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CASE STUDY

Urban Forest and Biological Pond Ecosystem Creation through the Yaşar Kemal Urban Forest Park (Turkey)



Project full title: Enhancing Technical and Vocational Skills for Implementing Nature-Based Solutions (NbS) to Combat Land Degradation

Project acronym: NbS4LD

Project number: 2025-1-TR01-KA220-VET-000357096

Project activity: WP2 Developing Educational Resources on NbS for Combating Land Degradation

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1. INTRODUCTION

This case study has been analysed by [Ankara Intercultural Research Association \(AKAD\)](#). The organisation was established on February 18, 2021, in Ankara to enhance and develop civil society activities and conduct research for intercultural interaction. It was founded by seven individuals, including architects, engineers, dietitians, academics. The association has a total of 16 members, including five board members and three audit board members.

.Yaşar Kemal Kent Ormanı is a 14.6-hectare urban Nature-based Solution located in Çamlıtepe Neighbourhood, central Batman, Türkiye. Serving six densely populated neighbourhoods, the project transformed degraded peri-urban land with compacted soils, sparse vegetation, and limited ecological value into a multifunctional green-blue ecosystem. The intervention was designed to address urban heat-island effects, biodiversity loss, soil degradation, limited green-space access, and increasing climate-change vulnerability in a semi-arid environment.

Implemented by Batman Municipality within the broader “Mavi Yeşil Batman” programme, the project forms part of a citywide green-space transformation that increased the number of parks from 91 to 230 and expanded green areas from 643,000 m² to 1.9 million m². Construction took place between late 2024 and July 2025.

The intervention combines urban afforestation, wetland creation, green mobility infrastructure, and public recreation facilities. Approximately 500 trees, more than 9,000 shrubs, and 12 hectares of landscaped green areas were established, alongside a 2,400 m² biological pond, cascading waterfall, bicycle paths, pedestrian routes, sports facilities, playgrounds, cafés, and themed gardens.

Environmental benefits include increased vegetation cover, improved soil conditions, enhanced biodiversity, urban cooling, better air quality, and the creation of a unique wetland habitat in a city without permanent surface water. The biological pond functions as an ecological core supporting wildlife while contributing to microclimate regulation. Socially, the park provides accessible recreational space for tens of thousands of residents, improving health, wellbeing, and social cohesion.

Institutionally, the project demonstrates Batman Municipality’s capacity to implement complex urban green-blue infrastructure and serves as a flagship example within the wider Mavi Yeşil Batman strategy. Long-term sustainability is supported through municipal ownership, dedicated maintenance programmes, integration into provincial planning, and revenue generated by on-site amenities. The project provides a replicable model for climate adaptation, ecological restoration, and sustainable urban development in semi-arid cities across Türkiye and the wider Mediterranean–Mesopotamian region.

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[Site before the intervention: bare peri-urban land in Çamlıtepe Neighbourhood with sparse, drought-stressed vegetation and compacted soils - Source: Batman Municipality]



[Early planting phase (2024): residents visiting the park while newly planted saplings are still establishing - Source: Batman Municipality]



[Completed 2,400 m² biological pond (2025): a constructed wetland ecosystem with fountains, cascading waterfall and pine canopy — the ecological core of the park - Source: Batman Municipality]



[Park overview after intervention: integrated green-blue park with afforestation, water-play areas, sports facilities and pedestrian-cycle network - Source: Batman Municipality]

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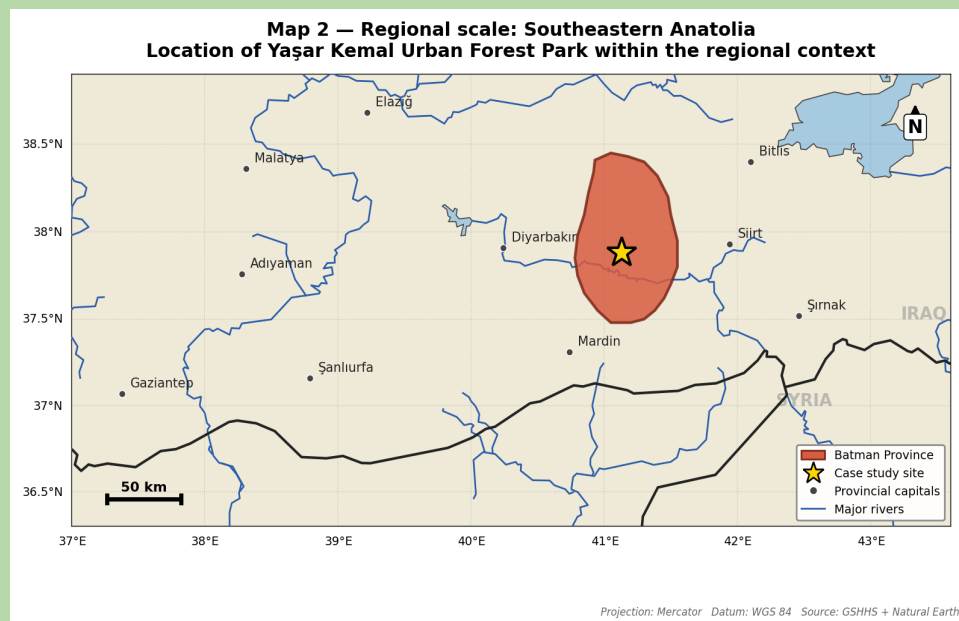


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2. CONTEXT

2.1 LOCATION

Country: Türkiye. Region: Southeastern Anatolia Region. Province: Batman. Site: Çamlıtepe Neighbourhood in central Batman, within the dense urban core of Batman city. The park serves six adjacent neighbourhoods: Çamlıtepe, Belde, Gültepe, Fatih, GAP and Şafak. Approximate GPS coordinates: Latitude 37.887° N – Longitude 41.132° E.

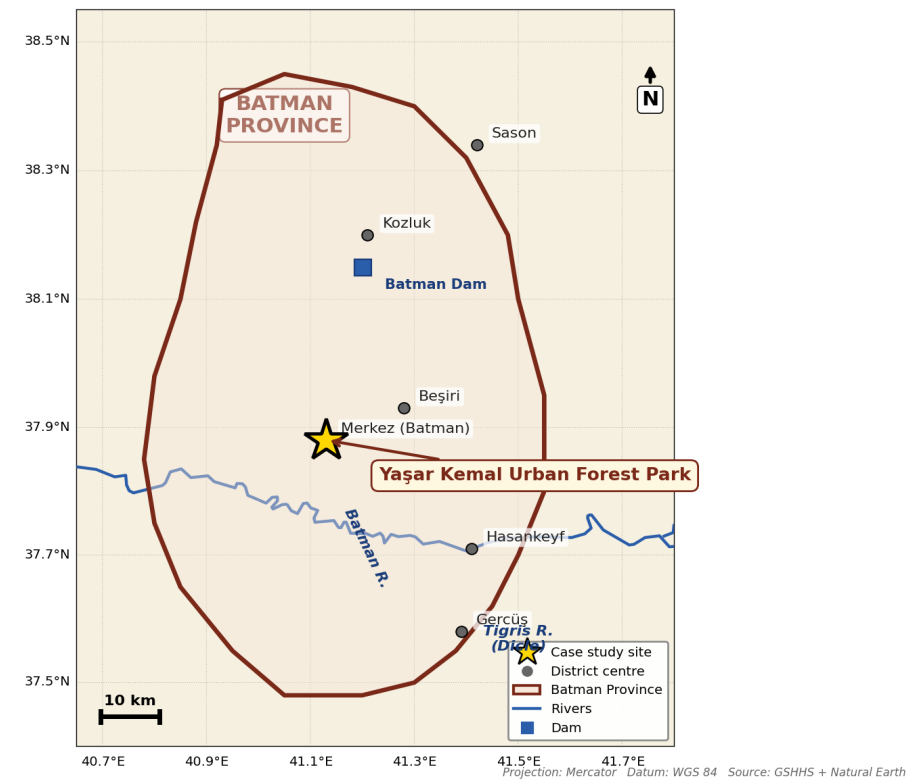


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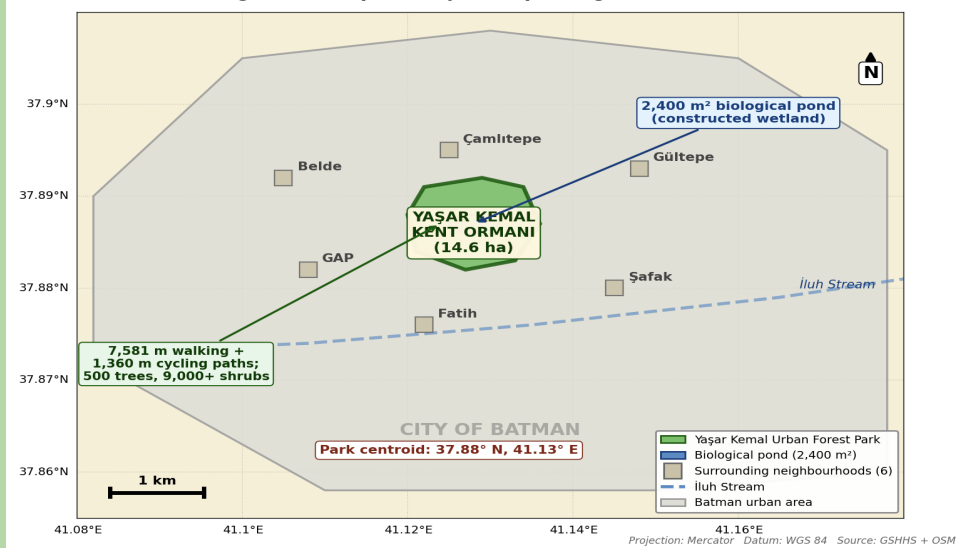


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Map 3 — Provincial scale: Batman Province
Location of Yaşar Kemal Urban Forest Park within the province



Map 4 — Site scale: Yaşar Kemal Urban Forest Park
14.6-ha urban green-blue park in Çamlıtepe Neighbourhood, central Batman



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2.3 LANDSCAPE TYPE

Urban land (peri-urban open space converted to public forest). Settlement-adjacent. Integrated urban forest with constructed wetland (biological pond) component

2.4 LAND DEGRADATION CHALLENGE

Vegetation degradation (sparse cover; absent canopy and wetland habitat). Urban heat island and microclimate stress. Soil compaction and reduced infiltration capacity. Loss of urban biodiversity and ecosystem-service provision. Climate change vulnerability (drought, heat extremes)

2.5 BASELINE DATA

Land condition	• Site: the 146-decare (14.6 ha) intervention area is located on the urban edge of Çamlıtepe Neighbourhood in central Batman. Prior to development, it consisted of undeveloped peri-urban open land with no formal public infrastructure or ecological management and was used informally by local residents. • Soil: compacted, partly disturbed urban-edge soils affected by previous land disturbance and limited ecological restoration. • Vegetation cover: sparse, drought-stressed vegetation with low ecological value and limited tree cover. Surrounding land cover was dominated by recent residential expansion with very little green space. • Erosion status: moderate risk associated with exposed and compacted soils, reduced vegetation cover, and ongoing urban development pressures.
Environmental context	• Climate: continental semi-arid climate with average annual precipitation of approximately 450–500 mm, concentrated in winter and spring. Summers are extremely hot, with temperatures frequently exceeding 38–40 °C and a pronounced urban heat-island effect across central Batman. • Hydrology: no permanent surface water bodies within the site. Water availability depends primarily on municipal supply systems, while stormwater infiltration is limited by surrounding sealed urban surfaces. • Biodiversity: low-diversity urban-edge flora and fauna, with limited habitat availability and an absence of wetland ecosystems within the city.

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	Environmental pressures: rapid urban expansion, soil compaction, vegetation loss, extreme summer temperatures, habitat fragmentation, and low per-capita green-space provision.
Socioeconomic context	- Population density: the park serves six densely populated neighbourhoods—Çamlıtepe, Belde, Gültepe, Fatih, GAP, and Şafak—within Batman, a city of approximately 654,000 inhabitants. - Livelihoods: predominantly based on urban services, commerce, public-sector employment, and petroleum-related industries. - Land management: prior to intervention, the site lacked formal management and maintenance. It is now managed as part of the municipal urban green-space network. - Resource dependency: residents previously had limited access to large, high-quality public green spaces within walking distance. The city's green-space provision was insufficient relative to population growth, increasing dependence on new recreational and ecological infrastructure.
Policy and governance	Institutional framework: the project forms part of Batman Municipality's seven-year urban green-space transformation programme implemented under the leadership of Governor Ekrem Canalp. The programme increased the number of parks from 91 to 230 and expanded total green space from 643,000 m² to 1,913,000 m². The intervention also serves as a flagship component of the broader "Mavi Yeşil Batman" (Blue-Green Batman) initiative, which aims to further expand the city's green infrastructure across approximately 1,740 decares.

3. INTERVENTION

3.1 TIMEFRAME

Planning and design: 2024 (under the "Mavi Yeşil Batman" framework). Public announcement of project parameters: December 2024. Construction: late 2024 – mid 2025. Official opening: 14 July 2025. Operational: July 2025–present; integration into wider "Blue-Green Batman" programme 2026 onwards.

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3.2 TYPE OF INTERVENTION

Urban afforestation. Constructed wetland / biological pond ecosystem. Green infrastructure development. Integrated urban-forest-and-wetland system functioning as a biodiversity nucleus, climate-adaptation node and recreational core for the surrounding neighbourhoods.

3.3 IMPLEMENTING ORGANISATIONS

The park was implemented by Batman Municipality's Department of Parks and Gardens (Park ve Bahçeler Müdürlüğü) as the lead executing agency, under the strategic coordination of the Batman Governorship (Governor Ekrem Canalp, also serving as Mayoral Deputy). The intervention is part of Batman Municipality's broader urban green-infrastructure programme and is embedded in the larger "Mavi Yeşil Batman" master programme, which involves multi-departmental coordination across the Municipality and the Provincial Forestry Directorate (Orman İşletme Müdürlüğü) for follow-on afforestation. The Erasmus+ KA220-VET project documents the park as a case study, with the Ankara Kültürlerarası Araştırma Derneği (AKAD) contributing the documentation to support cross-European peer learning on urban NbS for land-degradation contexts.

3.4 FUNDING SOURCES

The park was financed by Batman Municipality from the municipal capital-investment budget, with land provided as public-domain urban reserve. Operations and maintenance are carried out by the Municipality's Department of Parks and Gardens, supported by the on-site cafeteria, café and kiosks, which contribute to recurring operational costs. The park's integration into the "Mavi Yeşil Batman" master programme positions it for further investment as the wider 1,740-hectare green-network expansion proceeds.

3.5 IMPLEMENTATION ACTIONS AND MEASURES

The intervention applies an integrated urban Nature-based Solutions (NbS) approach across a 14.6-hectare site, combining four main components: urban afforestation (approximately 500 trees, over 9,000 shrubs, and 12 ha of green lawn areas for cooling, shade, and habitat creation); a constructed wetland system centred on a 2,400 m² biological pond with complementary water features that enhance biodiversity and microclimate regulation; green-mobility infrastructure including bicycle paths, pedestrian walkways, and service roads that promote active transport and recreation; and multifunctional public amenities such as playgrounds, themed gardens, sports facilities, cafés, an open-air cinema, parking, and security infrastructure, ensuring year-round recreational, social, and ecological benefits.

1) 2017–2018 — Baseline period: Batman has 91 municipal parks and 643,000 m² of total green area for a rapidly growing population.

2) 2018–2024 — Seven-year green-area expansion under Governor Canalp's leadership: 139 new parks added (total 230), green area expanded to 1,913,000 m² (+197%).

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- 3) 2024 — Yaşar Kemal Kent Ormanı project planning and design completed under the "Mavi Yeşil Batman" framework.
- 4) December 2024 — Project parameters publicly announced; full technical specification confirmed: 146 decares, 1,190 m bicycle path (later expanded to 1,360 m), 238-vehicle parking, themed gardens, biological pond, cascading waterfall, sports facilities.
- 5) February 2025 — Governor's on-site inspection: cycling/walking/service paths, fresh park, ornamental pool, biological pond, cascading waterfall, football/basketball/volleyball pitches, tennis court, cafeteria, café and ancillary facilities under construction.
- 6) March–June 2025 — Earthworks completed; turf established on 120 decares; planting of approximately 500 trees and 9,000+ shrubs; commissioning of the 2,400 m² biological pond and water-feature system; installation of the 240-camera security system.
- 7) 14 July 2025 — Official opening by Governor Ekrem Canalp and MP Ferhat Nasıroğlu, with Batman University Rector and the wider provincial protocol in attendance.
- 8) August–December 2025 — Vegetation establishment phase; routine maintenance by Batman Municipality's Department of Parks and Gardens.
- 9) February 2026 — Formal continuous-maintenance reporting confirms 120 decares of established turf, 500 trees and 9,000+ shrubs in active management, and 2,400 m² biological pond contributing to ecological balance.
- 10) 2026 onwards — Integration into the wider "Mavi Yeşil Batman" 1,740-decare green-network programme.

4. IMPACT

4.1 ENVIRONMENTAL IMPACT

☑ Improved soil health. ☑ Increased vegetation cover. ☑ Increased biodiversity. ☑ Created wetland ecosystem in a semi-arid city without permanent surface water. ☑ Improved ecosystem services (urban cooling, air quality, stormwater retention, recreation). ☑ Reduced urban heat island stress.

The intervention transforms a 14.6-hectare area of degraded peri-urban land into a continuous, structurally diverse green-blue ecosystem. The biological pond is a particularly significant component: in a semi-arid city without permanent surface water, the creation of a 2,400 m² water-ecosystem provides habitat for aquatic vegetation, invertebrates, amphibians and birds, generating biodiversity gains that would not arise from afforestation alone. The combined evapotranspirative effect of 12 ha of established turf, 500 trees, 9,000+ shrubs and the surface water area produces measurable urban-cooling benefits, mitigating the urban heat island in a region where summer maxima routinely exceed 38–40 °C. The park functions as a biodiversity nucleus from which urban-tolerant species can disperse into the surrounding neighbourhoods.

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4.2 COMMUNITY IMPACT

☑ Strengthened community quality of life. ☑ Job creation. ☑ Improved access to active recreation and sport. ☑ Inclusive and accessible public space. ☑ Cultural and symbolic significance (named after Türkiye's leading author Yaşar Kemal, signalling cultural inclusivity in a multi-ethnic city).

The park serves a catchment population of several tens of thousands of residents across six high-density neighbourhoods. By providing the city's largest accessible recreational green space (second only to İstiklal Park among formal urban parks until the "Mavi Yeşil Batman" follow-on), it directly addresses a long-standing deficit in per-capita green-space provision. The naming of the park after Yaşar Kemal — alongside the Ahmed-i Hani Park under construction in the Beşiri district — was framed by the Governor as a deliberate gesture of cultural and ethnic inclusion, embedding the green-infrastructure investment within a wider social-cohesion narrative.

4.3 INSTITUTIONAL IMPACT

☑ Strengthened municipal capacity for integrated urban green-blue infrastructure. ☑ Establishment of a flagship reference for the wider "Mavi Yeşil Batman" programme. ☑ Integration into provincial planning and political agenda. ☑ Strong inter-departmental coordination within Batman Municipality.

The park demonstrates the operational capacity of Batman Municipality's Department of Parks and Gardens to deliver a complex, multi-component urban-NbS intervention combining afforestation, constructed wetland, recreational infrastructure and security/management systems. As a flagship project, it has become the visible reference point for the wider "Mavi Yeşil Batman" programme and supports political and budgetary momentum for the planned 1,740-decare follow-on expansion. The intervention is also embedded in a seven-year track record of incremental green-space delivery (91 → 230 parks; 643,000 m² → 1,913,000 m² of green area) that demonstrates institutional learning and capacity accumulation.

4.4 SUSTAINABILITY OF THE RESULTS

☑ Long-term funding mechanisms. ☑ Institutional support and partnerships. ☑ Local technical capacity for maintenance. ☑ Integration into provincial policies and development plans. ☑ Adaptive management.

Long-term sustainability rests on three pillars: (i) institutional ownership by Batman Municipality's Department of Parks and Gardens, with a clearly defined operations-and-maintenance mandate and demonstrated continuity into 2026; (ii) integration into the broader "Mavi Yeşil Batman" master programme, which provides ongoing political and financial commitment; and (iii) a self-supporting on-site amenity revenue stream (cafeteria, café, kiosks) that contributes to recurring costs. The biological pond and tree canopy will require

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sustained 3–5 year establishment management to reach mature ecosystem function in semi-arid conditions, a phase already actively underway.

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5. CONCLUSION

- **Community relevance:** fully.

The intervention addressed a significant shortage of accessible, high-quality green space in six densely populated neighbourhoods of Batman. By creating a 14.6-hectare multifunctional park with recreational, cultural, and sports facilities, it provides inclusive public space within walking distance for a large urban population and improves quality of life, health, and social cohesion.

- **Technical effectiveness:** fully.

The project successfully restored ecological functions through the creation of a diverse urban forest and a constructed wetland ecosystem in a semi-arid urban environment. Approximately 500 trees, more than 9,000 shrubs, extensive green areas, and a 2,400 m² biological pond collectively enhance biodiversity, provide cooling benefits, improve environmental quality, and establish a functioning green-blue ecosystem.

- **Economic efficiency:** mostly.

Although the project required substantial initial investment, its long-term benefits and operational sustainability support its economic viability. Revenue-generating amenities such as cafés, kiosks, and recreational facilities contribute to maintenance costs, while integration into broader municipal greening programmes creates economies of scale and enhances cost-effectiveness.

- **Institutional support:** fully.

The intervention benefits from strong institutional backing through Batman Municipality and the Batman Governorship. It is embedded within a long-term urban greening strategy that has significantly expanded the city's park network and green-space provision, ensuring sustained governance, maintenance, and strategic alignment with wider urban-development objectives.

- **Innovation:** mostly.

The project introduces an innovative combination of urban afforestation, constructed wetland infrastructure, recreational water features, and green-mobility networks within a semi-arid city context. The integration of a self-sustaining biological pond and continuous water-feature system into a large urban forest represents an advanced and relatively uncommon Nature-based Solution for the region.

- **Replication & Scaling Potential:** fully.

The intervention demonstrates strong potential for adaptation and replication in other semi-arid and rapidly urbanising cities. Its modular design—combining afforestation,

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wetland creation, active-mobility infrastructure, and public amenities—can be implemented at different scales, while the broader “Mavi Yeşil Batman” programme provides a practical model for scaling Nature-based Solutions across entire urban regions.

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6. BIBLIOGRAPHY

- Hassall, C., Anderson, S. et al. (2022). *Ecosystem Services Provided by Urban Ponds and Green Spaces: A Detailed Study of a Semi-Natural Site*. Blue-Green Systems, 4(1), 1–22.
- Batman Governorship. (2025). *Kentin En Büyük Yaşam Alanı; Yaşar Kemal Kent Ormanı Hizmete Açıldı*. [Link](#).
- Batman Governorship. (2025). *Valimiz Ekrem Canalp, Yaşar Kemal Kent Ormanı'nda İncelemelerde Bulundu*. [Link](#).
- Konijnendijk, C.C., Annerstedt, M., Nielsen, A.B. & Maruthaveeran, S. (2013). *Benefits of Urban Parks: A Systematic Review*. International Federation of Parks and Recreation Administration (IFPRA) / World Urban Parks.
- Gümüş, V., Dinsever, L.D. & Avşaroğlu, Y. (2023). *Analysis of Drought Characteristics and Trends during 1965–2020 in the Tigris River Basin, Türkiye*. Journal of Earth System Science. [Link](#).

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