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**Sabri Karadoğan**  
**Saadettin Tonbul**  
University of Firat  
skaradogan@firat.edu.tr  
Elazig-Turkiye

**EFFECTS OF ADIYAMAN BASIN'S QUATERNARY NATURAL ENVIRONMENT ON  
SETTLEMENT DISTRIBUTION AND OTHER HUMAN ACTIVITIES**

**ABSTRACT**

The Adiyaman Basin is situated on the Tectonic-orogenic Border Folds Belt in the very Southern part of Turkey. It has markedly been affected by the natural environment changes in terms of climate and relief conditions in Quaternary period owing to being on the crossing zone. Climatic changes in Pleistocene had influenced on the Paleolithic life. Composition of the settlements had continuously changed due to natural environmental changes. Still today, there have been many changes on the nature of the basin and Atatürk Dam; thereby, Atatürk Dam's Lake has nearly restructured the Late Pleistocene Conditions of it. In this study, is discussed the relationship between the distribution of settlements and human activities in Adiyaman Basin; and also will be examine the interaction between natural environment conditions and human being; and the geographical characteristics of changing throughout the Quaternary.

**Keywords:** Quaternary, Adiyaman Basin, Kahta, Samasota, Atatürk Dam Reservoir, Euphrates River, Pirun, Pirin, Sehremuz, Gri Tille

**ADIYAMAN HAVZASINDA KUVATERNER'DEKİ DOĞAL ORTAM KOŞULLARININ  
YERLEŞMELERİN DAĞILIŞI VE DİĞER İNSAN FAALİYETLERİ ÜZERİNDEKİ ETKİLERİ**

**ÖZET**

Adiyaman havzası Türkiye'nin en güneyindeki tektonik-orojenik üniteyi oluşturan Kenar Kıvrımları Kuşağı üzerinde yer alır. Havza, iklim ve yerşekilleri bakımından bir geçiş zonunda bulunması nedeniyle Kuvaterner'de meydana gelen doğal ortam değişikliklerinden şiddetle etkilenmiştir. Pleyistosen'de yaşanan iklim değişiklikleri havzadaki Paleolitik yaşam üzerinde etkili olmuştur. Yerleşmelerin kompozisyonu doğal çevre değişmelerine göre sürekli değişiklik göstermiştir. Bugün halen, havzanın doğal görünümü ve Atatürk Barajı değişmeye devam etmekte; baraj gölü adeta Alt Pleyistosen koşullarını sürekli olarak yenilemektedir. Bu çalışmada, Paleolitik'ten günümüze Adiyaman Havzası'ndaki yerleşmelerin dağılışı ile diğer insan faaliyetleri arasındaki ilişkiler ele alınmaktadır. Aynı zamanda, Kuvaterner boyunca doğal ortam koşulları ile insan arasındaki etkileşim ve değişimin coğrafi karakteri incelenecektir.

**Anahtar Kelimeler:** Kuvaterner, Adiyaman Havzası, Kahta, Samsat, Atatürk Barajı, Fırat Nehri, Pirin, Şehremuz, Gri Tille

## 1. INTRODUCTION (GİRİŞ)

Adiyaman Basin, which is situated on tectonic-orogenic Border Folds belt of the Southern Part, is also on both climatic and topographic crossing zone (Figure 1). For this reason, changes of natural condition of Quaternary has influenced human life and settlements. At the same, there have founded many ancient settlements and civilizations such as Paleolithic, Neolithic, Calcolithic and Bronze ages in this region.

Paleolithic life on the basin was affected by the Pleistocene climatic changes. The people lived in the caves for sheltering from cold periods and continued its life on open areas especially near water sources like Euphrates River (in Sehremuz area) in the sultry and dry periods. Geomorphologic studies bring out that Euphrates River vertical cutting in flat-floored valley, taken place at the beginning of Pleistocene. Caves took place on the upper terraces of Euphrates River in the Paleolithic life. After Euphrates River vertical cutting to its water course seasonally, settlements led to lower terraces (Figure 2 and 3).

Adiyaman Basin has also the characteristics of Neolithic period. Although the conditions around the basin presented both topographical and climate inconvenient enviromental conditions, Adiyaman Basin situated on the north of Mesopotamia in convenient geographical conditions in the Neolithic age which is correspond to Holocene period. These conditions were thick agricultural soil cover for farming, abundant water resources and streams, Euphrates River with meanders and the wave of herds of prey moving off to the north. Ancient Samsat was very important settlement up to the last centuries. Because, it was on the widest water course between Mesopotamia and Anatolia.

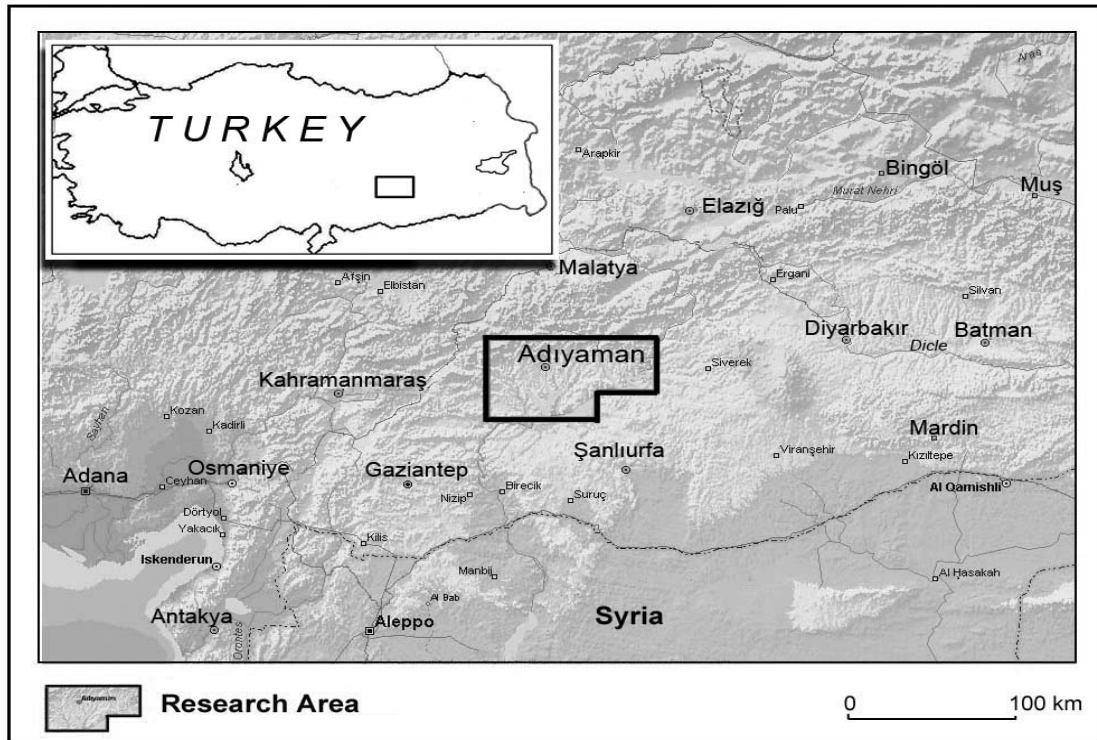


Figure 1. Location map of research area  
(Şekil 1. İnceleme alanının lokasyon haritası)



Fault structured relief conditions rose as a wall in the north of Adiyaman Basin and formed convenient conditions for protecting in the post Neolithic, Calcolithic and Bronze ages in which security was very important. There were significant settlements such as Arsemeia, Yenikale, Old Kahta in these periods. Current settlements endured from the ancient settlements. Some significant changes occurred with covering Atatürk Dam's Lake of Euphrates and some of its tributary's valleys and terraces except for some terraces such as belong to Upper Pleistocene period. First of all, Samsat and many settlement flood by the dam water. Thereby, dam lake restructured the Upper Pleistocene conditions.

## **2. METHOD AND RESEARCH SIGNIFICATION (YÖNTEM VE ÇALIŞMANIN ÖNEMİ)**

The settlements and natural environmental conditions in Adiyaman Basin rapidly changed throughout the Quaternary and had a key importance in the prehistorical Anatolia.

In this study, the relationship between natural conditions, settlements and human activities in the Adiyaman from past to present will be evaluated. Area studies are made in the light of archeological data and literature, and location of the each settlement place with its surrounding and according to the geomorphologic development. Old settlement places are mapped by using GIS (Geographic Information System) and they are related to the other maps (Geomorphologic, hydrographic). In order to gain the topographical information about the Former channel of Fırat (the Euphrates) River (before Atatürk Dam was constructed), old maps are used and previous area studies are searched. The entire literature data and the area findings are gathered together under geomorphologic principles. Hereby, settlement history and the natural environment interaction of the area are tried to be introduced. The study is important to consider the historical geographical conditions and human settlements from the point of today's settlement and environment conditions, and to shed light on the geo-archaeology of the area.

## **3. PALEOLITHIC, B.C. 10.000 AND PRE-PALEOLITHIC (PALEOLİTİK, M.Ö.10.000'DEN DAHA ÖNCESİ)**

The ancient human was highly effected by the natural environmental conditions during Paleolithic. Because landforms, climate conditions and flora were important for their life rather than present.

Most important natural environment effect was the climate; and human life used to be formed with respect to this conditions in that period of time. Climate changes in the Pleistocene had important effects in Anatolia, depending on this, it was determined topographic features as distribution of flora, soil properties(quality) and also settlements' distribution. According to Kökten [1 and 2], foundations of Sub-Paleolithic are mostly found in the high places. It shows that Sub-Paleolithic human walked, settled and hunted in the open fields. Thus, Sub-Paleolithic is a warm and convenient in the interglacial periods. The author states that Lövalzien and Musterien type tools were found on the terraces and caves, climate became rainy and humid and even colder by the time and then passed to Würm glacial period. Kökten [3] states that climate became colder and human had to took cover in the caves in the Middle Paleolithic. Cold and rain climate conditions continued in the Late Paleolithic period, which had considerable effects on human life. Human had to wear thick, find closed and secure places and protect themselves.



Foundations belong to Lower Paleolithic which are found only on the open area shows climate was convenient for human in order to live on the open land in the first times of Pleistocene. These were especially found terraces between gravel or sand layer and valley slopes. These foundations show that Sub-Paleolithic human has advantages of hunting, making tools and even live in the open air. But the need of protecting in the closed places started in the Middle Paleolithic and increase in the Late Paleolithic [4].

Varied surface heritage of the sub paleolithic are found in Gaziantep, Nizip, Urfa, and Adiyaman around. Many hatchets from 700.000 to 500.000 years old are found around the Nizip stream. These were made up of mostly silex and the material formed by the solution and erosion of limestones of Euphrates formation [5]. Current studies show that Sub-Paleolithic remains are clustered near Euphrates River and its western part (around Şehremuz). It is stated that tools found around these area are made by the Late Paleolithic human lived in the Riss-Würm interglacial age [6 and 7]. At the end of the Paleolithic Age (Würm period) human are protected in the caves. Both due to the distance and the geologic and geomorphologic structure, the only place for human to protect should be the caves in the Northern Taurus.

Remains belong to Late Paleolithic around Euphrates river supports that convenient natural conditions are found in this area. Advantages for the basin are the closeness between the protective mountainous area for the cold times and area near Euphrates river for the warm times, possible transition way for the wave of herds of prey moving off between north and south.

### **3.1. The Relationship Between the Settlement and Heritage Areas and Natural Environment in Adiyaman Basin (Adiyaman Havzasında Palaeolitik Yerleşme ve Buluntu Yerleri İle Doğal Çevre İlişkileri)**

Paleolithic settlement and remain areas in Adiyaman Basin such as Anep Ridge, Eğriçay, Çakalsuyu, Gri Memo, Hamışkan stream, Kırmızı-Acıdere Ridge, Memişhan location, Miroglu, Salahan location, Sampayadı-Sambayat, Yenikoy, Pirin, Palanlı Pirun hostel, Keciler cave and Sehremuz around [8]. Except for the Anep Ridge that Kahta stream flows into in Euphrates river, Paleolithic settlements are clustered on a line from Keciler cave and Sehremuz. (Figure. 2) It shows that humans changed their location between mountainous area and Euphrates river due to the climatic changes.

Keciler Cave settlement which is a settlement of this age is 6-7 km north-northeast of the Adiyaman city center, on the slopes of a calcareous valley. (Photo 1, Map 2) Cave has two openings. It is approximately 20 km length and 5-10 km width and on a dominating point to the valley. There are at least 45 figures made by digging inside the cave [8].

Silex sources made Sehremuz and around a choice for ancient human for settlement place. Besides the stone resources, Keluşk stream met humans and animals water need (Figure:3). Fertile flora of Euphrates valley made human to come the area to feed their animals. On the Sehremuz Ridge undulated plateau is cut by streams and an obscure terrace (S1) is detected [6, 7 and 8].

*Pirun/Pirin:* South part of the settlement, which is 4-4.5 km north-east of Adiyaman city center is open, but there are surrounding mountains in the north. In Karadag's south-west slope looking to Ziyaret Stream exists human made grave and settlement caves besides natural caves. Ancient remains in the area, shows that the area was an important settlement in this age. Paleolithic age heritages are mostly found in the farms in front of the natural caves, around Ziyaret

Stream Bridge and around Pirun spring/Pınarbası. It can be stated that bridge around was a work and settlement area due to paleolithic remains found by many researchers [8].



Photo 1. Palanlı Valley where located Keciler Cave  
(Resim 1. Keçiler Mağarasının bulunduğu Palanlı vadisi)

#### **4. NEOLITHIC, B.C. 10.000-5.000 (NEOLİTİK, M.Ö. 10.000-5000)**

It is believed that Neolithic age was firstly started in the south-east Anatolia region. Therefore, it had convenient conditions and was a flora and natural life field for animals, and this thought is supported by archeological verifications [9, 10 and 11].

Early settlements and transition to production process started on high terraces of Euphrates and thick alluvial and colluvial agriculture areas on the side of mountains with the convenient climatic features.

Due to the danger of flood and risk of sediment on the Euphrates rivers and tributaries valley floor, they settled on 25-50 meter height Tumulus (Battalhoyuk, Kulafhöyük, Samsathöyük) or on the terraces near river side. Platform made by ancient Samsat could be protected from effusive Euphrates rivers powerful and shifting meanders with the help of hard, cementated and conglomerates [12].

Human built up a settlement on the protective, hard conglomerates near Euphrates river and lives there for a while at the end of the Pleistocene. After Euphrates river channel deepened 5-8 meters in the near future, they settled on the valley floor for the last 3-4 centuries. (Figure 4) Some other tumulus settled in the Upper Pleistocene conglomerates and moreover water resources sprung from these conglomerates explain the relationship between geomorphological structure of conglomerates and resource crossings and choice of settlement areas.

#### **4.1. Main Neolithic Settlement and Antiquity in Adiyaman Basin (Adiyaman Havzasındaki Başlıca Neolitik Yerleşme ve Buluntu Yerleri)**

Distinctive characteristic of Neolithic age is the reduction in the number of settlement areas (Figure: 2). The result of transition to agricultural economy led to clustered settlements with the necessity of division of labor and organization. Areas of settlement are Ziyaret Tepe, Keciler Cave, Cendere, Pirin, Suruk, Girik Tepe, Hayaz Tumulus, Giritille in this age.

Cendere cave is in the 35 km of the north-east of Adiyaman city center, on the slopes of Kahta stream. It is on the north-west side of

the historical Rome bridge. A drilling scale excavation was made by F.K. Dörner and M. Naumann [13]. The cave was detected as Neolithic in the earliest age [14]. First layer of the cave ground to 160-200 cm was the layer of Early Bronze Age, to 200-230 cm was the layer of Neolithic Age. Unadjusted approximate dates refers to B.C. 8.000-7.000. The pass should be split off at least 15 meters due to the fact that cave was formed by human activities and the entrance was opened to valley ground. It shows that the high energy of Kahta stream besides the active tectonic and epirogenic movements (Photo 2).



Photo 2. Neolithic age cave settlement heritages on the sides of cendere stream that Kahta stream cuts down Yarlıca mountain epirogenically

(Resim 2. Yarlıca dağını sürempoze bir şekilde yaran Kahta çayının açtığı boğaz yamaçlarında kalmış Neolitik dönem cendere mağaraları)

Girik Tepe, situated on the south-southwest of Adiyaman city center, was found by three researchers, R.S. Blaylock, D.H. French [15, 16, 17, 18 and 19], G.D. Summers (1990) making ground research of Tille excavation. In this research some dyed pieces of Halaf period were found on the 102 numbered heritage area. In addition two pieces of flinty arrow/spearhead were found.

Gritille, situated on the west slopes of Euphrates valley streaming from northeast to southwest before Ataturk dam was made, nowadays, under water, is an elliptic tumulus 80x40 meter on the conic and 150x100 meters together with its foot. Alias Tille, it rose on the conglomeratic pebble accumulation conic. Top of the hill is 24 meter high from Euphrates river water platform before Ataturk dam was made. Certain dimensions of settlement is unknown for the reason that east part of the hill is eroded by Euphrates river. A detailed research on the hill and foot showed that the settlement reached its largest dimention A.D.13. century. Reasons for choosing Gritille as a settlement was near Euphrates river and flat fields and sloped sides on the west. Two spring water resources were found on the vertical east side, last terrace of Euphrates (S4). This feature has a great role in order to choose the area as a settlement. Islands on the ground of Euphrates river became fresh flora for animal herds feeding when all the fields dried at arid season. Growing trees near the channel of the river continously satisfied the wood needs of human settled in the tumulus. Ridges on the west of Gritille supplied quality flint for Paleolithic industry. Grille location had indeed suitable features to life and settlement [20 and 21].

Hayaz Höyük was situated on the head facing to a tumulus alike hill in the meeting point of Euphrates rivers stream before Ataturk dam and Kalburcu stream flowing from the north. Before it is flood by dam water, Hayaz village was on the west and relatively on the south terrace of tumulus. Approximately 90 m diameter and 9 m height, Hayazhöyük was a convenient area for settlement, because of the fact that it was on a meeting point of streams. Inhabitants had supplied the need for water from Kalburcu stream and Euphrates river that flew both in the summer and in the winter [22].

Ziyaret Tepe, was on the north of Ancient Samsat settlement, near to Şehremuz Paleolithic area, at the point where Kelusk stream divides into two tributary, on the high terraces of Euphrates. Stone punches, restorer or unrestorer dilgers, Neolithic axe pieces, friction stone pieces were collected by the surface research. In spite of Yalcinkaya stated providently that it was a Early Bronze Age settlement, it can be evaluated as a Neolithic settlement by the remains [21].



Photo 3. First step of neolithic cultural transltion on basin floor:  
Pirun location  
(Resim 3. Havza tabanında neolitik kültüre geçişin ilk basamağı: Pirun çevresi)

Pirun/Pirin Stone hostels, is a settlement in the 4-4,5 km north-east of Adiyaman city center, in opening location of Palanlı Gorge where Keciler cave exists to river basin, made by carving limestone blocs, consisting of many cave/grave rooms.

Pirun location was a convenient area for hunter and collector communities (Photo 3). South and east part of the area is open, but the north is surrounded by the mountains. Area is convenient for community settlement with this feature. On the south-east of Karadag mass located on the west of Pirun village exists a limited number of natural cave and stone hosiles, besides exists many stone graves. Location is also rich in water supply. As it is known, in the Paleolithic age Palanlı cave and around in the north was the settlement center, but with the changing needs (especially agricultural production dependent on soil) settlement shifted to the south as a reason of diffent areas quest. But, there is not exist natural caves. Consequently, human should carry on the habit by carving limestone blocs [21].

## 5. CALCOLITHIC, B.C. 5000-3000 (KALKOLİTİK, M.Ö. 5000-3000)

Rising in the number of settlement areas besides population increase in the calcolithic age (Figure:2). The people lived in the region maintained their life with agriculture and husbandry and sometimes hunting and fishing. Trade of mine had a significant rise in the age.

Developed agriculture and stock-breeding accelerated the changes in daily social life. Consequently, human population increased and new settlement areas existed. If the distribution of calcolithic settlements on the basin investigated, it can be said that agricultural economy and concern of water became more important (Figure. 3). On the other hand, while investigating the calcolithic settlements is that the settlement in the Goksu valley and Kalburcu stream were as a tumulus. It shows that the streams were overflowing.

### 5.1. Main Calcolithic Settlement and Antiquity in Adiyaman Basin (Adiyaman Havzasındaki Başlıca Kalkolitik Yerleşme ve Buluntu Yerleri)

*Adiyaman Tumulus* is a tumulus in the Adiyaman city center, also restored by Seljuk Empire, remains in Hınsi Mansur findings of the Arabian period. It is under the treat of urban dwellings (Photo 4).

*Down Hamili Heritages* was in the east of Adiyaman city center, near Kahta river but disappeared under water with the flooding by Ataturk dam lake.

*Çakalhöyük*, It is 11 km in the south-east of Adiyaman city center (Figure. 3). It is a straight settlement. It exists on the east slope of Cakal streams's narrow valley (Figure. 6). There is a strongly water flowing, called as an Arap Pinari in the north. With this water supply, Cakalsuyu, flowing into Ataturk Dam today, supplied water to the ancient inhabitants.

*Hayaz Tumulus*, situated in the south of Adiyaman. Settlement on the meeting point of Kalbucu stream and Euphrates river was the 90 meter diametered conic hill before it is flooded by Ataturk dam lake.

*Karahöyük*, is the 20 meter high, 125 meter diametered tumulus situated in the south-southwest of Adiyaman city center.



Photo 4. Adiyaman Tumulus under the treat of urban dwellings today  
(Resim 4. Günümüzde kentsel yapıların tehdidi altında bulunan Adiyaman  
Höyüğü)



*Topraktepe*, is in the south-southwest of Adiyaman city center. Besides, the lack of Halaf age rough community pieces, good quality, fallow based black, brown, orange and red dyed pieces are found.

*Yassı Tumulus*, is the 8 meter high, 150 meter diametered tumulus in the south-southwest of Adiyaman city center, 100 meter west of Yassıhöyük. Its importance takes its source from the expository features of clarifying Obeid age of Adiyaman location. Halaf ages dyed commodity pieces attract attention [8].

#### 6. BRONZE AGE AND FOLLOWING (TUNÇ ÇAĞLARI VE SONRASI)

Anatolian inhabitants mixed tin into copper and obtained bronze at the beginning of B.C. 3000 and also they mined the corresponding mines by spilling and swaging with an extraordinary artcraft.

This new period added bronze to the inventories of the latter ages like agricultural, husbandry, weaving, potting, and stronger weapons, thinner decoration materials became possible with the discovery of bronze as a mixture of tin and copper. Technological developments took place in metal processing area as well as the developments in food production. Constructions were still made on stone base over mud bricks, some settlement areas were surrounded by walls [24 and 25]. Other significant events were the intensive trade between Anatolia and Mesopotamia and also introduction of writing to Anatolia [26 and 27]. Some centers in the location of Adiyaman basin started to appear strategically advantageous due to the environment and had roles in historical functions. Arsemlia and Samsat had significant importance.

After the Bronze Age, some nucleus settlements tend to appear, that arised with the need of protection, water, agriculture and transport and the other activities have gone on so far.

Arsemlia, an important settlement until Hittites, was the administrative capital of Kommagene and mount Nemrut was the religious capital [28]. Ancient Arsemlia city was located on a dominant gorge from Kahta stream to Malatya (Photo. 5). A deep and narrow gorge made by Kahta streams north-east branch separates Yenikale and Arsemlia.



Photo 5. Arsemlia Ancient City settled on sharp crevices cutting down by Nymphois Stream (on right) and Yenikale  
(Resim 5. Nymphois Çayının (Eski Kahta Çayı) yardığı sarp kretler üzerine kurulmuş Arsemlia antik kenti (sağda) ve Yenikale)

Kommagene was called Nymhp meaning fertile and vital for the reason that it meeting with Cendere stream and then Euphrates river water the country. Nymphois stream (old Kahta stream) was a name given to the stream between two castles in the age of Kommogene and meant "fruitful stream" [28].

Owing to the inconvenient ground conditions of Samsat (Samosate) and terraces around Euphrates river, it is only possible fact to make evaluations and mappings in the light of literature information [12, 29, 30, 31, 32 and 33].

Ancient city of Kommagene Samsat was located on the west side of Euphrates valley (Photo 6, Figure 4). Samosata was an important center. Because, it was on the crossing road of Melitene, Komana, Hierakome, Tarsa and Zeugma. Samsat settlement was the most clear observed city that the relationship between natural enviroment and settlement could be seen. Samsat tumulus, which was a near river settlement, was in the 700 meter north of the river before Euphrates river changes its bed before it was flooded by dam water. It was consisted of a major tumulus and a terrace surrounding it and a down city on Holocene terraces (Figure 4 and 5). Ancient Samsat was the 37-40 meter high from river waterbed. Mainly, ancient city was situated on S3 terrace system. In the cross sections of Euphrates side, it is seen that the tumulus is the place on a pebble filled height. Terrace, that Calcolitic age material is mostly seen as the first tumulus [32 and 33]. With its old name Samosate, afterwards called Samosatun, Semisat or Sumaisat, Samsat was on the widest area of the Euphrates flat-floored valley, it was most suitable area to cross the river. Slopes bidding the valley floor to the basin floor is topographically pressed and many resources at present. Samsat, consisting of tumulus, terrace and down city, is an important center settled from past to present. It is the most suitable crossing area between Euphrates's west and east part, controlling the transport was an advantegous of Samosata [28].



Photo 6. Ancient Samsat City and tumulus located on Euphrates terraces  
(Photos belong to before dam lake period)

(Resim 6. Fırat sekileri üzerine kurulmuş Samsat antik kenti ve höyüğü, Fotoğraf baraj gölü öncesine aittir)

"Ancient Samasota Waterway" leading from Euphrates and Kahta valley sides is an important question. Samasota waterway lied 40 km, following the +30-40 meter terraces in order to turn Kahta stream to



Samasota from the height of 450 meters beginning from the middles of Nymphiso stream. Waterway was transfered with arches over the streambeds, with canals on the ridges and slopes and with tunnels through the rocky parts. Interesting results were found in the researches on waterways and features made before the dam lake [29]. Daily water amount flowing to city and also the population is tried to estimate with the help of cross sections. At the beginning, flow of the canal was 755 lt/sec and daily 66,960 m<sup>3</sup> water reached. Even it is stated that in the Roman age the population reached to 50,000, it is a great amount for drinking water. But it could be stated that the water was mostly used for farming and the S3 and S4 terraces were agricultural areas in this period.

In the archaeological researches made before Ataturk dam lake, ancient palaces, water canals, castles and some alike constructions and some valuable materials were found on the ancient Samsat location [29, 32, 33 and 34]. Late Copper Age, Bronze Age, Iron Age, Hellenistic, Roman, Byzantines, Arabian and Seljuck works were clarified. These were coins, paper and cylinder seals, small sculptures, needles and beads. Variety of materials shows that also the agricultural economy, trade was also important and an active economic activities took place. From the XIV. the layer dated as B.C.XVIII, a building with a court furnished by pebbles, inner walls painted black and white, fresco building allged as palace was found. The Building located in the middle of the tumulus as called "Mithrides Palace" consisting of a big gallery, thought as throne room, many big and small rooms and galleries. The walls were covered with yellow and red frescos [32, 33 and 34].

Samsat settlement area is transfered to its current location due to the flooding caused by Ataturk dam lake in 1988 and lost its importance and dynamism completely.

Another settlement area, which was one of the important region in the basin until near future but after, it lost its functions and included to "Old Kahta".

Significance of Old Kahta comes from its convenient morphological structure for protecting. It was situated on the arduous and inaccessible west steeps of Kahta stream.

The oldest buildings of Old Kahta Castle whose construction date are unknown but predicted as Hitites of B.C. 2000 belongs to Kommagene Empire. Constructing style of the building located on the top of steeps is very marvellous. Water cistern, small mosque, meeting rooms, dungeons, crenels, watergate to the stream and loft stairs, closed transition galleries are present in the castle [28 and 35].

A 400 meter part goes from the castle to the east branch of Kahta stream. It was constructed to supply the water from the stream in a possible seige. On a table, it gives information about the Komagene's capital cities Arsemia and Antiokos. There is a major and deep gallery under the tablet.

The excavations made in the castle shows that there exists iron mine. Many findings of ruinous furnace wall and slags were discovered in a excavation made under the management of F.K. Dorner [36] by Winkelman in 1963. It is understood that the furnace had bellows. It is thought that these furnaces having bellows might have a connection with the iron processing units. Furnaces were on a side and could utulize the wind. A weld and molting furnace was found in the excavations in 1965. The Castle is in its original structure but most of its parts are destructed. The environment and castle have a great potential of tourism with a fascinating scene and nature especially morphological structure.



Two developing and growing settlements are present in the basin today. One of them is Adiyaman and the other is Kahta (New).

Adiyaman is on senclinal basin in the external line of Southeastern Taurus that form Anatolian part of the Alp-Himalayan orogenic zone, on a place to maintain transition between the basin and the North mountainsous area, on Plio-Quaternary deposits. Location of the city has tansport, hydrographic, land and climatic advantages for settlement. Adiyaman is on the natural and historical crossroad of Anatolia to Mediterranean region (over Gölbaşı-Maraş or over Elbistan) to Southeast Anatolia (over Diyarbakır) and to Syria and Iraq. The Euphrates river has a great important role on the settlement and continuity of Adiyaman city.

First nucleus settlement around the Adiyaman city, Perre (Pirin) arised on 5 km the north-east of city center today known as Orenli district and it dates back to Neolithic age. Perre (Pirin) acquired its consideration at the time of Kommagene Empire and became one of the important settlements in the history. Perre (Pirin) was relinquished at the end of the Old age and beginning of the Middle age and settlement area shifted to Girik village in the 5 km north near to present area where the castle stands.

New Kahta settlement is founded on the west side of Kahta stream and continued its rapid development. Adiyaman-Siverek-Diyarbakir and Urfa highway before Ataurk dam is certainly affected the development of Kahta. Population overspill because of the costruction of dam lake had significant effect in the degree of developement of the settlement. Karakuş Tumulus nearly 5 km north of Kahta dominates the location. Reason for a settlement should be need for dominating the transport between Arsemeia and Samsat. For this reason, settlement factor of new Kahta could be dependent on the crossroad function between north-east and east-west. Kahta settlement is the second biggest settlement area in the region excluding Adiyaman after the population immigrated because of dam late.

## 7. CONCLUSION (SONUÇ)

Settlement in the Adiyaman basin in which natural enviromental conditions rapidly changed in short distances during the Quaternary and which had a key importance in the prehistorical Anatolia and the human activities, were formed due to the natural conditions. Besides, the changes in the physical enviromental conditions especially climatic changes in the Pleistocene, relief features continuously affected by the erosion and accumulations by Euphrates river and branches and climate had significant effects on the settlements area selection and other human acivities. The population sometimes lived in the caves and shelves on the north of resarch area, on the southeastern Taurus due to climatic changes, and lived near the Euphrates river terraces in the warn climates (interglacial ages). Advantage of the basin in the Early Paleolithic is the allowance of Euphrates river for transition by flowing with meanders and being on the crossroad of prey flocks between highlands and warm south areas due to the passes in the north.

In the Neolithic Age, the Basin had large settlement due to the climate, agriculture, water and transport opportunities. But the high flow of Euphrates river, vertical cutting and lateral erosion affected the settlement options. The people settled on the terraces that have resistant to erosion or made tumulus on 25-30 meter higher on the valley plain in order to protect from the destructive impacts of streams. Relief conditions in the basin is the convenient conditions when the need of security and protection arised in the Bronze Age. Kommogene Crowns ordered the empire in the castles located on northern



steep and high cliffs and at the same time from the palaces surrounded by water and land resources. Samsat settlement maintained its importance due to some natural convenient advantages such as being on a dominating area for waterway, on the hard conglomerate terraces away from the Euphrates river's meanders, continuing agricultural activities in the north and wide Plio-Quaternary surfaces allowing feeding even in warm climate on Euphrates river's sand islands. But with the construction of Atatürk dam, natural outlook of Adiyaman basin has changed and Pleistocene conditions are restored. First Samsat and many settlement areas and agricultural lands submerged under water, and a natural environment leading human to adaptation and quests appeared in the basin.

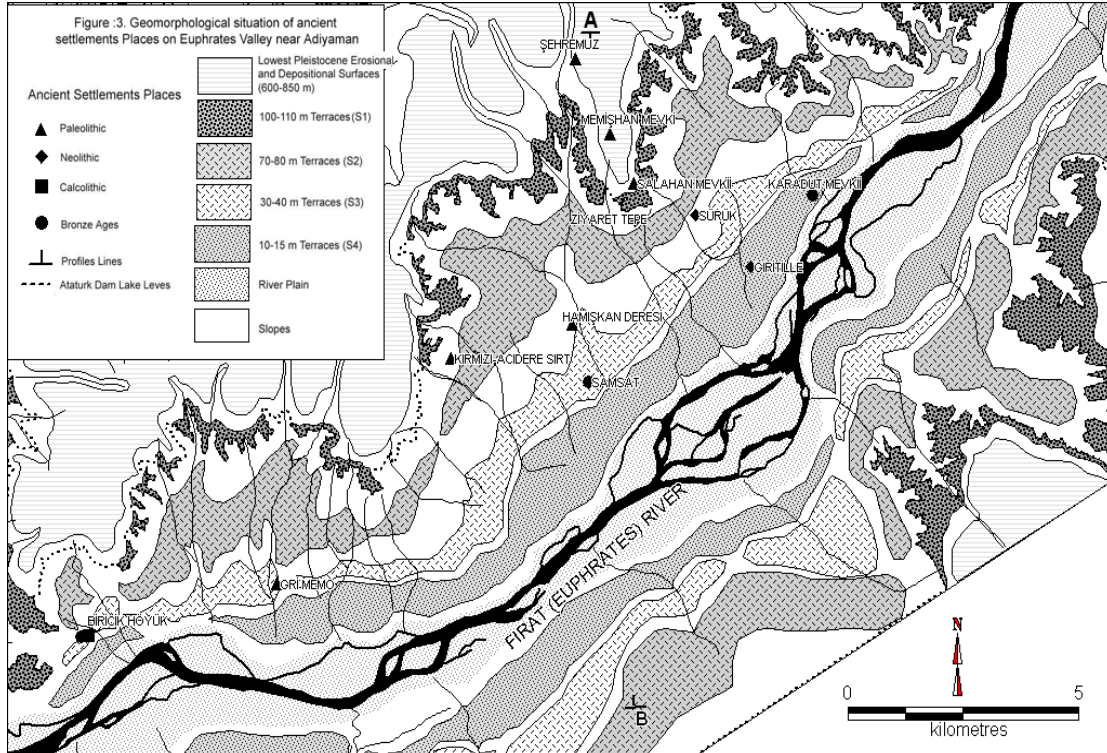
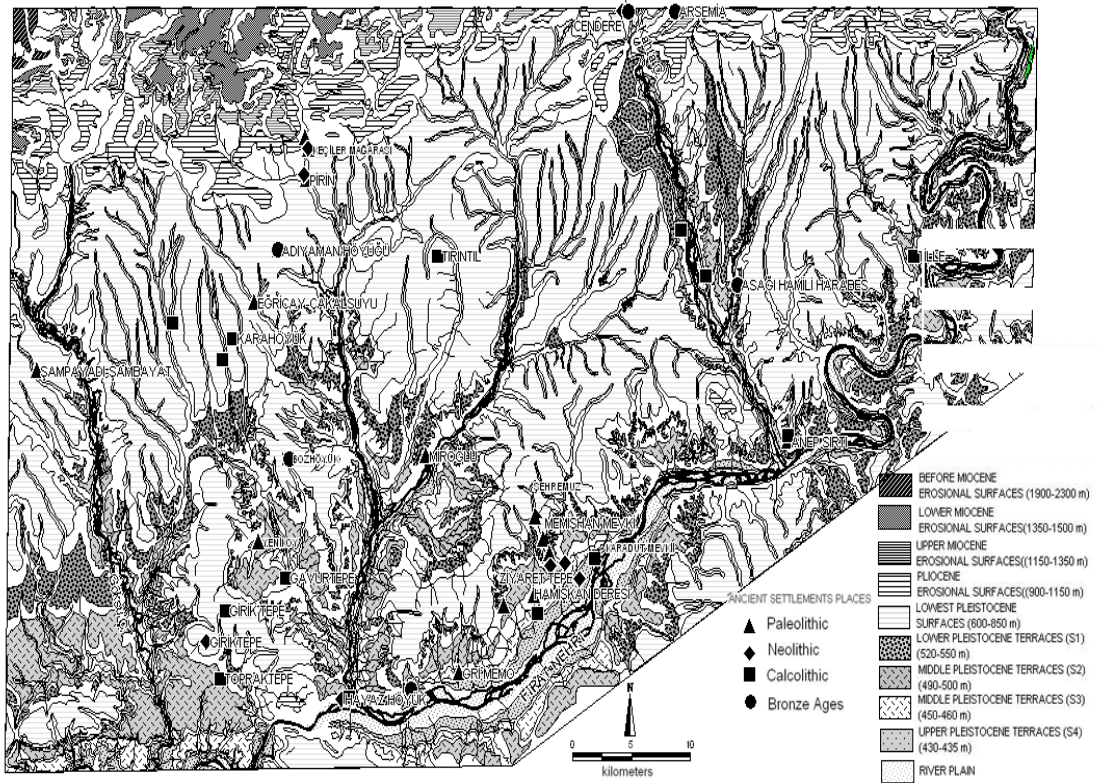
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Figure :2. Distribution and Geomorphological Situation of Ancient Places on Adiyaman Basin



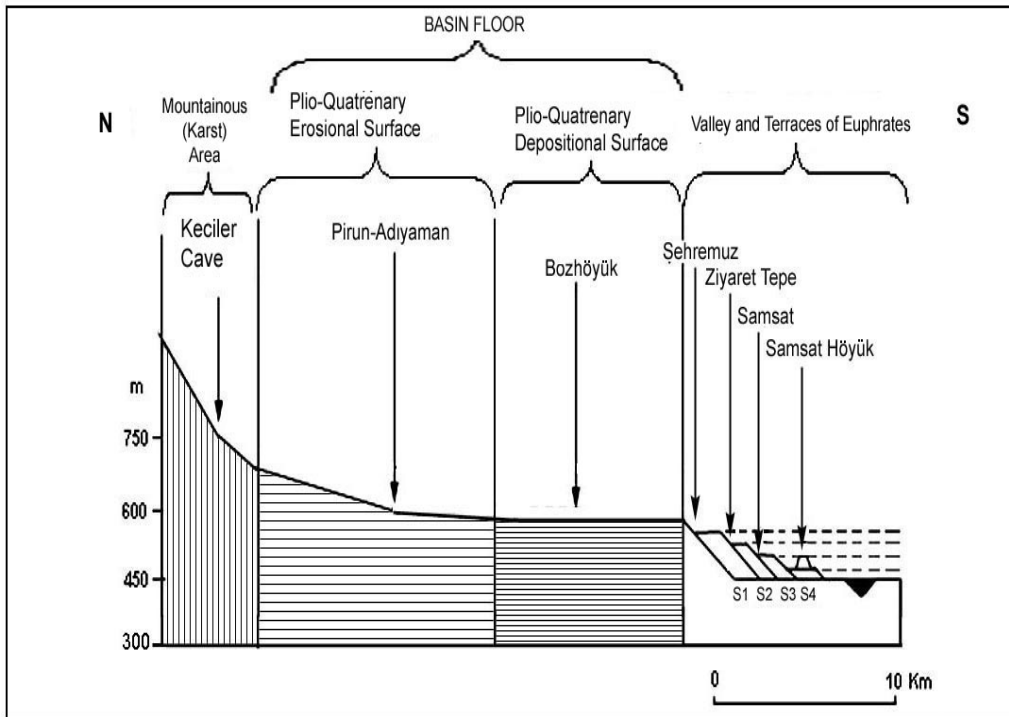


Figure.4. NS directional schematic cross-section is shown distribution of some ancient settlements on the Adiyaman basin of morphological units.

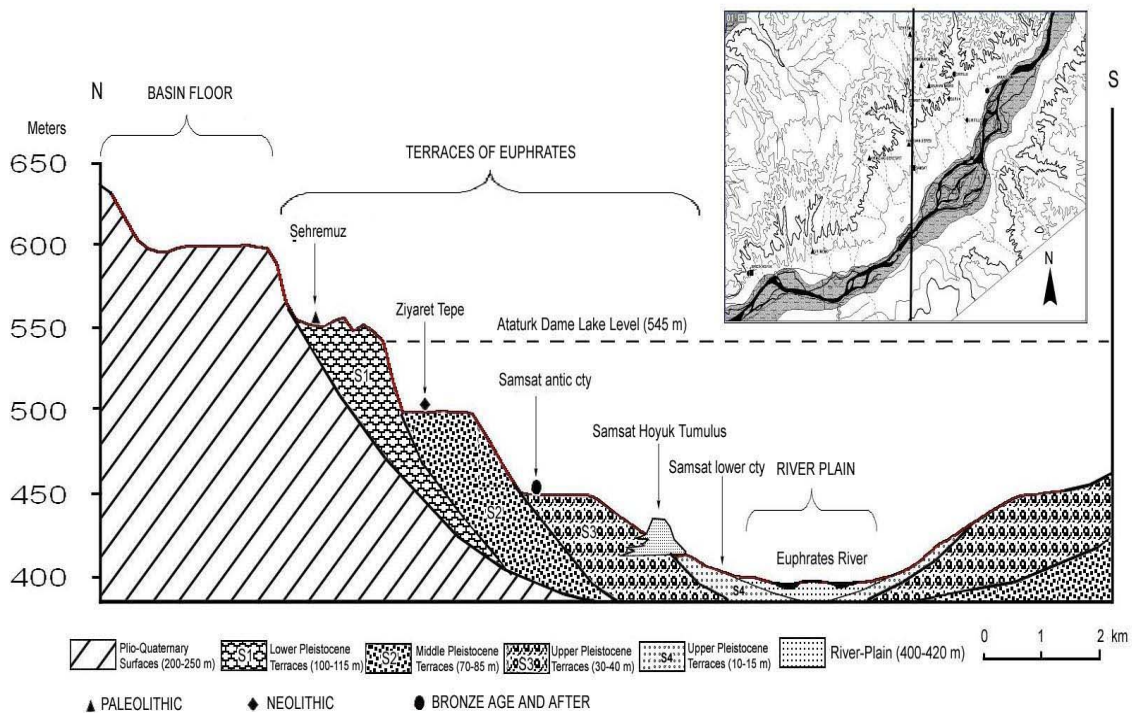


Figure.5. Topographical-morphological cross-section is shown distribution of some ancient settlements on Euphrates River valley SE of Adiyaman