



Distr.  
LIMITED  
E/ESCWA/CL1.CCS/2024/WG.2/INF.1  
20 January 2024  
ORIGINAL: ENGLISH

**Economic and Social Commission for Western Asia (ESCWA)**

Capacity Building Workshop on Sand and Dust Storm Analysis and Modelling in the Arab Region  
Riyadh, Kingdom of Saudi Arabia, 2-3 March 2024

**Information Note**

**I. BACKGROUND**

The Arab region has witnessed an increasing number of sand and dust storms (SDS) in recent years, which has resulted in significant impacts on the environment, human health and socio-economic development. Projections indicate that these extreme events are expected to increase in frequency and intensity due to climate change and evolving land use patterns including desertification, land degradation and the reduction of vegetation cover. The escalating frequency and intensity of SDS events, notably in the Mashreq and Sahel regions, have become of critical concern.

The transboundary nature of sand and dust storms necessitates collective analysis and action to combat their severe consequences. It is thus important to enhance understanding of these extreme events within the context of climate change through multi-agency collaboration building on regional resources and expertise. The World Meteorological Organization (WMO) established the Sand and Dust Storm Warning Advisory and Assessment System (SDS-WAS) in 2007 to assist countries improve their capabilities for preparing sand and dust storm forecasts and assessments. Since that time, the WMO Barcelona Dust Forecast Center, hosted by the Agencia Estatal de Meteorología (AEMET) and Barcelona Supercomputing Center in Spain, manages and coordinates the SDS research activities and operations of the WMO and coordinates with a network of collaborators in North Africa, the Middle East and Europe to facilitate access to dust information. The National Center of Meteorology of the Kingdom of Saudi Arabia (KSA), through its Sand and Dust Storms Warning Regional Center, conducts SDS forecasting and modelling using operational dust forecast tools and remote sensing applications. The center is leading the SDS activities in the GCC region through SDS-WAS Node for GCC which received SDS-WAS accreditation from the WMO in 2023.

ESCWA has been drawing upon regional climate modelling projections generated under the United Nations-League of Arab States Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic Vulnerability in the Arab Region (RICCAR) to advance the study and planning of efforts to combat sand and dust storms over longer time periods. The use of regional climate models aids in assessing SDS drivers and impacts through defined climatic and environmental variables.

The workshop initiates a series of meetings being organized with regional partners to strengthen the capacity of meteorological services to analyse sand and dust storms. This inaugural workshop will focus on forecasting and modelling using operational dust forecast tools and remote sensing applications. The use of regional climate models to assess SDS drivers and impacts through defined climatic and environmental variables will also be shared. Additionally, SDS early warning systems structures and services will be briefly presented as well as the impact of sand and dust storms on various regions.

This workshop is being organized by ESCWA in collaboration with the Sand and Dust Storm Center at the National Center of Meteorology of the Kingdom of Saudi Arabia and the WMO. The workshop is technically supported by the Barcelona Dust Forecast Center, the Swedish Meteorological and Hydrological Institute (SMHI), and the Asian and Pacific Center for the Development of Disaster Information Management (APDIM) of the United Nations Economic and Social Commission for Asia and

Pacific (ESCAP). Contributing experts will showcase new SDS modelling and analysis tools including impact forecasting approaches. The workshop is conducted within the framework of the Climate Resilience through Regional Cooperation for Inclusive Sustainable Development project, which is implemented by ESCWA with the support of the Government of Sweden.

## **II. OBJECTIVES**

The workshop aims to enhance the capacities of meteorological services in the Arab region through the following objectives:

- Enhance knowledge on forecasting and modelling tools for SDS using operational dust forecast tools and remote sensing applications.
- Increase awareness on dust monitoring through various systems.
- Knowledge sharing on historical SDS to help define SDS drivers and impacts through defined climatic and environmental variables and linkages in regional climate modelling projections.
- Enhance understanding of the multi-dimensional impacts of SDS and their impacts on socio-economic sectors and ecosystems.
- Discuss opportunities for further collective regional work on sand and dust storms and supporting the coordination of joint activities.

In doing so, the workshop will also conduct a capabilities and needs assessment of Arab meteorological agencies to identify priority subjects and issues related to SDS analysis to be addressed in subsequent workshops.

## **III. PARTICIPANTS**

Participants will include senior meteorological experts from meteorological agencies in the Arab region who have experience conducting and delivering sand and dust storms analysis. Official government representatives and senior experts from meteorological services and other sectors such as water, environment and agriculture are also invited to participate, as well as United Nations and regional organizations engaged in sand and dust storm analysis and impact assessments.

Sponsorship is available for a limited number of government representatives based on United Nations Financial Rules and Regulations. Requests for sponsorship must be received no later than Monday, 29 January 2024 to be eligible for consideration. Participants requesting sponsorship must submit a copy of their national passport with their completed registration form before the noted deadline.

## **IV. VENUE AND DATE**

The workshop will be held at the Ministry of Environment, Water and Agriculture of the Kingdom of Saudi Arabia in Riyadh from 2 to 3 March 2024. The meeting will take place in the New Main Building (Building A) on the First Floor. Directions are available via this [link](#).

[Ministry of Environment, Water and Agriculture \(New Main Building\)](#)

Eastern Ring Road  
King Abdullah District - Riyadh, Saudi Arabia  
Local Telephone: 011 203 8888 or Express Line: 939

The workshop is held back-to-back with the International Conference on Sand and Dust Storms, which is being organized by the National Centre for Meteorological of the Kingdom of Saudi Arabia in Riyadh from 4 to 6 March 2024.

## **V. LANGUAGE**

The workshop will be conducted in the English language. No interpretation will be provided.

## VI. TRAVEL AND ACCOMMODATIONS

Air travel reservations and ticketing for sponsored participants will be arranged by ESCWA. Roundtrip tickets will be issued in economy class in accordance with United Nations Rules and Regulations. Participants attending the meeting at their own cost are responsible for making their own travel arrangements, including ticketing and insurance.

The organizers kindly arranged a preferential room rate at the following hotel located near to the meeting venue: **Best Western Plus Fursan Hotel**, Riyadh, Saudi Arabia, King Abdullah District, Riyadh 12424, Saudi Arabia, Tel: +966 11 499 0050, Fax +966 11 499 0998, E-mail: [frontdesk@bwplusfursan.com](mailto:frontdesk@bwplusfursan.com). Participants are welcome to avail themselves of this preferential rate by contacting the hotel directly.

On the morning of the first day of the workshop, sponsored participants are kindly requested to proceed to the welcome desk and submit the following documents:

1. Passport that includes airport stamps
2. Original boarding pass(es)
3. A copy of the e-ticket, if changed
4. Visa fees receipt

Sponsored participants will receive their allowance in United States Dollars provided that complete documentation is submitted in the morning of the first day of the meeting.

## VII. VISA

Participants who require assistance in obtaining a visa to enter the Kingdom of Saudi Arabia are required to fill out the visa application form (attached) and send it with a copy of their passports as soon as possible to Ms. Zoubeida Ziadeh ([ziadeh@un.org](mailto:ziadeh@un.org)).

## VIII. CONTACTS

For inquiries or further information, kindly contact the following meeting focal points:

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