22nd International Geography Olympiad

13 August 2026

Istanbul, The Golden Horn area

RESOURCE BOOKLET

Students receive the FWE Resource Booklet at the beginning of FWE1 and hand it in to a volunteer at the end of the session. Note-taking is not permitted in the Booklet.
Students will receive the FWE Resource Booklet again for FWE2.

The Golden Horn and the Bosphorus: Two Waterfront Landscapes of Istanbul

Istanbul has developed around one of the world's most strategic maritime corridors: the Bosphorus Strait. The study area is centred on the Golden Horn (Haliç), a natural inlet connected to the Bosphorus. For centuries, the Golden Horn functioned as a major harbour, commercial and industrial zone. During the twentieth century, intensive industrialization transformed the waterfront. Shipyards, factories, slaughterhouses and warehouses occupied both shores, and industrial discharge combined with untreated wastewater caused severe pollution of the inlet. From the mid-1980s onwards, most of these facilities were demolished or relocated as part of a clean-up programme, opening the waterfront to new uses. Since the 1980s, urban regeneration projects have also reshaped many parts of the area, which today contains a mixture of historic commercial districts, transportation infrastructure, tourism facilities, and redeveloped waterfront spaces

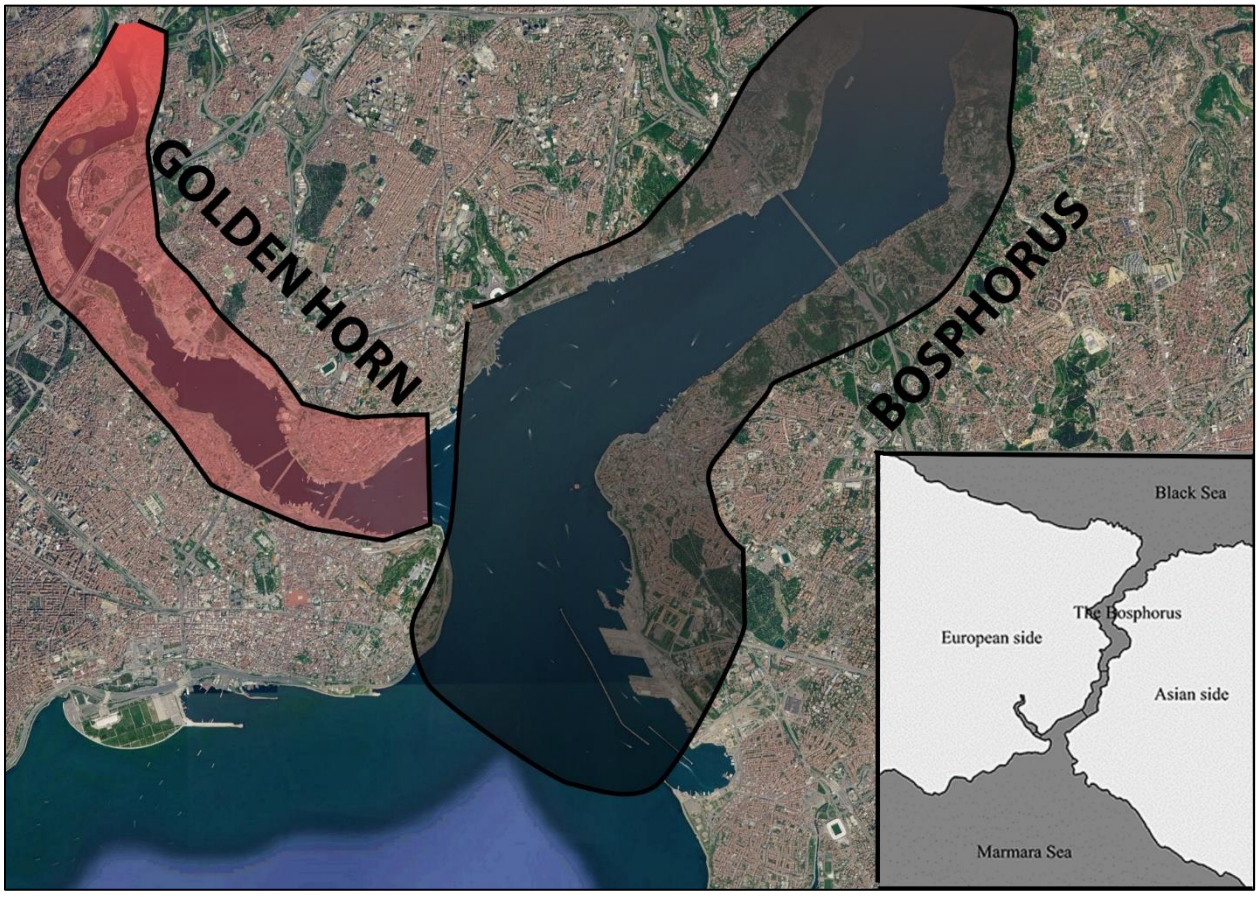


Figure 1. The location of Golden Horn and the Bosphorus
Source https://istanbul.tips/explore-golden-horn-a-guide-to-things-to-do-buy-see-in-2023/

Physical Geography of the Area

The Golden Horn is a drowned river valley (or ***ria***) extending approximately 7.5 km inland from the ***Bosphorus.*** The surrounding terrain is characterized by steep slopes, narrow ridges, and deeply incised valleys descending towards the waterfront. Historically, natural streams flowing from the uplands transported sediment into the Golden Horn. Although many streams have now been channelized or buried beneath urban development, the topography continues to influence transportation routes, land use patterns, and urban accessibility. The coastal zone has been significantly modified through land reclamation, shoreline engineering, and the construction of transportation infrastructure.

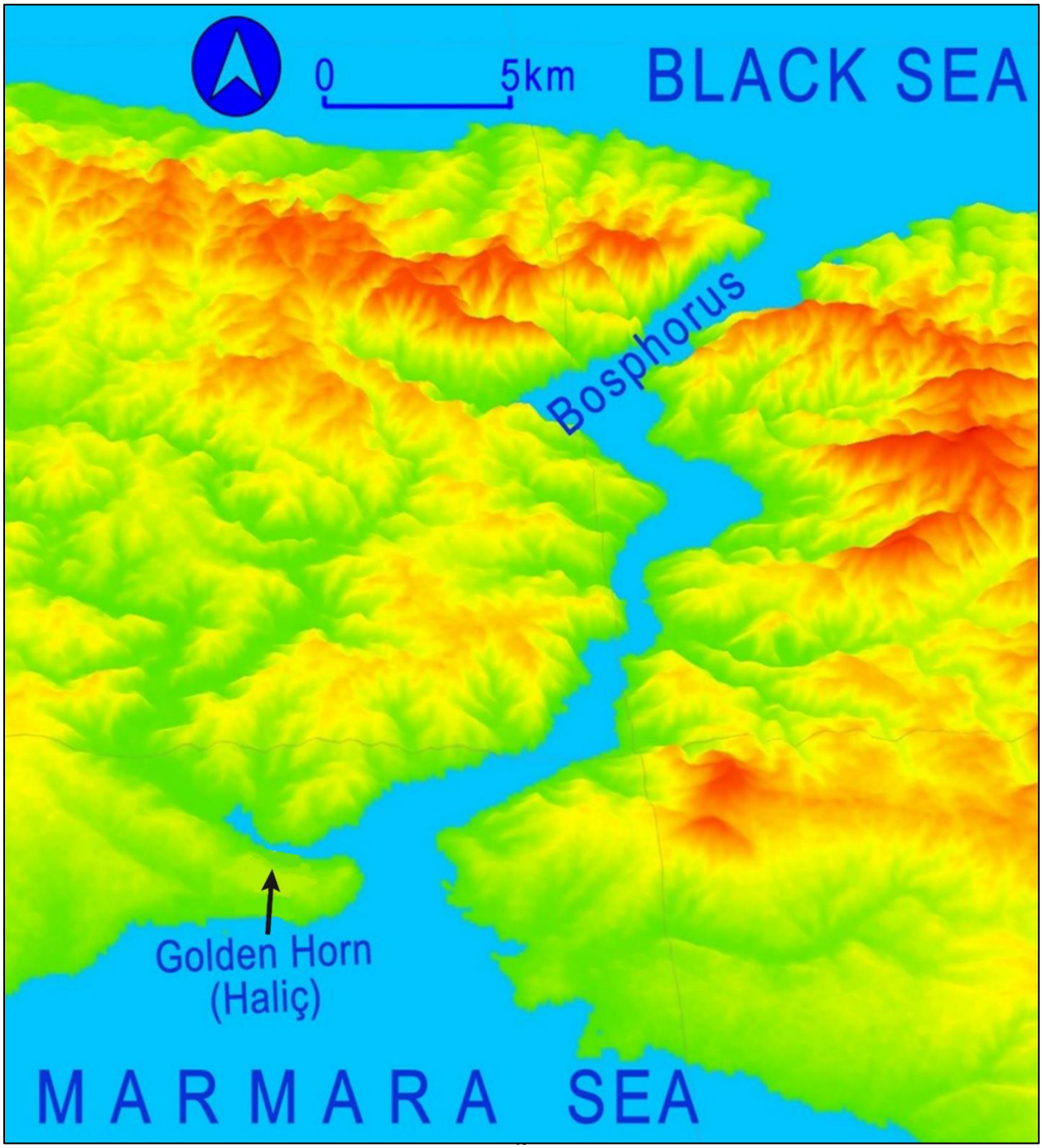


Figure 2. Topography of Golden Horn and The Bosphorus

Historical Development of the Golden Horn

The Golden Horn has played a central role in the development of Istanbul since antiquity. During the Byzantine period, the inlet functioned as a protected harbour and naval base. During the Ottoman era, shipyards, markets, and commercial facilities expanded along its shores. Rapid industrialization dominated the nineteenth and twentieth centuries. Factories, warehouses, workshops, and transportation facilities occupied large sections of the waterfront. Environmental degradation increased as industrial waste and untreated sewage were discharged into the waters of the inlet. Beginning in the 1980s, major environmental restoration and urban regeneration projects transformed the area. Many industrial facilities were relocated, parks were created, and waterfront accessibility improved.

Table 1. Major Phases of Urban Development in the Golden Horn

Period	Dominant Function
Byzantine Era (330 CE to 1453 CE)	Port and Defence
Ottoman Era (1299 CE to 1922 CE)	Trade and Shipbuilding
Industrial Era (1930 CE to 1980 CE)	Manufacturing and Warehousing
Post-1980 Period	Regeneration and tourism



Photo 1. Golden Horn (Haliç) Shipyards, Ottoman Period
Source: http://www.eskiistanbul.net/344/yavuzselimden-halic-tersaneler-bolgesi



Figure 2.1a: Topographical map from 1918 showing the task area and its surroundings



Figure 2.1b: A late 19th century photo showing the central section of the task area.

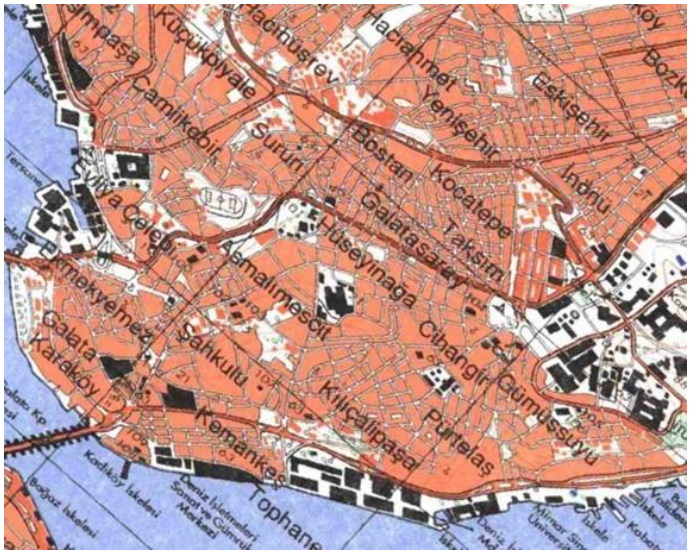


Figure 2.2a: Most recent topographical map showing the task area and its surroundings



Figure 2.2b. Present-day photo showing the central section of the task area

Coastal Modification and Human Intervention

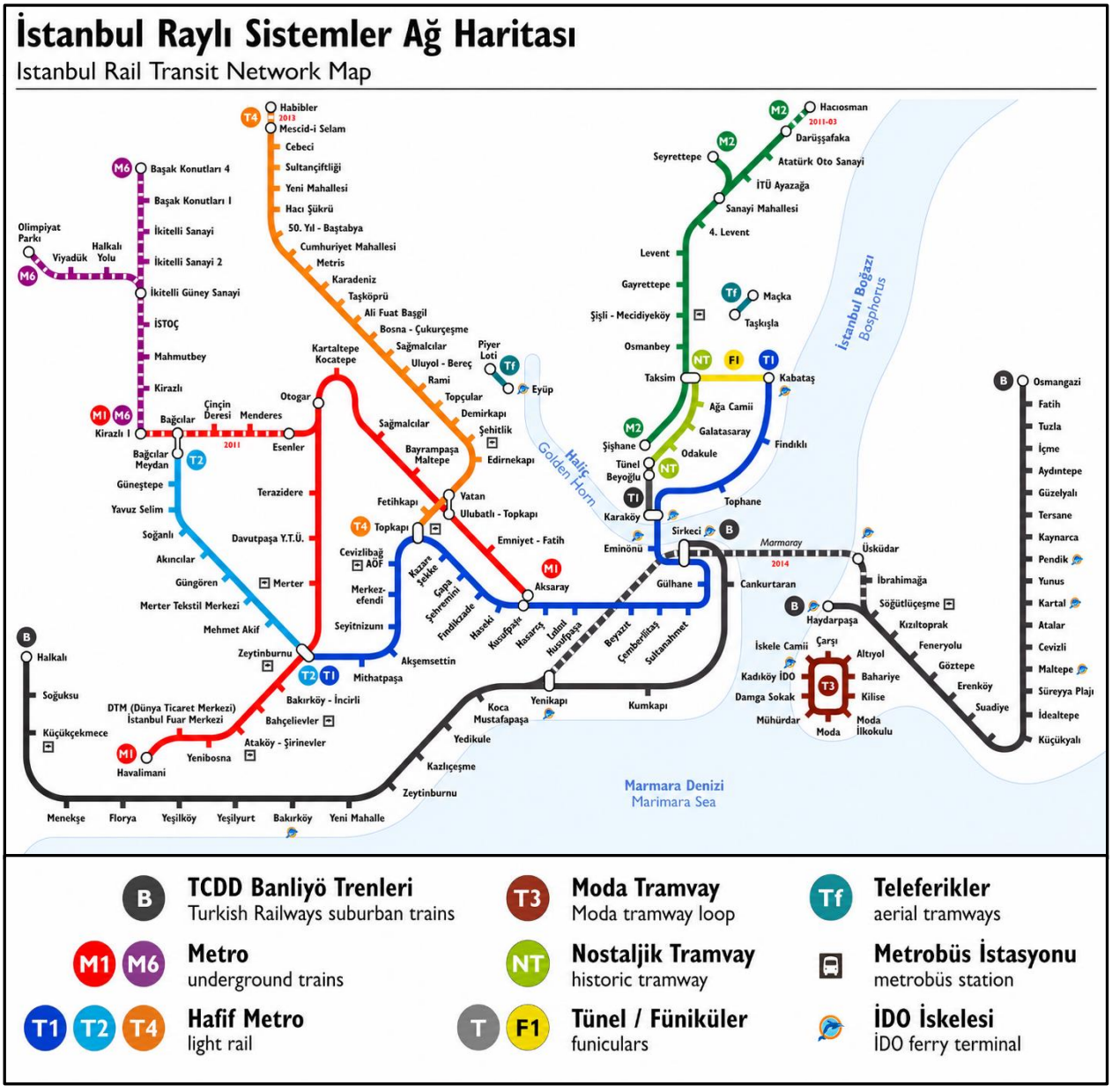
The natural shoreline of the Golden Horn has undergone extensive modifications. Large areas have been added through land reclamation. Concrete embankments, ferry terminals, transportation corridors, and public spaces have replaced many natural shoreline features. Engineering projects have significantly altered sediment and water dynamics: deforestation and unplanned urbanization in the catchment increased sediment input from the two streams feeding the inlet, causing rapid shallowing of its upper section, while dams later built on these streams sharply reduced freshwater and sediment inflow. Water circulation, long restricted by the old pontoon-based Galata Bridge, improved after the bridge was replaced in 1994 and millions of cubic metres of accumulated sludge were dredged in the late 1990s. Some sections of the waterfront now function primarily as transportation corridors, while others have been redeveloped for recreation and tourism.



Photo 2. Human modifications to the shoreline of the Golden Horn: embankments, piers, and recreational waterfront Spaces showing Galata Bridge in the background

Transportation Networks

The study area contains one of the most complex transportation systems in Istanbul. Different transportation modes intersect within a relatively small area, including: metro systems, tram lines, bus routes, ferry services, road infrastructure and pedestrian networks. The Golden Horn functions as a major transportation corridor connecting different parts of the city. Several bridges and ferry terminals act as important intermodal transportation nodes. Transportation accessibility has also played a major role in shaping commercial activities and urban development.



Urban Renewal and Gentrification

Urban renewal projects have significantly altered parts of both the Golden Horn and Bosphorus waterfronts. Former industrial and port-related areas have been transformed into tourism, retail, cultural, and leisure spaces. Examples include the redevelopment of the historic shipyard zone along the Golden Horn and the transformation of former port facilities around Galataport. These projects have improved public infrastructure, increased accessibility, and raised land values. However, renewal may also contribute to social and economic changes. Rising property values and changing commercial functions can create challenges for traditional businesses and lower-income users of urban spaces. Different sections of the study area therefore display varying levels of redevelopment and socio-economic transformation.



Photo 3. Gentrification and touristification in the neighbourhoods of Galataport
Source: Erbil, A. Ö., & Erbil, T. (2024). Unveiling the role of the state in Istanbul's urban transformation: Insights from Galataport redevelopment. *Journal of Infrastructure, Policy and Development*.

Earthquakes and Natural Disaster Management

Istanbul is located near the North Anatolian Fault, one of the most active fault systems in the world. Throughout its history, the city has experienced numerous destructive earthquakes that have affected settlements, infrastructure, and economic activities. Due to its large population, dense floor area ratio (the ratio of the building footprints to land area), and strategic infrastructure, Istanbul remains highly vulnerable to future seismic events. Effective disaster management requires both preparedness and response planning. Urban authorities and emergency services develop evacuation routes, emergency gathering areas, transportation plans, and public awareness programs to reduce disaster impacts. In coastal areas, earthquake-related hazards may be accompanied by secondary risks such as coastal flooding and tsunami impacts. Consequently, accessibility, open spaces, transportation networks, and emergency service access are important components of urban resilience and disaster preparedness.



Figure 4. Major fault lines impacting Turkiye
Source: https://www.economist.com/the-economist-explains/2023/02/06/what-made-the-earthquake-in-turkey-and-syria-so-deadly (modified by Paul VanZant)