

**WMO OMM**

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

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Ref.: 23223/2022-L6 S/CMP

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29 September 2022

Annex: 1

Subject: Training Workshop for Southeast Asian countries, Nepal and Bhutan on generating basic climate statistics, 5-16 December 2022, Online

Action required: Nomination and registration of participants **by 30 November 2022**

Dear Sir/Madam,

I am pleased to inform you of the World Meteorological Organization (WMO) Training Workshop for Southeast Asian countries, Nepal and Bhutan on generating basic climate statistics, which will be held virtually via the ZOOM application, from 5 to 16 December 2022.

The training workshop will address key aspects of the National Meteorological and Hydrological Services' (NMHSs) basic climate data management and aggregation processes, thereby underpinning the NMHS's capacities to contributing to and benefiting from WMO climate-related activities. These activities include the publication of WMO flagship products such as the State of the Climate reports, Climatological Standard Normals etc. Such flagship products showcase the WMO Members' capacities to, and expertise in, delivering world-class authoritative climate information and, in turn, have great potential to raise the visibility of NMHSs.

Please find attached herewith a concept note, including the schedule for the training sessions (see Annex).

I am pleased to invite you to nominate up to three participants from your Service to attend the workshop. Nominees are invited to register for the training individually, using the [registration page](#) by **30 November 2022**. Participants will receive the ZOOM link upon registration.

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

Yours faithfully,

Dr Elena Manaenkova  
for the Secretary-General

To: Permanent Representatives of Bhutan, Brunei-Darussalam, , Cambodia, Indonesia, Laos, Malaysia, Myanmar, Nepal, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam with WMO (limited distribution)

cc: Regional Office in Singapore

### WMO Training workshop on generating basic climate statistics

The workshop is intended to provide training on basic climate statistics, which are fundamental for Members' participation in WMO activities. It will introduce the open-source software package R-Instat, which has been extended recently to include functionality to support the calculation of Climatological Standard Normals, World Weather Records, National Climate Monitoring Products etc.

The workshop will be held in English language. A [handbook](#) has been developed from the workshop concept to allow participants and other WMO Members to benefit from R-Instat including relevant tutorials and videos. R-Instat is closely linked to OpenCDMS and collaborating CDMSs.

The meeting will be held via ZOOM.

The workshop will be conducted through six 1.5 hours sessions stretched over two weeks (see draft work plan below).

Date	Session	Content	Resource persons
Monday, 5 Dec 2022, 9:30-11:00 Geneva time (8:30-10:00 UTC)	Opening, Introducing R-Instat	Scene setting including importance of standard climate datasets; introduction to R-Instat	Roger Stern (University of Reading, UK), David Stern, Danny Parsons, IDEAMS, UK); Peer Hechler (WMO); Members of WMO SERCOM Expert Team on Data Requirements for Climate Services (tbc)
Wednesday, 7 Dec 2022, 9:30-11:00 Geneva time (8:30-10:00 UTC)	A gallery of graphs	How to generate graphs and data visualizations	
Friday, 9 Dec 2022, 9:30-11:00 Geneva time (8:30-10:00 UTC)	Recovering and tidying climate data	Data rescue, data import, conversion into common formats ready for R-Instat analyses	
Monday, 12 Dec 2022, 9:30-11:00 Geneva time (8:30-10:00 UTC)	Taking stock and checking the data	Data inventory, quality control, homogenization	
Wednesday, 14 Dec 2022, 9:30-11:00 Geneva time (8:30-10:00 UTC)	Summarizing data and calculating standard products	Generation of summaries for trend and variability analyses, Climatological Standard Normals, World Weather Records, National Climate Monitoring Products	
Friday, 16 Dec 2022, 9:30-11:00 Geneva time (8:30-10:00 UTC)	Discussion and feedback, Closure	Remaining questions, discussion of workshop content, suggestions for tutorials, videos, handbook, feedback from participants, WMO view including outlook	