



Dr Murat Başeğmez

Geomatics Engineer | GIS Specialist | Researcher

murat.basegmez@gmail.com | muratbasegmez.com

[LinkedIn](#) | [Google Scholar](#) | [DergiPark](#)

Geomatics engineer and researcher specialising in geographic information systems, spatial decision support, machine learning and multi-criteria decision analysis. His academic and institutional work focuses on public real estate, educational investment, sustainable cities, energy planning and disaster-risk reduction.

CURRENT APPOINTMENTS

2026 - Present Branch Manager

Ministry of National Education, Türkiye - Department of Real Estate and Revenue

Leads real-estate management, investment analysis, revenue generation and GIS-based decision-support activities.

2025 - Present Lecturer

Ankara Science University - Department of Management Information Systems

Teaches undergraduate and graduate courses in Geographic Information Systems and Information Systems Analysis and Design.

EDUCATION

2024 PhD - Geomatics Engineering

Hacettepe University

Tez: *A sustainable municipal GIS study with urban design criteria and policy*

2019 MSc - Surveying Engineering / Geographic Information Systems

Karadeniz Technical University

Tez: *Determining optimal school locations using multi-criteria decision-making and geographic information systems: the case of central Uşak*

2011 BSc - Geodesy and Photogrammetry Engineering

Ondokuz Mayıs University

PROFESSIONAL EXPERIENCE

2015 - 2026 Geomatics Engineer / Control Engineer

Ministry of National Education, Türkiye

Worked on expropriation, zoning, real-estate law and institutional GIS projects, including spatial data infrastructure activities for MEBCBS.

2013 - 2015 Geomatics Engineer

Trabzon Provincial Directorate of National Education

Worked on expropriation, allocation, easement rights, zoning implementation and development plans.

2011 - 2013 Geomatics Engineer

Private sector - Infrastructure and road projects

Contributed to the planning and implementation of infrastructure and road projects.

RESEARCH INTERESTS AND EXPERTISE

Research: Geographic information systems; spatial decision support; machine learning; multi-criteria decision analysis; game theory; land-suitability analysis; urban planning; climate change; energy; disaster and earthquake risk; educational investment.

Technical: ArcGIS Desktop/Pro; QGIS; NETCAD; Python; remote sensing; spatial modelling; land and real-estate management.

SELECTED PROJECTS

2016 - 2019 MEBCBS

Geographic Information System Project of the Ministry of National Education

Control engineer and acceptance-board member for collecting spatial data from educational institutions and developing the institutional database.

In implementation Risk Reduction in Educational Buildings

Disaster information system

A GIS module assessing school sites and buildings against fire, flood, landslide and other hazards.

2025 - Present TAGEYS

Real-estate and investment decision-support system

A GIS-based system integrating real-estate inventory, investment planning, school site selection, zoning, expropriation and resource development.

COURSES TAUGHT

- MIS 459 - Geographic Information Systems
- MIS 312 - Information System Analysis and Design
- YBS 312 - Information Systems Analysis and Design

PEER-REVIEW SERVICE

Engineering Geology; Scientific Reports; Applied Geomatics; Arabian Journal of Geosciences; Forum Geografi; Humanities and Social Sciences Communications; Environment, Development and Sustainability; Sustainable Cities and Society: Advances; Geomatik; Turkish Journal of Remote Sensing and GIS.

INTERNATIONAL PEER-REVIEWED ARTICLES

1. Başığmez, M. (2026). Onshore energy storage for offshore wind in seismically sensitive coastal areas using geographic information systems and machine learning. *Journal of Energy Storage*. DOI
2. Başığmez, M. (2026). Machine learning-integrated spatial decision framework for sustainable offshore wind and marine spatial planning: A Black Sea case study. *Engineering Applications of Artificial Intelligence*. DOI
3. Doğan, A., Başığmez, M., & Aydın, C. C. (2026). Integrating machine learning algorithms and game theory for optimized shipyard site selection in Istanbul. *Ocean Engineering*, 354, 124916. DOI
4. Başığmez, M. (2026). A hybrid GIS-fuzzy MCDM and game-theoretic framework for strategic offshore wind farm siting: Evidence from the İzmir continental shelf. *Expert Systems with Applications*. DOI
5. Başığmez, M., Doğan, A., & Aydın, C. C. (2025). GIS and machine learning integration for optimized school site selection: A hybrid framework with TOPSIS and feature ranking. *Applied Spatial Analysis and Policy*, 18, 142. DOI
6. Başığmez, M. (2025). Evaluating shipyard site selection using a GIS-based hybrid multi-criteria approach for sustainable and strategic planning. *Operational Research*, 25, 111. DOI

7. Başığmez, M., Doğan, A., & Aydın, C. C. (2025). Management of sustainable urban green spaces through machine learning-supported MCDM and GIS integration. *Environmental Science and Pollution Research*, 32(18), 11466-11487. DOI
8. Başığmez, M., & Aydın, C. C. (2025). Climate change impact on green spaces planning in an urban area using a hybrid approach. *Environmental Science and Pollution Research*, 32(7), 4288-4312. DOI
9. Başığmez, M. (2025). Strategic multi-criteria framework for nuclear plant siting: Integrating AHP, EWM, and game theory with GIS. *Progress in Nuclear Energy*, 188, 105897. DOI
10. Doğan, A., Başığmez, M., & Aydın, C. C. (2025). Assessment of the seismic vulnerability in an urban area with the integration of machine learning methods and GIS. *Natural Hazards*. DOI
11. Başığmez, M. (2025). A comprehensive GIS-driven hybrid approach for safe and sustainable radioactive waste disposal facility planning. *Annals of Nuclear Energy*, 223, 111629. DOI
12. Başığmez, M., & Aydın, C. C. (2021). The Covid-19 pandemic teaching modalities in Turkey: An evaluation of school gardens and classes. *Health Policy and Technology*, 10(3), 100546. DOI

NATIONAL PEER-REVIEWED ARTICLES

1. Başığmez, M. (2026). İklimsel koşulların yürünebilirlik üzerindeki mekânsal etkilerinin çok kriterli karar verme yöntemleri ve oyun teorisi ile değerlendirilmesi: İzmir Konak ilçesi örneği. *Türk Uzaktan Algılama ve CBS Dergisi*, 7(1), 166-194. DOI
2. Başığmez, M. (2025). Açık deniz rüzgâr enerjisi için Rize kıta sahanlığında CBS destekli hibrit çok kriterli saha seçimi. *Türk Uzaktan Algılama ve CBS Dergisi*, 6(2), 315-342. DOI
3. Akbaba, M. Y., Atay, G., Başığmez, M., & Aydın, C. C. (2023). Bicycle and walking path site selection for a sustainable transportation system: A case study of Ege neighborhood in Mamak. *GEOMATİK*, 8(2). DOI
4. Topcu, G. Z., Bayır, K., Cavıldak, Z. E., Başığmez, M., & Aydın, C. C. (2023). Evaluation of green spaces suitability analysis with GIS-based AHP and TOPSIS methods. *GEOMATİK*, 8(3). DOI
5. Doğan, A., Başığmez, M., & Aydın, C. C. (2023). Determination of proxy properties using GIS analysis that can replace geophysical and geotechnical measurements. *GEOMATİK*, 8(3). DOI
6. Başığmez, M., & Aydın, C. C. (2022). Evaluation of school gardens and classes via GIS in the COVID-19 process in Turkey. *GEOMATİK*, 7(3). DOI

CONFERENCE PAPERS

1. Başığmez, M. (2025). Integrating Climate Change into Walkability Assessments: A Multicriteria Approach Using AHP and GIS. 1st BİLSEL International Sütçü İmam Scientific Research Congress, Kahramanmaraş. Oral presentation, abstract.
2. Başığmez, M. (2025). Integrating Climate Change into Walkability Assessments: A Multicriteria Approach Using AHP and GIS. 2nd BİLSEL International Safranbolu Scientific Research Congress, Karabük. Abstract.
3. Başığmez, M., Doğan, A., & Aydın, C. C. (2025). Assessing earthquake vulnerability in Eskişehir through multi-criteria decision analysis, game theory and GIS. TUFUAB XIII Technical Symposium, Zonguldak. Full paper.
4. Başığmez, M., & Aydın, C. C. (2023). Investigating the effects of climate change on walkability within sustainable transportation. TUFUAB XII Technical Symposium, Sivas. Abstract.
5. Başığmez, M., Yıldırım, V., & Bediroğlu, S. (2019). Optimal school site selection using GIS and AHP: Central Uşak case study. TMMOB 6th Geographic Information Systems Congress, Ankara. Full paper.
6. Başığmez, M., & Taşdemir, İ. (2019). Planning and managing school sites with MEBCBS: The Pendik district of Istanbul. TMMOB 6th Geographic Information Systems Congress, Ankara. Full paper.
7. Şahin, O., Coşkun, H. G., & Başığmez, M. (2019). Examining the Sarıyer case in planning educational resources with GIS. TMMOB 6th Geographic Information Systems Congress, Ankara. Full paper.
8. Başığmez, M., Taşdemir, İ., & Gül, Ç. (2017). Challenges and recommendations in defining site-selection criteria for educational facilities. 16th Turkish Mapping Scientific and Technical Assembly, Ankara. Poster.