

## WEST BLACK SEA

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### ABSTRACT

The article was prepared as part of a term paper assignment for meteorology and oceanography classes at the Polish Naval Academy in Gdynia, during the ERASMUS+ program.

It contains interesting subjects about the West part of the Black Sea, like history, oceanography, geography, and weather. Each element presented will be exemplified by images.

### Keywords:

West Black Sea, Pont Euxin, oceanography, chemical, geological, geography, weather.

### INTRODUCTION

The west Black Sea region, also known as the Pontic region or the Pontus, has a rich history that spans thousands of years. The area is located along the eastern coast of the Black Sea and includes parts of modern-day Turkey, Bulgaria, and Romania.

The earliest known inhabitants of the west Black Sea region were the Thracians, who lived in the area around 1500 BCE. Later, the region was conquered by various groups, including the Persians, the Macedonians under Alexander the Great, and the Romans.



Fig. 1. A 16<sup>th</sup> - century map of the Black Sea

During the Byzantine era, the west Black Sea region was known as the Theme of Cherson and was an important trading center. The area was also a frequent target of raids by various nomadic tribes, including the Pechenegs and Cumans.

In the late 13<sup>th</sup> century, the Pontic region was conquered by the Ottoman Empire and remained under Ottoman rule until the early 20<sup>th</sup> century. During this time, the region saw significant cultural and economic growth, including the development of the city of Istanbul as a major trade hub.

In the 19<sup>th</sup> and early 20<sup>th</sup> centuries, various nationalist movements began to emerge in the west Black Sea region, including the Bulgarian, Romanian, and Turkish nationalist movements. These movements ultimately led to the breakup of the Ottoman Empire and the establishment of modern-day Bulgaria, Romania, and Turkey.

Today, the west Black Sea region is home to a diverse population and a rich cultural heritage, including traditional music, dance, and cuisine. The region is also a popular tourist destination, known for its stunning natural landscapes and historic landmarks.



Fig 2. Pont Euxin and Greek colonies (8<sup>th</sup>–3<sup>rd</sup> century BCE)

### OCEANOGRAPHY OF THE WEST BLACK SEA

The oceanography of the West Black Sea is influenced by several factors, including its location, geography, and climate. The sea receives freshwater input from several large rivers, including the Danube, Dniester, and Dnieper, which contribute to the sea's low salinity levels. The sea's shallow depth also means that it is subject to significant temperature fluctuations.

The West Black Sea is also influenced by the Black Sea's water flow, which is driven by changes in the atmospheric pressure over the Black Sea Basin. As such, the West Black Sea experiences periodic events of water exchange with the Black Sea, which can impact the sea's ecosystem and water quality.

Chemical aspects:

- The West Black Sea is a brackish water sea, meaning that it has a mix of freshwater and saltwater.
- The sea has relatively low salinity levels compared to other seas, with an average salinity of around 17–18 ppt (parts per thousand).

- The chemical composition of the West Black Sea is affected by anthropogenic activities, such as industrialization and agriculture, that lead to eutrophication (excessive nutrients) and pollution.
- The sea also experiences periodic oxygen depletion, which can cause fish kills and harm the ecosystem.

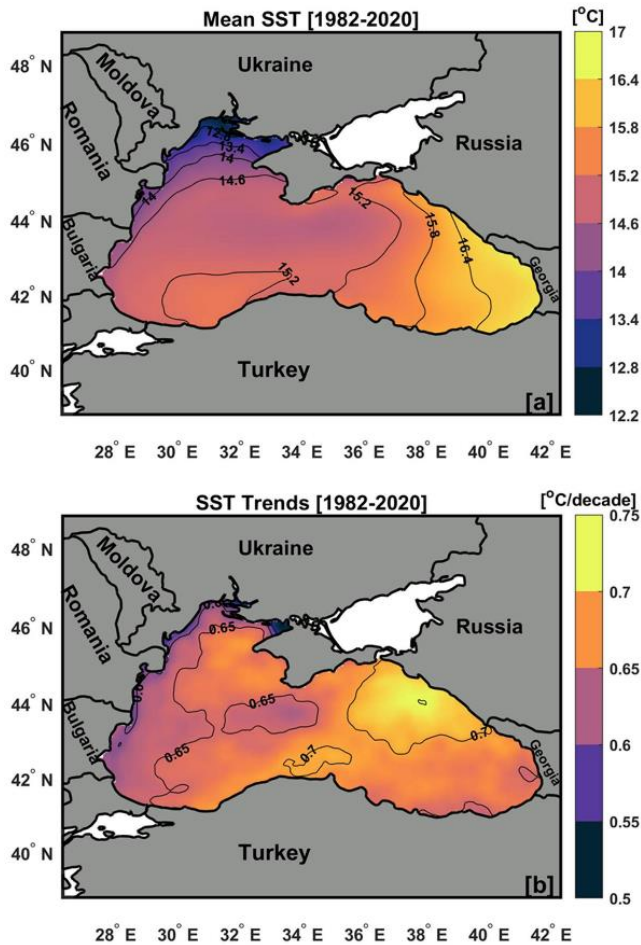


Fig 3. Sea Surface Temperature Variability and Marine Heatwaves

In terms of marine life, the West Black Sea is home to a diverse marine ecosystem, with around 2,500 species of plants and animals, including dolphins, porpoises, and seals. The area is also important for commercial fishing, with species such as anchovy, sprat, and mackerel being the most caught.



Fig. 4. Dolphin



Fig. 5. Porpoise



Fig. 6. Massive oyster reefs with shells  
(Bulgaria)



Fig. 7. Actinia

Interesting geological aspect of West Black Sea:

- **Tectonic Activity:** The West Black Sea region is located on a tectonically active zone, where the Anatolian and Eurasian plates meet. This contributes to the occurrence of frequent earthquakes in the region.
- **Black Sea Basin:** The Black Sea is the largest anoxic basin in the world, meaning that the deep waters have very low or no oxygen levels, creating unique and extreme ecological conditions.
- **Fossiliferous Deposits:** The West Black Sea region is known for its rich fossiliferous deposits, which contain a variety of marine and terrestrial species from different geological periods.

## GEOGRAPHICAL CHARACTERISTICS OF THE WEST BLACK SEA

The West Black Sea region is a coastal area in northern Turkey located along the Black Sea's southern shore. It runs through Zonguldak, Bartın, and Karabük provinces. The landscape is marked by high mountains and plateaus interspersed with small valleys, rivers, and streams, the majority of which fall into the Black Sea.

The West Black Sea area is between the Black Sea region and the Central Anatolian Plateau. It has a humid and warm climate with a lot of rain, especially during the winter. Because to its proximity to the sea, the area has unusually high humidity throughout the year.

The region is well-known for its numerous natural environments, which include dense forest, wide grasslands, and beautiful coasts. The region also has a rich cultural past, with its inhabitants noticed for traditional crafts and cuisine which focuses on local produce such as hazelnuts, corn (maize), tea, and different seafood.

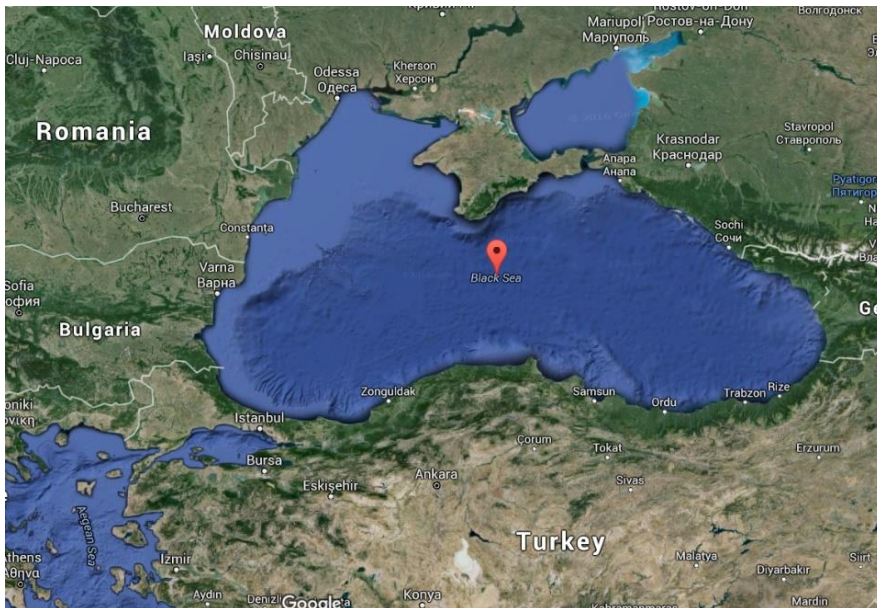


Fig. 8. Location of the Black Sea

## WEATHER

The Black Sea region is located mainly in the temperate climate zone, with colder temperatures in the mountainous areas of the region. The climate in the western Black Sea region is a humid subtropical climate, which is moderated by the sea.

Summers in the western Black Sea can be hot and humid, with temperatures often reaching into the mid to upper 80s Fahrenheit. However, sea breezes help to cool things down in the coastal areas.

Winters in the region can be quite cold, with snowfall common in the mountains. Temperatures can drop below freezing, especially in January and February.



Fig. 9. Warmer winters are changing the view of Black Sea

Rainfall is common throughout the year in the western Black Sea region, with the heaviest rainfall occurring in the fall and winter months. This can sometimes lead to flooding in some areas.



Fig. 10. Rain clouds on the Black Sea

### **SUMMARY**

To sum up all the information presented in this article, the West Black Sea is a complex sea with a unique marine life and ecosystem, influenced by natural and human factors. Human activities like farming and industrialization negatively affect the sea, causing contamination and eutrophication.

The area is geologically active and has occasional low-oxygen conditions, affecting marine life and the environment. It is known for its rich fossil deposits and experiences a warm, humid climate with increased rainfall in the winter, varying with the topography.

Efforts are being made to explore and preserve the unique marine life and ecosystem of the West Black Sea.

It, like any other sea, has threats that those who dare venture through its waves must encounter. That's why George Herbert said: "The ones who want to learn to pray must go to sea!"

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