08:00-10:30 (UTC)	08:00-10:30 (UTC)	08:00-10:30 (UTC)	No live session on Friday
Online Modules	Introduction to ensembles, ECMWF modules on forecast uncertainty (EPS/EFI), dealing with forecast uncertainty, commonly available tools and products (including SWFP portals)				
Live Sessions	**Monday:** Ensembles in forecasting & Communicating Uncertainty **Tuesday:** Introduction to Impact Based Forecasting (IBF Interactive activities) **Wednesday:** Dealing with forecast uncertainty (A case study example) **Thursday**: Practical use of commonly available products & course conclusion				

For full credit: Submission of a case study based on the techniques/forecast processes identified during the 2 weeks. Application of the techniques explored to either a past case in country (where data available) or for an event around the time of the course. To be submitted by **Friday 5 March 2021.**

Live, facilitated sessions (Monday to Thursday, on both weeks) will be important for giving participants the chance to contextualise and apply theoretical knowledge from self-study modules, and work together and learn from the experience of their peers. It is therefore mandatory that participants attend all these sessions. The sessions will take place during **0800 -1030 UTC** each day. The local times for these sessions are as follows:

Local Time	Countries
16:00 – 18:30	Philippines, Hong Kong
15:00 –17:30	Thailand, Cambodia, Lao People's Democratic Republic, Vietnam
14:30 – 17:00	Myanmar
14:00 – 16:30	Bangladesh, Bhutan
13:45 – 16:15	Nepal
13:30 – 16:00	Sri Lanka, India
13:00 – 15:30	Maldives, Pakistan
12:30 – 15:00	Afghanistan

Medium of instruction

English

Places offered

Around 40 registered participants (a maximum of 3 participants per country) from the NMHSs of countries involved in SWFP (South Asia and SE Asia) and ARRCC programme.

Deadline for application

The completed prescribed Nomination Form should be returned to the WMO Secretariat and UK Met Office no later than **20 November 2020.**

Qualification of participants

- Participants must be proficient in English.
- Participants are required to be operational forecasters. They should have at least 2 years' experience in weather forecasting, preferably including experience with the delivery of public weather services (PWS).
- Participants are required to provide the course organizers with feedback on the usefulness and effectiveness of the online training immediately following the workshop. WMO will send an online survey for this purpose.
- Participants are also required to provide the course organizers with feedback pertaining to knowledge and skills acquired, within 3 months following participation in the workshop including how these skills can be, or have been, applied in their NMHSs.
- Participants are encouraged to actively maintain technical exchanges and communication with the lecturers/experts, organizers and their peers, both during, and after, the workshop. A forum will be created on the learning portal to help facilitate this engagement.

Lecturers

Weather forecasting and NWP experts from the UK Met Office, RSMC New Delhi and RSMC Hong Kong.

Training delivery

The training will be delivered in a blended learning format making use of both self-study modules hosted on an online learning platform, and synchronous sessions delivered in real-time using video conferencing software alongside a mix of tools to encourage engagement and collaboration. For this to be effective each delegate will need to have access to an individual computer with a reliable internet connection which allows streaming of video and audio, as well as access to remote servers to complete online self-study modules. If you believe access to, or reliability, of local internet connections may be a barrier to participation please contact WMO & Met Office representatives as soon as possible to discuss options (contact details are given below in enquiries section). More information including instructions for how to use the various platforms, along with log-in details will be provided to the participants via email at a later date, likely mid-January. Therefore, please ensure to include direct email addresses for the nominated delegates on the nomination forms in **Annex II** as these will be required to generate each participant a unique login for the learning platforms.

Enquiries

For any queries or clarification, please contact the following:

Ms Helen Caughey (Helen.Caughey@metoffice.gov.uk) at UK Met Office and

Mr Ata Hussain (AHussain@wmo.int) at WMO Secretariat.

Annex II

Severe Weather Forecasting programme (SWFP)
Online Training Workshop on Severe Weather and Impact Based Forecasting and Warning Services, 1-12 February 2021

PARTICIPANT NOMINATION FORM

The following operational forecasters are nominated from (name of country): to attend the above captioned SWFP Online Training Workshop from 1 to 12 February 2021:

Sr #	Nominees particulars	Participant Contact detail
1.	Name: Date of birth: Title/Designation: Responsibilities: Qualification: Experience as forecaster (no. of years): years	E-Mail*: Tel: Mobile:
2.	Name: Date of birth: Title/Designation: Responsibilities: Qualification: Experience as forecaster (no. of years): years	E-Mail*: Tel: Mobile:
3.	Name: Date of birth: Title/Designation: Responsibilities: Qualification: Experience as forecaster (no. of years): years	E-Mail*: Tel: Mobile:

**Please ensure the email address is a direct email for the delegate you are nominating as this will be required to generate the login and provide access to the online learning portal.*

It is confirmed that each of the above nominee(s) will have access to his/her individual computer or laptop with good internet connection to ensure smooth streaming of video and sound, as well as connection to remote servers to enable him/her to take part in self-study modules and practical sessions during the online training workshop. It also confirms that they will be given time to attend all live sessions, and adequate time to complete self-study modules, a time commitment of approximately 25-30 hours each week is expected.

Date: Nominating NMHS:

Signature of Director of NMHS (or Permanent Representative): _____

Note: Please complete and submit this nomination form by E-Mail to Ata Hussain (AHussain@wmo.int) at WMO Secretariat and copy to Ms Helen Caughey

(helen.caughey@metoffice.gov.uk) at UK Met Office as soon as possible, but **no later than 20 November 2020.**