Curriculum Vitae

Mohammad M. M. Alsahli
Associate Professor of GIScience
Department of Geography, College of Social Sciences
University of Kuwait
P.O. Box: 68168, Kaifan 71962, State of Kuwait
E-mail: m.alsahli@ku.edu.kw
Webpages:
Mohmmad Alsahli @ ResearchGate
Mohammad Alsahli @ Google Scholar

Education

- Ph.D. Geography – University of Kansas, 2009
  Emphasis: Environmental Remote Sensing, GIS, and Spatial Analysis
  Dissertation: *Characterizing Surface Temperature and Clarity of Kuwait's Seawaters Using Remotely Sensed Measurements and GIS Analyses*
  Committee: Kevin Price (Advisor), Stephen Egbert (Co-advisor), Daphne G. Fautin, Robert Buddemeier, and Jerome E. Dobson.
  Outside Research Skill: Aquatic Ecology.

- Master's in Geography – University of Kansas, 2006
  Emphasis: Environmental Remote Sensing, GIS, and Spatial Analysis
  Thesis: *Estimating Chlorophyll Concentrations of Kuwait's Coastal Environment Using SeaWiFS and MODIS Satellite Data*
  Committee: Kevin Price (Advisor), Stephen Egbert, Daphne G. Fautin, and Robert Buddemeier.

- Bachelor in Geography – Kuwait University, 2002
  Minor: Sociology

Academic Appointments and Professional Experience

- Acting vice dean of Admission and Registration Deanship for registration affairs, Kuwait University. From April 2023 to August 2023.
- Acting vice dean of students' affairs, College of Social Sciences, Kuwait University. September 2021 – April 2023.
- The director of applied geosciences and GIS master's program, College of Graduate Studies, Kuwait University. Since September 2020.
- **Associate Professor of GIS & RS in Geography Department**, College of Social Sciences, Kuwait University. Since May 2019.
- Working with Kuwait Environmental Public Authority (KEPA) and United Nations Environment Programme (UNEP) on climate change projects since 2012.

- The team leader of the sea level project of the Second National Communication, funded and operated by the United Nations Environment Programme (UNEP). 2018.
- The team leader of sea level project of the First National Communication, funded and operated by the United Nations Environment Programme (UNEP). 2012.
- Referee of a number of papers for International Journal of Remote Sensing, Journal of Selected Topics in Applied Earth Observations and Remote Sensing, Journal of Applied Remote Sensing, International Journal of Marine Science, Journal of Environmental Management, and others. The updated list is under this link:
  https://publons.com/author/1529817/mohammad-m-m-alsahli#profile
- The Head of GIS & RS Consultation Unit, Collage of Social Sciences, Kuwait University, 9-2010 - Present.
- **Assistance Professor of GIS & RS in Geography Department**, College of Social Sciences, Kuwait University. January 2010 - 2019.
- **Teaching Assistant** – Department of Geography – Kuwait University 2003 – 2004.
- Internship in Kuwait Institute of Scientific Research (KISR) June-August 2003. Trainee in GIS Unit.

Professional Memberships

- Kuwait Association of Geographers, since 2011.
- American Society of Photogrammetry & Remote Sensing (ASPRS), since 2005.

Teaching

Course Taught – Undergraduate Level

- Introduction to GIS
- Interpretation of Arial Photography & Satellite Imagery
- Biogeography
- Introduction to Physical Geography
- Remote Sensing 1
- Geography of Arab World
- Spatial Analysis
- GIS Applications
- Geography of Human & Environment
- GIS Applications
- Geo-Technologies in Physical Geography Studies
- Technologies in Environmental Studies

Course Taught – Graduate Level

- Basics of Remote Sensing
- Remote Sensing & GIS
- Advanced Remote Sensing
- Special Topic

Supervising Graduate Students

Master's Students - In progress

- Anfal Alenezi. The spatiotemporal correlation between runoff and water clarity in Kuwait Bay.

Master's Students – Completed

- Lailah Alshammari. Intercomparison of image classification methods and machine learning techniques at different spatial resolutions.
- Fahad Alenezi. Spatial variability of trace metals and water quality parameters of the intertidal zone of Sulaibikhat Bay. Fall 2022.
- Mohammad Alroomi. Short-Term Variation of Sulaibikhat Bay Shoreline Using Global Navigation Satellite System Data. Fall 2022.
- Nasser Alhousaini, Spatial distributions of water quality indicators in coral reef communities near "Qaru Island". Spring 2021.
- Mansour Alhasawi. Establishing Digital Elevation Model Geodatabase Using GNSS Data and Spatial Interpolation. Spring 2021.
- Eman Alsammeri. Impact of the shoreline change on the coastal area, a study of the area between Ras Julai'a and Ras al-Zour, South Kuwait (*In Arabic*). Fall 2020.
- Sara Abd Al Nasser: Studying the Spatial and Temporal Distributions of Salinity within Kuwait Seawater. Spring 2019. Supervisor
- Ohoud Aseeri. Thesis Title. Vulnerability of the Kuwait Lands to Desertification (*In Arabic*). Spring 2018.
- Fatima Almutairi. Thesis Title: Detecting the shoreline change of Kuwait by spatial data integration (*In Arabic*). Summer 2017.
- Abdullatif Al-Yaqout – Fall 2014. Project Title: Assessing the impact of stormwater network discharge on Kuwait coastal environments using remotely sensed data and GIS. Fall 2014.

Ph.D. Students – In progress

- Fawaz Alenezi: Dissertation Title: A Socio-Economic Evaluation for Mangrove Ecosystems in Tubli Bay, Kingdom of Bahrain using Dynamic Modeling. *Co-adviser*

Ph.D. Students - Completed

- Boufeniza Redoune. Dissertation Title: Evaluation of Color and Water Quality in Algiers Coast from Multispectral Satellite Data. (Institution: Higher national school of marine science and coastal planning). Spring 2021. *Co-adviser*
- Nawaf Almutairi. Dissertation Title: Environmental Impacts of Sea Level Rise on Kuwait and Damietta. (Institution: Environmental Sciences Department, Damietta University). Spring 2019. *Co-adviser*

Workshops & Presentations

- Workshop. Title: Introduction to R language for geographers. Organizer: Geography Department, College of Social Sciences, Kuwait University. November 2023.
- Workshop. Title: Introduction to R language for geographers. Organizer: Consultation Unit of Remote Sensing and GIS at College of Social Sciences, Kuwait University. April 2019.
- Giving a training Course on remote sensing basics. Organizer: Al-Khawarezmi Center, Kuwait University. March 2015.
- Giving a training Course on Spatial Analysis Basics at the College of Social Sciences, Kuwait University. 1-3 December 2014.
- Giving a workshop on Data Scientific Presentation and Visualization at the College of Social Sciences, Kuwait University. February 2014.
- Giving Lecture on Geographic Information System, Importance and Applications for Kuwait Association of Engineers. 6-5-2012.

Research

Fieldwork

- Multiple voyages from November 2021 to December 2023 to study water quality variables and detect spectral behavior of different seawater bodies.
- Field trip to Al-Abdali Agricultural area. February 2022. Studying soil characteristics and blue panic grass spectral behaviors using a multispectral drone camera and in situ measurements.
- Multiple voyages during February and March 2018 to study water quality variables and detect spectral behavior of different seawater bodies.
- Detecting shoreline changes over the north area of Kuwait Bay using Unmanned Airborne Vehicle, September 2016.
- Oceanographic Fieldwork: collecting water quality samples in eight sites offshore Kuwait's waters, Kuwait 2007.
- Coastal Environment Fieldwork: detecting the environmental status along the Kuwait's coast, Kuwait 2005.
- Advanced Biogeography Fieldwork and Laboratory Techniques. West Campus Area of the University of Kansas, Lawrence, Kansas 2005.
- Geomorphology Fieldwork: detecting the Nebak phenomenon in the southern part of Kuwait. Al-Dhuba'eya, Kuwait 1999.

Conferences

Alsahli, M. & Nazeer, M. Spatiotemporal Variability of Secchi Depths of the North Arabian Gulf Over the Last Two Decades. ECSA 60 Implementing Science-Based Solutions and Strategies for Coastal Resilience. Hangzhou, China. 2-5 September 2024

Alsahli, M. & Al-Harbi, M. Environmental justice in Kuwait metropolitan area: a spatial analysis of land-use impact on environmental quality variability. HKU-Urban Systems Institute (USI) Inaugural Conference: Towards New Paradigms for Urban Research (2024). Hong Kong, The University of Hong Kong, 11-12 January 2024.

Rözer, V., Alsahli, M., and Mehryar, S.: Rapid urbanisation and flash flood risk in desert regions: the example of Kuwait, EGU General Assembly (2023), Vienna, Austria, 24–28 Apr 2023, EGU23-5580, https://doi.org/10.5194/egusphere-egu23-5580, 2023.

Alsahli, M. M., & Al-Harbi, M. (2019). Allocating optimum sites for air quality monitoring stations using GIS suitability analysis. 15th International Conference on Atmospheric Sciences and Applications to Air Quality. Kuala Lumpur, Malaysia. October 28-30.

Alsahli, M. M. (2017). Challenges of Seal Level Rise on Kuwait Coastal Area. Our Seas: Theories, Data and Policies Conference, Organized by Kuwait Foundation for the Advancement of Science (KFAS). November 18-20.

Redouane, L. B., Houma, F. B., Alsahli, M., el Bachari Nour, I., Chekroun, N., Boudjema, S., & Benm'barek, G. (2017, November). Estimation of Dinoflagellate and Diatoms Algae in Algiers Bay from Landsat Satellite Data. In *Euro-Mediterranean Conference for Environmental Integration* (pp. 1795-1796). Springer, Cham.

Alsahli, M. M. M., & AlHasem, A. M. (2014). Vulnerability of Kuwait coast to sea level rise. The Association of American Geographers Conference. Tampa, Florida, USA, April 8-12.

Alsahli, M., K. Price, D. Fautin, S. Egbert, R. Buddemeier, (2011). Modeling Kuwait Seawater Clarity: A Spatial-Temporal Study Using Remote Sensing and GIS. Applied Geography Conference. Redland, California USA, October 19-22.

Alsahli, M, 2009. Studying Spatial and Temporal Variability of Kuwait Sea Surface Temperature Using MODIS Remotely Sensed Data. Applied Geography Conference. Baton Rouge, Louisiana USA, October 28-31.

Publications

Alsahli, M. M. M., & Alhasawi, M. J. H. Evaluating the impact of sample and cell size variations on the accuracy of Digital Elevation Models for different spatial interpolation techniques: A case study of Sulaibikhat Bay Coast. *Journal of the Social Sciences*. ***Accepted on 4/4/2024.***

Boufeniza, R. L., Jingjia, L., Abdela, K. A., Alsafadi, K., & Alsahli, M. M. (2024). Deep learning for sea surface temperature applications: A comprehensive bibliometric analysis and methodological approach. Geo: Geography and Environment, 11(2), e00151.

Al Shammari, E. A., Alsahli M. M. (2024). Assessment of coastal vulnerability to natural and anthropogenic factors in the area between Ras Julai'a and Ras Al-Zour, Southern Kuwait. Journal *of the Social Sciences, 52*(3), 179-208.

Rozer, Viktor Rozer , Mehryar, Sara and Alsahli, Mohammad M. (2024) The climate change risk reduction trap: low carbon spatial economic restructuring and disaster risk in Kuwait. LSE Middle East Centre Kuwait Programme Paper Series (26). LSE Middle East Centre, London, UK.

Alsahli, M. M., & Alkandary, D. S. (2024). Climate change vulnerability of Kuwait: a cross-sectoral assessment. Arabian Journal of Geosciences, 17(6), 183. https://doi.org/10.1007/s12517-024-11992-7

Nazeer, M., Alsahli, M. M. M., Nichol, J. E., Pan, J., Wu, W., Bilal, M., & Saeed, U. (2023). A novel three-band macroalgae detection index (TMI) for aquatic environments. International Journal of Remote Sensing, 44(7), 2359–2381. https://doi.org/10.1080/01431161.2023.2202339

Alsahli, M. M. M., & Al-Harbi, M. (2023). Environmental justice in Kuwait metropolitan area: a spatial analysis of land-use impact on environmental quality variability. Local Environment, 28(1), 80–98. https://doi.org/10.1080/13549839.2022.2119378

Al-Dousari, A. M., Alsahli, M., Al-Awadhi, J., Al-Enezi, A. K., & N. Al-Dousari, M. A. (2022). Sand dunes in Kuwait, morphometric and chemical characteristics. In A. el-aziz Abd el-aal, J. Al-Awadi, & A.-D. Ali (Eds.), The Geology of Kuwait. Berlin: Springer.

Alsahli, M. M. M., & Nazeer, M. (2022). Modeling Secchi Disk Depth Over the North Arabian Gulf Waters Using MODIS and MERIS Images. PFG – Journal of Photogrammetry, Remote Sensing and Geoinformation Science, 90(2), 177–189. https://doi.org/10.1007/s41064-021-00189-2

Alsahli, M. M. M., & Nazeer, M. (2021). Spatiotemporal variability of secchi depths of the North Arabian Gulf over the last two decades. Estuarine, Coastal and Shelf Science, 260(May), 1074–1087. https://doi.org/10.1016/j.ecss.2021.107487

Abou Samra, R. M., El-Gammal, M., Al-Mutairi, N., Alsahli, M. M., & Ibrahim, M. S. (2021). GIS-based approach to estimate sea level rise impacts on Damietta coast, Egypt. Arabian Journal of Geosciences, 14(6), 429. https://doi.org/10.1007/s12517-021-06810-3

Al-Mutairi, N., Alsahli, M., El-Gammal, M., Ibrahim, M., & Samra, R. A. (2021). Environmental and economic impacts of rising sea levels: A case study in Kuwait's coastal zone. Ocean & Coastal Management, 205, 105572. https://doi.org/10.1016/j.ocecoaman.2021.105572

Nazeer, M., Bilal, M., Nichol, J. E., Wu, W., Alsahli, M. M., Shahzad, M. I., & Gayen, B. K. (2020). First Experiences with the Landsat-8 Aquatic Reflectance Product: Evaluation of the Regional and Ocean Color Algorithms in a Coastal Environment. *Remote Sensing*, *12*(12), 1938.

Boufeniza, R. L., Alsahli, M. M., Bachari, N. I., & Bachari, F. H. (2020). Spatio-temporal quantification and distribution of diatoms and dinoflagellates associated with algal blooms and human activities in Algiers Bay (Algeria) using Landsat-8 satellite imagery. Regional Studies in Marine Science, 36, 101311. https://doi.org/10.1016/J.RSMA.2020.101311

Alsahli, M., & Aldababseh, A., (2019). Climate Hazard and Vulnerability Analysis, In, Hadad, A., (Ed.), *Kuwait National Adaptation Plan 2019-2030*, (pp. 78 – 114). EPA, Kuwait.

Alsahli, M., Redha, A., & Altheyabi, N. (2019). Vulnerability Assessment and Adaptation of Potential Sea Level Rise for Coastal Area of Kuwait, In. Alharbi, M., (Ed.), *The State of Kuwait Second National Communication*, (pp. 65-88). EPA, Kuwait

Alsahli, M. M. & Almutairi, F. Kh.(2019). Change of Northern Kuwait Shoreline and Its Related Physical Factors. Journal of Social Sciences. (*In Arabic*). 47(1), 147-179.

Redouane, L. B., et al. (2018). Estimation of Dinoflagellate and Diatoms Algae in Algiers Bay from Landsat Satellite Data. Recent Advances in Environmental Science from the Euro-mediterranean and Surrounding Regions. A. Kallel, Ksibi, M., Dhia, H. B., & Khélifi, N . Cham, Switzerland, Springer: 159501597.

Alsahli, M. M., & Al-Harbi, M. (2018). Allocating optimum sites for air quality monitoring stations using GIS suitability analysis. Urban Climate. 24: 875-886. doi: https://doi.org/10.1016/j.uclim.2017.11.001

Nazeer, M., Bilal, M., Alsahli, M., Shahzad, M., & Waqas, A. (2017). Evaluation of Empirical and Machine Learning Algorithms for Estimation of Coastal Water Quality Parameters. ISPRS International Journal of Geo-Information, 6(11), 360. https://doi.org/10.3390/ijgi6110360

Aldousari, E. A., & Alsahli, M. M. M. (2016). Studying the Spatial Distribution of Asthma Patients in the State of Kuwait Using GIS. Journal of Social Sciences. 45(1):11 – 35.

Alsahli, M. M. M., & AlHasem, A. M. (2016). Vulnerability of Kuwait coast to sea level rise. Geografisk Tidsskrift-Danish Journal of Geography, 116(1), 56–70. https://doi.org/10.1080/00167223.2015.1121403

Alsahli, M. A. Alhasem. (2012). Vulnerability Assessment and Adaptation of Potential Sea Level Rise for Coastal Area of Kuwait. Kuwait's Initial National Communications under the United Nations Framework Convention on Climate Change. National Project Operated and Supported by the United Nations Environment Programme (UNEP).

Awards and Grants

- Project Grants from The London School of Economics & Political Science (KFAS Program) – £89,896. Project Title: Sustainable Climate Adaptation Strategies for Kuwait: A Multi-Hazard Approach Integrating Extreme Heat and Flood Adaptation Solutions. Project ID: 110631.R.000.1078.1076
- Project Grants from The London School of Economics & Political Science (KFAS Program) –£33,949 .Project Title: Learning from the Past to Build a Better Future: Supporting Urban Flood Resilience in Kuwait Through a Forensic Analysis of the 2018 Flash Floods. Project ID: 100143
- Research Reward on a published scientific paper in Q1 journals from the research sector at Kuwait University, 2021
- Scientific Poster Award of Research Sector at Kuwait University, 2021

- Project Grants from the Research Sector at Kuwait University – 25,000 $. Project Title: Allocating optimum sites for air quality monitoring stations and assessment of environmental justice using GIS suitability analysis. Project ID: RO01/15
- Project Grants from the Research Sector at Kuwait University – 13,000 $. Project Title: Modeling Water Clarity of Northern Arabian Gulf Using Satellite and In Situ Datasets. Project ID: RO02/16
- Project Grants from the United Nations Environment Programme (UNEP) – 15,000 $. Vulnerability Assessment and Adaptation of Potential Sea Level Rise for Coastal Area of Kuwait. 2012.
- Department of Geography Scholarship (Master's and Ph.D.), Kuwait University, 2003.

References

As requested**.**