

# Curriculum Vitae



## Personal Data

**Name:** Mubarak Saad Alghariani

**Date and Place of Birth:** 1985 Tripoli, Libya

**Nationality:** Libyan

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**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 (2017-2021).
- 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



## 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 7th Middle East and Africa Regional IAU Meeting (MEARIM7) “Advancing Space and Astronomy Sciences for a Sustainable Future”**, University of Jordan, Amman – JORDAN (11-13 November 2025).
- **Keynote speaker** at workshop :**Navigating the Water-Energy-Food-Ecosystems Nexus Motivations, Challenges and Opportunities in Libya**. Organized by Ministry of Planning and United Nations Development Programme (UNDP) and Food and Agriculture Organization of the United Nations (FAO), and the African Development Bank (AfDB) Tripoli, (17th September 2025)
- 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**

- Water Resources Management, and GIS Expert for Developing **National Water Security Strategy (NWSS) for Libya**, Hydroconseil and UNDP (2023-2026).
- Water, Soil, and GIS Expert and ELARD’s Local Focal Point for Developing **National Strategy for Drought Management and Mitigation Actions in Libya**, ELARD and UNDP (2025).

- GeoAI and GIS Expert for conducting study on **Gaps in Early Warning System in Libya and Developing Guide for Climate Disaster Risk Prevention**, National Initiative Company for Engineering Consultancy (NIC) and **GIZ** (2025- 2026).
- Expert Member for Developing **National Strategy for Risk and Disaster Management in Libya**, NESDB – National Economic & Social Development Board (2025- 2026).
- Member of **Technical Committee** for Preparation **National Guide on Sea Level Rise Risks** in Libya, Ministry of Planning) 2026).
- Member of **Scientific Committee**, Soil & Water Resources Management for Combating Desertification in Drylands under Climate Change Conference (SWDCC 2026).
- Member of Judging **Committee** for Youth Initiatives at **Fourth Arab-Kuwaiti Youth Forum**, organized by the **Kuwait Water Association** and **National Planning Institute** (2025).
- Expert Member of the **Arab Water Experts** (AWC).
- Expert Member of the (**SESRIC**).
- Member of Scientific **Committee** (**GWYN**) UNESCO (2021 -2024).
- Member of **Scientific Committee**, The First International Maghreb Conference on Developments in Sustainable Development, (2021).
- Member of the **African Women in GIS** (2019-2023).
- Editorial Board Member, **Arab International Journal of Environmental Sciences** - (AIJES), General Assembly for Studies, Research and Technology in Cairo – Egypt (current).
- Editorial Board Member, **Climate Change and Disasters**, University Lahore, Lahore, Pakistan (current).

