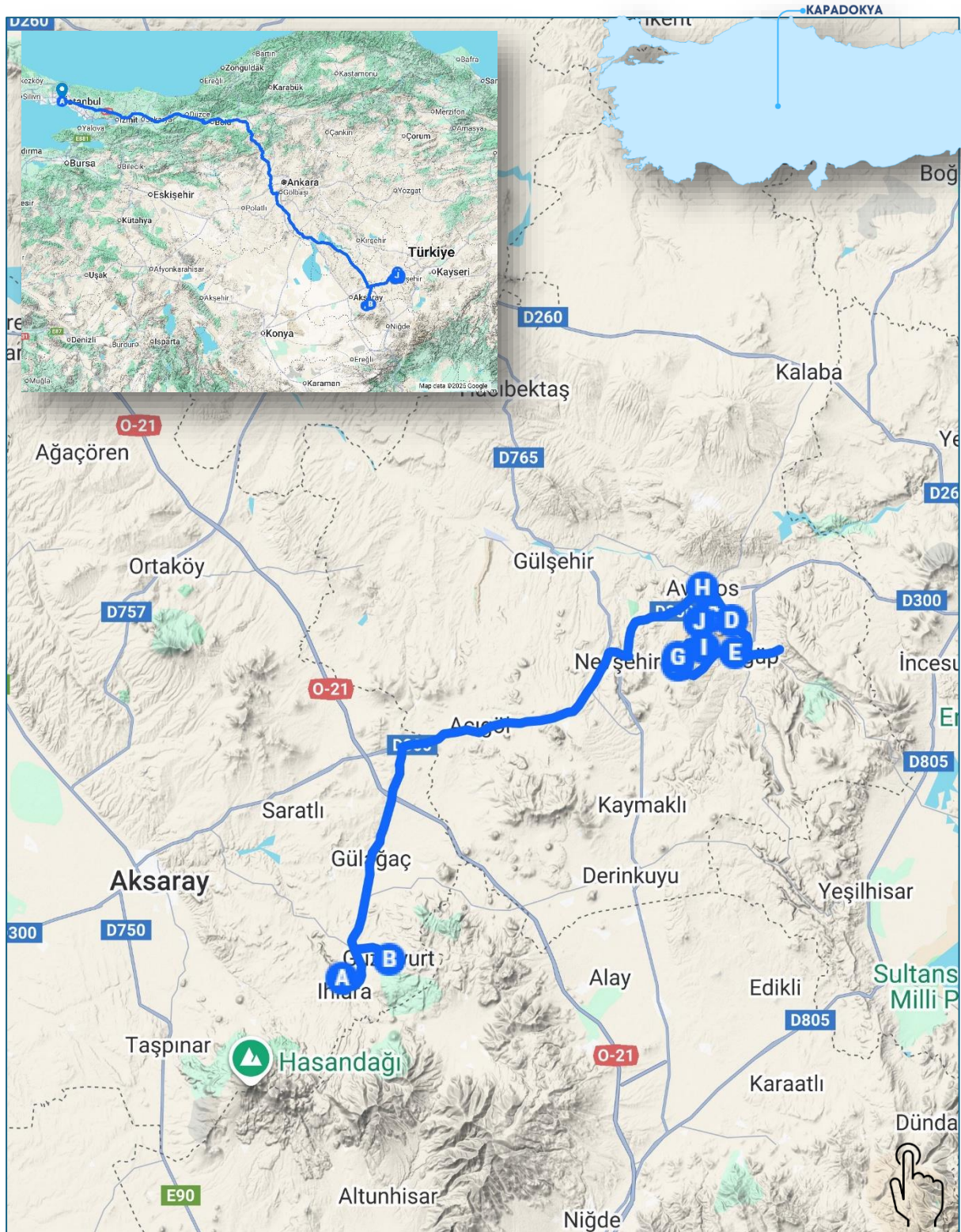


# Post- iGEO Field Trip I

## Volcanic Landscape and Human-Nature Interaction

August 18-20, 2026

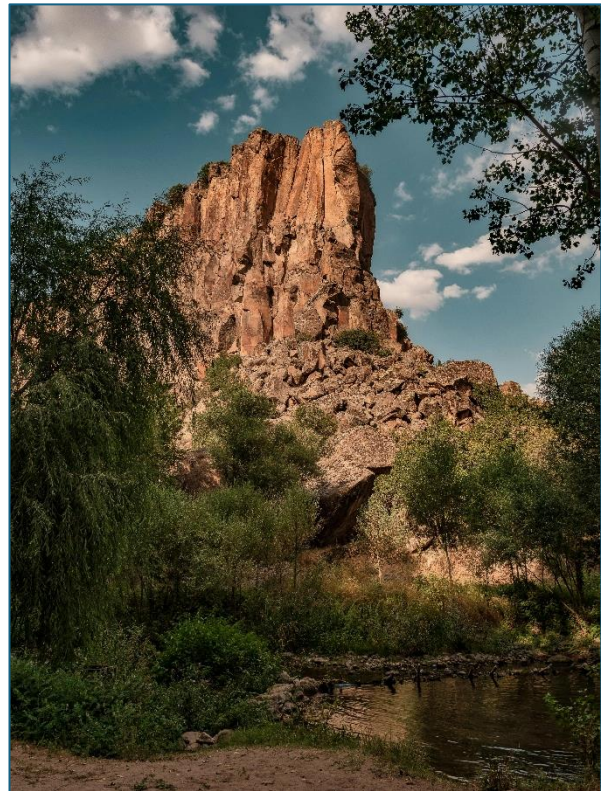
### CAPPADOCIA



## Program:

### Day 1: August 18th

- After picking up guests from campus (approx. 22:30/17th August), we will arrive in Cappadocia after approximately 8-9 hours of bus travel.
- After breakfast, we will visit Ihlara Valley, the Underground City, Paşabağ, Devrent Valley, and the Three Beauties.
- Dinner and Overnight Stay: At a hotel in Cappadocia.

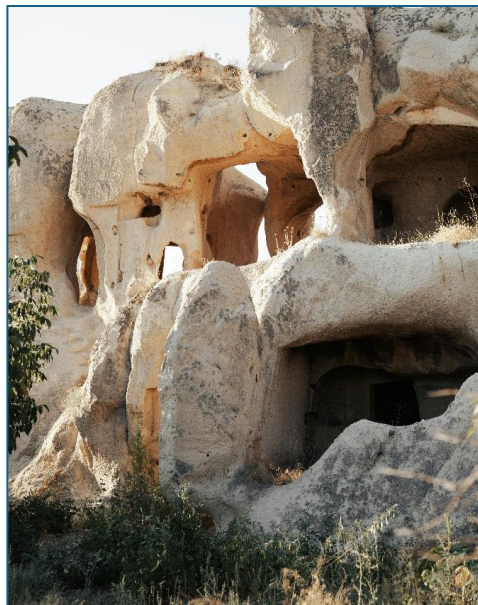


### Formation and Geomorphological Evolution of the Cappadocia Volcanic Landscape

The Cappadocia region is located within the Central Anatolian Volcanic Province, and its basic geological framework has been shaped by intense volcanic activity that occurred between the Middle Miocene and Late Pliocene periods. Pyroclastic flows erupting from stratovolcanoes such as Mount Hasan, Mount Erciyes, and Mount Melendiz caused the formation of tuff and ignimbrite layers covering large areas. These volcanic units are the main factor determining Cappadocia's characteristic soft lithology and erosion-prone structure today.

### Ihlara Valley

The Ihlara Valley is a typical fluvial canyon valley that developed as a result of the Melendiz River creating a deep incision in the volcanic tuff and ignimbrite layers. The valley's depth, reaching approximately 100–150 meters, indicates that fluvial erosion accelerated in areas where it combined with lithological weaknesses. The formation of the valley is related not only to the energy of the stream but also to the tectonic fractures and fault zones in the region. This reveals that the geomorphological shaping in Cappadocia occurred not through a single process, but through the interaction of volcanism, tectonism, and streams.



### **Underground Cities**

The underground cities in Cappadocia developed thanks to the easily carved, porous, and low-strength structure of volcanic tuffs. These settlements were not only for cultural or defensive purposes, but also a direct result of the possibilities offered by the geological environment. Multi-story underground spaces provided a natural microclimate where temperature differences were balanced, allowing for long-term habitation. In this context, underground cities are among the concrete examples of the relationship between the natural environment and human adaptation in Cappadocia.

### **Paşabağ and Devrent Valleys**

The fairy chimneys observed in the Paşabağ and Devrent valleys constitute the most characteristic geomorphological forms of Cappadocia. These formations developed as a result of the differential erosion of the more resistant basalt or hard ignimbrite caps at the top and the softer tuffs at the bottom. Precipitation, surface runoff, wind, and freeze-thaw processes caused these forms to evolve into columnar, cap, and mushroom shapes over time. The unusual formations seen in the Devrent Valley clearly reflect the random and directionless character of erosion.

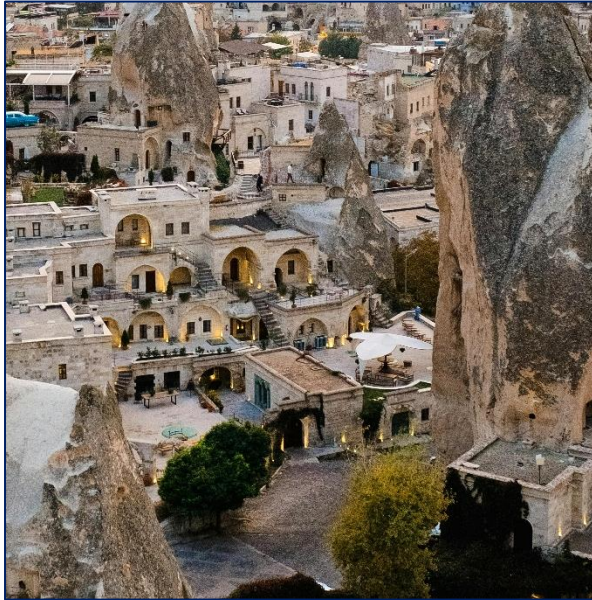
### **Three Beauties**

The group of fairy chimneys known as the Three Beauties is an example of areas in Cappadocia where erosion processes have reached a certain equilibrium stage. These formations show that fairy chimneys should be evaluated not only as individual shapes but also within a holistic landscape system. Although the area was shaped by natural processes, it also possesses the characteristics of a geomorphological heritage site enriched with cultural perception and symbolic meanings.



## Day 2: August 19th

- After breakfast at the hotel, we will visit Pigeon Valley, Uçhisar Castle, Avanos, Göreme Open Air Museum and the surrounding rock-carved settlements, and Çavuşin.
- We will have dinner and participate in a Turkish Night event.
- Accommodation: At a hotel in Cappadocia.



### Interaction of Volcanic Geomorphology, Cultural Landscape, and Human Settlement

The areas visited on the second day of the Cappadocia region clearly reveal the long-term and multifaceted interaction between volcanic geomorphological units and human settlement. These areas are not only sites where natural forms are observed; they are also complex landscape systems where one can discern how the geological environment directs cultural production.

#### Göreme Open Air Museum

Göreme and its surroundings are one of the areas in Cappadocia with the highest concentration of rock-carved settlements and places of worship. The porous and soft structure of the tuff and ignimbrites in the region allowed for easy carving of these rocks; thus, monasteries, churches, and living spaces were placed directly into the bedrock. Rock-carved architecture should be considered not only an aesthetic or religious preference but also a natural building technology offered by the geological environment.

The frescoed churches in Göreme also reflect the indirect influence of geological processes. Natural rock-cut spaces have created microclimatic conditions protected from external influences, allowing for the long-term preservation of the wall paintings. In this respect, Göreme clearly demonstrates the role of volcanic lithology in the preservation of cultural heritage.

#### Pigeon Valley

Pigeon Valley has a narrow and deep valley system shaped by fluvial erosion and slope processes. The development of the valley is a typical example of the disintegration of tuff plateaus in Cappadocia by streams and surface runoff. The dovecotes located in the valley are directly related to the agricultural activities of the region; pigeon manure was an important natural fertilizer source for viticulture and agriculture in the past.

This shows that geomorphological units are not only physical shapes but also part of economic and agricultural systems. In this respect, Pigeon Valley offers an important case study for understanding the relationship between natural environment, agriculture, and settlement in Cappadocia.

### **Uçhisar Castle**

Uçhisar Castle was formed by carving out a large mass of tuff located at the highest point of Cappadocia. This location provided the castle with both a strategic defensive advantage and a wide field of view. The lithological unit in which the castle is located contains more resistant ignimbrite layers compared to its surroundings, which has resulted in less erosion compared to the areas around Uçhisar.

Uçhisar is one of the most prominent examples in Cappadocia where geological structure and military and settlement functions overlap. The fact that the rock block functions as a natural fortress shows that humans developed settlements using the existing natural form without transforming the geomorphological shapes.

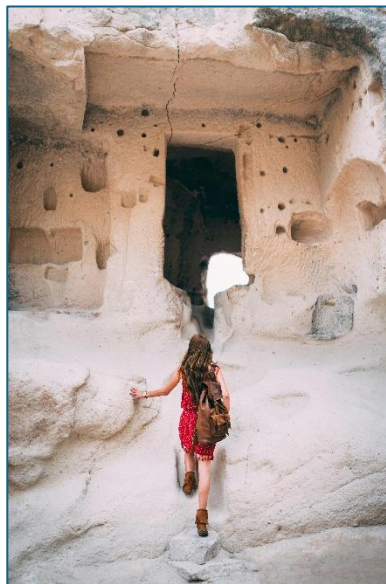
### **Avanos and the Kızılırmak Basin**

Avanos has been a center of ceramic and pottery production throughout history thanks to the fine-grained alluvium carried by the Kızılırmak River. This alluvium deposited by the river provided clay raw material with high plasticity, allowing the development of the region's unique handicrafts. Thus, fluvial processes are directly linked to economic and cultural production.

The Avanos example demonstrates that in Cappadocia, geological processes shape not only the landscape but also the local economy and cultural identity. In this context, the region is a unique area where human geography and physical geography intersect.

### **General Assessment**

The areas visited on the second day show how the reciprocal relationship between volcanic lithology, erosion processes, and human settlement manifests itself at different scales in Cappadocia. Rock-carved settlements, valleys, castles, and alluvial deposit areas clearly reveal how natural processes are adapted and transformed by humans. In this respect, Cappadocia is not only a natural geomorphological area but also a living archive of long-term human-environment interaction.



### Day 3: August 20th

- After breakfast at the hotel in Cappadocia, we will go hot air ballooning. Afterwards, we will have a field trip with horses.
- After lunch, we will begin our return journey, which will take approximately 9 hours.
- Arrival in Istanbul is likely at 23:00.



#### Included Services

2 nights hotel accommodation  
2 nights dinner at the hotel  
2 breakfasts at the hotel  
Turkish Night  
Hot Air Balloon Watch  
ATV included  
English-speaking guide  
Transportation by bus  
Bridge and highway tolls, parking  
Professional liability insurance

#### Excluded Services

Museum and archaeological site  
entrance fees  
Lunch  
Tips - Personal expenses

**Price: EUR 400** per person in double rooms.

