

Curriculum Vitae



Personal Data

Name: Mubarak Saad Alghariani

Date and place of birth: 1985 Tripoli, Libya

Nationality: Libyan

Email: sa.alghariani@gmail.com

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 Management - Climate Data Analysis.

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, Faculty of Agriculture, University of Tripoli, 2015 (**First ranking**).
- **Bachelor of Science** in Water Science, Faculty of Agriculture, University of Tripoli, 2009.

Honors and Awards

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

Employment History

- Contact Point: State of Libya, Arab Research & Innovation Co-Funded Alliances, Federation of Arab Scientific Research Councils (present).
- 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 (present).
- Faculty member and Academic Researcher at the Libyan Authority for Scientific Research, Ministry of Higher Education and Scientific Research (2021 - present).
- 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).
- Associate Lecturer Assistant - Geography Department (Geographical Information Systems Division) - Faculty of Arts - University of Tripoli (2017-2020).
- Associate 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**.
- Intermediate experience in **Climate Engine Applications**.
- Intermediate experience with **R-programming language**.
- Extensive experience with **Microsoft Office**.

Experience in Geographic Information Systems

- Morphometric and morphological analysis of watersheds.
- 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.
- GIS applications in the environment and disasters.
- Geographic information systems.
- Map projections.
- Geographical databases.
- Design and production of maps.
- GIS applications in morphometrics.

Research supervision

- Graduation project for the degree of Bachelor of Geography & GIS, **“Modeling Coastal Flood Scenarios from Tajoura to Central Tripoli, using GIS”**. Faculty of Arts, University of Tripoli, 2020.
- Graduation project for the degree of Bachelor of Geography / GIS, **“Using remote sensing technology to detect some mineral ores in Wadi Al Shati”**. Faculty of Arts, University of Tripoli, 2019.

- Graduation project for the degree of Bachelor of Geography & GIS, **“Solar Radiation in the Municipality of Souq Al-gumma Using GIS”**. Faculty of Arts, University of Tripoli, 2019.
- Graduation project for the degree of Bachelor of Geography & GIS, **“Study of the NDVI Index for the Municipality of Tajoura Using Geographic Information Systems During the Period (2010-2016)”**. Faculty of Arts, University of Tripoli, 2019.
- Graduation project for the degree of Bachelor of Geography & GIS, **“Spatial Distribution of Some Chemical Properties of Groundwater Using GIS”**. Faculty of Arts, University of Tripoli, 2018.
- Graduation project for the degree of Bachelor of Geography & GIS, **“In-Depth Study of the NDVI Index and Visual Calibration of Landsat 5 TM Based on RS and GIS Equations”**. Faculty of Arts, University of Tripoli, 2018.
- Graduation project for the degree of Bachelor of Geography & GIS, **“Extract Drainage Network and Build a Geographic Database for Wadi Gan Basin Using Arc Hydro”**. Faculty of Arts, University of Tripoli, 2018.
- Graduation project to obtain a bachelor's degree in Civil Engineering, Environmental Water Division, **and Sensitivity Groundwater is Exposed to Pollution Within the Coastal Strip Extending from the Khomes to Zliten using (DRASTIC Method in GIS Environment)**. Faculty of Engineering, Al-Marqab University, 2017.

Publications

1. **Mubaraka S.Alghariani**, Nezha Mejjad , 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* (In press).

2. **Mubarak S. Alghariani**, Younes Daw Ezlit, Heba Bedair. 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* (In press).
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 Saad Alghariani**, use of remote sensing to detect mineral deposits and gold trails in Jabal Arkano in southeastern Libya, the International Conference on Geospatial Technologies - GEOTech 4, 2021, Tripoli - Libya.
6. **Mubaraka Saad Alghariani**. Rainfall-Runoff Estimation and Comparative Analysis Using SCS method based on GIS. The 13th Gulf Water Conference. 12 – 14 March 2019, Kuwait Institute for Scientific Research, State of Kuwait. <https://doi.org/10.5004/dwt.2020.25511>.
7. **Mubaraka Saad Alghariani**, Reducing evaporation losses from the Wadi Kaam Dam Lake by artificial groundwater recharge, the Third Arab Water Conference, 2-3 May 2018, Ministry of Water and Electricity, Sheraton Hotel, Kuwait.

8. **Mubaraka Saad 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, February 26, 2018, Al Mahary Hotel (Radisson Blu), Tripoli – Libya.
9. **Mubaraka Saad Alghariani**, Spatial Evolution of the Degree of Sensitivity of Groundwater Pollution Using Geographic Information Systems, Fourth Geographical Conference on Spatial Technologies, April 1-3, 2018, Department of Chemistry, University of Tripoli - Libya.
10. **Mubaraka Saad Alghariani**, Water Resources Management and Water Safety Strategies in the Arab Region, First International Water Conference 2018, 24-26 April 2018, Corinthia Hotel, Tripoli - Libya.
11. **Mubaraka Saad Alghariani**, Detection of changes in the land cover of urban areas using remote sensing and geographic information systems techniques, International Geospatial Technology Conference - GEOTech 3, 2017, Tripoli – Libya.
12. Magda Bashir Al-Beshti, **Mubarka Saad 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.
13. **Mubarka Saad Alghariani**, the use of Geographic Information System (GIS) technology to estimate runoff Expected from the collection pond at Wadi Ka'am using the American Soil Conservation (SCS-CN) method. International Geotechnical Conference, GeoTec1, 6-9/12/2015, Tripoli, Libya.
14. **Mubarka Saad Alghariani**, Use geospatial techniques and the NDVI index to study vegetation cover change in Kaam Area, International Geospatial Conference, GeoTec 2 ,6-9/12/ 2016, Tripoli, Libya.

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 the Economic and Social Commission for Western Asia (ESCWA) and the Arab Network for Integrated Water Resources Management (2 Nov - 7 Dec, 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 (26 May 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, Agriculture and Forestry - University of Padua, Italy, in collaboration with the Italian Society of Agronomical Engineering (27 Nov, 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 - Al Mahary Hotel (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 2018 - Corinthia Hotel - 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 Dec 2017).
- The Second International Conference on Geospatial Technologies - Corinthia Hotel - Libya (7-9 Dec 2016).
- The First International Conference on Geospatial Technologies - Dhat Al Emad - Libya (6 - 9 Dec 2015).

Membership and Committee Participation

- 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** - The First International Maghreb Conference on Developments in Sustainable Development, (Mar 2021).
- Member of the Scientific Committee of the **Groundwater Youth Network of UNESCO (GWYN)**.
- Expert Member of the **Arab Water Experts Platform (AWC)**.
- Member of the **AWIGIS African Women in GIS**.
- Expert Member of the **Organization of Islamic Cooperation for the Environment (SESRIC)**.