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Nezar Atalla Hammouri

Professor of GIS and Remote Sensing

Education

- **Ph.D.** in Applied and Environmental Geology, University of Jordan. Thesis Title: " Remote Sensing and GIS-Assisted Modeling of Soil Induced Erosion Hazards: A Case Study in Amman – Zarqa Basin", 1997-2002.
- **Ms.C.** in Geology, Yarmouk University. Thesis Title: "The Application of Computer Expert Systems in the Analysis of Seismic Refraction Data" 1993-1996**.**
- **Bs.C.** in Earth and Environmental Science (major), Computer Sciences (minor), Yarmouk University, Jordan, 1989-1993**.**

Experiences

- Sep 2021 – now: **Faculty Member**, Faculty of Science, Department of Applied Physics and Astronomy (DAPA), **University of Sharjah**, Sharjah-UAE.
- Oct 2002 –Sep 2021: **Faculty Member**, Faulty of Natural Resources and Environment, Department of Earth and Environmental Sciences, The **Hashemite University**, Zarqa-Jordan.
- Sep 2010 –Sep 201: **Adjunct Professor,** Faculty of Engineering, Department of Bioresource Engineering, **McGill University**, Montreal-Canada.
- Aug 1997 –July 2002: **Programmer**, Computer Center, Jordan **University of Science and Technology,** Irbid-Jordan.
- Aug. 1996 – Aug 1997: **Research Associate**, Department of Earth & Environmental Science, **Yarmouk University**, Irbid-Jordan.

Positions

- Dec 2017 – Sep 2020: **Dean,** Prince El-Hassan Bin Tala Faculty for Arid Lands, The Hashemite University, Zarqa-Jordan.
- Sep 2009 – Sep 2016: **Vice-dean**, Faculty of Natural Resources and Environment, The Hashemite University, Zarqa-Jordan.
- Dec 2006 –Sep 2009: **Department Head,** Earth, and Environmental Sciences, The Hashemite University, Zarqa-Jordan.

Publications

- Biswajeet Pradhan , Rami Al-Ruzouq, Abdallah Shanableh, Ratiranjan Jena, Sunanda Mukherjee, Mohammad Ali Khalil, Mohammed Barakat A. Gibril, Nezar Atalla Hammouri, Shilpa Gite, Abdullah Alamri (2023), Artificial Groundwater Recharge Zonation Mapping Using Remote Sensing and Artificial Intelligence at Sharjah, UAE, Remote Sensing, In-press.
- Al-Hasani, I.; Al-Qinna, M.; Hammouri, N.A.(2023) Potential Impacts of Climate Change on Surface Water Resources in Arid Regions Using Downscaled Regional Circulation Model and Soil Water Assessment Tool, a Case Study of Amman-Zerqa Basin, Jordan. Climate 2023, 11, 51. https://doi.org/10.3390/cli11030051
- Hammouri, N.; Talafha, M.; Hamarneh, Q.; Annab, Z.; Al-Ruzouq, R.; Shanableh, A. (2022), Vulnerability Hotspots Mapping for Enhancing Sanitation Services Provision: A Case Study of Jordan. Water 2022, 14, 1689. https:// doi.org/10.3390/w14111689
- Hammouri, N. (2022). Drought Assessment Using GIS and Remote Sensing in Jordan. In: Al Saud, M.M. (eds) Applications of Space Techniques on the Natural Hazards in the MENA Region. Springer, Cham. https://doi.org/10.1007/978-3-030-88874-9_15
- Shanableh, A.; Al-Ruzouq, R.; Khalil, M.A.; Gibril, M.B.A.; Hamad, K.; Alhosani, M.; Stietiya, M.H.; Bardan, M.A.; Mansoori, S.A.; Hammouri, N.A. COVID-19 Lockdown and the Impact on Mobility, Air Quality, and Utility Consumption: A Case Study from Sharjah, United Arab Emirates. Sustainability 2022, 14, 1767. https://doi.org/10.3390/su14031767
- Al-Kofahi, S.D., Hammouri, N., Sawalhah, M.N. et al. (2018), Assessment of the urban sprawl on agriculture lands of two major municipalities in Jordan using supervised classification techniques Arab J Geosci 11: 45. https://doi.org/10.1007/s12517-018-3398-5
- Nezar Hammouri, Jan Adamowski, Muwaffaq Freiwan, Shiv Prasher (2016) Climate change impacts on surface water resources in arid and semi-arid regions: a case study in northern Jordan, Acta Geod Geophys DOI 10.1007/s40328-016-0163-7. Online first: 19 Feb 2016.
- Nezar Hammouri, Mohammad Al-Qinna, Mohammad Salahat, Jan Adamowski, Shiv O. Prasher (2015), Community Based Adaptation Options for Climate Change Impacts on Water Resources: The Case of Jordan, Journal of Water and Land Development, 2015, No. 26 (VII–IX): 3–17.
- Mahmoud Abu-Allaban, Ali El-Naqa, Mohammed Jaber, Nezar Hammouri (2015). Water scarcity impact of climate change in semi-arid regions: A case study in Mujib basin, Jordan. Arabian Journal of Geosciences. 2015(8). DOI 10.1007/s12517-014-1266-5

Publications

- Abdullah Diabat, Fayez Ahmad, Nizar Hammouri, Mutewekil Obeidat (2015), Karst development related to extensional fracture network at Bany-Kanana area Northern Jordan, Arabian Journal of Geosciences, Vol (8), No. (7).
- M. Salahat , M. Al-Qinna , K. Mashal , N. Hammouri (2014), Identifying Major Factors Controlling Groundwater Quality in Semiarid Area Using Advanced Statistical Techniques, Water Resources Management Journal, 2014 (8).
- Hani Al Amoush, Nezar Hammouri, Mohammed Al Farajat, Elias Salameh, Abdullah Diabat, Mohammed Hassoneh, Rida Al-Adamat (2013). Integration of Aeromagnetic Data and Landsat Imagery for Structural Analysis Purposes: A Case Study in the Southern Part of Jordan. Journal of Geographic Information System, 2013, 5, 198-207. doi:10.4236/jgis.2013.53019
- Nezar Hammouri, Hani Al-Amoush, Marwan Al-Raggad and Sura Harahsheh (2013). Groundwater recharge zones mapping using GIS: a case study in Southern part of Jordan Valley, Jordan. Arabian Journal of Geosciences. June 2013. DOI10.1007/s12517-013-0995-1
- Nezar Hammouri, Ali El-Naqa, Mohammed Barakat (2012). An Integrated Approach to Groundwater Exploration Using Remote Sensing and Geographic Information System. Journal of Water Resource and Protection, 2012, 4, 717-724, doi:10.4236/jwarp.2012.49081
- Mohammed Al-Qinna, Nezar Hammouri, Mutewekil Obeidat, Fayez Ahmad (2011). Drought analysis in Jordan under current and future climates, Climatic Change, Volume 106, Number 3, June 2011 , pp. 421-440(20).
- Hani Al-Amoush, Nezar Hammouri, Franz Zunic and Elias Salameh (2010). Intrinsic Vulnerability Assessment for the Alluvial Aquifer in the Northern Part of Jordan Valley. Water Resources Management (2010) 24:3461–3485 DOI 10.1007/s11269-010-9615-y
- Ali El-Naqa , Nezar Hammouri, Khalil Ibrahim and Masdouq El-Taj (2009). Integrated Approach for Groundwater Exploration in Wadi Araba Using Remote Sensing and GIS. Jordan Journal of Civil Engineering, Vol 3, No. 3.
- Mutewekil M. Obeidat, Fayez Y. Ahmad, Nezar Hammouri, Adnan M. Massadeh, and Faisal S. Athamneh (2008), Assessment of nitrate contamination of karst springs, Bani Kanana, northern Jordan, Revista Mexicana de Ciencias Geológicas, Vol. 25 No.3.
- Nezar Hammouri, Abdulla Malkwai and Mohammad Yamin (2008), Stability Analysis of Slopes Using Finite Element Method and Limiting Equilibrium Approach, Bulletin of Engineering Geology and Environment, Volume 67, Number 4 p471-478.
- Nezar Hammouri and Ali El-Naqa (2007), Hydrological Drought Assessment Using GIS and Remote Sensing for Amman-Zarqa Basin, Jordan. Jordan Journal of Civil Engineering, Jordan University of Science and Technology, Vol. 1 No. 2, Dec. 2007.
- Nezar Hammouri, and Ali El-Naqa (2007) Hydrological modeling of ungauged wadis in arid environments using GIS: a case study of Wadi Madoneh in Jordan, REVISTA MEXICANA DE CIENCIAS GEOLÓGICAS, v. 24, núm. 2, 2007, p. 185-196

Publications

- Ali El-Naqa, Mohammad Al-Momani, Suzan Kilani, Nezar Hammouri (2007): Groundwater Deterioration of Shallow Groundwater Aquifers Due to Overexploitation in northeast Jordan, Clean Air, Soil, Water, Volume 35, Issue 2, Date: April 2007, Pages: 156-166.
- Nezar Hammouri and Ali El-Naqa (2007). Drought Assessment Using GIS and Remote Sensing in Amman-Zarqa Basin, Jordan. Jordan Journal of Civil Engineering, Volume 1, No. 2.
- Mustafa Al Kuisi, Nezar Hammouri and Ali El-Naqa (2006): Vulnerability mapping of shallow groundwater aquifer using SINTACS model in the Jordan Valley area, Jordan, Environmental Geology, Volume 50, Number 5, July 2006 , pp. 651-667(17)
- Ali El-Naqa and Nezar Hammouri (2006): GIS-based evaluation of groundwater vulnerability in Russeifa Area, Jordan, REVISTA MEXICANA DE CIENCIAS GEOLÓGICAS, Vol. 23, No. 3, p. 277-287.
- Nezar Hammouri and Ali El-Naqa (2006): GIS based Hydrogeological Vulnerability Mapping of Groundwater Resources in Jerash Area, Geofisica Internacional, Vol. 46. No. 1, January, 2008.

Conferences

- H. Al-kindi, R. Al-Ruzouq, N. Hammouri and A. Shanableh, "Monitoring Drought with Various Indices in Northern Part of UAE Using Different Satellite Image," IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium, Kuala Lumpur, Malaysia, 2022, pp. 2339-2342, doi: 10.1109/IGARSS46834.2022.9884113.
- Mariam Alraeesi, Rami Al-Ruzouq, Nezar Hammouri, University of Sharjah, United Arab Emirates; Fouad Lamghari, " MAPPING POSSIBLE GROUNDWATER ZONES BASED ON ANALYTICAL HIERARCHICAL PROCESS (AHP): FUJAIRAH EMIRATE, UAE.," IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium, Kuala Lumpur, Malaysia, 2022, https://2023.ieeeigarss.org/view_paper.php?PaperNum=3055#top.
- Nezar Hammouri, Suhail Sharadqah (2016), The Use of Artificial Neural Networks (ANN) in the Multispectral Classification of Landsat Images, International Conference on Innovation and Management, Kuala Lumpur, Malaysia, July 12-15, 2016.
- Nezar Hammouri, Fayez Abdulla, Hani Abu Qdais, Muwafaq Freiwan (2015), Assessing The Impacts of Climate Change on Water Resources of Jordan, World Water Congress XV, International Water Resources Association (IWRA), Edinburgh, Scotland , 25-29 May 2015.
- Nezar Hammouri (2007), Building Jordan's National Spatial Data Infrastructure (NSDI), Current situation and future planes. 11th International User Group Conference and Education Session, Kula Lumpur, March, 2007.
- Member of the organizing and scientific Committee for the "International Conference in Roller Compacted Concrete Dams Construction in Middle East", 7th – 10th April 2002, Jordan University of Science and Technology, Irbid Jordan.
- Workshop on "Education and Capacity Building in Space Technology for the Benefit of Developing Countries" with an emphasis on remote sensing, 25th – 27th September 2003, Bremen, Germany.

Conferences

- Coordinators Committee for “Advances in Geotechnical Engineering with Emphasis on Dams, Highway Materials, and Soil Improvement”, 12th – 15th July 2004, Organized by Jordan University of Science and Technology, Louisiana State University and University of Akron. Irbid Jordan.
- The 8th International Conference of Jordanian Geologists Association April 6-7, 2004, Amman, Jordan.
- First Environmental Week,3rd-6th May 2004, organized by Faculty of Natural Resources and Environment, Hashemite University, Zerqa-Jordan.
- Land Development and Drought Management Workshop, 18th to 22nd of July, 2004. Organized by Center of Water Researches, University of Jordan,
- Groundwater conservation in Jordan Workshop, 11th of May 2004, Organized by Faculty of Natural Resources and Environment, Hashemite University, Zerqa-Jordan, Ministry of Water and Irregation, Amman-Jordan, and UESCO Wadies Hydrology Chair, University of Jordan, Amman-Jordan.
- Water Allocation and Reservoir Management Workshop, 2nd-6th of January, 2005, organized by Center of Water Researches, University of Jordan, Amman-Jordan and Ministry of Water.
- Integrated Water Resources Management Workshop, 20th-25th of Jun, 2005, Organized by Al-Balqa` Applied University, Salt, Jordan and UESCO Wadies Hydrology Chair, University of Jordan, Amman-Jordan
- 8th ESRI Middle East and Africa Users Conference, 6 to 8 December, 2005 Sharm-el-Sheikh, Egypt.
- 9th ESRI Middle East and Africa Users Conference, 31 October to 2 November 2006, Amman-Jordan.
- International Workshop "Drought or Flood in the Middle East", 26-28 November, 2006, Jordan University of Science and Technology, Irbid, Jordan.
- Training Workshop on Education for sustainability, 21-24th January, 2007, Organized By ASEZA and PERSGA, Aqaba-Jordan.
- 11th International User Group Conference and Education Session, 5-9th March, 2007, Organized by CARIS international, Kuala Lumpur, Malaysia.
- International Conference on Environment, Organized by School of Chemical Engineering, University Sains Malaysia, 15-17 December 2008, Penang- Malaysia.

Projects

- October 2018 – October 2020, Geodesy for Sustainable Development of Jordan"-"Geoinformatics for Natural Resources Management, European Commission project through Erasmus + Program. The project includes 3 European partners (Sweden, Italy, and Spain), and three Jordanian Partners, (The Hashemite University, Yarmouk University, and Balqa Applied University), Total fund granted 800,000 Euros.
- April 2014-April 2016: Selecting new sites in Jordan for hazardous waste dumping sites using Remote Sensing and GIS. A project funded by the Deanship of Research at Hashemite University. Total Fund US$100,000
- Nov 2010 – Nov 2011, Development of Policy Options for Adaption to Climate Change and Integrated Water Resources Management. The project represents one component out of four with together form the UNCT joint program titled "Adaptation to Climate Change to Sustain Jordan's MDG Achievements" implemented by the MWI, MoEnv, MOA, MOH, and MOPIC, in cooperation with UNDP, WHO-CEHA, UNESCO, and FAO.
- July 2010 – July 2011, Assessment of Direct and Indirect Impacts of Climate Change Scenarios. This project is one component out of four together form the UNCT Joint Programme titled "Adaptation to Climate Change to Sustain Jordan's MDG Achievements" implemented by the MWI, MoEnv, MOA, MOH, and MOPIC, in cooperation with UNDP, WHO-CEHA, UNESCO, and FAO.
- Jul 2008 – Sep 2008: Jordan Valley Authority. Member of the Jordanian Syrian Technical Committee that aims at writing a TOR for international tender to identify the major problems associated with the water resources of Al-Wehda Dam, North Jordan.
- Aug 2003 – Aug 2004, USAID, University of Jordan and The Hashemite University: Water Allocation project for the newly constructed dams in south Jordan (Walla, Tannour and Mujib dams). Main Duties: Building GIS-based project Database, Hydrological simulation using River Tools and Watershed Modeling System (WMS).
- Sept. 2002 – Sept. 2003, Ministry of Agriculture, Site selection of earth fill dams for water harvesting projects in Yarmouk Basin – Jordan: Main Duties: Hydrological Modeling of Yarmouk Basin, Watershed and sub-catchment delineation using GIS, building GIS database of the project, Build a site selection model using GIS.

Consultations

- 1-Jun-2020 – 1-Dec-2020: GIS and Remote Sensing Expert, Integrated Context Analysis for Food Insecurity Analysis in Jordan, FAO, Amman-Jordan.
- 1-Feb-2021 – 1-Jul-2021: GIS and Remote Sensing Consultant, Sanitation Hotspot Mapping in Jordan using GIS and Remote Sensing, BORDA Amman Office.
- 1-Mar-2017 – 1-Jun-2017: National Consultant, GIZ Project entitled "Initiating the national adaptation plan (NAP) process in Jordan to support the implementation of the Paris Agreement and Jordan's Nationally Determined Contribution (NDC)"
- 1-July, 2002 – 1-July, 2003: GIS, Remote Sensing, and IT Consultant, Greater Irbid Municipally, Jordan.

Fellowships

- June-Aug 2009, Deutsche Forschungsgemeinschaft (DFG) mobility grant to conduct a research project at Techincal University of Munich (TUM), Germany.
- Sep 2010-Sep 2011, Arab Disguised Scholar, Arab Fund for Economic & Social Development, grant to fund a research project at McGill University – Canada. Project title “Assessing the impacts of climate change on water resources of North Jordan.”

Memberships

- American Water Works Association (AWWA).
- American Associations of Geographers (AAG).
- Emirati Society of GIS and Remote Sensing (MBRSC).
- International Society for Photogrammetry and Remote Sensing (ISPRS).

Skills

Desktop Applications	●●●●●●●●●
Website Designing	●●●●●●●●○
Programming	●●●●●●●○○
Graphic Design	●●●●●●●○○
E-Course Creation	●●●●●●●●○
English	●●●●●●●●○
Arabic	●●●●●●●●●