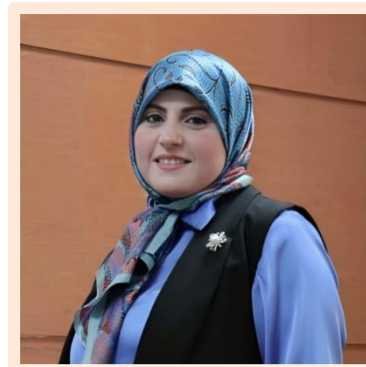


Curriculum Vitae



Personal Data

Name: Mubarak Saad Alghariani

Date and Place of Birth: 1985 Tripoli, Libya

Nationality: Libyan

Email: Sa.alghariani@gmail.com; M.al-ghariani@uot.edu.ly

Phone & WhatsApp: +218925090628

Major Specialization: Water Sciences, Physical Geography and Geographic Information Systems.

Minor Specialization: Water Resources Management - Remote Sensing and GIS Applications in Water Resources and Environment.

Qualifications

- **Doctor of Philosophy** in Water Resources Management, Physical Geography and GIS - Department of Geography and Geographic Information Systems, University of Tripoli, 2023 (**Excellent Grade**).
- **Master of Science** in Water Resources Management, Department of Soil and Water, Faculty of Agriculture, University of Tripoli, 2015 (**First Ranking**).
- **Bachelor of Science** in Water Science, Department of Soil and Water, Faculty of Agriculture, University of Tripoli, 2009.

Honors and Awards

- Federation of Arab Scientific Research Council **Award** for Best Scientific Research in Water Harvesting (2020).
- **Shield** of the Third Arab Water Conference, presented by the Kuwaiti Minister of Oil, Electricity, and Water (2018).
- **Certificate of Appreciation** for Best Postgraduate, Department of Soil and Water, Faculty of Agriculture, University of Tripoli (2016).

Employment History

- Faculty Member, Department of Geography and GIS, Geographical Information Systems Division, Faculty of Arts and Languages, University of Tripoli (current).
- Contact Point: State of Libya, Arab Research & Innovation Co-Funded Alliances, Federation of Arab Scientific Research Councils (current).
- Head of the National Project for Disaster and Crisis Management in the Libyan State, Libyan Authority for Scientific Research, Ministry of Higher Education and Scientific Research (2023- current).
- Faculty member and Academic Researcher at the Libyan Authority for Scientific Research, Ministry of Higher Education and Scientific Research (2021 - 2024).
- Researcher in Water Resources and Environment Department - Ministry of Environment. Tripoli, Libya (2019-2021).
- Head of the Water Analysis Laboratory - Environmental Sanitation Office, Municipality of Tripoli Center (2019-2020).
- Assistant Lecturer, Department of Geography and GIS, Geographical Information Systems Division, Faculty of Arts and Languages, University of Tripoli (2017-2020).
- Assistant Lecturer, Civil Engineering Department, Water and Environment Division, College of Engineering, Al-Marqab University (2016-2017).
- Research Assistant, Soil and Water Laboratory, Ministry of Agriculture and Livestock, Headquarters Sidi Al-Masry, Tripoli (2010).

Computer and Software Skills

- Extensive experience with **ESRI ArcGIS**.
- Intermediate experience with **Google Earth Engine**.
- Extensive experience with **Climate Engine Applications**.
- Intermediate experience with **R-programming language**.
- Excellent experience in data analysis using **Excel**.

Experience in Geographic Information Systems

- Integrated Machine Learning and Google Earth Engine.
- Integration of Fuzzy Logic and Hierarchical Analysis.
- Morphometric and morphological analysis of watersheds.
- Mapping Coastal Flood Hazards
- Surface water, runoff, and flood modeling.
- Hydrological analysis of water discharge basins.
- Analysis and interpretation of satellite images using indicators.
- Analysis of the water and sanitation network.
- Geo-database management in ArcGIS.
- Analysis of changes in land cover and environmental conditions.
- Flood modeling and calculation of affected areas.
- Analysis of the relationships between slope and runoff.
- Geo-referencing drawings and geographical databases.
- Climate change impacts on the environment and water resources.

Teaching Activity

Teaching the following courses: Undergraduate

- Designing irrigation and drainage networks.
- Image Space Analysis.
- GIS applications in the environment and disasters.
- Geographic information systems.
- Map projections.
- Geographical databases.
- Design and production of maps.
- GIS applications in morphometrics.
- GIS applications in urban planning.
- GIS applications in Physical Geography.

Research Supervision

- Graduation project for Bachelor of Geography & GIS, “**Modeling Coastal Flood Scenarios from Tajoura to Tripoli, Using GIS**”. Faculty of Arts and Languages, University of Tripoli, (2020).
- Graduation project for Bachelor of Geography & GIS, “**Using Remote Sensing Technology to Detect Some Mineral ores in Wadi Al Shati**”. Faculty of Arts and Languages, University of Tripoli, (2019).
- Graduation project for Bachelor of Geography & GIS, “**Solar Radiation in the Municipality of Souq Al-gumma Using GIS**”. Faculty of Arts and Languages, University of Tripoli, (2019).
- Graduation project for Bachelor of Geography & GIS, “**Study of the NDVI Index for the Municipality of Tajoura Using GIS During the Period (2010-2016)**”. Faculty of Arts and Languages, University of Tripoli, (2019).
- Graduation project for Bachelor of Geography & GIS, “**Spatial Distribution of Some Chemical Properties of Groundwater Using GIS**”. Faculty of Arts and Languages, University of Tripoli, (2018).
- Graduation project for Bachelor of Geography & GIS, “**In-Depth Study of the NDVI and Visual Calibration of Landsat 5 TM Based on RS and GIS Equations**”. Faculty of Arts and Languages, University of Tripoli, (2018).
- Graduation project for Bachelor of Geography & GIS, “**Extract Drainage Network and Build a GeoDatabase for Wadi Gan Basin Using Arc Hydro**”. Faculty of Arts and Languages, University of Tripoli, (2018).
- Graduation project for Bachelor of Civil Engineering, Environmental and Water, “**Sensitivity Groundwater for Pollution in the Coastal Area from Khomes to Zliten Using DRASTIC Method and GIS**”. Faculty of Engineering, Al-Marqab University, (2017).

Publications

1. Mubaraka S. Alghariani, Nezha Mejjad, Ehab M. Sagar, Heba Bedair. **“Monitoring Coastal Chlorophyll-a Concentration in North Africa Using Remote Sensing and Machine Learning”**. Chapter manuscript in The Edited Book- Aquatic Ecosystem Monitoring- traditional to Advanced Technology. *Taylor & Francis*. (2024) [DOI: 10.1201/9781003354000-14](https://doi.org/10.1201/9781003354000-14).
2. Mubarak S. Alghariani, Heba Bedair, Ayad M. Fadhil Al-Quraishi. **“Google Earth Engine to Detect Climate Change Impact on the Vegetation Cover Changes in NW Libya”**. Chapter manuscript in The Handbook of Environmental Chemistry, Climate Change and Environmental Degradation in the MENA Region. *Springer Nature* (2024). https://doi.org/10.1007/698_2024_1103.
3. Heba Bedair, Quadri Agbolade Anibaba, Soumya Ghosh, Hadeer Abdulrahman Rady, Esraa Omar, Michael Remon, Alaa Emara & Mubaraka S. Alghariani. **“Funding African-led climate initiatives”**. *Nature Climate Change*. (2023). <https://doi.org/10.1038/s41558-023-01670-z>.
4. Heba Bedair, Mubaraka S. Alghariani, and et al. **“Global Warming Status in the African Continent: Sources, Challenges, Policies, and Future Direction”**. *Int J Environ Res, Springer Nature* 17, 45 (2023). <https://doi.org/10.1007/s41742-023-00534-w>.
5. Mubaraka S. Alghariani. **“Use of Remote Sensing to Detect Mineral Deposits and Gold Trails in Jabal Arkano in Southeastern Libya”**, *the International Conference on Geospatial Technologies- GEOTech4*, Tripoli, Libya. (2021).
6. Mubarka S. Alghariani. **“Rainfall-Runoff Estimation and Comparative Analysis Using SCS method based on GIS”**. The 13th Gulf Water Conference. *Kuwait Institute for Scientific Research*, Kuwait. (12 – 14 March 2019). <https://doi.org/10.5004/dwt.2020.25511>.
7. Mubaraka S. Alghariani, **“Reducing Evaporation Losses from the Wadi Kaam Dam Lake by Artificial Groundwater Recharge”**, the Third Arab Water Conference, *Ministry of Water and Electricity*, Kuwait. (2-3 May 2018).

8. Mubaraka S. Alghariani, Saad Ahmed Al-Ghariani, Salem Masoud Al-Hawari, **“Spatial Distribution of Nitrate Concentration in Wells Field of (Al-Hasawna - Al-Jafara) System”**, *First National Conference on Marine and Groundwater Pollution*, Radisson Blu Hotel, Tripoli, Libya. (2018).
9. Mubaraka S. Alghariani, **“Spatial Evolution of the Degree of Sensitivity of Groundwater Pollution Using Geographic Information Systems”**, *Fourth Geographical Conference on Spatial Technologies*, Department of Chemistry, University of Tripoli, Libya. (1-3 April 2018).
10. Mubaraka S. Alghariani, **“Water Resources Management and Water Safety Strategies in the Arab Region”**, *First International Water Conference*, Corinthia Hotel, Tripoli, Libya. (24-26 April 2018).
11. Mubaraka S. Alghariani, **“Detection of Changes in the Land Cover of Urban Areas Using Remote Sensing and Geographic Information Systems Techniques”**, *International Geospatial Technology Conference- GEOTech3*, Tripoli, Libya. (2017).
12. Magda Bashir Al-Beshti, Mubarka S. Alghariani, **“Comparison of Traditional Methods and Information Systems to Determine the Morphometric Characteristics of Wadi Al-Majinin Basin”**. *Al Mokhtar Journal of Science*. 31(1): pp 212-198. 2016 University of Omar Al -Mukhtar, Al- Bayda Libya. (2016).
13. Mubarka S. Alghariani, **“Use geospatial techniques and the NDVI index to study vegetation cover change in Kaam Area”**, *International Geospatial Conference, GEOTec 2*, Tripoli, Libya. (2016).
14. Mubarka S. Alghariani, **“Geographic Information System (GIS) Technology to Estimate Runoff Expected from Wadi Ka'am Watershed Using the American Soil Conservation (SCS-CN) Method”**. *International Geotechnical Conference, GEOTech1*, Tripoli, Libya. (2015).

Training Courses

- Online Regional training on **“Rainwater Harvesting”** as part of the **FAO** Regional Office's Water Scarcity Initiative and with funding from the SIDA-funded regional project, co-organized by FAO's newly established inter-

Regional Technical Platform on Water Scarcity (iRTP-WS), in collaboration with ICARDA and ICID, along with other development partners and specialized institutions (31 May - Dec 2022).

- Training course on **“Multi-Hazard Vulnerability and Risk Assessment Using Remote Sensing and GIS”** (MHVRA) - Tunis, Tunisia, organized by **ISNET/ CNCT/ ICESCO** (7 - 11 Nov 2022).
- Online short course on **“Climate Change and Water”** supported by the Australian Government through the Australian Water Partnership and delivered by **Griffith University** (Oct–Dec 2022).
- Online training course on **“Assessing the Impacts of Climate Change on Groundwater”** Economic and Social Commission for Western Asia (**ESCWA**) United Nations - and the Arab Network for Integrated Water Resources Management (2 - 11 Nov 2021).
- Online regional training course on **“Groundwater Recharge and Artificial Charging in the Arab Region”** Regional Center for Training and Water Studies, Egyptian Ministry of Water Resources and Irrigation - Sponsored by **UNESCO** Cairo Office (19 - 28 Oct 2021).
- Provided a training course in **“GIS”** for the benefit of the Policy Support Office of the Presidential Council of the Government of National Unity, in cooperation with Al-Yaqin International Company for Training and Qualification (10 – 23 Aug 2021).
- Regional online training course on **“Water and Climate Change”** **UNESCO** Regional Office for Science in the Arab States, (15 - 24 Mar 2021).
- Online training course on **“Groundwater Management from the Perspective of Integrated Water Resources Management”** presented by (**ESCWA**) and the Arab Network for Integrated Water Resources Management (2Nov - 7Dec, 2020).
- Training course on **“The Impact of Climate Change on Water Resources in the Arab Region”** Kuwait Institute for Scientific Research - Kuwait (12-14 Mar 2019).

- Training course on “**Strategic Planning, Effective Communication Skills and Human Relations**” mini-project to prepare leaders - UNDP funded by the European Union - Alwadan Hotel - Tripoli - Libya (20-21 Jan2020).

Conferences and Workshops

- The Third Kuwaiti-Arab Youth Forum “**Role of Youth in Sustainable Development and Water Sustainability**”, Kuwait Planning Institute, Kuwait (28 Feb 2 Mar 2023).
- International Forum on Earth Observation and GIS Technology: **Application to Natural Disaster Management and Prevention** - Center for Remote Sensing and GIS at Sultan Qaboos University, Islamic World Educational, Scientific and Cultural Organization, Naif Arab University for Security Sciences (6May 2021).
- The Fourth International Conference on “**Geospatial Technologies**” - Corinthia Hotel - Libya (3 - 5 Mar 2020).
- Remote Sensing Workshop for “**Land Degradation Analysis and Sustainable Management of Agroforestry Systems and Water Resources**”. Department of Earth, Environment, Faculty of Agriculture and Forestry, University of Padua, Italy, in collaboration with the Italian Society of Agronomical Engineering (27Nov, 2020).
- The 13th Gulf Water Conference - Kuwait Institute for Scientific Research - Kuwait (12 - 14 Mar 2019).
- The First National Conference on Marine and Groundwater Pollution - Radisson Blu, Libya (26 Feb 2018).
- The Fourth Geographical Conference on Spatial Technologies - Chemistry Auditorium - University of Tripoli (1 - 3 April 2018).
- The First International Water Conference, Corinthia Hotel, Tripoli, Libya (24 - 26 April 2018).
- 3rd Arab Water Conference - Sheraton Hotel - Kuwait (2 - 3 May 2018).
- The Third International Conference on Geospatial Technologies - Dhat Al-Emad, Libya (19 - 21 Dec2017).

- The Second International Conference on Geospatial Technologies - Corinthia Hotel - Libya (7-9 Dec2016).
- The First International Conference on Geospatial Technologies - Dhat Al Emad - Libya (6 - 9 Dec 2015).

Membership and Committee Participation

- National Expert for Developing the **National Water Security Strategy (NWSS) for Libya**, Hydro conseil and UNDP (current).
- Expert Member of the **Arab Water Experts (AWC)**.
- Expert Member of the (**SESRIC**).
- Member of the Highest Committee for the Development of Scientific Research Project Proposals at the **Libyan Authority for Scientific Research** (current).
- Member of the National Team and the Steering Committee of the FAO project “**Monitoring, Evaluation, and Rationalization of Water Use in the Agricultural Sector in Libya Using Remote Sensing**” (2022- 2023).
- Member of the Scientific Committee of the (**GWYN**) UNESCO.
- Member of the **Scientific Committee**, The First International Maghreb Conference on Developments in Sustainable Development, (2021).
- Member of the **African Women in GIS (AWIGIS)**.

