

SELVİNAZ GÜLÇİN BOZKURT,

PhD

Associate Professor | Landscape Ecology · Remote Sensing · GIS

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RESEARCH PROFILE

Landscape ecologist and spatial researcher working at the intersection of landscape ecology, remote sensing, GIS, and urban environmental change. Research focuses on long-term land-use/land-cover (LULC) change, habitat fragmentation, urbanization impacts on natural and semi-natural ecosystems, biotope mapping, landscape metrics, and the use of deep-learning semantic segmentation for satellite-image analysis. Current research extends these approaches to the Istanbul–Kocaeli–Bursa metropolitan-industrial corridor using Landsat time series, GIS, deep learning, and ecological assessment tools.

RESEARCH INTERESTS

Landscape ecology and landscape change • Urbanization and habitat fragmentation • Remote sensing and GIS • LULC change detection • Biotope mapping and vegetation analysis • Landscape metrics and urban sprawl • Deep learning for semantic segmentation • Habitat quality and ecological assessment

EDUCATION

M.Sc., Geomatics Engineering – Remote Sensing & GIS | Yıldız Technical University | 2022–2025

Thesis: Impacts of Urbanization on Habitat Fragmentation in Istanbul Using Classical and Alternative Metrics.

Ph.D., Landscape Architecture | Istanbul University, Faculty of Forestry | 2011–2016

Dissertation: Characteristics and Mapping of Biotopes in Gürün (Sivas) District Center.

M.Sc., Interior Architecture and Environmental Design | Istanbul Kültür University | 2007–2009

B.Sc., Horticulture | Atatürk University, Faculty of Agriculture | 1991–1995

CURRENT RESEARCH APPOINTMENT

TÜBİTAK 2219 International Postdoctoral Research Fellow | Michigan State University | 2026–2027

Center for Global Change and Earth Observations; Host Supervisor: Prof. Jiquan Chen.

Project: “Assessment of the Impacts of Industrialization and Urbanization on Natural Areas Using GIS and Deep Learning: The Case of Istanbul, Kocaeli, and Bursa.”

ACADEMIC POSITIONS

- Associate Professor, Biruni University, Department of Interior Architecture and Environmental Design, 2024–present.
- Associate Professor, Istanbul Esenyurt University, Department of Interior Architecture and Environmental Design, 2023–2024.
- Assistant Professor / Faculty Member, Fenerbahçe University, Department of Interior Architecture and Environmental Design, 2018–2022.

TECHNICAL & METHODOLOGICAL EXPERTISE

ArcGIS Pro; Landsat and multi-temporal remote sensing; LULC classification and change detection; landscape and fragmentation metrics; Shannon entropy and urban-sprawl analysis; biotope mapping; DeepLabV3+ and U-Net semantic segmentation; Python/PyTorch workflows; InVEST Habitat Quality / Habitat Risk Assessment; PLS-SEM.

SELECTED PUBLICATIONS – LANDSCAPE ECOLOGY, GIS & REMOTE SENSING

- Bozkurt, S.G., & Başaraner, M. (2023).** Spatio-temporal analysis of the impact of urbanization on habitat fragmentation in Istanbul's natural ecosystems. *Environment, Development and Sustainability*. <https://doi.org/10.1007/s10668-023-04410-7>
- Bozkurt, S.G., Kuşak, L., & Akkemik, Ü. (2022).** Investigation of Land Cover (LC)/Land Use (LU) change affecting forest and seminatural ecosystems in Istanbul (Turkey) metropolitan area between 1990–2018. *Environmental Monitoring and Assessment*, 195, 196. <https://doi.org/10.1007/s10661-022-10785-3>
- Bozkurt, S.G., & Kuşak, L. (2024).** Detection of Population Density, LULC Variation and Cross-Regional Similarities Using K-Means Clustering Algorithm in Istanbul Example. *Journal of Architectural Sciences and Applications*, 9(1), 69–86. <https://doi.org/10.30785/mbud.1333925>
- Bozkurt, S.G., Akkemik, Ü., & Köse, N. (2020).** Determining the effect of urbanization on the vegetation of Gürün district (Sivas) based on biotope mapping and vegetation analysis. *Forestist*, 70(1), 8–18.
- Bozkurt, S.G. (2019).** Teorik ve uygulamalı peyzaj ekolojisi ve Türkiye'de peyzaj ekolojisi ile ilgili yapılan çalışmalara örnekler [Theoretical and applied landscape ecology and examples of landscape ecology studies in Türkiye]. *In Turkey Vision – A Multidisciplinary Study 2019*, Ekin Publishing.

SELECTED CONFERENCE CONTRIBUTIONS

- Bozkurt, S.G., & Başaraner, M.A. (2024). Analysis of landscape changes in Istanbul between 1990 and 2018 based on compactness metrics using GIS. 8th GIS Congress.
- Bozkurt, S.G., & Kuşak, L. (2021). Investigation of the impact of urbanization on Istanbul's natural areas between 1990 and 2018. CEDESU 2021 – 2nd International City and Ecology Congress.
- Bozkurt, S.G. (2019). Causes and consequences of land cover and land use change in Türkiye. 4th International Engineering, Architecture and Design Congress.

EDITORIAL & PEER-REVIEW SERVICE

Editorial Board: International Journal of Environmental Protection and Policy (2024–present); Turkish Journal of Geographic Information Systems (2025–present).

Selected peer-review service: Journal of Environmental Management, Ecological Informatics, Ecology and Evolution, Acta Geophysica, Aquatic Conservation: Marine and Freshwater Ecosystems, Scientific Reports, and related environmental and geospatial journals.

SELECTED TEACHING AREAS

Landscape Design and Planting; Sustainable (Ecological) Design; Human and Environment; Research Methods; Environmental and Spatial Awareness; Urban Landscape and Urban Furniture; Permaculture and Urban Agriculture.