

# From Living Town to Open-Air Museum: The Displacement and Musealization of Hasankeyf's Heritage

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**Abstract** This paper examines the removal of historical structures in Hasankeyf, a significant archaeological and cultural site in Upper Mesopotamia, as a result of the construction of the Ilisu Dam in 2020. This rare preservation effort, which included both the burial and the movement of historical sites, represents one of the largest cultural heritage relocation projects of the 21st century, comparable to the Egyptian mid-20th-century temple relocations. This study identifies all major heritage sites and structures, their background, and their individual applied methods of heritage preservation and/or relocation. This study examines the transformation of Hasankeyf from a living historic urban fabric into a curated collection of monuments within a constructed open-air museum using a structured spatial and comparative methodology. One of the main points raised is the loss of visual and contextual authenticity, as well as the factual integrity of the 12,000-year-old continuously inhabited site, due to new spatial solutions applied during preservation efforts. To achieve this, the research investigates four analytical dimensions: topographic authenticity, relational integrity, functional continuity, and diachronic accessibility. By comparing the original urban and spatial configuration of Hasankeyf to its relocated counterpart, the paper presents changes in architectural relationships, historical continuity, and the

intangible dimensions of heritage sites turned into static exhibits. By establishing a systematic taxonomy of five executed preservation procedures, the paper strives to provide a replicable analytical framework for evaluating the factual and contextual integrity of relocated heritage in the context of infrastructure development.

**Keywords** Hasankeyf, Architectural Relocation, Musealization, Ilisu Dam, Cultural Heritage Preservation

## 1. Introduction

At the crossroads of East and West in the Middle East, near the city of Batman, a small place known as Hasankeyf was formed, which was once a famous rest stop on the Silk Road (Figure 1).

Due to minimal development after the 17th century, this former settlement was recognized as one of the most archaeologically attractive locations in the Republic of Turkey. In fact, the very name of the settlement, taking different forms of pronunciation in the languages of the local population, who lived there in different periods, means "suitable for protection" [1]. Although Hasankeyf

† Katja Marasović passed away on February 25, 2026.

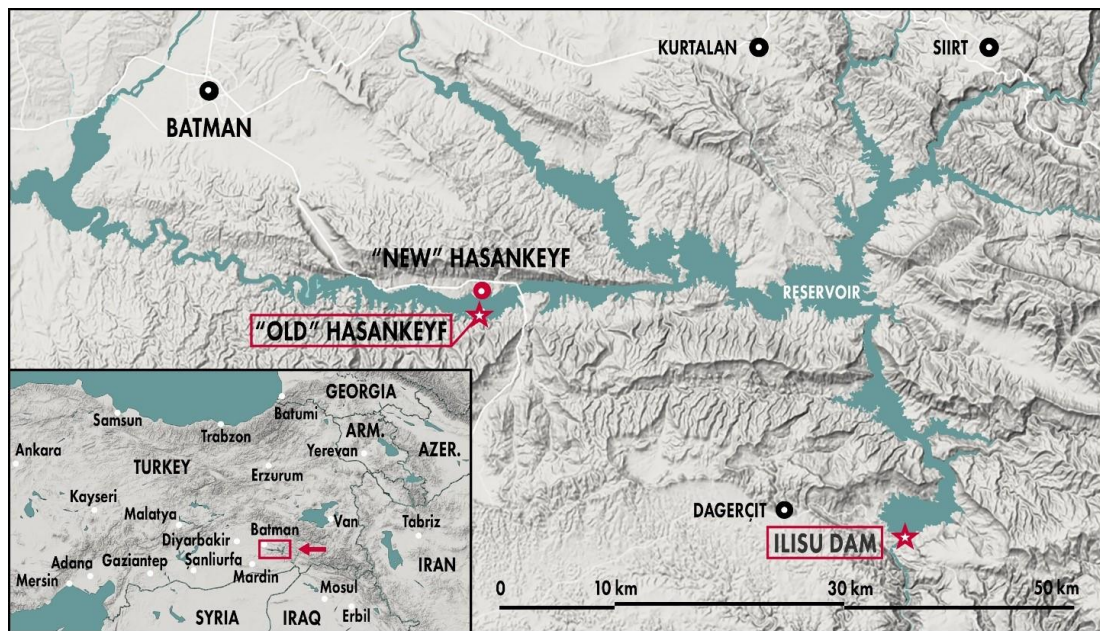
was suitable for protection and habitation, the construction of the Ilisu Dam rendered it uninhabitable as the Tigris River, flowing through its center, rose by ~60m [2], and in other places ~100m based on the 138m total height of the dam [3] (Figure 2).

The inhabitants of Hasankeyf, who represent a mixture of Kurdish, Arab, and Turkish peoples, had to leave their lives in the valley (some also lived in caves), and move to the new Hasankeyf, a settlement built above the designed working height of the dam's water level.

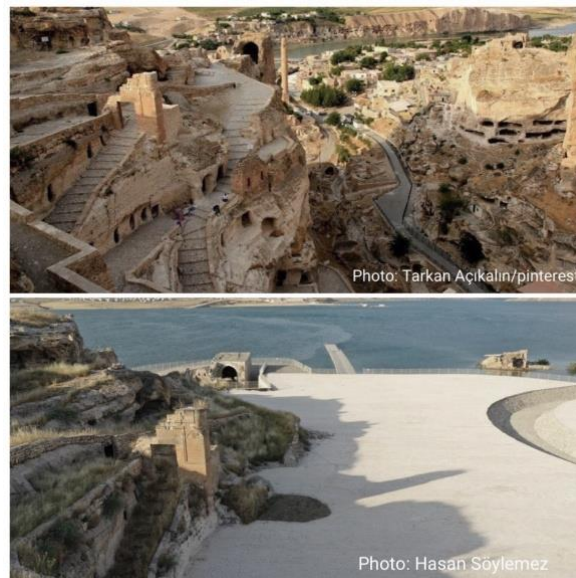
Nevertheless, a certain part of the heritage from the medieval period was recognized for its historical significance, leading to one of the most extensive efforts of the third millennium to save and relocate cultural-historical heritage. Given the scale of this undertaking, a key question

arises: which methods were employed to protect heritage from submersion, and to what extent were they effective? Additionally, it is essential to consider whether heritage relocation can truly compensate for the loss of cultural and historical sites.

The transformation of Hasankeyf not only entails the physical relocation of historical structures but also raises broader concerns about urban and spatial changes. The significant differences in urban morphology between the original and new settlements highlight the challenges of integrating relocated heritage within the Hasankeyf open-air museum. In this context, a crucial question emerges: how does the physical and spatial separation of these heritage structures from the newly developed settlement affect their perception and authenticity?



**Figure 1.** The geographical positioning of Hasankeyf (source: authors)



**Figure 2.** View of Hasankeyf before and after submersion in 2020 (source: Hasan S öylemez)

## 2. Methodology

The primary research objective is to evaluate the urbanistic vision of the newly established open-air museum. To establish a robust analytical framework, it is necessary to first situate the project within the discourse of International Heritage Charters, examine relevant relocation examples, and conduct a thorough literature review. Following this, it is necessary to understand the pre-intervention context of the entire town, not just to explore the individual historical artefacts in isolation. Furthermore, a benefit-risk assessment of the project requires an analysis of the reasons behind the settlement's devastation, which are tied to the political, social, and architectural implications of the program. Finally, to estimate the correctness of the end results on both the

overall and individual levels of heritage preservation, it is necessary to identify the main sites that were involved in the movement or burial of heritage sites, to understand all the transformations they went through, and to compare them with the new spatial solutions and the resulting interrelationships. These critical considerations are systematically examined under discrete thematic subheadings, which collectively constitute the analytical framework of this study.

Using available literature, archival documentation, scientific articles, and comparative satellite imagery, twelve structures were identified that had undergone various preservation methods to protect them from the erosive and destructive effects of the Tigris waters (Table 1).

**Table 1.** Inventory of Relocated Cultural Assets in Hasankeyf (source: authors)



















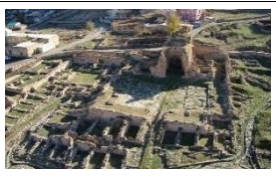












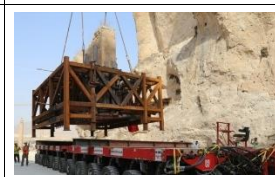




<u>Cultural heritage</u>	<u>Before</u>	<u>During operation</u>	<u>After</u>
<b>Stabilization, consolidation and strengthening of heritage due to complete submersion</b>			
<p><u>Old Bridge</u>                      Period: 12th Century, Artuqid                      Submerged: 2020</p>			
<b>Site burial with embankments due to complete submersion</b>			
<p><u>Mardinike Complex</u>                      Period: Turkish medieval;                      Possible Roman foundations                      Submerged: 2020</p>			
<b>Strengthening of structures for partial submersion</b>			
<p><u>Slope Complex</u>                      Period: Turkish medieval                      Partially submerged: 2020</p>			
<b>Complete or partial displacement of monuments</b>			
<p><u>Takva of Imam Abdullah</u>                      Period: 12th century, Artuqid;                      15th century, Akkoyunlu (repair)                      Moving year: 2018</p>			
<p><u>Artuqid Hammam</u>                      Period: 12th century, Artuqid                      Moving year: 2018                      Burial layers submerged: 2020</p>			

Table 1 continued

<p><b><u>Er-Rızk Mosque</u></b>  <b>Period:</b> 15th century, Ayyubid  <b>Moving year:</b> 2018-2020</p>			
<p><b><u>Ko c Mosque</u></b>  <b>Period:</b> 12th-14th century  <b>Moving year:</b> 2018-2019  <b>Sarcophagus submerged:</b> 2020</p>			
<p><b><u>Sultan Suleiman Mosque</u></b>  <b>(Sehabive Madrasa)</b>  <b>Period:</b> 15th century, Ayyubid  <b>Moving year:</b> 2018-2019</p>			
<p><b><u>Evvubi (Girls') Mosque</u></b>  <b>Period:</b> 12th century, Artuqid  <b>Moving year:</b> 2018</p>			
<p><b><u>Zevnel-Bev Tomb</u></b>  <b>Period:</b> 15th century, Akkoyunlu  <b>Moving year:</b> 2017</p>			
<p><b><u>The Middle Gate</u></b>  <b>Period:</b> 13th century, Ayyubid  <b>Moving year:</b> 2018</p>			
<b>Height relocation due to encroaching waters after flooding</b>			
<p><b><u>Small Palace</u></b>  <b>Period:</b> 14th century, Ayyubid  <b>Raised:</b> 2021</p>			

Each monument was assigned to a specific category based on the preservation methodology applied to it. This classification allows for a systematic comparison of how different technical approaches (from relocation to in-situ stabilization) impacted the site's heritage value. They are as follows:

- (1) Preservation (no relocation),
- (2) Stabilization for complete submersion,
- (3) Site burial for complete submersion,
- (4) Strengthening for partial submersion,
- (5) Physical displacement (SPMT/Self-Propelled Modular Transporter or stone-by-stone), and

- (6) In-situ height relocation.

The 'Impact Category' (Scale 1-5) was assigned by measuring the deviation between the monument's original urban/hydrological context and its final state post-intervention. The list is expanded with two monuments (the Great Palace and the Ulu Mosque), which were not relocated due to their high position in the Hasankeyf Citadel, which remained above the reservoir level. The results of this systematic evaluation are summarized in the following table (Table 2).

**Table 2.** Evaluation of Heritage Transformation in Hasankeyf (source: authors)

Monument	Intervention Method (Type 1-6)	Technical Procedure (Protocol)	Impact (0-5)
1. Zeynel-Bey Tomb	Type 5 & 3: Mixed	Transport (SPMT) of the tomb as a whole; the adjacent social complex buried and a replica built to maintain architectural integrity	4-5
2. Takya of Imam Abdullah	Type 5: Displacement	Careful relocation (SPMT) of tomb, cemetery, and minaret.	4
3. Artuqid Hammam	Type 5 & 3: Mixed	Dressing room moved (SPMT); hot room/cistern buried; a replica of the cistern ruins built to maintain architectural integrity	4-5
4. Old Bridge	Type 2: Stabilization	Consolidation of remains in situ; submerged.	5
5. Er-Rizk Mosque	Type 5: Displacement	Minaret dismantled stone-by-stone; portal moved via SPMT; missing parts of the complex reconstructed	4
6. Sultan Suleiman	Type 5: Displacement	Minaret disassembled; main structure moved via SPMT.	3
7. Koç Mosque	Type 5 & 3: Mixed	Iwan relocated; ruins encased in fiberglass/concrete & submerged.	3-5
8. Eyyubi (Girls') Mosque	Type 5: Displacement	Structure moved in sections (SPMT), restored to original appearance	4
9. Mardinike Complex	Type 3: Site Burial	Covering ruins with impermeable silt sand for underwater protection.	5
10. Slope Complex	Type 4: Partial submersion	Retaining walls, hydraulic lime mortar, and light steel roof.	2
11. Small Palace	Type 6: Height Relocation	Raised 6m in-situ due to 2m water infiltration.	2
12. The Middle Gate	Type 5: Displacement	Divided into 3 sections, elevated, and transported.	4
13. Great Palace	Type 1: Preservation	Cliff stabilization near palace remains, excavation of site planned.	0
14. Ulu Mosque	Type 1: Preservation	In-situ preservation with surrounding terrain stabilization.	1

For this scale, Impact or degree of decontextualization is measured as:

- 0: No intervention at the main site.
- 1: Minor intervention, context mostly preserved.
- 2: Significant modification but remains in situ.
- 3: Relocated; previous visual appearance preserved.
- 4: Relocated; reconstructed with additional new elements.
- 5: Total loss of visibility (submerged).

These methods have been systematically organized in the chapter detailing the five principal approaches to heritage protection. A supplementary historical review of the affected structures further contextualizes their intangible values, original functions, and cultural significance - key criteria that informed the decision-making process regarding their relocation or intervention.

In the final chapter preceding the conclusion, the challenges and outcomes are assessed through a systematic, multi-scalar spatial analysis. This approach moves beyond descriptive observation by employing a comparative framework that evaluates the twelve identified structures against four analytical dimensions: *Topographic Authenticity*, *Relational Integrity*, *Functional Continuity*, and *Accessibility*, to systematically measure the degree of decontextualization resulting from the relocation process.

Specifically, the study measures the shift in spatial coordinates and elevation relative to the Tigris River (topographic authenticity), while analyzing the loss of the inter-monumental visual corridors that defined the pre-intervention urban fabric (relational integrity). This

reconfiguration of the site's physical and contextual landscape is assessed alongside the transformation of active cultural or religious sites into static museum exhibits (functional continuity). Finally, the analysis examines the transformation of accessibility, tracking the shift from a topography of high kinetic resistance to a framework of neutralized, horizontal movement, which is separated from the new settlement. This altimetric flattening does more than ease the path; it fundamentally reconfigures the behavioral relationship between the public and the heritage. The process of distancing heritage from native inhabitants is also analyzed, alongside its shift from organic, daily use to a framework of curated and controlled access.

By identifying new functions and cross-referencing satellite-derived spatial data with the qualitative criteria of International Heritage Charters, this mixed interpretive approach establishes a transparent analytical protocol. The findings result from a systematic comparison between historical urban relations and the newly implemented spatial solutions.

### 3. International Heritage Charters, Relocation Examples and Literature Review

Heritage preservation is governed by longstanding international principles. The 1964 ICOMOS Venice Charter insists on preserving original materials and “rules out reconstruction,” stating in Article 9 (RESTORATION) that restoration must “stop where conjecture begins” [4].

By contrast, the Australia ICOMOS Burra Charter permits careful reconstruction solely for the purpose of maintaining cultural continuity. This principle is further reinforced in Article 9 (Location), which states that “the physical location of a place is part of its cultural significance” and emphasizes that “a building, work or other element of a place should remain in its historical location.” While the Charter generally considers relocation “unacceptable unless this is the sole practical means of ensuring its survival”, it stipulates that “if any building, work or other element is moved, it should be relocated to an appropriate location and given an appropriate use,” provided that “such action should not be to the detriment of any place of cultural significance” [5].

The 1994 Nara Document on Authenticity marked a significant shift. Nara explicitly recognized that authenticity depends on cultural context - what is authentic in one tradition may not be in another. As stated in paragraph 11, the Nara Document reaffirmed authenticity as an “essential element” of heritage value but emphasized that judgments about authenticity must be made within cultural contexts rather than by universal, fixed criteria [6]. In practice, this opened the door to more flexible solutions and valuing intangible qualities (use, ritual, social meaning).

UNESCO’s more recent guidance emphasizes the integration of sustainable development into the conservation and management of World Heritage properties, which inherently supports the idea of heritage contributing to evolving societal needs rather than being preserved in a static manner [7]. Some researchers propose that the World Heritage Committee should explicitly treat continuity (understood as ongoing use and cultural relevance) and compatible change as essential conditions of integrity, effectively reframing authenticity in terms of sustaining a site’s living values [8].

Heritage relocation has historical precedent, especially in dam projects. The archetypal case is UNESCO’s International Campaign to Save the Monuments of Nubia (1960-1980). UNESCO called the campaign the greatest archaeological rescue operation of all time [9]. In that project, UNESCO coordinated the excavation, relocation, and reassembling of 22 monuments threatened by the Aswan Dam. However, even Nubia’s example shows that residential architecture is often neglected in the saving process. The Nubian resettlement process was criticized for its inadequate housing, which failed to replicate the spatial,

cultural, and environmental qualities of the original villages, thereby exacerbating socio-economic and cultural disintegration [10].

More recent large relocations include temple complexes in China’s Three Gorges Dam. Preserving the integrity of a historical site includes both its physical surroundings and socio-cultural significance. In the case of General Zhang Fei’s Temple, local traditions and beliefs were prioritized over purely material considerations as a crucial aspect of authenticity [11]. As in other cases, engineering and archaeological teams documented and rebuilt, but the site became a transplanted fragment. Such cases parallel Hasankeyf’s: relocation efforts often save material authenticity at the expense of contextual integrity and intangible associations. The new site creates a visitor-focused narrative [12], effectively a simulacrum of Hasankeyf’s heritage.

One of the paradigmatic cases of heritage displacement is the mining city of Kiruna in Sweden. This relocation is often cited as a comparatively progressive and instructive example because it was framed as a long-term, participatory process that explicitly acknowledged cultural heritage. From the outset, the municipality presented the transformation as a democratic project, emphasizing civic dialogue, inclusion, and transparency, and implemented consultations, workshops, and public meetings during the planning of the new city centre [13]. Heritage considerations were formally integrated into planning, and selected landmark buildings were reaffirmed as culturally significant and salvaged through relocation, rather than being demolished outright [14]. At the same time, however, the process entailed significant heritage displacement. As in the case of Hasankeyf, relocation resulted not only in the physical movement and demolition of historic structures but also in the selective redefinition and reduction of previously designated heritage. Although Kiruna had been established as a national heritage site in the 1980s, the post-2004 transformation initiated a selective re-heritagization in which only certain buildings were preserved, while others were de-heritagised and removed, largely on economic and technical grounds [14]. Moreover, heritage was increasingly treated as a set of transferable objects rather than as an integrated urban and social environment, producing a new town with limited spatial and morphological continuity with the original Kiruna [13]. Kiruna stands in direct comparison to Hasankeyf, demonstrating a model of managed relocation where participatory processes and formal heritage recognition are intended to serve the city itself, yet still struggle to preserve the intangible tissue and lived context of the original place.

Another frequently cited example of comparatively successful relocation is the translation of churches in Bucharest during the communist redevelopment of the Civic Centre in the 1980s, under Nicolae Ceaușescu. Faced with large-scale demolitions that erased roughly one-fifth of the historic city fabric, engineer Eugeniu Iordăchescu

patented an innovative technique of monument translation, which allowed several historic churches and associated structures to be moved intact rather than destroyed [15]. Although the surrounding urban context and monastery grounds were often lost, the relocation preserved material authenticity and ensured the survival of significant religious monuments. This case presents a complex compromise: relocation can save physical structures and permit the continuation of their core religious or social functions (social continuity). However, this often comes at the expense of the historic environment. It reduced heritage to isolated objects concealed within new socialist housing blocks, and raised enduring questions about authenticity, setting, and the loss of place-based meaning. Consequently, Bucharest demonstrates an even narrower form of salvage, focused on the literal movement of architectural monuments. When viewed alongside Kiruna's participatory process and Hasankeyf's musealization, it reveals a spectrum of displacement strategies, all of which prioritize object over fabric.

The scholarly literature on Hasankeyf is still emerging, and several gaps remain. Recent studies [12,16] provide rich qualitative insights into musealization and social impacts, but systematic data are sparse. For instance, there is little quantitative research on the socio-economic outcomes for displaced households, or on visitor perceptions of the new museum. Comparative studies across other dam-induced relocations (e.g. China, Egypt, Ghana, etc.) might be useful, but cross-country analyses are lacking. Most accounts rely on interviews, advocacy reports, and media. There are few independent surveys available (partly due to local restrictions and security concerns). Likewise, intangible heritage (rituals, local traditions) is recognized in commentary but has not been rigorously documented. This oversight has been identified as both a methodological and policy limitation in recent discourse.

#### **4. The History of Hasankeyf and the Pre-Intervention Context**

The Euphrates and Tigris rivers have driven erosive processes across millennia to create rocky hills and deep canyons throughout the Armenian Plateau. The Tigris River has created a geomorphological landscape through its historical role as a fertile source, which now provides an ideal refuge for human settlement. The environment

supported the development of early proto-permanent settlements across the region since prehistoric times.

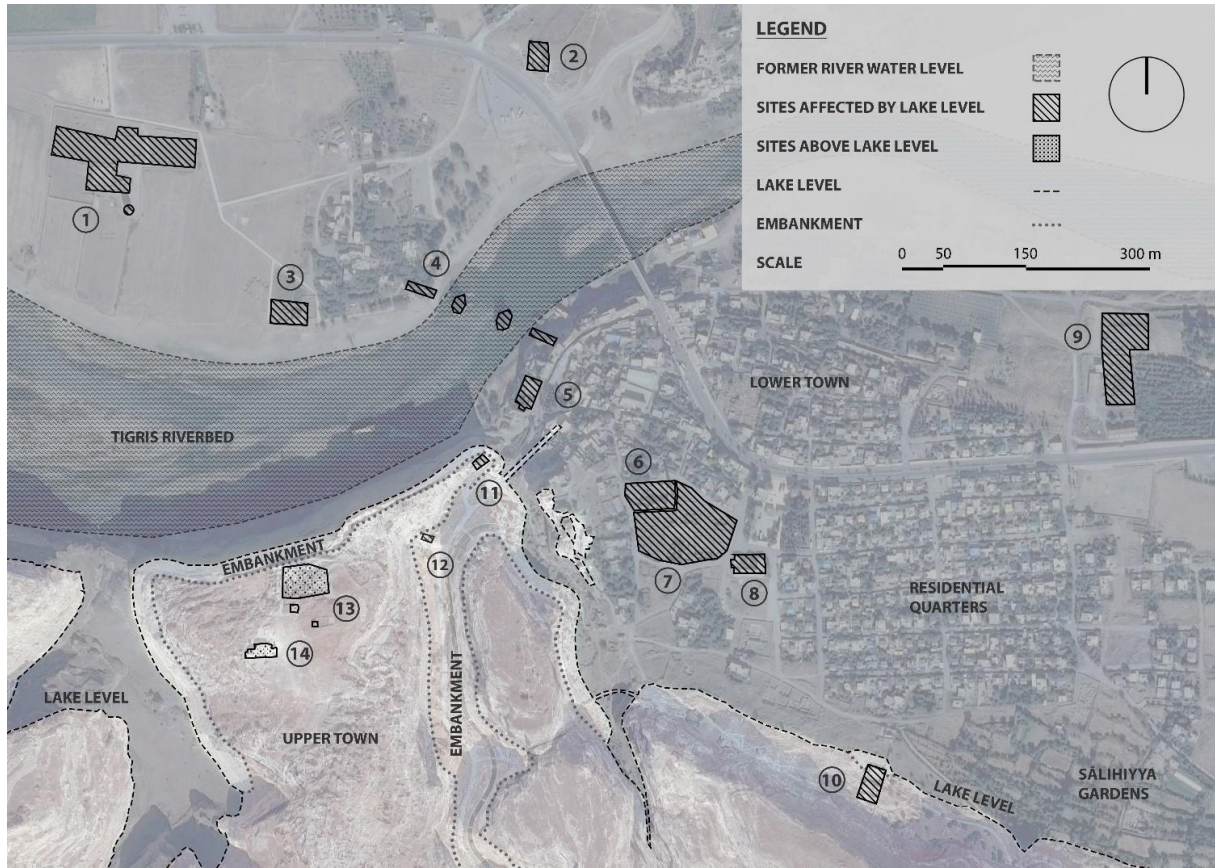
The ancient city of Hasankeyf existed as one of the world's longest continuously inhabited settlements before its submersion into the Tigris River reservoir. The 2011 archaeological excavations at Hasankeyf Höyük uncovered evidence showing human settlement began around 10,000 BCE [17].

The strategic position of Hasankeyf on the Armenian Plateau established it as a cultural frontier between Anatolian Plateau civilizations to the northwest and Mesopotamian civilizations to the southeast. The location of Hasankeyf served as a historical intersection which brought together western influences starting with Roman and then Byzantine traditions alongside eastern traditions including Assyrian, Persian, and Central Asian dynasties such as the Artuqids, Ayyubids, Mongols, and Turkmens.

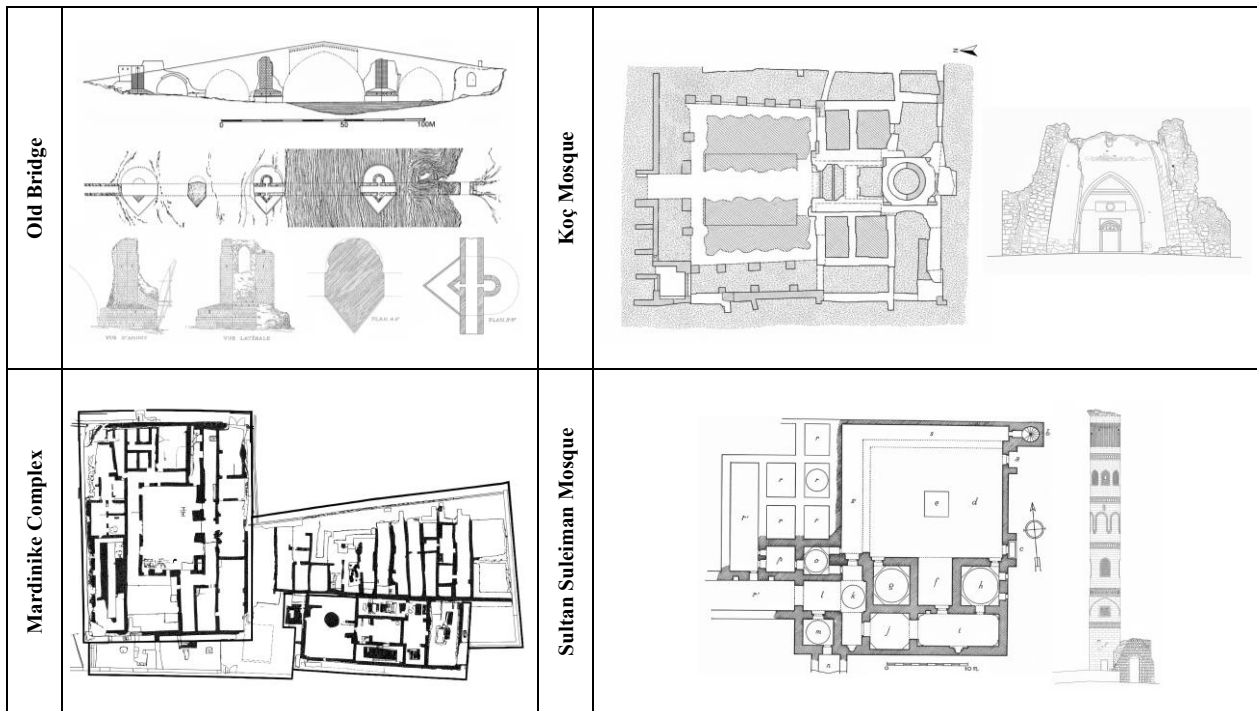
The medieval urban fabric of Hasankeyf, which combined natural caves and rock-cut houses, made it an important historical site in the current Batman province. The establishment of an independent ecclesiastical organization during Late Antiquity and the early Middle Ages (4th-6th centuries CE) indicates its role as a religious center. The region became one of the first areas in Anatolia to adopt Islam after Arab military campaigns started in the 8th century. During the Middle Ages, Hasankeyf became a vital Silk Road transit center after the Artuqid conquests. The Artuqids, who ruled Hasankeyf as a Turkic dynasty, built most of the cultural and architectural elements that define the settlement in present times [18].

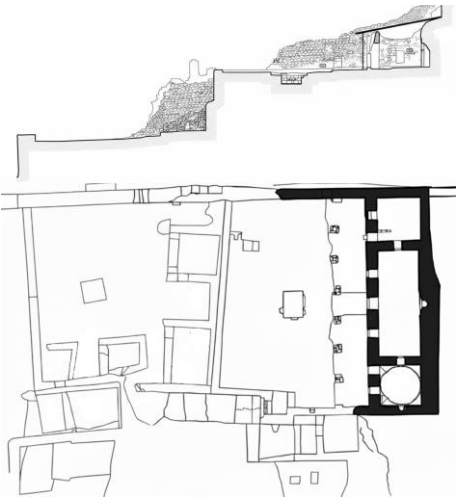
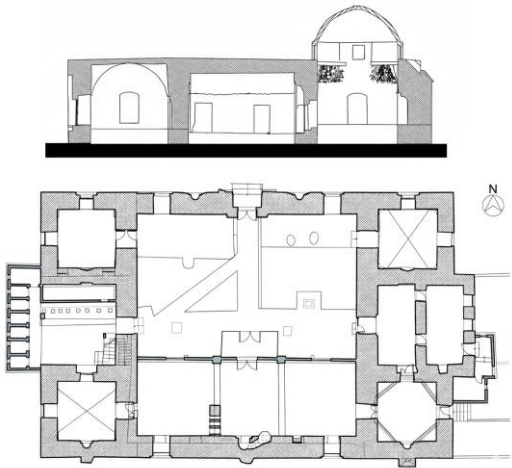
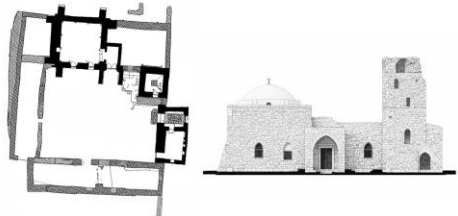
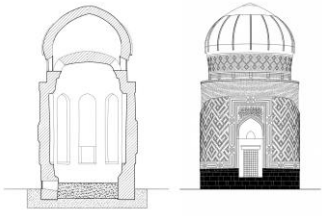
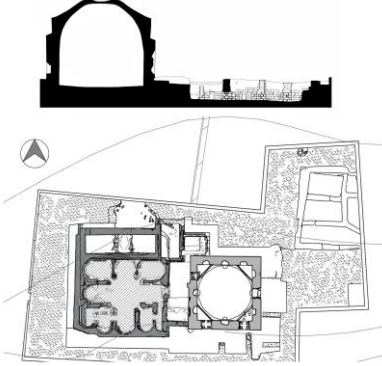
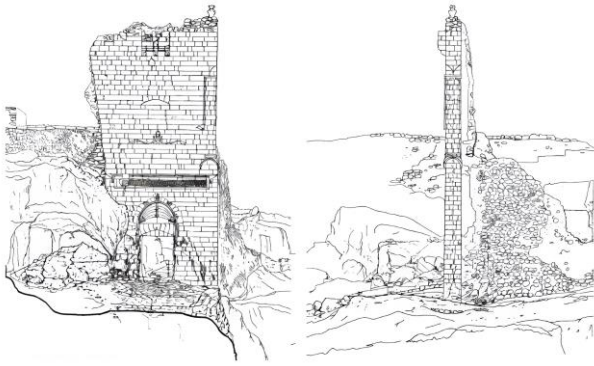
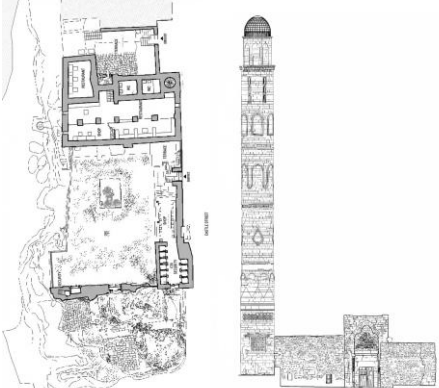
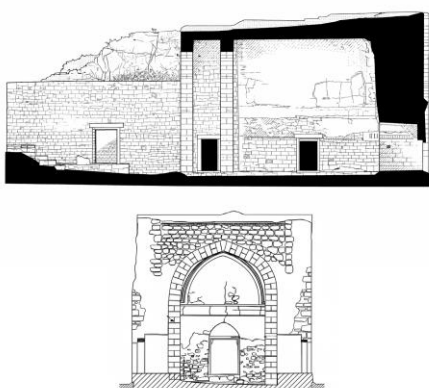
Most of the residents resided in the Upper Town before the 20th century. The inhabitants of Hasankeyf's cave dwellings were relocated to newly built social housing in the Lower town during 1967, marking the formation of modern-day Hasankeyf. The relocation process resulted in the destruction of numerous historical remains, according to Kılıcı [19]. The Upper City received first-degree archaeological site status in 1981, while the Lower City received second-degree archaeological site designation [20].

Owing to their elevated position, certain archaeological complexes remained unaffected by the 2020 water level rise. In contrast, other structures experienced varying degrees of submersion. Additionally, several important heritage structures were relocated to designated areas within the open-air museum in new Hasankeyf for preservation purposes (Figures 3, 4).



**Figure 3.** The position of the most important archaeological and architectural landmarks in old Hasankeyf: 1. Zeynel-Bey Tomb, 2. Takya of Imam Abdullah, 3. Artuqid Hammam 4. The Old Bridge, 5. Er-Rızık Mosque, 6. Sultan Suleiman Mosque, 7. Koç Mosque, 8. Eyyubi (Girls') Mosque, 9. Mardinike Complex, 10. Slope Complex, 11. Small Palace, 12. The Middle Gate, 13. Great Palace & 14. Ulu Mosque (source: authors)



<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Slope Complex</p>		<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Eyyubi (Girls') Mosque</p>	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Takya Of Imam Abdullah</p>		<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Zeynel-Bey Tomb</p>	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Artuqid Hammam</p>		<p style="writing-mode: vertical-rl; transform: rotate(180deg);">The Middle Gate</p>	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Er-Rizk Mosque</p>		<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Small Palace</p>	

**Figure 4.** The composite catalog documents all structures through their characteristic architectural drawings: sections, elevations, and base plans (Source: GKGGM, DSI, Er-Bu, Hasankeyf Excavation Directorate, A. Gabriel and the authors)

## 5. Reasons for the Devastation of the Settlement - Ilisu Dam on the Tigris

Large dams demonstrate important technological progress, but they function as power symbols for individual rulers or state governments while maintaining extensive social value. These large-scale initiatives demand extended periods as well as substantial financial resources and cause widespread disruption to ecosystems, together with historical sites and human communities. Such projects mainly impact vulnerable communities with scarce resources who lack political influence because they suffer from combined social, environmental, and economic impacts [21].

The construction of a dam on the Tigris River at the site of the village of Ilisu, which had a population of only a few hundred inhabitants, was first proposed by the Turkish State Waterworks in 1954. The Turkish Southeast Anatolia Project (GAP) incorporated the dam into its regional development plan when it was established in 1982. Preliminary work on the Ilisu Dam began in the 1990s, and construction officially commenced in 2006. The European funders dropped their support for the project in the early 2000s because they worried about the impact on the local residents and environmental effects. With a catchment area spanning the provinces of Batman, Diyarbakır, Mardin, Siirt, and Şırnak, the project's construction led to the displacement of 199 settlements located upstream of the Tigris River [22]. The dam, later named "Ilisu Prof. Dr. Veysel Eroğlu," was completed in 2020, when the waters of the reservoir reached the predicted water level. In addition to submerging the settlements & displacing over 25,000 people, the 10.4 billion cubic meter reservoir flooded 400 kilometres of the Tigris ecosystem and submerged 300 archaeological sites [23].

The staggering scale of cultural loss inflicted by the reservoir project, which drowned not just landscapes but millennia of human history, demands a rigorous forensic approach to heritage triage. This paper reveals how these submerged sites have become a playground for using new adaptive conservation methodologies. The interventions identified in the next part of the paper emerge from a painful paradox: the very factors that made these sites vulnerable (their riverside locations, material composition, etc.) now directly shape how we attempt to save them through similar rescue approaches.

## 6. Relocating Heritage Structures: Methods & Analysis

Different types of distinct heritage intervention

methodologies have been identified through the research process in response to environmental threats (e.g., hydrological exposure). Each methodology represents a calculated negotiation between what could be saved (technical feasibility), what should be saved (cultural value), and what communities demanded to preserve (social memory). These are based on factors such as the physical scale, complexity, and size of the building sites; economic constraints; the historical significance of the remains; their state of deterioration and risk profile; and functional and social considerations (e.g., continuity of use, community attachment). The executed procedures can be categorized into six main types:

1. Preservation of the site without relocation
2. Stabilization, consolidation, and strengthening of heritage due to complete submersion;
3. Site burial with embankments due to complete submersion;
4. Strengthening of structures for partial submersion;
5. Complete or partial displacement of monuments;
6. Height relocation due to encroaching waters after flooding.

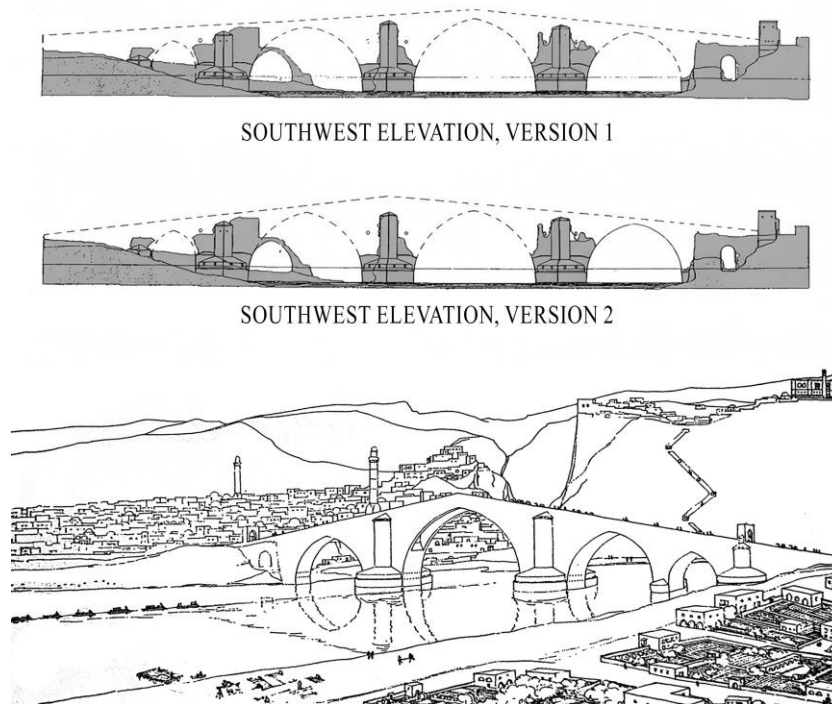
### 6.1. Preservation of Site without Relocation

Only two monuments (the **Great Palace** and the **Ulu Mosque**, both situated on the **Hasankeyf Citadel**) remained in situ and were not subjected to drastic spatial changes. Given that the primary focus of this study is relocated heritage, these two structures are not analyzed as individual thematic cases.

### 6.2. Stabilization, Consolidation, and Strengthening of Heritage Due to Complete Submersion

The **Old Bridge** over the Tigris River was built in the middle of the 12th century on the site of an older bridge. It was a multi-arched structure (Figure 5), with the main arch having a span of 40 meters, while the total length of the bridge was 200 meters [24].

The bridge suffered devastation because of Hasankeyf's declining importance and insufficient maintenance until the 21st century, when only fragmented remains survived without any major arches. The scale of bridge, together with its poor condition, made relocation an impractical preservation solution. The preservation strategy focused on maintaining the original structure by stabilizing its remaining parts. The conservation approach required the consolidation of existing bridge elements to maintain their structural stability and defend them against water and river currents in the newly formed reservoir. In the new settlement, a new pedestrian bridge was built.



**Figure 5.** The upper drawings depict two hypothesized reconstructions of the original bridge, as proposed by Prof. Oluş Arık. The lower drawing presents the assumed reconstruction of the bridge based on the studies of Albert-Louis Gabriel. He was the first scholar to conduct a systematic study of Hasankeyf in 1932 (source: Kantaratlas)

### 6.3. Site Burial with Embankments Due to Complete Submersion

The **Mardinike Complex** consisted of two main blocks, of which only remnants are left.

It was established that the process of submersion would pose a threat to the structures, including distortion, destruction, and wearing away of the structures due to hydraulic, static, and erosive forces. To mitigate these risks, a documentation project was completed in 2008, followed by an underwater protection plan in 2017 [25]. The conservation interventions were categorized into two main groups. The first group consisted of the measures which were intended to counteract the degradation that was observed in the ruins, and these included stabilization, consolidation, and structural reinforcement. The second group involved covering the ruins with highly impermeable silt sand to reduce the direct contact of the ruins with water and the effects of the currents and deposition of sediment in order to create a controlled protective environment when submerged [25].

### 6.4. Strengthening of Structures for Partial Submersion

On the southern slope that stretches from Hasankeyf and passes part of the caves, there is a **Slope Complex** that includes a mosque, a madrasa (school), an imaret (public kitchen), a takya, and a hammam [26]. Since the remains of the hillside complex are located on the height just above the new lake shore, conservation measures were applied in

2017 to counteract the hydraulic and erosive forces of the water and to protect the structural elements of the site. The lower part of the complex, where the madrasa used to be, is located beneath the new water level. In order to protect the walls from the underwater conditions caused by tidal fluctuations and the currents of the Tigris River, retaining walls were built to prevent erosion, and the ruins between them were first covered with a protective layer of hydraulic lime mortar before being filled with gravel [27]. In response to the loss of the original roof from environmental damage and neglect, a protective light steel roof was added over the remaining structure.

### 6.5. Complete or Partial Displacement of Monuments

Located on a small hill near the Tigris River, the **Takya of Imam Abdullah** was built from rubble stone and surrounded by a cemetery. This complex included a minaret, a courtyard enclosed by niches with auxiliary rooms, and a cubic mausoleum housing the tomb of Imam Abdullah, the grandson of Cafer-i Tayyar, a cousin of the Prophet Muhammad [19]. The takya remains together with Imam Abdullah's grave, and the associated cemeteries underwent a careful relocation process as part of heritage preservation efforts to guarantee their conservation. Two new baldachin-style tombs were built to house five graves relocated from various locations in Hasankeyf [28].

The **Artuqid Hammam**, situated on the northern bank of the Tigris River, has been dated to the mid-12th century under Artuqid rule based on evidence from the 2005

excavations, which also revealed later Ottoman repairs. The Ottoman records from 1530 show that four baths existed, but this one remains as the only survivor. The building design of this structure follows the standard Anatolian bath design, which includes dressing rooms and lukewarm sections and a hot cruciform room [29]. The dressing room section was moved to the open-air museum using a reinforced concrete grid beam system combined with hydraulic jacks and SPMT. The hot room, furnace, and cistern were left underwater but preserved through burial layers [29].

The 600-year-old **Er-Rızk Mosque** survives through its elegant minaret and crown door, which remain after a landslide destroyed its southern place of worship. The architectural elements show intricate stone carvings throughout their design [18]. The historical and artistic significance of these remnants led to the implementation of a relocation strategy for their protection. The original minaret was carefully divided into segments and reassembled, while the remaining part of the mosque was relocated using a SPMT. The interpolation method allowed builders to reconstruct the building section that disappeared in the landslide after transporting it to its new site. The new white polished stone serves to differentiate between the historic building fabric and the modern restoration work.

The **Koç Mosque** represents a major medieval architectural monument of Hasankeyf because it displays elaborate decorative elements through its deeply carved plaster designs situated above the iwan (portal niche), which span from the 12th to the 14th centuries. The valuable stucco decorations received temporary protective measures from 2000 to 2002 because of preservation requirements [30]. The main part of the Iwan was relocated to the new museum site, but due to the scale of the archaeological findings, which have an area of almost 1ha, it was determined that the majority of the ruins would be left to be submerged by the reservoir. To mitigate water damage and preserve the integrity of the structures, the site was encased with fiberglass-reinforced concrete slabs, and a concrete shear wall was constructed (Figure 6). This approach aimed to reduce the effects of water on the remains. The method was applied to protect both the Koç and Suleiman Mosques [31].

The **Sultan Suleiman Mosque**, which also goes by the name of Şehabiye Madrasa, stands as a ruined structure at present. The Ayyubid mosque contains a central fountain courtyard and a cylindrical minaret with Kufic inscriptions from 1409 and several domed rooms [19]. The minaret was disassembled and relocated stone by stone while the main structure was moved using a SPMT.

The **Eyyubi (Girls') Mosque**, built in 1388, lacks sufficient historical documentation, and its unconventional architectural plan complicates efforts to obtain definitive information about its original function. According to Gabriel A. the structure functions as a late 14th-century Ayyubid-era mausoleum [19]. The building includes a square courtyard that contains four equally positioned

domed chambers. The building originally presented a stone exterior that has mostly deteriorated due to collapsed upper sections and subsequent irregular reconstruction work. The building underwent multiple modifications and repair processes, which led to its transformation into a mosque [19]. The northern façade of the building displays exceptional craftsmanship through its window and entrance decorations. During the relocation process, the main structure, weighing 4,600 tons, was transported in two sections, while the garden walls were moved in six separate parts using a SPMT [32].



**Figure 6.** Satellite images of the Koç & Sultan Suleiman mosques from 2017, 2019, and 2024 illustrate the changes to the site before and after the construction of the concrete sarcophagus (source: Google Earth)

**Zeynel-Bey Tomb** was situated opposite Hasankeyf on the Tigris River. The stone mausoleum is a cylindrical structure, adorned with both glazed and unglazed brick mosaics. The exterior tile and glazed brick decorations and interior plaster coatings at this site stand as the sole remaining examples of classical Anatolian architectural decoration [18]. The existing structure was elevated on a new base, an access ramp was constructed, and it was

relocated to the new settlement. The remains of adjacent Zeynel Bey K ılliyesi, including the inn and madrasa, were preserved underwater through a burial method involving the creation of fill layers. A new replica of the walls was built around the mausoleum on the new site [33].

The **Middle Gate** stands as an important architectural structure from the Ayyubid Period, which still exists in good condition. The southern side of the structure bears an inscription which shows Sultan Suleiman built it during 1416 [34]. Constructed with regular cut stone and lime mortar, its front façade remains intact, while traces of the guard post, wall pathways, roads, and loopholes are partially visible [35]. The gate underwent extensive stabilization and reinforcement work during the period from 2002 to 2010 [36]. Ultimately, it was divided into three sections, which were elevated and transported to the new site, just below the relocated Er-Rızk Mosque.

#### 6.6. Height Relocation Due to Encroaching Waters after Flooding

Despite major damage to the **Small Palace** (an Ayyubid guard tower), its northeast exterior wall still features two lion sculptures, window rosettes, and drop motifs [18]. Due to the tower's proximity to the operational water level of the Ilisu Dam, a 60m high embankment was constructed to mitigate the risks of water exposure, erosion, and cliff destabilization. Despite these measures, water infiltration was observed in the structure following the dam's water level increase, which required additional protective measures to stop structural deterioration. The water level rose by over two meters, prompting authorities to raise the entire palace six meters above the water level for future flood protection and long-term preservation [37].

### 7. Political, Social, and Architectural Implications of the Ilisu Dam Project

The Ilisu Dam project has both local and international political support and opposition, with proponents citing its role in energy security and economic growth, while critics emphasize its social and environmental impact. The main goal of the project is to utilize the hydropower resources of the Upper Tigris Basin to supply the increasing energy needs of Turkey's increasing population, thus becoming a topic of geopolitical and socio-economic debate. The construction of the Ilisu Dam is a major accomplishment in Turkey's renewable energy sector and is considered a national pride. The dam has an installed capacity of 1,208.6 MW, comprising six primary generators, each rated at 200.7 MW, and one auxiliary unit of 4.4 MW. Its projected annual energy production is estimated at 4,120 GWh. It is the fourth largest dam in the country [38]. Given the average annual electricity consumption of 3,500 kWh per person in Turkey [39], the dam can support more than a

million people in the poorest part of Turkey. The method for calculating the number of the supported people is based on the following formula:

$$\frac{\text{Total Annual Electricity Generation} \left( \frac{\text{kWh}}{\text{year}} \right)}{\text{Average Electr. Consumption per Person} \left( \frac{\text{kWh}}{\text{person year}} \right)} = \frac{4,120,000,000 \text{ kWh/year}}{3,500 \text{ kWh/person/year}} \approx 1,18 \text{ million people}$$

In a country of 87,6 million people, this theoretically represents 1.34% of the total population needs [40]. However, the potential benefits of the project may be outweighed by the fact that the dam is situated in a geopolitically sensitive and hydrologically unstable region near the borders of Syria and Iraq, an area long associated with transboundary water-sharing tensions, particularly with downstream Iraq [41].

The Kurdistan Workers' Party (PKK) has maintained its opposition to the Ilisu Dam construction as part of Turkey's Southeastern Anatolia Project (GAP). The dam faces ongoing controversy because of its major ecological and socio-political consequences, which affect nomadic and pastoral communities in flooded areas. The majority of affected settlements contain Kurdish residents who, as Turkish minorities, do not anticipate any advantages from this project. The dam represents a direct danger to their historical heritage and cultural identity, according to their viewpoint. The PKK considers the dam as a state repression instrument because it results in Kurdish population displacement and cultural heritage destruction while blocking essential water access for regional agricultural needs [42].

In addition to political parties, various human rights, environmental, archaeological, and cultural associations have voiced concerns and dissatisfaction regarding the significant ecological and historical consequences of the situation. The ecological state of extensive local areas suffers severely because of these effects, while the historical and archaeological sites face severe damage, since some of them represent the oldest on Earth. The relocation efforts managed to save part of the heritage, but many unidentified archaeological sites remain uncertain because they have not been discovered or studied and now lie beneath deep Tigris waters. Furthermore, questions arise regarding the future of buildings that were not relocated, especially in relation to residential architecture, which was largely neglected during the preservation efforts in Hasankeyf. The structures that were saved primarily represent the most famous and significant cultural and historical monuments of a public nature, whereas the remainder (private shops, homes, and production facilities from different eras) are lost forever.

Architectural buildings that were once situated at the heart of the settlement, surrounded by numerous structures, now occupy positions on the outskirts of the area. The

accessibility of these sites for regular visits becomes doubtful because of their distant location from residential areas within the city. The historical settlement developed organically through expansion, which integrated neighborhoods naturally with the surrounding hills to create a traditional adaptive urban form. The new settlement follows a 20th-century American urban planning model by using a repetitive grid-like arrangement of residential units, often referred to as a “carpet” system made out of tract housing (Figure 7). The main roads cut through the fabric of the settlement, creating suburban areas designed for automobile travel rather than pedestrian access. The transformation represents a major change from the foot-based layout that characterized old Hasankeyf. The central area is dominated by newly constructed buildings designated for public functions, whereas historical structures are positioned on the periphery, surrounding the canal. A bridge, designed to resemble the silhouette of the Old Bridge of Hasankeyf, serves as a focal point within this layout.

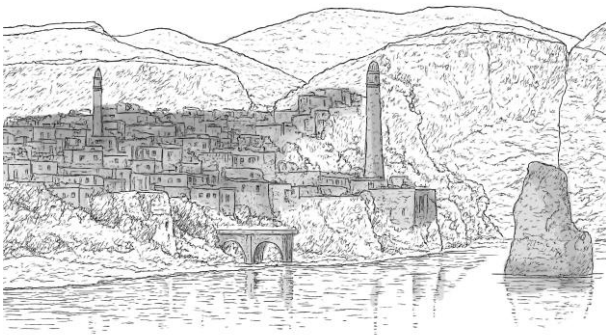
The units lack a meaningful connection to the historical vernacular dwellings once inhabited by the local population. The functional zoning of the new settlement separates residential areas from administrative buildings,

commercial areas, and historical sites, which disrupts the mixed-use character of the original town. Given that all the old religious buildings were historical and thus incorporated into the new open-air museum, there arose a need to construct new mosques at a reasonable distance from residential neighborhoods. Recognizing this shift, urban planners and local authorities have sought to compensate for this functional void by constructing three new mosques within the residential zones of new Hasankeyf, ensuring that the religious needs of the contemporary community are met, even as the historic mosques remain primarily symbolic.

The houses provide residents with better living conditions than both the abandoned flooded rock-cut dwellings and the previous vernacular homes, according to modern standards of living (Figure 8). The residents appreciate the better physical design and comfort of their new homes, but they remain unhappy about poor construction standards, insufficient infrastructure, limited service access, and expensive housing costs. Nevertheless, environmental factors, including reduced air and noise pollution, along with strong social cohesion and a heightened sense of security, contribute positively to overall housing satisfaction [43].



**Figure 7.** The schematic representation of new Hasankeyf (source: authors)



**Figure 8.** Transformation of housing types in Hasankeyf: rock-cut dwellings, vernacular housing & mass-produced tract housing (source: authors)

Yet these material improvements obscure deeper cultural losses. Scholars emphasize that Hasankeyf's heritage was as much social and intangible as physical. Everyday places had deep social value and meanings for residents. The dam's mitigation failed to recognize Hasankeyf's social values, and locals were excluded from decision-making. Sönmez analyzes post-dam Hasankeyf through a decolonial lens, arguing that resettlement planners largely ignored the town's indigenous social infrastructures (such as tandoors, riverside çardak cafes, community gardens,

and cultural heritage sites) that sustained affective bonds and daily social practices [16]. These infrastructures were not merely physical spaces; they served as connections to shared traditions, intergenerational knowledge, collective memory, and a deep sense of belonging. This affected particularly women, who lost spaces like shared tandoors where they baked bread and socialized [16]. While urban redevelopment prioritized modern amenities (e.g., hospitals, universities), its failure to integrate indigenous lifeways rendered the resettlement a site of relocation rather than home.

This relocation extends to heritage representation. The new open-air museum project, while a focal point for tourism, selectively emphasizes Seljuk/Ayyubid monuments and Islamic heritage, sidelining Hasankeyf's early medieval and Christian communities [44]. The omission of Christian sites (cave churches, monasteries) from relocation has been condemned as an erasure of the town's multilayered identity, reducing its musealization to a partial narrative.

## 8. Challenges and Outcomes of Relocating Hasankeyf's Built Heritage

These competing priorities (preserving physical structures while losing their original context) become most visible in the relocation of Hasankeyf's monuments. The relocation of cultural heritage from the historic settlement to the newly established open-air museum has inevitably resulted in a loss of contextual authenticity. The open-air museum reassembles heritage buildings with modern construction techniques, creating a new landscape that prioritizes tourist access over historical accuracy. A fundamental query emerges about the theoretical foundations which guide the arrangement of spatial elements in the newly established open-air museum, specifically when evaluating the historical interrelationships between structures within the now-submerged settlement.

One of the most striking aspects of this relocation is the process of musealization, wherein architectural heritage has been transformed into isolated exhibits, sometimes referred to as "absent heritage" [12], severed from the socio-cultural fabric that had sustained them for centuries. In this transition, the structures have lost their intrinsic connection to the lived experiences of the former inhabitants, effectively reducing them to static historical artifacts. The open-air museum of Hasankeyf displays Hasankeyf's past through a sanitized & decontextualized version, which lacks its original residential and commercial elements that once brought the town to life. Positioned on the periphery of new Hasankeyf, the park remains spatially and functionally detached from contemporary urban life, further reinforcing the sense of displacement. The relocated structures function as 1:1 architectural artifacts, which

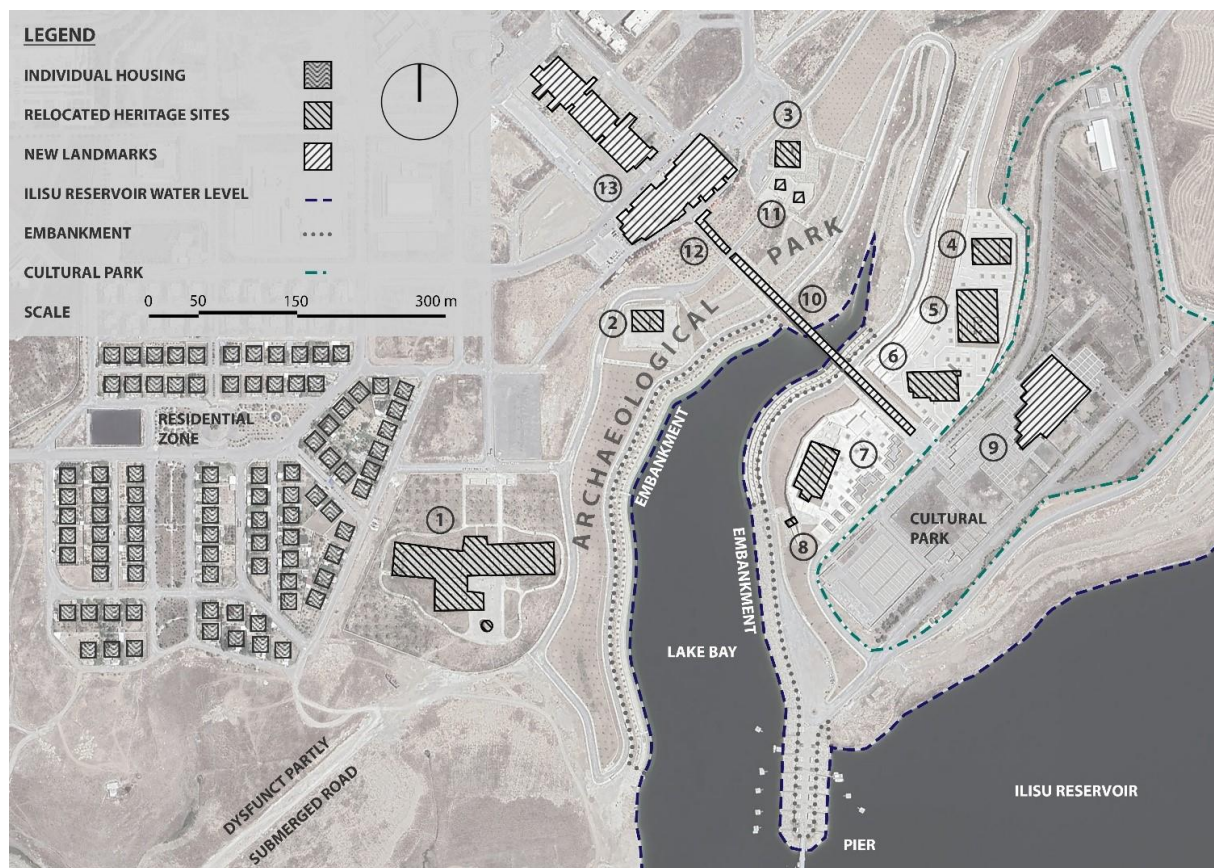
surround a newly formed bay within this reconstructed landscape. A bridge, constructed above this bay, plays a critical role in establishing new spatial dynamics. Clearly intended to evoke the visual memory of the original medieval bridge, this new structure, however, does not constitute a faithful facsimile. While its general form is reminiscent of its historical predecessor, specific architectural elements have been omitted. Notably absent are the cutwater buttresses (also referred to as starlings), which once served a crucial hydraulic function by mitigating the erosive force of the Tigris River's dynamic flow. In contrast, the new bridge spans a tranquil, stagnant reservoir, rendering such structural elements obsolete in the present-day hydrological context.

The newly constructed bridge forms a central axis that connects the modern settlement of new Hasankeyf with the open-air museum. This axis not only facilitates physical movement but also symbolically links the contemporary urban landscape with the relocated historical heritage. At one end of the axis lies a commercial zone, which includes a newly built covered bazaar (kapalı çarşı), reflecting an attempt to evoke the mercantile character of the original settlement. At the opposite end, a plaza-park extends

toward the new Batman Hasankeyf Museum, which serves as a repository for archaeological artifacts and a site for the interpretation of Hasankeyf's cultural legacy (Figure 9).

The bay design seems to allude to the former Tigris River path through its symbolic representation of historical river topography. The right bank of the Tigris River in Hasankeyf's medieval settlement hosted its central residential area with the fortress and important civic buildings, whereas the left bank contained agricultural land with scattered architectural sites. This spatial duality is echoed in the new configuration of the open-air museum, which is divided into two zones corresponding to the respective riverbanks.

The new arrangement creates a critical problem because it distorts how visitors perceive historical memory (genius loci). Although the relative order of the structures is preserved, their spatial relationships have been compressed and recontextualized, which may lead to misconceptions about their original placement and function. To quantify this distortion of spatial relationships and contextual meaning, a multi-stage geospatial analysis was conducted to assess the site's residual *topographic authenticity* (Table 3).



**Figure 9.** Display of heritage artifacts following relocation: 1. Zeynel-Bey Tomb, 2. The Artuqid Hammam, 3. Takya of Imam Abdullah, 4. Eyyubi Mosque, 5. Koç Mosque, 6. Sultan Suleiman Mosque, 7. Er-Rızk Mosque & 8. The Middle Gate. Newly constructed buildings: 9. Hasankeyf Museum, 10. The New Bridge, 11. New Turbeh Tombs, 12. Railway Furnicular & 13. The Grand Bazaar. (source: authors)

**Table 3.** Evaluation of Topographic Authenticity and Site-Specific Displacement

Monument	Original Coordinates (In Situ)	New Coordinates (Archeopark)	Linear Displacement (Approx.)	Vertical Displacement (Source: NASA)	Impact on Topographic Authenticity
Zeynel Bey Tomb	37°42'56.73"N 41°24'22.92"E	37°43'29.79"N 41°25'21.63"E	~1.75 km	479m to 541m	Moved to a plateau. Remains close to river.
Artuqid Hammam	37°42'51.77"N 41°24'29.43"E	37°43'39.78"N 41°25'28.79"E	~2.04 km	476m to 543m	Vertical shift of ~70m; loss of hydraulic logic (river dependency).
Takya Of Imam Abdullah	37°43'1.97"N 41°24'40.94"E	37°43'45.24"N 41°25'34.39"E	~1.86 km	488m to 548m	Severed from the specific topography. Placed on an artificial plateau with two new monumental tombs on multiple levels.
Eyyubi (Girls') Mosque	37°42'42.47"N 41°24'51.66"E	37°43'42.13"N 41°25'42.77"E	~2.28 km	498m to 547m	Removal from the dense urban grain of the medieval center.
Sultan Suleiman Mosque	37°42'44.82"N 41°24'46.94"E	37°43'39.46"N 41°25'42.23"E	~2.19 km	505m to 547m	Removal from the dense urban grain of the medieval center.
Koç Mosque	37°42'42.89"N 41°24'48.30"E	37°43'37.56"N 41°25'40.45"E	~2.14 km	503m to 545m	Loss of neighborhood context; originally part of a complex (Küllüye).
Er-Rizk Mosque	37°42'49.15"N 41°24'40.97"E	37°43'35.40"N 41°25'35.73"E	~1.93 km	482m to 538m	Loss of the skyline dominance over the Tigris
The Middle Gate	37°42'43.99"N 41°24'36.43"E	37°42'43.70"N 41°24'36.23"E	~2.03 km	~505m to 529m	Functional obsolescence; a gate that no longer leads to a citadel; loss of meaning
The Old Bridge	37°42'52.01"N 41°24'38.45"E	<i>in situ</i>	0.00 km	469m < 525m water level)	Submerged; The topographic relationship is inverted; the bridge is now <i>under</i> the water it once spanned.
Mardinike Complex	37°42'51.58"N 41°25'9.87"E	<i>in situ</i>	0.00 km	472m < 525m water level)	Buried/Submerged; Covered by silt/sand layers; total loss of visual accessibility.
Slope Complex	37°42'34.53"N 41°24'57.74"E	<i>in situ</i>	0.00 km	527m > 525m water level)	Shielded; Retaining walls create an artificial barrier between the ruin and the rising water.
Small Palace	37°42'46.97"N 41°24'38.14"E	<i>in situ</i>	0.00 km	525m = 525m water level)	Elevated. Raised 6 meters <i>in situ</i> to avoid water infiltration; alters relationship to the cliff edge.

Geospatial data was extracted using Google Earth Pro's historical imagery (pre-2020) to pinpoint original footings, while elevation values were cross-referenced with NASA-based topographic lookup tools to ensure a consistent vertical baseline.

First, the original and relocated positions of each monument were identified using historical satellite imagery and satellite-derived Digital Elevation Models (DEM). By establishing precise coordinate pairs for both sites, the Linear Displacement Vectors were calculated to quantify the horizontal spatial shift. Simultaneously, altimetric data (NASA SRTM/ASTER) was utilized to determine the change in elevation (Z-axis) relative to the original riverbank. The resulting Vertical Displacement ( $\Delta Z$ ) provides a quantifiable metric for the topographic rupture between the historic riverside context and the new plateau setting.

The analysis demonstrates that the relocation process resulted in a systematic and profound rupture in the relationship between Hasankeyf's monuments and their original landscape in terms of topographic authenticity. The moved structures exhibit a dual dislocation: a significant horizontal displacement (1.75–2.19 km) and a uniform vertical uplift to the 540m plateau, severing their original hydraulic, urban, and defensive logics. Meanwhile, the in-situ monuments suffer a parallel fate of contextual erasure (through submergence, burial, shielding, or

artificial elevation), effectively inverting or neutralizing their historic relationships to the river and cliff. This physical and contextual dislocation precipitated a fundamental shift in the monuments' *relational identity*.

This fragmentation of the monuments' individual contexts serves as the precursor to a wider collapse of the site's collective spatial logic. The museumification of individual monuments cannot be understood in isolation; it is the dissolution of the spatial intervals between them that fundamentally alters the site's relational integrity. To evaluate this loss, the site was analyzed not as a collection of objects, but as a sequential urban fabric defined by visibility and movement (Table 4). Historically, the relational integrity of urban fabric was maintained through spatial intimacy. Occluded and fragmented views created a narrative of discovery, where the city unfolded gradually through movement and framed glimpses. The opening of these views into a single, all-revealing panorama results in museum-like display experience. This transforms a lived, experiential fabric into a passive, consumed spectacle, severing the deep, sequential relationship between inhabitants and environment.

**Table 4.** Evaluation of Relational Integrity before and after Relocation

Monument	Primary Pre-Intervention Axis (The "Dialogue")	Post-Intervention Condition	Impact on Relational Integrity
Zeynel-Bey Tomb	<b>Riparian Mirror:</b> Direct visual link to the Tigris, pasture floodplain fields, cliffs & the Citadel.	<b>Plateau Isolation:</b> Facing the new settlement and an artificial park; loss of green pasture scenery and cliff backdrop.	<b>Loss of "Opposite" Riverside Context:</b> Its role shifts from a landscape integrated element to a mere vantage point in the city.
Artuqid Hammam	<b>Riparian Mirror:</b> Looking <i>up</i> at the Citadel from the valley floor; gravitational river-flow dependency.	<b>Level Plane:</b> Placed at the same elevation and side as the "higher" city, on an artificial plateau.	<b>Flattened Hierarchy:</b> Loss of the vertical power dynamic & the loss of the "Hydrological Context."
Takya Of Imam Abdullah	<b>Threshold:</b> Guarding the entrance to the bridge/town; on the opposite side of the settlement.	<b>Isolated Node:</b> No longer marks a physical or symbolic entry point; placed on the same side as the new settlement.	<b>Loss of Conceptual Logic:</b> no "sacred" separation from the living settlement; loss of "gatekeeper" position.
Eyyubi (Girls') Mosque	<b>Central position:</b> Surrounded by populated neighbourhoods.	<b>Row Alignment:</b> Placed in a linear display sequence.	<b>Musealization:</b> Transition from urban node to exhibit.
Sultan Suleiman Mosque	<b>Skyline Anchor:</b> The main vertical accent in the lower-town.	<b>Competition:</b> Visually competes with the Er-Rizk minaret due to linear display.	<b>Neutralization Through Symmetry:</b> The balanced, mirrored display cancels out individual dominance.
Koç Mosque	<b>Intimate Fabric:</b> Ruin tucked into the dense lower-town streetscape.	<b>Void Exposure:</b> High ruin visibility in an open field.	<b>Contextual loss:</b> Erosion of spatially-mediated ruin discovery.
Er-Rizk Mosque	<b>The Landmark:</b> Framed by the canyon and the bridge.	<b>Decontextualized:</b> Its dominant height advantage over the river cliffs is gone, and it competes with the Sultan Suleiman minaret.	<b>Scale Distortion:</b> It looks smaller without the cliff-river backdrop.
The Middle Gate	<b>Sequence:</b> Part of the ascending path to the Citadel.	<b>Stand-alone Arch:</b> No longer leads "to" or "from" anywhere.	<b>Spatial Disjunction:</b> Loss of its role as a spatial transition.
The Old Bridge	<b>Structural Link:</b> Originally connecting the two banks of the Tigris.	<b>Submerged:</b> Nothing remains visible; a new bridge is constructed to mimic the old.	<b>Total Rupture:</b> The "reason for the lower-town" is now underwater.
Mardinike Complex	<b>Gateway:</b> Defining the western edge of the settlement.	<b>Submerged:</b> Under a water column of 50 meters.	<b>Orientation Loss:</b> It no longer defines the town's boundary; submerged.
Slope Complex	<b>Climbing Link:</b> Connects the lower town to the cliff caves of Hasankeyf.	<b>Fragmented:</b> The path it "sloped" along no longer exists.	<b>Linearity Loss:</b> The vertical gradation is erased; partially submerged.
Small Palace	<b>Cliff Lookout:</b> Hanging over the Tigris abyss.	<b>Embankment Anchor:</b> Sitting on a concrete "pedestal."	<b>Visibility loss:</b> Loss of its identity as a "Cliff-Hanger."

The relational integrity between architecture and landscape was rooted in a direct, riparian (riverine) dialogue. Structures engaged in a continuous visual and physical conversation with the Tigris, drawing meaning from its flow, reflection, and seasonal rhythms. Their relocation to a desolate plateau constitutes a complete contextual change. This cuts the vital ecological and aesthetic link to the former riverside, leaving the monuments as lonely spectators. They now only gaze at the sunken landscape they were once part of (Figure 10A).

However, this contextual severance extends beyond the waterline; it fundamentally disrupts the altimetric hierarchy that once culminated in the Citadel. The Citadel's relational integrity was anchored in its imposing vertical dominance, serving as the high-altitude anchor to the riparian base. The original sightline, demanding a viewer's gaze to rise approximately 120 meters from the riverbed, established a clear visual and symbolic hierarchy that reinforced the site's social and political order.

By establishing this vertical axis, the settlement's spatial logic became intrinsically tied to its topography. Figure 10B illustrates this precise vertical hierarchy, where the gradient from the river's edge to the Citadel peak established a functional and symbolic order - elevation directly corresponded to a structure's public importance and defensive necessity. The relocation to the plateau does more than displace monuments; it collapses the entire vertical scale and riparian logic of the original settlement into a single, homogenized plane.

From this elevation data, we can learn the ancient settlement's meticulous adaptation to the Tigris River topography in a precise vertical hierarchy. The lowest structures, like the Old Bridge (460-465m), were built at the water's edge to facilitate direct riparian access, while vital public buildings (hammams, tombs, mosques) occupied the critical mid-slope zone between ~480m and 520m, safely above floods yet integrated with daily life. Citadel monuments (Great Palace at 525m, Ulu Mosque

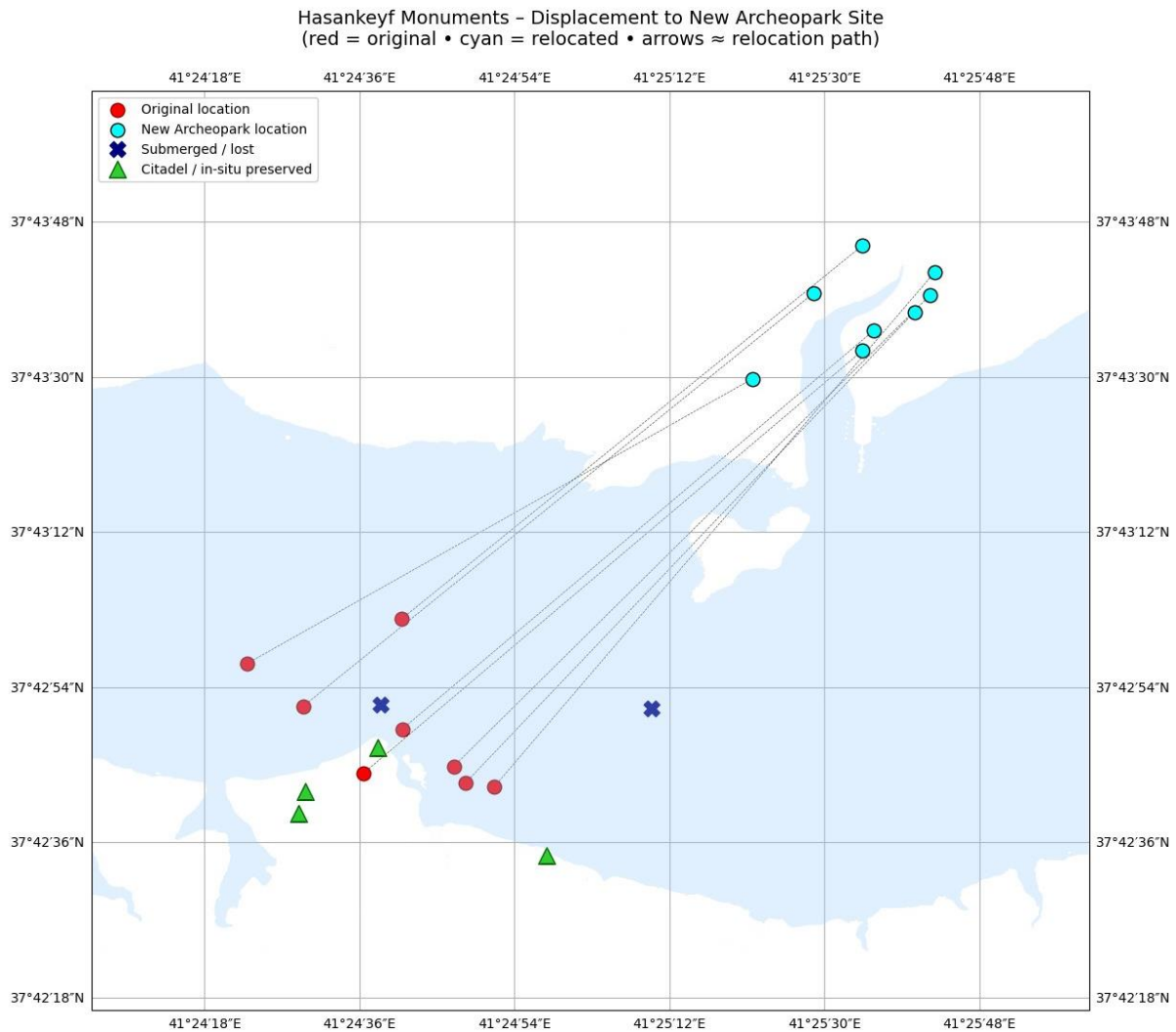
peaking at 580m) commanded the highest ground, their elevated positions (a stark 100+ meter rise above the river) providing strategic defense and visually embodying political and religious authority. This gradient from river to peak formed the settlement's foundational relational integrity, organically tying function, security, and symbolism to the natural landform.

Unfortunately, the settlement's vertical organization, which once guaranteed functionality, ultimately determined which buildings would be preserved and which would be submerged. The structures left to be flooded (the Old Bridge piers and the Mardinike Complex) were precisely those built at the lowest elevations. This pattern suggests their submersion was not a completely random loss but the inevitable consequence of their original, riparian function.

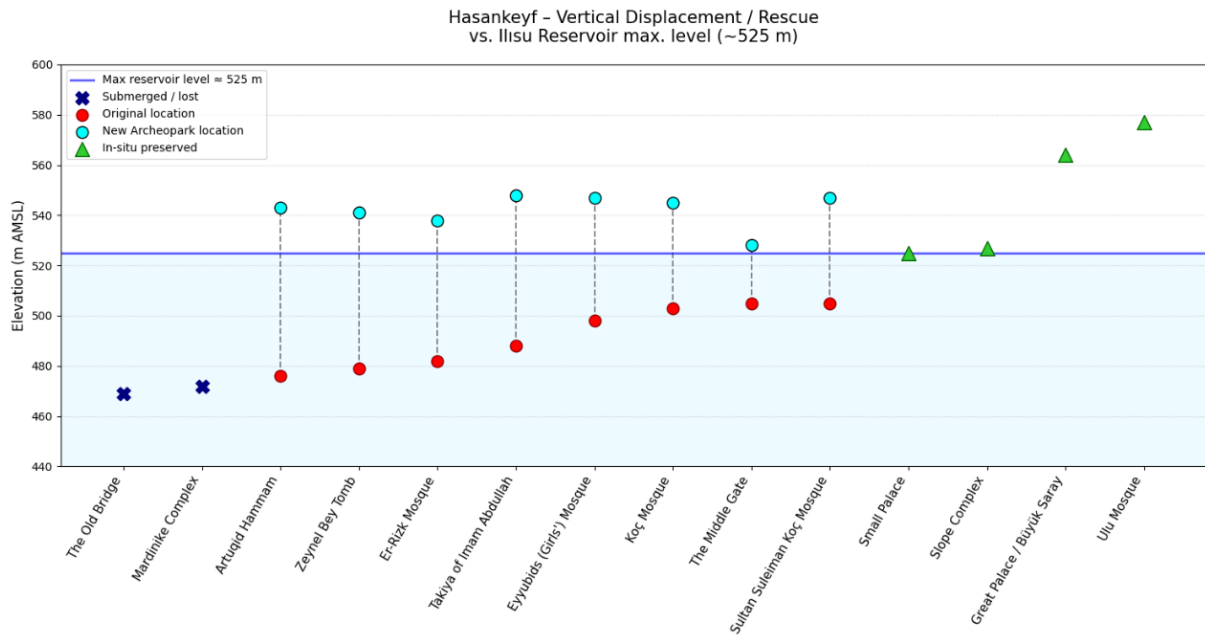
This connection between original function and final fate highlights a critical break in functional continuity. *Functional continuity* was evaluated through a comparative land-use analysis, documenting the transition of structures

from constituent elements of the urban tissue to passive museum objects within a controlled archaeological park/open-air museum (Table 5).

However, the analysis reveals that the original functional roles of most monuments had been abandoned long before the intervention. Rather than serving as active socio-religious nodes, most structures functioned primarily as archaeological and historical landmarks, playing a fundamental role in shaping and defining the town's cultural identity and collective memory. This functional shift was deeply rooted in the site's broader socio-economic landscape; indeed, the pre-flood reality of Hasankeyf was already characterized by economic marginality, partial depopulation, and significant archaeological exposure. Consequently, the site's subsequent transition represents the curation of a mostly already ruined and semi-abandoned heritage. This prior state rendered the process of museumification less abrupt but simultaneously rendered its outcome more explicit and irreversible.



**Figure 10A.** The map shows a tight cluster of red dots marking the original building locations, with cyan dots indicating the new archeopark site roughly 1.8–2.3 km to the northeast; dashed gray arrows connect most moved monuments along this northeast vector, while citadel monuments (Ulu Mosque, etc.) remain as green triangles in place, and submerged structures are marked with blue X's in the original riverbed (source: authors)



**Figure 10B.** The elevation profile of the relocation project. A blue horizontal band denotes the reservoir level (525 m). Most monuments (originally at ~470–510 m) were lifted to ~530–550 m, as shown by dashed lines. Citadel monuments remained at their high original elevations (564–577 m); (source: authors)

**Table 5.** Evaluation of Functional Continuity before and after Relocation

Monument Name	Original Historical Function	Use Immediately before Relocation (2010s)	Use after Relocation	Heritage Status Category
<b>Zeynel-Bey Tomb</b>	Mausoleum	Inactive tomb; visited symbolically, no regular rituals	Heritage exhibit in open-air museum	Passive / Museumified Heritage
<b>Artuqid Hammam</b>	Public bath (hammam)	Ruin; not operational as bathhouse	Heritage exhibit in open-air museum	Passive / Museumified Heritage
<b>Takya Of Imam Abdullah</b>	Religious lodge / tomb	Venerated shrine housing important tombs.	Heritage exhibit in open-air museum	Passive / Museumified Heritage
<b>Eyyubi (Girls') Mosque</b>	Mosque	Liturgical use	Heritage exhibit in open-air museum	Passive / Museumified Heritage
<b>Sultan Suleiman Mosque</b>	Mosque	Abandoned; no active congregation	Heritage exhibit in open-air museum	Passive / Museumified Heritage
<b>Koç Mosque</b>	Mosque	Abandoned; no active congregation	Heritage exhibit in open-air museum	Passive / Museumified Heritage
<b>Er-rizk Mosque</b>	Mosque	Liturgical use	Heritage exhibit in open-air museum	Passive / Museumified Heritage
<b>The Middle Gate</b>	City gate	Historic landmark on the Citadel ascent.	Heritage exhibit, loss of original citadel connection	Passive / Museumified Heritage
<b>The Old Bridge</b>	Bridge	Ruin; no use	Flooded, currently underwater	Passive / Museumified Heritage
<b>Mardinike Complex</b>	Residential / urban complex	Ruin; no use	Flooded, currently underwater	Passive / Museumified Heritage
<b>Slope Complex</b>	Urban-religious complex	Ruin; no use	Static ruins, partially underwater, detached from the contemporary town context	Passive / Museumified Heritage
<b>Small Palace</b>	Elite residence	Ruin; no use	Preserved ruins, detached from the contemporary town context	Passive / Museumified Heritage

In the period immediately preceding relocation, the functional discontinuity of the site's monuments was evident. At least half of the principal relocated mosques didn't operate as active congregational spaces. Civic and infrastructural features (including the hammam, palace, bridge, and city gate) existed solely as archaeological ruins, disconnected from contemporary urban life. While symbolic religious memory endured, active ritual practice had largely ceased.

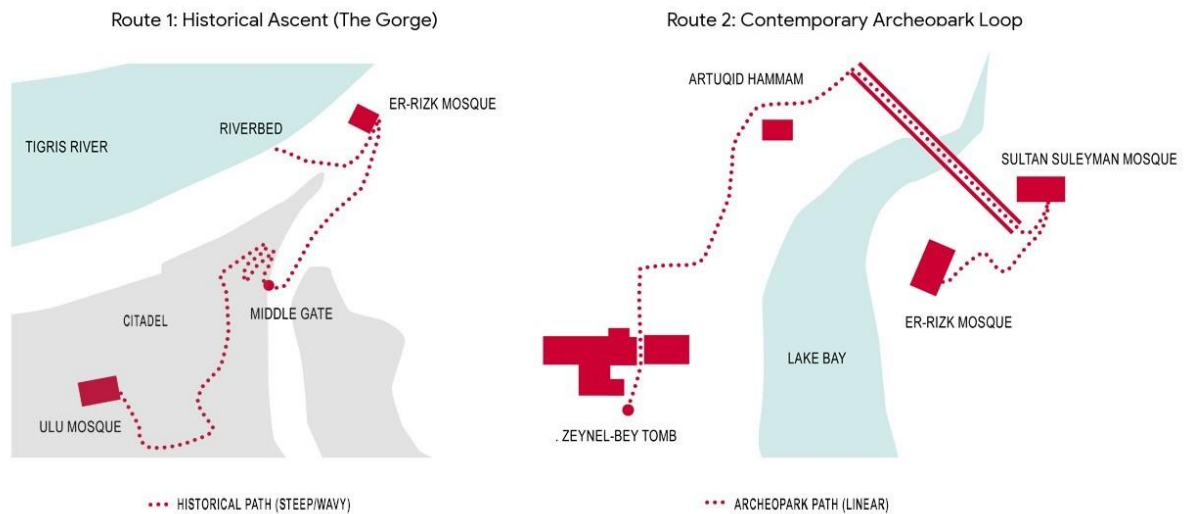
The relocation process formalized and completed this trajectory. All monuments were systematically defunctionalized, becoming curated objects within a managed heritage landscape. Any residual ambiguity regarding their use was eliminated. This can be analyzed through two distinct urban categories. For religious buildings (mosques and tombs), the dominant status shifted from structurally standing, albeit partially used, sites of worship to that of preserved historical monuments, with their primary ritual role largely displaced by new mosques positioned closer to living neighbourhoods. Their access is now regulated, and their meaning is fixed by curatorial interpretation, completing a shift to fully museumified heritage. For civic and domestic structures (hammam, palace, complexes, gate, bridge), which were already non-functional ruins, relocation precipitated a spatial and contextual shift. These structures were transformed from archaeological ruins "*in situ*" into aestheticized exhibits "*ex situ*". Removed from their original topography, they have been integrated into a constructed, didactic landscape.

While these changes in status were conceptual, the physical experience of the site was further altered by the practical logistics of the move. By necessity, monuments

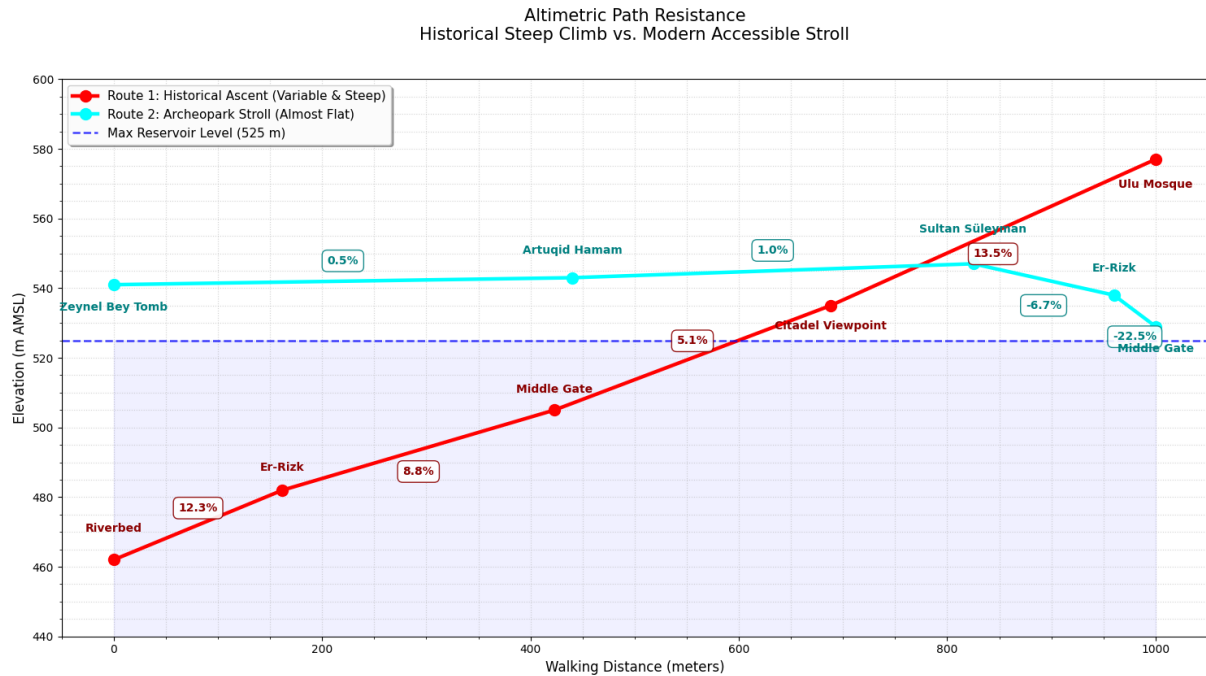
were situated on an artificially leveled plateau, a practical decision that had the profound, if unintended, consequence of eradicating the vertical resistance that once defined the physical and perceptual experience of the site.

The relocation of the upper monuments onto a level plateau introduced a second, kinetic form of erasure, which changed the *accessibility* of the site. To quantify this shift, two distinct 1km pedestrian routes were analyzed (one historical and one contemporary) to show how the change in elevation has fundamentally transformed the visitor's physical engagement with the architecture (Figure 11).

The first route reconstructs the historical ascent, beginning at the riverbed (462m AMSL) to capture the view of the now-submerged bridge piers, moving to the original site of the Er-Rizk Mosque (482m), and climbing to the Middle Gate (505m). From there, the route ascends to the Citadel viewpoint (535m) and concludes at the Ulu Mosque (577m) on the Citadel summit. This "wavy" and steep path, totaling approximately one kilometer in pedestrian terms, represents a journey of high kinetic resistance with a 115m elevation gain. In contrast, the second route traces the contemporary open-air museum loop. It begins at the Zeynel-Bey Tomb (541m), follows the road past the Artuqid Hammam, crosses the new bridge to the Sultan Suleiman Mosque, and concludes at the relocated Er-Rizk Mosque (538m) and the Middle Gate (529m). While this 17-minute stroll (according to Google Maps) gains in accessibility, the following elevation graph illustrates how this horizontal transition devalues the "threshold of effort" that historically defined the city's defensive hierarchy (Figure 12).



**Figure 11.** Comparative planimetric analysis of Hasankeyf pedestrian routes (source: authors)



Monument (Historical Route)	Distance	Elevation (AMSL)	Segment Path Slope (%)	Monument (Archeopark Route)	Distance	Elevation (AMSL)	Segment Path Slope (%)
Riverbed (start)	0 m	462 m	—	Zeynel-Bey Tomb	0 m	541 m	—
Er-rizk mosque	162 m	482 m	+12.35%	Artuqid Hammam	440 m	543 m	+0.45%
The middle gate	423 m	505 m	+8.81%	Sultan Suleiman	825 m	547 m	+1.04%
Citadel viewpoint	688 m	535 m	+11.32 %	Er-Rizk Mosque	940 m	538 m	-6.67%
Ulu mosque (end)	~1000 m	577 m	+12.48%	The Middle Gate (End)	~1000 m	529 m	-22.50%

**Figure 12.** Comparative altimetric (elevation) profile for the two pedestrian routes. While total distance is similar (~1 km), Route 1 involves a steep ascent to the Citadel, resulting in a significant elevation gain and unconfirmed travel time, whereas Route 2 is flat with a 17-minute travel time according to Google Maps estimates (source: authors)

When both paths are measured at a 1km distance, the transition from verticality to horizontality is most visible in the shift from active physical engagement to a neutralized pedestrian experience. The historical "climb" of old Hasankeyf was defined by a jagged, upward-moving line that demanded tactile navigation - a process where the human body directly engaged the rugged topography through steep slopes and rock-cut stairs, prioritizing defensive positioning over ease of accessibility. This high degree of kinetic friction and metabolic energy expenditure forced visitors to engage intimately with the environment, slowing their pace and grounding their experience in the physical reality of the cliffside. The relocation project has replaced this strenuous ascent with a horizontal "stroll" across a level plateau, representing a process of altimetric flattening that drastically reduces the strenuous climb. While this increases accessibility, it does so at the expense of the original context. This transition to passive navigation erases the defensive and hierarchical character of the original site, effectively turning what was once a "pilgrimage" into a simplified "visit."

When the climb disappears, so does the meaning of the milestones. What were once earned triumphs of endurance become simply buildings to be passed by. In the original urban fabric, the Middle Gate (at ~505m) served as a critical "threshold of effort" - a point where a moderate climb intensified into an extreme ascent. It functioned as a mandatory resting point, providing a moment for the body to recover before the final push to the Citadel heights. By moving the monuments to a flat plane, the project has triggered a significant kinetic devaluation. Accessibility, which was once "earned" through physical labor, is now granted through an effortless 17-minute stroll. The erased effort neuters the Gate's symbolic power, dissolving the former psychological boundary between the secular valley and the sacred heights.

Ultimately, the flattening of the landscape does more than ease the walk; it severs the temporal and visual link between the river and the sky. The transformation of the path has resulted in a deep temporal distortion, where the journey is no longer an integral part of the destination. Historically, the time and effort spent reaching a monument

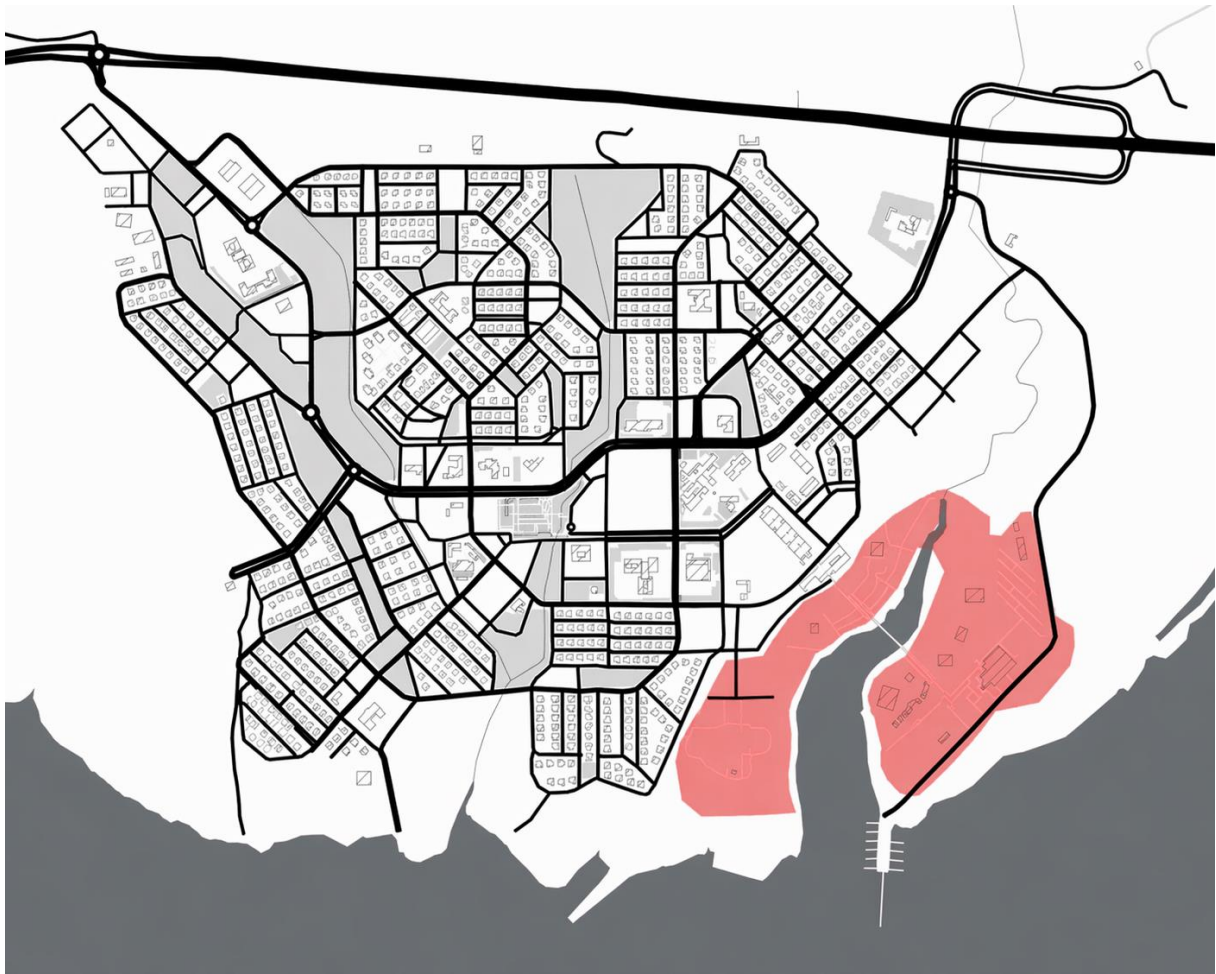
acted as a necessary "preface" to its importance; by compressing this journey, the destination is transformed into a commodity rather than a hard-won experience. This shift is visually marked by the "submergence" of the historical path, where the Blue Reservoir Line (525m) cuts directly through the mentioned path of the old city. Everything from the Old Bridge to the original site of the Middle Gate now sits "below the line," physically drowned by the reservoir. While the Citadel remains as a detached "island" in the top right of the topographic graph, it is now detached from the kinetic narrative that once connected the riverbed to the sky.

Another aspect of accessibility is that it must be understood not merely in the vertical dimension of ease or difficulty, but in its broader, social context: who can reach the monuments, when, and under what conditions. This encompasses the everyday accessibility for Hasankeyf residents, for whom these sites were once integrated elements of life, rather than exclusive destinations. A critical spatial expression of this shift is seen in the segregation of heritage to the southeastern periphery of the new urban matrix. Where monuments like the Er-Rizk

Mosque once formed central nodes within a dense fabric, they are now consolidated into a distinct and isolated zone - a destination-based museum annex set apart from the daily urban flow (Figure 13).

This segregation fundamentally decontextualizes movement and access. In the old city, the kinetic 'climb' was a defining passage, where the act of movement became a central part of the city's spatial identity. In the new matrix, priority is given to a vehicular grid designed for efficiency. For residents, this means that encountering history is no longer a spontaneous element of daily life but a controlled, planned event requiring a conscious departure from the routines of the modern town.

In sum, the new urban configuration represents a decisive institutional zoning that replaces the old city's vernacular integration. The heritage area functions as a peninsula which is physically proximate yet conceptually and kinetically divorced from the daily rhythms of Hasankeyf's residents. The complex interrelation that once wove these structures into the social and topographic fabric has been replaced by a static buffer, transforming active monuments into a backdrop to community life.



**Figure 13.** Urban matrix of the new Hasankeyf with the open-air museum marked with red (source: authors)

The repositioning of Hasankeyf's structures within a designated zone shifts the site's primary logic toward optimized tourist accessibility and visibility. While this relocation facilitates the physical preservation of architectural elements, it reconfigures the spatial relationship between the monuments and their original urban, social, and topographical contexts. The resulting curated environment prioritizes a high-clarity, aestheticized experience, presenting a reconstructed narrative of Hasankeyf that prioritizes legibility over the complexities of the original site's historical layering.

## 9. Conclusions

This paper has examined the contextual and structural factors leading to the destruction of historic Hasankeyf, evaluated the preservation strategies employed, and critically assessed the challenges arising from its cultural displacement. While considerable technical and logistical effort was invested in the relocation, including the significant achievement of reconstructing and transporting monuments two kilometers uphill to protect them from submersion, the outcome reveals a fundamental shift in how this heritage is experienced and valued.

In its place, new Hasankeyf stands as a static, repetitive, and standardized counterpart, a planned settlement defined by physical and infrastructural improvements, including modern roads, utilities, new public buildings, safer housing, and improved accessibility, alongside a formal urban order of clear zoning, regulated plots, and administrative control. While these interventions successfully deliver essential modern infrastructure, they ultimately fail to recreate the complex social, spatial, and symbolic relationships that were intrinsic to the old city's irregular, adaptive, and layered fabric. The relocation process in Hasankeyf converted monuments that were mostly de-functionalized and retained only symbolic, residual meaning into fully curated heritage objects under formal spatial control. Consequently, the fundamental rupture effected by the relocation is not primarily functional, as those roles had largely ceased; rather, it represents a threefold transformation: spatial, through physical removal from the original topography; contextual, through the severance of the constitutive relationships between river, cliff, and urban fabric; and experiential, through the shift toward passive accessibility. This is compounded by a fourth, interpretive dimension, whereby a state-curated historical narrative has replaced the layered, locally embedded memory of the site. In essence, the relocation acted as a definitive endpoint, completing a long-standing process of musealization. The relocated monuments, though materially preserved, have thus been decisively transformed from elements of a living urban landscape into curated exhibits, representing a final transition from living heritage to display heritage, an emerging theme central to contemporary heritage debates, including those framed by UNESCO.

From this single but instructive case, key parameters that should inform future relocation efforts can be extracted. While the findings are not universally prescriptive, they point toward critical themes that ought to be integrated into evaluation frameworks: the social cost of disconnecting heritage from its community; the urban-formative impact of displacing structures from their kinetic and topographic context; and the economic and functional redefinition of monuments once integrated into daily life. This analysis suggests that relocation must be assessed not only by its technical success but by its capacity to preserve functional continuity and relational integrity.

Therefore, this study contributes to emerging criteria for heritage relocation by emphasizing that such projects should be treated as socio-spatial recontextualizations, not merely engineering challenges. It suggests that unless relocation strategies actively prioritize the lived relationships between people and their environment, even technically successful projects risk producing static landscapes of commemorative observation rather than living urban fabrics. Ultimately, Hasankeyf demonstrates that moving a monument is not the same as saving a site. True preservation requires a continuity-sensitive framework, ensuring that what survives remains meaningfully connected to what it once was - not just as an object, but as a lived experience.

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## REFERENCES

- [1] Rezan Has Museum, "Do You Know Hasankeyf?," Google Arts & Culture. <https://artsandculture.google.com/story/KwURerk2SfjwLQ> (accessed Jun. 11, 2022).
- [2] Yeginsu C., "Ancient city of Hasankeyf is now underwater," Los Angeles Times. <https://www.latimes.com/world-nation/story/2019-10-03/ancient-city-hasankeyf-underwater> (accessed Mar. 15, 2025).
- [3] Grey L., "Ilisu Dam project, Turkey," Environmental Justice Atlas. <https://ejatlas.org/conflict/ilisu-dam-project-turkey> (accessed Mar. 15, 2025).
- [4] ICOMOS, "International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter)," ICOMOS, [https://civvih.icomos.org/wp-content/uploads/2022/03/Charter-of-Venice\\_1964.pdf](https://civvih.icomos.org/wp-content/uploads/2022/03/Charter-of-Venice_1964.pdf) (accessed Jun. 14, 2025).
- [5] ICOMOS Australia, "The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance," Australia ICOMOS, <https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf> (accessed Jun. 14, 2025).
- [6] ICOMOS, "The Nara Document on Authenticity," International Council on Monuments and Sites, <https://landscapes.icomos.org/1994-the-nara-document-on-authenticity/> (accessed Jun. 14, 2025).
- [7] UNESCO, "Policy Document for the Integration of a Sustainable Development Perspective into the Processes of

- the World Heritage Convention," General Assembly of States Parties, <https://whc.unesco.org/en/sustainabledevelopment/> (accessed Jun. 14, 2025).
- [8] Khalaf R. W., "The Implementation of the UNESCO World Heritage Convention: Continuity and Compatibility as Qualifying Conditions of Integrity," *Heritage*, vol. 3, no. 2, pp. 384–401, 2020. DOI: 10.3390/heritage3020023.
- [9] UNESCO, "Victory in Nubia: the greatest archaeological rescue operation of all time," *The UNESCO Courier*, vol. 33, no. 2/3, pp. 4–70, 1980. URL: <https://unesdoc.unesco.org/ark:/48223/pf0000074755>
- [10] Serag Y. M., "Nubian resettlement challenges: Between past memories and present settings," SB13 Cairo, Ain Shams University, November 6-7, 2013, pp. 3–16. DOI: 10.13140/RG.2.2.30033.63846.
- [11] Zhu Y., Li B., "The relocation of General Zhang Fei's Temple," *Journal of Chinese Architecture and Urbanism*, vol. 4, no. 1, p. 15, 2022. DOI: 10.36922/jcau.v4i1.63.
- [12] Aykaç P., "Absent presents: Musealisation of the historic town of Hasankeyf as a manifestation of 'absent heritage'," *Journal of Architectural Conservation*, vol. 29, no. 3, pp. 214–231, 2023. DOI: 10.1080/13556207.2023.2180715.
- [13] A. Tepecik Diş, E. Karimnia, "Reframing Kiruna's Relocation—Spatial Production or a Sustainable Transformation?" *Sustainability*, vol. 13, no. 7, p. 3811, 2021. DOI: 10.3390/su13073811.
- [14] J. Sjöholm, "Heritagisation, Re-Heritagisation and De-Heritagisation of Built Environments: The Urban Transformation of Kiruna, Sweden," Ph.D. dissertation, Dept. of Civil, Env. & Nat. Res. Eng., Arch. & Water, Luleå University of Technology, Norrbotten County, Sweden, 2016, pp. 73, 79-90. [Online]. Available: <https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A999224&dsid=-4216>
- [15] Bejan M., "Exceptional Technical Performance - The Relocation of Monuments and Buildings Using the 'Iordăchescu' Method," The 17th International Multidisciplinary Conference "Professor Dorin Pavel - The Founder of Romanian Hydroenergy," Sebeş, Romania, 2017. pp. 1-12
- [16] Sönmez C., "Indigenous social infrastructures and affective experiences of resettlement in Hasankeyf town after the Ilisu Dam," *Global Social Challenges Journal*, vol. 3, pp. 240–268, 2024. DOI: 10.1332/27523349Y2024D000000022.
- [17] Miyake Y., Maeda O., Tanno K., Hongo H., Gündem C. Y., "New excavations at Hasankeyf Höyük: A 10th millennium cal. BC site on the Upper Tigris," *Neo-Lithics*, vol. 1, no. 12, p. 3, 2012. URL: [www.exorient.org/repository/NEO-LITHICS/NEO-LITHICS\\_2012\\_1.pdf](http://www.exorient.org/repository/NEO-LITHICS/NEO-LITHICS_2012_1.pdf)
- [18] Ministry of Industry and Technology of Turkey, "Batman," GAP Regional Development Administration. <https://www.gap.gov.tr/batman-sayfa-5.html> (accessed Nov. 3, 2022).
- [19] Kılıcı A., "Hasankeyf Foundation Works," *Vakıf Haftası Dergisi*, vol. 5, pp. 160–162, 1987.
- [20] Aykaç P., Kaya B., "Nearing the end in Hasankeyf: People-centred approaches in conservation and cultural heritage as a human right," *Mimarlık Dergisi*, no. 411, p. 12, 2020. URL: [www.mo.org.tr/mimarlikDergisiDocs/pdf/MI-MARLIK411.pdf](http://www.mo.org.tr/mimarlikDergisiDocs/pdf/MI-MARLIK411.pdf)
- [21] Bouscaren D., "The UNESCO site that never was," *Sapiens Anthropology Magazine*, Chicago. <https://www.sapiens.org/archaeology/hasankeyf/> (accessed Nov. 13, 2022).
- [22] Taylor A., "Moving an ancient town to higher ground," *The Atlantic*, Washington. <https://www.theatlantic.com/photo/2019/10/hasankeyf-moving-an-ancient-town-to-higher-ground/599656/> (accessed Nov. 2, 2022).
- [23] Harte J., "Rare footage of Ilisu: The dam that will flood homes and history across Southern Turkey," *National Geographic Newswatch*. <https://juliaharte.com/2013/08/24/> (accessed Nov. 3, 2022).
- [24] Meinecke M., "Hasankeyf/Hisn Kaifa on the Tigris: A Regional Center on the Crossroad of Foreign Influences," in *Patterns of Stylistic Changes in Islamic Architecture: Local Traditions Versus Migrating Artists*, New York University Press, New York, 1996, pp. 58–60.
- [25] Yılmaz M., Eskici B., Eliüşük M., Akgönül M. S., Şener Y. S., "Application studies for the stabilization and underwater preservation of the Hasankeyf Mardinike Complex remains," *MASROP E-Journal*, vol. 13, no. 1, pp. 30–51, 2019. URL: <https://dergipark.org.tr/tr/pub/masrop/issue/44799/537065#article-authors-list>
- [26] Batman Province Cultural Inventory Project (BPCIP), "Yamaç Külüyesi," [http://www.batmankulturenvanteri.org/Haberler-121-yamac\\_kuliyesi-287.aspx?vid=317](http://www.batmankulturenvanteri.org/Haberler-121-yamac_kuliyesi-287.aspx?vid=317) (accessed Nov. 10, 2022).
- [27] Yılmaz M., Sevgi S., Eskici B., Şener Y. S., Eliüşük M., "Application studies for conservation, consolidation and exhibition of Hasankeyf Yamaç Külüyesi that will be partly underwater of the lake dam," *Amisos*, vol. 5, no. 9, p. 416, 2020. DOI: 10.48122/amisos.755550.
- [28] Sevgi S., Yılmaz M., Koparan C., "Relocation and conservation applications for the Imam Abdullah Zawiya in Hasankeyf," *Sanat Tarihi Dergisi*, vol. 30, no. 2, p. 1112, 2021. DOI: 10.29135/STD.918858.
- [29] Sevgi S., Yılmaz M., "Conservation and rescue (relocation) application studies for the Hasankeyf Artuqid Bath," *Turkish Journal of Archaeology and Ethnography*, vol. 84, pp. 39–61, 2022. URL: <https://taed.ktb.gov.tr/Eklenti/102402,84turk-arkeoloji-ve-etnografya-dergisieng84pdf.pdf?0>
- [30] Eskici B., "Some observations on the plaster decorations of Hasankeyf Koç Mosque: Conservation problems and solution proposals," *Sanat Tarihi Dergisi*, vol. 15, no. 1, p. 78, 2006. URL: <https://dergipark.org.tr/tr/download/article-file/152350>
- [31] Sevgi S., Yılmaz M., "Methods and approach for conservation and salvage (relocation) of immovable cultural heritage in dam reservoir area in Hasankeyf," *Vakıflar Dergisi*, vol. 57, pp. 187–188, 2022. DOI: 10.16971/vakiflar.1002506.
- [32] Tür S., "Transportation of Eyyubi Mosque: Relocation of historic structure," *Anadolu Agency*, <https://www.aa.com.tr/en/pg/photo-gallery/transportation-of-mosque-eyyubi> (accessed Nov. 10, 2022).
- [33] Sevgi S., Çetin M., Yılmaz M., "The conservation and

- rescue (relocation) project of the Hasankeyf Zeynel Bey Tomb," Seminar on Conservation and Repair in Masonry Structures IX, Dec. 5-6., 2017, Proceedings Book I, pp. 34–36. URL: <https://www.researchgate.net/publication/350512870>
- [34] Öztekin S. S., "Hasankeyf Urbanism and History," *Socrates Journal of Interdisciplinary Social Studies*, vol. 11, no. 49, p. 148, 2025. DOI: 10.5281/zenodo.14785746.
- [35] Yılmaz M., Sevgi S., Koparan C., Çetin O., "Applications for the preservation and relocation of Hasankeyf Middle Gate," *Lycus Journal*, vol. 3, p. 96, 2021. URL: <https://journals.indexcopernicus.com/api/file/viewByFileId/1399744>
- [36] Eskici B., Şener Y. S., "Report on the Relocation of the Monument Designated as the 'Orta Kapı' in Hasankeyf," Nuran Demirtaş Proje Mimarlık Ltd., Unpublished Report, Ankara, Turkey, 2016.
- [37] Sevgi S., "Interdisciplinary restoration work: Jacking up the historical small palace in Hasankeyf castle in place," *Journal of the Faculty of Engineering and Architecture of Gazi University*, vol. 40, no. 1, pp. 203–217, 2025. URL: <https://scispace.com/pdf/disiplinlerarasi-restorasyon-calismasi-hasankeyf-kalesindeki-3vn4ttdhr1.pdf>
- [38] The Electricity Generation Corporation, "Ilisu HEPP," EÜAŞ. <https://www.euas.gov.tr/en-US/power-plants/ilisu-hepp> (accessed Mar. 14, 2025).
- [39] Dierks Z., "Per capita electricity consumption in Turkey 1990–2023," Statista. <https://www.statista.com/statistics/1370802/turkey-electricity-consumption-per-capita/> (accessed Mar. 12, 2025).
- [40] Worldometer, "Turkey Population," Worldometer. <https://www.worldometers.info/world-population/turkey-population/> (accessed Mar. 14, 2025).
- [41] The Water Project, "Water in crisis – Turkey, Syria, and Iraq," The Water Project. <https://thewaterproject.org/water-crisis/water-in-crisis-turkey-syria-iraq> (accessed Jun. 5, 2025).
- [42] Bezahler A., "Dams in intrastate ethnic conflict: A comparison of Turkey and Ethiopia," *World Water Policy*, vol. 10, no. 4, pp. 1044–1065, 2024. DOI: 10.1002/wwp2.12233.
- [43] Bimay M., "Measuring housing satisfaction in terms of quality of life in the new settlement area of Hasankeyf," *Kent Araştırmaları Dergisi*, vol. 13, no. 38, pp. 2394–2420., 2022. DOI: 10.31198/idealkent.1139523.
- [44] Rivers Without Boundaries, "Conservation of cultural heritage in Hasankeyf must continue," *Rivers Without Boundaries*. <https://www.transrivers.org/2020/3029/> (accessed Jun. 25, 2025).