

Eighteenth session of Regional Association II (Asia) (RA II-18)

Name: Dr Ayman Salem GHULAM

Chief Executive Officer (CEO) of National Center for Meteorology (NCM) and Permanent Representative of Saudi Arabia with WMO



Involvement in WMO bodies:

Permanent Representative of Saudi Arabia - WMO

Member – Executive Council (EC)

Member – Panel on Tropical Cyclones

Member – RA II Management Group (RA II-16)

Summary of Professional Qualifications:

Doctor of Philosophy (PhD) Degree, Numerical Simulations and Weather Prediction Modeling

Master of Science (MSc) Degree, Remote Sensing, Meteorology Department.

Bachelor of Science (BSc) Degree, Numerical Models, Meteorology Department

Summary of Education:

School of Environmental Sciences University of East Anglia	2007
---	-------------

PhD. Degree | Norwich. UK

King Abdul-Aziz University	1999
-----------------------------------	-------------

M.S. Degree | Jeddah. K.S.A

King Abdul-Aziz University	1992
-----------------------------------	-------------

B.S. Degree | Jeddah. K.S.A



Ayman S. Ghulam

Chief Executive Officer (CEO) - NCM
Permenant Representative
of KSA in WMO



Summary of Qualifications

King Abdul-Aziz University

Jeddah. K.S.A. B.S. degree
MET. DEPT

1992

King Abdul-Aziz University

Jeddah. K.S.A. M.S. degree
MET. DEPT

1999

School of Environmental Sciences University of East Anglia

Norwich. UK PhD. degree

2007



About Me

Saudi: **Nationality**
Date of Birth: **21st JAN 1968**
Place of Birth: **MaKKah, Saudi Arabia**
Marital Status: **Married (5 children)**



Contact

P.O. Box: **Alworoud DIST. Prince Majid
Road, 1358 Jeddah 21431
Saudi Arabia**
Tel: **+966 012 4237222**
Mobile: **+966 55 5337646**



Training & Workshop

NATIONAL CENTRE OF ENVIRONMENTAL PROTECTION
NCEP U.S.A, Washington D.C., 1998 Training Course on
Weather Forecasting by using model outputs. 1998

UNITED KINGDOM MET. OFFICE COLLEGE 2000 Training
Course on interpretation the N.W.P. products in Aviation
Meteorology, 2000

THE NATIONAL PROGRAM OF RAINFALL AUGMENTATION
Saudi Arabia Riyadh, 2008 Radar Meteorology course in
Weather Modification techniques. 2008

THE NATIONAL PROGRAM OF RAINFALL AUGMENTATION
Saudi Arabia Riyadh, 2009 Advanced Radar Meteorology
course in Weather Modification techniques. 2009

THE NATIONAL PROGRAM OF RAINFALL AUGMENTATION
Saudi Arabia Riyadh, 2009 Advanced Numerical Weather
Prediction and Simulation using WRF model for Weather
Modification techniques. 2009

THE NATIONAL CENTER FOR ATMOSPHERIC RESEARCH
NCAR Boulder, Colorado, USA . 2010 Verification Workshop
2010, in the Development Tested Center (DTC). 2010



Training & Workshop

2010

THE NATIONAL CENTER FOR ATMOSPHERIC RESEARCH NCAR Boulder, Colorado, USA. 2010 Unidata GEMPAK Workshop.

2010

THE NATIONAL CENTER FOR ATMOSPHERIC RESEARCH NCAR Boulder, Colorado, USA. 2010 Unidata IDV Workshop

2010

THE NATIONAL CENTER FOR ATMOSPHERIC RESEARCH NCAR Boulder, Colorado, USA. 2010 Unidata IDV Workshop

2010
2011

THE NATIONAL CENTER FOR ATMOSPHERIC RESEARCH NCAR Boulder, Colorado, USA. 2010-2011 Advanced Training in Radar Meteorology, Numerical Weather Prediction (NWP), and Analyses of Aircraft data (Cloud Physics).

2012

Early Warning from Floods and Extreme Climate Events and how to Mitigate and Manage them.

Several other workshops in administration and strategic plans.



Work Experience

1993

MET. DEPT. KING ABDULAZIZ UNIVERSITY Jeddah. Saudi Arabia Laboratory Technician.

1995

SAUDI AMOUDI GROUP CO. Jeddah. Saudi Arabia Environmental Specialist.

1995
2002

METEOROLOGY AND ENVIRONMENTAL PROTECTION ADMINISTRATION MEPA Jeddah, Saudi Arabia Weather Forecaster.

2007
2010

DIRECTOR OF WEATHER MODIFICATION DIRECTORATE Saudi Arabia The National Program of Rainfall Enhancement in Saudi Arabia.

2010

THE PRESIDENCY OF METEOROLOGY AND ENVIRONMENT Jeddah. Saudi Arabia Deputy Director of the National Centre of Meteorology and Environment.

2010

THE PRESIDENCY OF METEOROLOGY AND ENVIRONMENT Jeddah. Saudi Arabia General Manager of the National Centre.

2011

THE PRESIDENCY OF METEOROLOGY AND ENVIRONMENT Jeddah. Saudi Arabia Assistant Deputy for Meteorological Affairs.

2014

General Authority for Meteorology and Environmental Protection - GAMEP Jeddah. Saudi Arabia Deputy of the President for Meteorological Affairs.

2017

General Authority for Meteorology and Environmental Protection - GAMEP Jeddah. Saudi Arabia Vice President for Meteorological Affairs.

2020

NATIONAL CENTER FOR METEOROLOGY Jeddah. Saudi Arabia Chief Executive officer(CEO)





Functions & Activities

1994

101 COURSE IN KAAU Assistance in teaching MET.

1995

Contribution on composing contract items between MEPA and the contractor in Environmental subjects.

1995

Investigating factories requests for environmental statements.

1995

Weather forecasting.

1999

1995

Until Now

Numerical Weather Prediction group membership.



Participations in Seminars & Conferences

1999

International Conference of life science.

1999

WMO 12th regional Conference for region II (ASIA).

2005

Royal Meteorological Society Conference in Exeter.

2010

The European Geosciences Union (EGU) General Assembly Session In Vienna.

2011

Water Tech 2011: The Middle East Annual Water & Wastewater Summit; 24 – 27 April 2011.

2012

The First Ministerial Meeting for Capacity Development of Meteorological and Climate Services in Arab Countries.

2012

WMO Executive Council sessions and sub-groups meeting.

2015

17th session of WMO Congress.



In Social Activities



Participated in many television programs to raise awareness about weather activities and forecast and how they behave in such cases.



submitted many articles in newspapers and scientific magazines about weather forecast, modeling, cloud seeding, climate, . . . etc.



In Panels

- Member of WMO 12th conference committee for region II. Jeddah.
- Member of common committee between MEPA and Civil Aviation Administration to solve Y2K problem.
- Member of severe weather warning committee.
- Member of observers promotion competition committee.
- Member of GAMEP annual report workgroup.
- GAMEP's representative for SADIS in ICAO.
- Contribution on conference gathering GAME experts and Saudi Arabian Airline experts for Aviation safety.
- Contribution on WMO. Evaluation of GAME Cloud Physics experiment.
- Member in UEA meteorology, Oceanography and climate dynamics research group.
- Member of MM5 community model user.
- Member of MM5 research group at UEA as a part of information strategies and services committee in UEA.
- Member of GrADS user group.
- Leader forecaster, researcher and modelling in the 4th project of rainfall enhancement in the Kingdom of Saudi Arabia.
- Member of GAMEP 10th Strategic Plan.
- Member of Administrative Hierarchy of Centre of Excellence for Climate Change Research/King Abdulaziz University.
- President of Promotion board at GAMEP
- Member of Climate Change Panel at GAMEP.
- Member in Career Path Panel at GAMEP
- Member in Promotion board for high levels at GAMEP.
- Member of higher committee of Saudi Vision 2030 at GAMEP.
- WMO Panel of Experts (Capacity Building of Regional NMHC's).
- WMO Selection Committees (Audit Committee Membership).
- Member of the Selection Committee of graduates of external scholarship to work for the GAMEP.
- Council member of the Arab Ministers for Meteorology and Climate Affairs at the League of Arab States.
- Council member Secretariat General of the Gulf Cooperation Council for Meteorology and Climate Affairs.
- Member of the Sub-Committee for Meteorological Applications of the Permanent Arab Committee for Meteorology and Climate, League of Arab States.
- Member of the Sub-Committee for the Establishment of a Regional Center for Numerical Weather Forecasts in the GCC.
- Member of the Sub-Committee on Early Warning of Severe Weather predictions at the Permanent Committee for Meteorology and Climate in the GCC.
- Member of the Working Group of the Framework Convention on Climate Change and the Kyoto Protocol at the General Authority of Meteorology and Environmental Protection.
- Member of the committee at the General Authority for Meteorology and Environment Protection for projects with Jeddah Municipality (clouds and shores).
- Member of the Higher Committee for Evaluating Projects at the General Authority for Meteorology and Environmental Protection.
- Chairman of the board and the representative for the contract of maintenance and operations at the General Authority of Meteorology and Environmental Protection.

2015
onwards

2015
onwards

2017



In Panels

- Member of the steering committee for National transformation initiatives of the Ministry of Environment, Water and Agriculture.
- Member of the pilgrimage (Hajj) Committee at the General Authority of Meteorology and Environmental Protection.
- Member of the cybersecurity committee at the General Authority of Meteorology and Environmental Protection.
- General supervisor of the team for all financial remuneration of meteorological services.
- Head of the emergency team for severe weather conditions at the General Authority of Meteorology and Environmental Protection.
- Head of the Environmental Damage Assessment and Recovery Team from the Gulf War at the General Authority of Meteorology and Environmental Protection.
- Member of the Higher Committee for Training and Scholarship at the General Authority of Meteorology and Environmental Protection.
- Member of the Executive Council of WMO.
- Managing the Infrastructure Project for Meteorological and Environmental Protection services at International Airports in KSA.
- Managing the project of expansion on weather radar networks in the Kingdom.
- Member of the Working Group of the Strategic Committee for Meteorology and Climate Services at the League of Arab States.
- Member of the COMET Program Executive Board



Research & Journal Papers

- Mashat, A., and A. Ghulam, 1998: Estimation of Minimum Land Surface Temperature Using the Special Sensor Microwave/Imager (SSM/I) over the Southwestern Region of Saudi Arabia. JKAU: Met., Env., Arid Land Agric. Sci., vol. 9, pp. 3-15.
- Terrence W. Krauss¹, Andre A. Sinkevich, and Ayman S. Ghulam, 2010; Precipitation Characteristics of Natural and Seeded Cumulus Clouds in the Asir Region of Saudi Arabia. Journal of Weather Modification, Vol; 42, 34-50
- Kucera, P.A., D. Axisa, R.P. Burger, D.R. Collins, R. Li, M. Chapman, R. Posada, T.W. Krauss, and A.S. Ghulam, 2010: Features of the Weather Modification Assessment Project in the Southwest Region of Saudi Arabia. Journal of Weather Modification. Vol. 42, 63-88.
- Terrence W. Krauss, Andre A. Sinkevich, and Ayman S. Ghulam, 2010; The
- Sinkevich, A.A., T.W. Krauss, and A. S. Ghulam, 2012: High-intensity Precipitation Measurements Using Remote Methods. Russian Meteorology and Hydrology, 2012, Vol. 37, No. 7, pp. 438–447. — Allerton Press, Inc., 2012.
- Krauss, T.W., A.A. Sinkevich, and A. S. Ghulam, 2012: Radar Investigations of Clouds Merger. Russian Meteorology and Hydrology, 2012, Vol. 37, No. 9, pp. 604–614. — Allerton Press, Inc., 2012.
- Andre A. Sinkevich, Terrence W. Krauss, and Ayman S. Ghulam, Alexandr B. Kurov, 2013: Investigation of High Depth Cb Characteristics after Seeding to Increase Precipitation. Russian Meteorology and Hydrology, 2013, N9, p5-20.



- Ghulam, A.S. and Dorling, S.R. Derivation of the first heavy thunderstorm climatology in Saudi Arabia based on surface and satellite measurements. International Journal of Climatology (In final preparation).
- Donat, Markus; Peterson, Thomas; Brunet, M; Almazroui, Mansour; Kolli, Rupa Kumar; Boucherf, Djamel; Al-Mulla, Anwar, Nour, Abdourahman, Aly, Ahmed, Nada, Tamer, Al Dashti, Hasan, Salhab, Tarek, El Fadli, Khalid, Muftah, Mohamed, Dah Eida, Sidaty, BADI, wafae; Driouech, Fatima, El Rhaz, Khalid, Abubaker, Mohammed, Ghulam, , Sanhoury Erayah, Amani, Ben Mansour, Maher, Alabdouli, Waleed, Al Dhanhani, Jemie Salem, 2012: Changes in extreme temperature and precipitation in the Arab region: long-term trends and variability related to ENSO and NAO. International Journal of Climatology.
- Yongxin Zhang, Yubao Liu, Paul A. Kucera, Linlin Pan, and Ayman Ghulam; Dust Modeling and Forecasting over Saudi Arabia Using WRF- 2 Chem: March 2009 Severe Dust Case. Atmospheric Environment 119 (2015) 118-130.



Conference Abstract & Report

- Ghulam, A. and Dorling, S.R.; Spring heavy thunderstorm mechanisms in Saudi Arabia, RMETS conference in Exeter, UK, 11th-16th September 2005.
- Ghulam, A.; Heavy Thunderstorm Synoptic Climatology and Forcing Mechanisms in Saudi Arabia. Geophysical Research Abstracts Vol. 12, EGU2010-6789-2, 2010, EGU General Assembly 2010.
- Roelof Burger, Paul Kucera, Stuart PiKeth, Duncan Axisa, Michael Chapman, Terry Krauss, and Ayman Ghulam; Precipitation Dynamics and Feedback mechanisms of the Arabian Desert. Geophysical Research Abstracts Vol. 12, EGU2010-6975, 2010, EGU General Assembly 2010.
- Ghulam, A.; Case study of Jeddah precipitation event, November 10-12, 1998.
- Ghulam, A.; El Niño event. (report at GAME Press).
- T.W. Krauss, Ayman Ghulam, Viktor MaKitov, Roelof Burger, Ayman AlBar; Climatology of Radar Cell-Complexes According to Region and Time of Year Kingdom of Saudi Arabia; presented in the Weather Modification Association Meeting, Anaheim, USA, 2009.
- Ayman Ghulam, Yongxin Zhang, Linlin Pan, Wanli Wu, Yubao Liu, and Paul A. Kucera; Development of a Dust Forecast System for the Arabian Peninsula; Abstracts of International Conference on ATMOSPHERIC DUST, June 1-6, 2014, Italy.
- Pan, Linlin, Yubao Liu, Yongxin Zhang, Paul A. Kucera, Wanli Wu, and Ayman Ghulam; Development of a dust forecast system for the Middle East area with NCAR-WRF RTFDDA and WRF-CHEM. P66; Presented at the 14th Annual WRF Users' Workshop.