Curriculum Vitae

Prof. Dr. Ahmed S. Hassan

Mustansiriyah University – College of Science
***Mobile**: +9647902153049*
***Email**:* **ahmed.s.atmsc@uomustansiriyah.edu.iq** , hassan_as@hotmail.com

PERSONAL SUMMARY:

Full professor in atmospheric sciences and climatology with more than 30 years' experience in teaching and conducting research in: -

- Numerical Weather Prediction Models- weather numerical modeling.
- Globally observed climatology and teleconnection.
- Climate change – CO_2 emissions and its relation with GDP, CO_2 emissions per capita, and EKC.
- Advanced Synoptic Meteorology
- Adaptation climate change

EDUCATION:

- Ph.D. #1: Meteorology – 2004 – Nanjing University, China
- M.Sc. #2: Meteorology – 1998 – Mustansiriyah University – College of Science
- B.Sc. #3: Physics/ meteorology – 1990 - Mustansiriyah University – College of Science

ACADEMIC HONORS AND AWARDS:

- (7) Letter of acknowledgment awarded by the Minister of Higher Education and Scientific Research
- (23) Letters of acknowledgments awarded by President of Mustansiriyah University.
- (30) Letters of acknowledgments awarded by the Dean of the College of Science - Mustansiriyah University.
- (2) Letters of acknowledgments awarded by Ministry of Enviermental in 2022.
- (4) Letters of acknowledgments awarded by Ministry of Youth and Sport.
- Numerous Dean Letters of Acknowledgement and Appreciation for research and teaching activities.

ACADEMIC /TEACHING EXPERIENCE:

- 1993 – 1998: Assistant Physicist, Mustansiriyah University – College of Science.
- 1998 – 2004: Assistant lecture, Mustansiriyah University – College of Science.
- 2004 – 2008: Lecture, Mustansiriyah University – College of Science.
- 2008 – 2020: Assistant Professor, Mustansiriyah University – College of Science.
- 2020 – Now: Professor, Mustansiriyah University – College of Science.
- Supervised and Co- supervised more than 15 M.Sc. and more than 7 Ph. D. theses.
- Participate many of examine committees of Ph. D M. Sc. In addition, thesis defenses.

COURSES TAUGHT:

Undergraduate	Graduate
1. Meteorological Analysis 2. Computer sciences	1. General circulation Model (GCM) 2. Numerical climate modeling

3. General circulation model 4. Numerical Weather Forecasting 5. Climate – climate change	3. Climate Dynamic 4. Numerical weather prediction 5. Climate Dynamic 6. Atmosphere – Ocean Interactions 7. Advanced synoptic meteorology 8. Adaptation of Climate change

PROFESSIONAL AFFILIATIONS:

- Worked as a member in the examination Committee in 2014 -2015.
- Worked as a member in the examination Committee in 2015 - 2016.
- Worked as a member in the Purchases Committee in 2012,2014,2015
- Worked as a member in the Numerical weather prediction lab. Committee (2016 – 2020)
- Chairman, Journalism Committee (لجنة رصانة المجلات العلمية), (2016 - Now)
- Member, Scientific Committee, (اللجنة العلمية) (2016 -2023)
- member, Scientific Promotion Committee- college of Science (2014- 2019)
- member, The examination committee in Atmospheric dept. 2016- Now
- Member of the Ministerial Committee for the Development of Curricula of Faculties of Science2019 - 2022.
- (22) members of the Examining Committee for Ph. D and M.Sc. student most of them in Mustansiriyah university.
- Chairman of the Electronic Similarity Committee, Department of Atmospheric Sciences, College of Science, 2019 –Now.
- Chairman of the Scientific Committee, Department of Atmospheric Sciences, College of Science, 2023 –Now.
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PUPLICATIONS:

- **Papers.**

1. M. M. Al-Reyhe, Kias Al-Jumealy, and **Ahmed S. Hassan**: (2000), Spectral Solar Radiation Irradiance on Horizontal surface for Baghdad City. *Al-Mustansiriya Journal of Sciences*, **Vol. 11**, P.103-114. (In Arabic).
2. **Ahmed S. Hassan**, X. Q. Yang. S. S. Zao, (2004), "Reproducibility of seasonal ensemble integrations with ECMWF GCM and its association with ENSO". *Meteorology and Atmospheric physics*, **vol. 86,** P.159-172.
3. **Ahmed S. Hassan**, and Roaa M. Ibrahim, (2008), "Determination of Rainfall Anomaly Years in Iraq". *Al-Mustansiriyah Journal of Sciences*, **vol. 19, No.7**, P82-89 (in Arabic).
4. **Ahmed S. Hassan,** and Khawla N. Zeki, (2008); "The relation Between ENSO and Seasonal Ensemble integration of potential Temperature over Middle East". *Al-Mustansiriyah Journal of Sciences*, **vol.19, No. 7**, P90-96 (in Arabic).
5. **Ahmed S. Hassan**, and Yasmin Q. Tofeek, (2009), "The relation Between El Nino Southern Oscillation and Seasonal Soil Moisture over Middle East", *Journal of College of Education*, **No. 1**, P. 330 -338, (In Arabic).
6. **Ahmed S. Hassan**, 2009: The Effect of the Air Temperature on Soil Moisture in the Middle East.*Journal of college of Education*, **vol. 3,** p.343-351,(In English).
7. **Ahmed S. Hassan**, 2010: Calculation and Analysis of Seasonal Climatology Mean for some Upper layer Meteorological Variables over Middle East. Al-Mustansiriya Journal of Sciences, **vol. 21**, **No.1**, P. 68-74, (In Arabic).

8. **Ahmed S. Hassan**, and Hussen Abudi Nema, (2011), "Analysis of Seasonal Geopotential Height Pattern over Middle East using ECMWF Data", Al-Mustansiriyah Journal of Sciences**, vol. 22, No.1**, P.93-100 , (in Arabic).
9. **Ahmed S. Hassan**, and Noor Wathek AbuAlkareem, (2012), "Analysis of Climate Predictability over the Middle East using the DEMETER model" , *Journal of College of Education,* **vol. 27, No.1**, P. 40-43
10. **Ahmed S. Hassan,** Kasq Hashem Sadeq**,** (2013), " the relationship between Soil moisture and Monthly Mean of Potential Temperature over Middle East Using ECMWF Data ", *Al-Mustansiriyah Journal of Science*, **vol. 4, No.3**, P. 57 -64,
11. **Ahmed S. Hassan**, Iqbal Kh. Khams: 2015. Net correlation between Surface Temperature and Pressure Anomaly at sea level and North Atlantic Oscillation (NAO) of Baghdad City, *Al Mustansiriyah Journal of Science*. **Vol. 26** No. 1 .P. 105-109.
12. **Ahmed S. Hassan**, and Sara Ali Muter, (2016), "Variation of daily Maximum and Minim temperature on Baghdad City", *Al Mustansiriyah Journal of Science*, **Vol.** 27, No., 1, P. 40 – 43,
13. Bassim Mohammed Hashim, Ahmed S. Hassan, Monim Hakeem Al Jiboori: 2016. Evaluation of Industrial CO_2 Emissions from Cement Production and Transportation Sector in Iraq Using IPCC methods. *Diyala Journal Pure Science.* No. 102, 1/3/2016.
14. Bassim Mohammed Hashim, Monim Hakeem Al Jiboori Ahmed S. Hassan: 2016. Evaluation of CO_2 Emission Due to Venting and Flaring of Natural Gas and Oil in Iraq Using IPCC Methods, *Al Mustansiriyah Journal of Science.*No.3, vol 27. p.140-143.
15. **Hassan, A.S.**, Zaki, K.N. Decadal analysis of carbon dioxide emissions from different state of fossil fuels in Iraq, Indian Journal of Public Health Research and development, **vol. 9(12),** pp. 865–868. 2018
16. **Ahmed S. Hassan,** Khawla N Zeki, Nada S. Salih **,** (2018), "Determination the Quantity of Extreme Rainfall and Calculation of Climatology Mean for Baghdad City", *Iraqi Journal of Science,* **Vol. 59, No.1B**, *pp: 447-455, DOI:10.24996/ijs.2018.59.1B.25*
17. Nadham, Usama S., and **Ahmed S. Hassan,** (2019), "Comparison of Some Drought Indices in Iraq", *Al Mustansiriyah Journal of Science,* **vol. 30, No. 4,** P. 1-9 http://doi.org/10.23851/mjs.v30.i4.674
18. Mahmood, R. M., & **Hassan, A. S.** (2020). Determined Seasonal Variation of Polar Jet Streams over Baghdad City for period 2012-2014. *Al-Mustansiriyah Journal of Science*, *31*(1), 1–8. https://doi.org/10.23851/mjs.v31i1.229
19. Al-Jiboori, M.H., Abu Al-Shaeer, M.J., **Hassan, A.S**., (2020), Statistical forecast of daily maximum air temperature in arid areas in the summertime, *Journal of Mathematical and Fundamental Sciences*, **52(3)**, pp. 353–365. DOI: https://doi.org/10.5614/j.math.fund.sci.2020.52.3.8, link : https://journals.itb.ac.id/index.php/jmfs/article/view/11291
20. Abd Al Rukabie, J.S., Hassan, A.S., Kadhum, J.H., (2020), "Assessment CO2 Emission Intensity of Crude Oil Production in Iraq, , IOP Conference Series: Materials Science and Engineering", 2020, 928(7), 072048, link : https://iopscience.iop.org/article/10.1088/1757-899X/928/7/072048.
21. Al Rukabie, J.S.A., **Hassan, A.S**., Kadhum, J.H.Empirical analysis of CO_2 emission using EKC model in Iraq, , International Journal of Advanced Science and Technology, 2020, 29(3 Special Issue), pp. 557–564, link : http://sersc.org/journals/index.php/IJAST/article/view/5669 .
22. **Ahmed S. Hassan,** Relationship between per capita CO_2emissions and GDP in Iraq, ,Plant Archives, 2020, 20, pp. 1206–1209, link http://www.plantarchives.org/SPL%20ISSUE%2020-2/188__1206-1209_.pdf
23. Nemah, H.A., **Hassan, A.S.,** Kahdum, J.H. (2019), Study of weather prediction using barotropic vorticity model, , Plant Archives,19(2), pp. 2129–2137 http://www.plantarchives.org/19-2/2129-2137%20(4941).pdf

24. Jasim H. Kadhum, **Ahmed S. Hassan**, Ali J. Mohammed. Phase Lag of Temperature behind Solar Radiation in Iraq, Journal *of Mechanical Engineering Research and Developments.* **Vol. 44, No.10**, Pp.100 108, 2021.
25. **Ahmed S. Hassan**, Hassan M. Azeez, Relation between CO2 emissions and crude oil combustion in Iraq. *Scientific Review Engineering and Environmental Sciences, 30 (3)*, 379-387. 2021 doi: 10.22630/PNIKS.2021.30.3.32
26. Sara Ali Muter, Jasim H. Kadhum, **Ahmed S. Hassan**, (2021), Approaching of May maximum surface air temperature to characteristic summer season for Baghdad city. *Scientific Review Engineering and Environmental Sciences, 30 (3)*, 400-410., doi: 10.22630/PNIKS.2021.30.3.34.
27. Ahmed H. Hashem , and **Ahmed S. Hassan**, (2022), "Analysis of Seasonal Climate Variability of Surface Air Temperature and Response to Climate Change Effect" , *Indian Journal of Ecology*, **vol. 49 (18)**, P. 321-328.
28. Mohammed Abdul Raheem Jabbar , **Ahmed S. Hassan**., (2022), A Cut-off low at 500 hPa Geopotential Height and Rainfall Events over Iraq: Case Studies, ***Iraqi Journal of Physics, Vol.22, No.3, PP.76-85,*** https://doi.org/10.30723/ijp.v20i3.1007
29. Mohammed Abdul Raheem Jabbar**, Ahmed S. Hassan**., (2022), Evaluation of Geopotential Height at 500 hPa with Rainfall Events: A Case Study of Iraq, 33 (4), p. 1-8, doi.org/10.23851/mjs.v33i4.1161
30. Mohammed Abdul Raheem Jabbar , **Ahmed S. Hassan**., (2023), The Daily Pattern at 500 hPa Geopotential Heights and Its Association with Heavy Rainfall over Iraq, 64 (3) , *pp: 1498-1507,* https://doi.org/10.24996/ijs.2023.64.3.38

- **Thesis**

1. Ahmed S, Hassan, Kais J. Al Jumaly, 1998, "Modeling of Solar Spectral Irradiance on Horizontal Surfaces", M. Sc. Thesis submitted to Department of Atmospheric Sciences, College of Science, Mustansiriyah University, P. 95. (In Arabic).
2. Ahmed S. Hassan, and Yang, Xue Qun, 2004: Assessment of Potential Predictability of Global Seasonal Climate Variability Using ECMWF Ensemble Integrations. Ph.D. Thesis submitted to Department of Atmospheric Sciences, Nanjing University, Nanjing, CHINA. P. 110

- **Additional professional activities (Supervis**ed)

M.Sc. Thesis:

1. 2006-2007 supervisor on M. Sc. Student **Khawla N. Zaki**, The Relationship between La Niña and Seasonal Ensemble Integration of Some Meteorological Variables Over Middle East. Department of Atmospheric Sciences, Al-Mustansiriyah University. Baghdad, Iraq.
2. 2008-2009, supervisor on M. Sc. Student **Hussen Abodi Nema**, Analysis of Seasonal Predictability for Geopotential Height over Middle East by using ECMWF Data. Department of Atmospheric Sciences, Al-Mustansiriyah University. Baghdad, Iraq.
3. 2010-2012, supervisor on M. Sc. Student **Noor Wathek AbuAlkareem**, Analysis of Climate Predictability over Iraq using DEMETER Model. Department of Atmospheric Sciences, Al-Mustansiriyah University. Baghdad, Iraq.
4. 2011–2013, supervisor on M. Sc. Student **Ghasaq Hashim Sadiq**, The Relationship between Soil Moisture and Monthly Mean of Potential Temperature over the Middle East., submitted to

Atmospheric Sciences Department, College of Sciences, Mustansiriyah University, Baghdad, Iraq, P.88

5. 2012-2014, supervisor on M. Sc. Student **Sara Ali Muter**, Variability of daily Maximum and Minimum Temperature Range for Summer Seasons in Baghdad, submitted to Atmospheric Sciences Department, College of Sciences, Mustansiriyah University, Baghdad, Iraq. P.98.
6. 2012– 2014, supervisor on M. Sc. Student **Rania Salman Shatee,** Analysis of initial conditions of seasonal prediction Ensemble of NCEP Geopotential height over Middle East. Submitted to Atmospheric Sciences Department, College of Sciences, Mustansiriyah University, Baghdad, Iraq, P. 83.
7. 2013-2015: supervisor on M. Sc. Student Analysis **Mariam Faisal Naji** , Analysis Mean Flow Waves of Synoptic Scale at Extra-Tropical Regions, Submitted to Atmospheric Sciences Department, College of Sciences, Mustansiriyah University, Baghdad, Iraq, P.
8. 2015-2017: supervisor on M. Sc. Student **Ramia Mahmood Mohamed** Determine the seasonal variation of the characteristics of the jet streams over the city of Baghdad. P.
9. Ahmed K Kassel Analysis Mean Flow Waves of Synoptic Scale at Extra-Tropical Regions.
10. 2017 – 2018: supervisor on M. Sc. Student **Ehab Shehab Ahmed,** Characteristics of Pressure Patterns that Effect on Iraq weather, submitted to Atmospheric Sciences Department, College of Sciences, Mustansiriyah University, Baghdad, Iraq. P. 102.
11. 2018 – 2019: supervisor on M. Sc. Student **Usama Sameer Nedham**, Study and Analysis of Rainfall Amounts and Determining its Relation with some Meteorological Drought Indices in Iraq. Submitted to Atmospheric Sciences Department, College of Sciences, Mustansiriyah University, and Baghdad, Iraq. P. 102
12. 2020 – 2021: supervisor on M. Sc. Student **Ahmed H. Hashem,** Assessing Seasonal Climate Variability in Surface Air Temperature for Baghdad City, submitted to Atmospheric Sciences Department, College of Sciences, Mustansiriyah University, Baghdad, Iraq. P. 97.
13. 2021- 2022: supervisor on M. Sc. Student Now :**Mohmed Abd Al Raheem Jabar**, "The Variations at 500 hPa Geopotential Height and its influence on cyclones over Iraq" submitted to Atmospheric Sciences Department, College of Sciences, Mustansiriyah University, Baghdad, Iraq
14. 2022 –Now: supervisor on M. Sc. Student **Qufran Hasoon Aliwe,** "Analysis of Variation in Air Temperature, Precipitation, and Relative Humidity Due to Climate Change in Iraq" submitted to Atmospheric Sciences Department, College of Sciences, Mustansiriyah University, Baghdad, Iraq

Ph. D thesis

1. 2011 – 2013 supervisor on Ph. D. student **Iqbal Khalef Khames**, Teleconnection between Sea Surface temperature and some variability metrological in the Middle East, submitted to College of Sciences, Al-Mustansiriyah University, Baghdad, Iraq. P. 133.
2. 2013 – 2015 supervisor on Ph. D. student **Bassim Mohammed Hashim**, Evaluation the Effects of industrial CO_2 Emission on Climate Changes in Iraq, submitted to College of Sciences, Al-Mustansiriyah University, Baghdad, Iraq. P. 106.
3. 2015 -2017 supervisor on Ph. D. student **Ali Hassan Hashem**, Evaluation of Climate change over Iraq Using General Circulation Model, Ph.D. submitted to College of Sciences, Al-Mustansiriyah University, Baghdad, Iraq, p. 110.
4. 2017 – 2019 supervisor on Ph. D. student **Husain Abodi Nema**, Numerical Weather Prediction using Barotropic vorticity, - Model, submitted to Atmospheric Sciences Department, College of Sciences, Al-Mustansiriyah University, Baghdad, Iraq. P. 132.
5. 2019 – 2021 supervisor on Ph. D. **Jamal Suheel Abd**, Analysis Carbon Dioxide Emissions Concentration of Crude Oil Production from Garraf Oil Field, submitted to College of Sciences, Al-Mustansiriyah University, Baghdad, Iraq.

6. 2022 – Now: supervisor on Ph. D. student **Qutiba Adnan H** , Assessment of Adaptation Climate Change using IPCC methods in Context of Sustainable Development in Iraq, submitted to College of Sciences, Al-Mustansiriyah University, Baghdad, Iraq.
7. 2022 – Now: supervisor on Ph. D. student **Asmaa Kareem Hamodey**, Impact of Climatic variables Variation and synoptic Changes on Dust Storms Activities in Iraq. Submitted to College of Sciences, Al-Mustansiriyah University, Baghdad, Iraq.
8. 2022 – Now: supervisor on Ph. D. student **Farh Haseeb** , "Dynamical Analysis of annual and spatial variations of snow cover distribution and Avalanches in Northern of Iraq" Submitted to College of Sciences, Al-Mustansiriyah University, Baghdad, Iraq.

PROFFESSIONAL DEVELOPMENT

1. Mustansiriyah University – College of Science, climate change, 13, April ,2015
2. Ministry of youth and sport - General Scientific Welfare Department, 7, May 2016
3. **Workshops:**
4. Lecturer, Hurricane and oppressive effects on the environment and infrastructure, Ministry of Youth and Sports Dept. scientific care, Baghdad, Iraq 27th , April, 2016
5. Lecturer; Higher Education Strategy on Mitigation of Climate Change, Center for Environmental Research University Technology in Baghdad – Iraq, 21st May, 2017.

Conference

1. 2011, Participated in the 7th scientific conference, in Baghdad – Iraq in the college of science/ Mustansiriyah University – College of Science, in May, 2011.
2. 2018, Participated in the 1st International Conference on Safety and Security of the Scientific Applications (ICSSSA), "Decadal analysis of carbon dioxide emissions from different state of fossil fuels in Iraq "Baghdad, Iraq on 26th - 27th September,2018.
3. 2020, IOP Conference Series: Materials Science and Engineering, "Assessment CO2 Emission Intensity of Crude Oil Production in Iraq" Abd Al Rukabie, J.S., Hassan, A.S., Kadhum, J.H., 928(7), 072048
4. 2020, Participated in three papers, in, the first International Conference of Atmospheric Sciences (ICAS 2020), 28th - 29th, September 2020. Mustansiriyah university , Baghdad, Iraq ,
    - **A.** The Analysis the Intensity of CO2 emissions from Fossil Fuel Combustion in Iraq, P. 38
    - **B.** Study of Barotropic vorticity Model Output Accuracy
    - **C.** The Approaching of May Maximum Surface Air Temperature to Characteristic Summer Season for Baghdad City
5. 2020, Scientific committee in, the first International Conference of Atmospheric Sciences (ICAS 2020), 28th - 29th, September 2020. Mustansiriyah university , Baghdad, Iraq ,

6. 2022, IC-ISHVA 2022 International Conference on Innovations in Science, Hybrid Materials and Vibration Analysis , " Evaluation of Carbon Dioxide Emissions dispersion from Crude Oil Production of Garraf Oil Field in Iraq.", Relationship Between Snow and Temperature Over some Iraqi Meteorological Stations, 23 July ,2022.

7. 2023, May 3-4, The 8th International Scientific Conference for College of Science in Atmospheric Sciences (ISCCSAS23), Baghdad, IRAQ.

8. 2023, July, 4th International Scientific Conference of Engineering Sciences and Advances Technologies, The connection between 500 hPa geopotential height and heavy rainfall over Iraq: A case study, AIP Conf. Proc. 2830, 050002-1–050002-6; https://doi.org/10.1063/5.0156846.

Certifications:

1. IC3 (Internet and Computing core certification) score:874 Feb. 2011
2. 2020-09-01 to present | Scientific researcher (Atmospheric Sciences Department) Invited position
3. 2016-09 to 2023-09 | Award, Iraqi Journal of Science (Baghdad, Baghdad, IQ), URL: https://ijs.uobaghdad.edu.iq/index.php/eijs/login
4. 27 November 2022, Active precipitation of GIS day, National Security Adviser, climate change within the data of remote sensing.4th international conference on GIS.

6. **Skills:** Languages: Arabic as a native language; English.

Last update 20 September 23, 2023