

# EUROPE'S RELATIONSHIP WITH WATER

EUROPEAN PROGRAMME ERASMUS+ "LIVING BESIDE THE WATER"

Thematic eBook

MAY 2022

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Erasmus+



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# CHAPTER 1

## INTRODUCTION



This chapter was written by the  
Lithuanian school **Kauno Roku gimnazija**  
and the Greek school **Gymnasio Peramantos**

# Z O T I C H U D O R O Z I

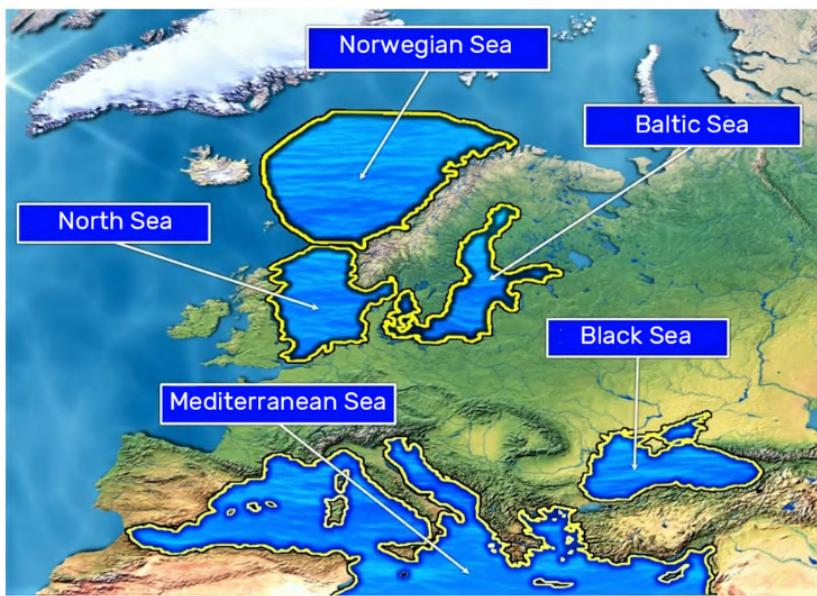
This book is a work product of the project 'Living beside the water', an Erasmus+ European programme. It refers to the relation of the European continent with the water.

The editing and final form of this book were conducted by the Lithuanian school as part of their responsibility, after the initial division of labor among the partners according to the Application form of the project.

The book consists of seven chapters. The 1st chapter is introductory and was written only in English. It is a result of the cooperation between the Lithuanian and the coordinating Greek school. Each one of the remaining chapters was written separately by each partner school. They are written in English and accordingly in the native language of each school.

Each school had to display an individual approach of the relation of Europe with the water (e.g., in terms of geography, history, economy, tourism, ecology, transportation, communication, art etc.) regardless of the other partners' view.

# EUROPE'S RELATIONSHIP WITH THE SEA



Water is an essential in life in our planet, a source of health, wellness, euphoria, strength and inspiration. The first great civilizations were developed in the valleys of great rivers (Tigris, Euphrates, Nile) and around the Mediterranean Sea. It is obvious through history that the connection between Europe and water is extremely important too.

Through time there is a close relationship between Europeans and the sea. Historically, politically and socially the consequences of this relationship played an important role to the development of Europe and European civilizations.

Europe is a gigantic peninsula, surrounded by the sea. The sea has always offered employment to the villages and cities on the shores as well as nourishment to people all over Europe. At the same time many things have been transported through the sea, not only material as food but also new ideas and innovations equally important to people. Another aspect of the importance of the sea to life in Europe is that it regulates climate conditions, through ocean currents from tropical areas to the poles, allowing this way people to settle all over North Europe.

In the south there is the Mediterranean Sea, where the Greek and other ancient civilizations were flourished. The Mediterranean is and always has been a communication bridge between the European and the Arabic world, the Middle East, North Africa, Islam and petrol supplies.

In the north the world of Vikings is also known as the world of the herring, the salmon, the whale, the Pole and the North Sea petrol.

In the west there is the vast Atlantic Ocean with the sea passages to America, Africa and India. This were completely unknown or slightly known places until the end of the Middle Ages that became essential for Europe when discovered.



# EUROPE'S RELATIONSHIP WITH RIVERS AND LAKES



The rivers and the lakes of Europe are the most valuable nature resources of the people of the continent. They are closely related to the life of Europeans.

Generally, rivers and lakes are used for:

- transport
- water supply
- farming irrigation
- electrical power generation
- industrial production
- fishing
- touristic operations
- recreation etc.

Budapest, Bratislava, Belgrade, Vienna, London, Warsaw, Lisbon, Paris, Kiev and other major European cities are built on the banks of rivers or lakes.

Many rivers in central Europe are navigable and are used as passages, connected with each other by canals. Communication through rivers is common nowadays in a great part of Europe. In order a river to be navigable, the water should be sufficient and not freezing all year long and there shouldn't be any waterfalls on the way. Volga and Danube, two of the biggest rivers of Europe, are navigable almost along their entire length.

Many dams built on the rivers are used for the production of electrical power. Very large ponds(reservoirs) have been created to be used as freshwater storage.

## THE WATER FACTOR IN EUROPE UNDER PRESSURE

Unfortunately, the water factor in Europe (rivers, lakes and the surrounding seas) is under great pressure due to human interventions and climate change. Aquatic ecosystems are altered and degraded.

A great part of this pressure derives from activities such as the extraction and production of natural resources (minerals, fish, shellfish, etc.), transportation, energy production and pollution.

Other land-based activities, like the use of fertilizers and industrial chemicals as well as the increasing urban wastewater, intensify the existing pressure causing further pollution.

# CHAPTER 2

## RELATIONSHIP BETWEEN CENTRAL EUROPE AND ITS MAJOR RIVERS



This chapter was written by the  
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# ELBE

The Elbe is the most important Czech river. It rises on the Elbe meadow at an altitude of 1387 m in the Giant Mountains in the Czech Republic. The place where the river springs is often visited by tourists.



Through the Elbe, the Czech Republic is connected to the North Sea. Several rivers flow into it, such as Metuje, Úpa, Jizera, Vltava, Ohře and Ploučnice. The Elbe connects many cities such as Pardubice, Ústí nad Labem, Hradec Králové or Děčín. After 368 km it leaves the Czech Republic in Hřensko. Its journey continues through Germany, where it flows through Hamburg, Dresden, Magdeburg and Cuxhaven, where it flows into the North Sea after 1,094 km of the route. The mouth of the Elbe into the sea in Cuxhaven is 17 km wide.



The river is used for the transport of raw materials and products from the Czech Republic to Germany and back. This mode of transport is slow but eco-friendly and cheap.



The territory, around the middle and lower reaches of the river, has fertile soil and a suitable climate, so it is used for growing many crops for example: fruits, vegetables, sugar beets, grains, vines,...

In 2002 and 2013, the Elbe was also affected by floods. The water flooded many towns and villages along the river, many people had to be evacuated, and the damage was incalculable.



# VLTAVA



The Vltava is the longest Czech river that rises in the Šumava National Park near the settlement of Horní Kvilda about 600 m from the border with Germany. The river rises on the slopes of Černá mountain, the spring visited by tourists is only symbolic.

The river measures 430 km from its spring to its confluence with the Elbe. The Vltava drains almost all of Bohemia. From the right side it is the Lužnice that flows into the Vltava and the Sázava from the left side joins the Vltava as well as the Otava and Berounka. Due to frequent floods a system of several dams was built on the Vltava River. The largest of them is Lipno Dam. These dams serve as reservoirs of water, hydroelectric power plants are built on them, and they are sought-after recreation areas.

The Vltava River flows through many towns such as Český Krumlov, České Budějovice, Through Prague and near Mělník it flows into the Elbe. Although the Vltava is longer at the confluence, the river continues to flow below by the name of the Elbe.





The Vltava River is very popular among paddlers and thousands of people sail through it every year. The Vltava is the Czech national river and it appears in the works of many artists.

In 2002, the Vltava River was hit by a major flood. The dams did not manage to hold a huge amount of rainwater and the river spilled out of the banks almost along the entire course of the Vltava River. The damage it caused was enormous.



# CHAPTER 3

## SOUTHEASTERN EUROPE AND THE MEDITERRANEAN SEA



This chapter was written by the  
**Gymnasio Peramantos**  
**Ioannina, GREECE**

# SOUTHEASTERN EUROPE



Over 200 people live I the Mediterranean coasts. The North, that consists of the European countries, is more developed than the South where Asian and African countries are located. Despite the religious, economic, and ethnological differences of these countries and continents, they all share the same view that they have a lot in common and that the Mediterranean is their mutual home.

Southeastern Europe is a geological term referred mostly to the Balkan Peninsula countries. Almost all the countries border the Mediterranean Sea and undoubtedly have developed a dependent relationship with the sea. The Mediterranean has marked the historical course of each country greatly and has proved to be immensely important for these countries throughout the years.

The Mediterranean Sea is smaller in size compared to the other seas of the world. Despite its size it is considered to be the greatest sea in human history because it lies on the crossroads of three continents and so many great civilizations and important religions have developed there.



## EASTERN MEDITERRANEAN

The Eastern Mediterranean connects geographically Europe, Africa and Asia and is a field of interest not only for the surrounding countries but for faraway countries as well that have an interest or constantly desire to interfere in geopolitical developments.

One of the most interesting characteristics of the Eastern Mediterranean Sea is the fact that it is next to the Middle East. This proximity is considered to be of a great value by all the interested parts.

It is also a commercial crossroads because of the Suez Canal, the fastest shipping route between the Indian and the Atlantic Ocean. The Canal is used for the oil transport from North Africa and the Persian Gulf.

# SEA ROUTES



Among the many characteristics of the Mediterranean, certainly the most important is its sea routes. From the ancient times until the present days, millions of journeys took place on these waters, from the mythical travels of Odysseus to the travels of the sophisticated tankers of today. Crossing the Suez Canal these tankers carry crude oil to be refined, from the Persian Gulf to industrial northern areas of the Mediterranean.



The Eastern Mediterranean acted as a giant "melting pot" where some of the older and more significant civilizations of the world interacted with each other. Among them is the Greek civilization in all its aspects through time. Languages, customs and traditions, products and attitudes of people became a subject of communion and transaction between the people. An interesting cultural "mosaic" was created which is traced even today in the countries of the whole area.

# COLONIES



Greece, located in eastern Mediterranean, was strongly connected from the beginning of time with the sea. The Greeks founded colonies all over the Mediterranean, from Gibraltar to the African and Minor Asia coasts and the Black Sea. Some of the cities that were founded by Greeks like Marseilles, Alexandria etc. are even today important economic centers of the whole area.

The Greek language was the international language of communication for thousands of years and the Greek alphabet formed the basis of the Latin and the Cyrillic alphabet.

The timeless relationship of Greece with the sea in general and particularly with the Mediterranean is described in the StoryJumper e-book "Greece and the sea" that follows. It was created by Gymnasio Peramatos and it is a part of the "Multimedia poster" that was made in the 3rd meeting (virtual) in Portugal.



# MEDITERRANEAN CLIMATE

A distinctive type of temperate climate, the Mediterranean, is a major characteristic of the area, with mild winters and dry, hot summers. There are few rainfalls mostly during autumn and winter time. Plants like the olive tree, the vine, wheat, and citrus fruit favour this particular kind of climate. Specifically, the olive tree is the most characteristic Mediterranean plant.



The olive tree grows only in the Mediterranean coasts. Spain, Italy and Greece are the three largest olive oil producing countries in the world.

The olive tree was known from the ancient times to all the Mediterranean people, and it was of great importance in ancient Greek art and mythology. According to the tradition the first olive tree was planted in Acropolis by goddess Athena.

It is the symbol of peace all over the world. The nutritional value of the olive is invaluable and as a result it is considered to be a symbol of longevity.

## THE OLIVE TREE



## TOURISM

Tourism is one of the greatest economic resources of the Mediterranean countries. The mild climate, the natural beauty, as well as the historical monuments and the beautiful seas contribute the most to the attraction of millions of tourists every year. Almost  $\frac{1}{4}$  of the tourists of the whole planet visit the Mediterranean basin.

## ENVIRONMENTAL IMPACT. POLLUTION

Lots of human activities are environmentally harmful to the Mediterranean. Industrial, agricultural, touristic and urban wastewater ends up in the sea causing an incalculable level of contamination. Overfishing has also proved to be a major problem as the number of fish has been decreased over the years and many species of the marine fauna face the danger of extinction.



# CHAPTER 4

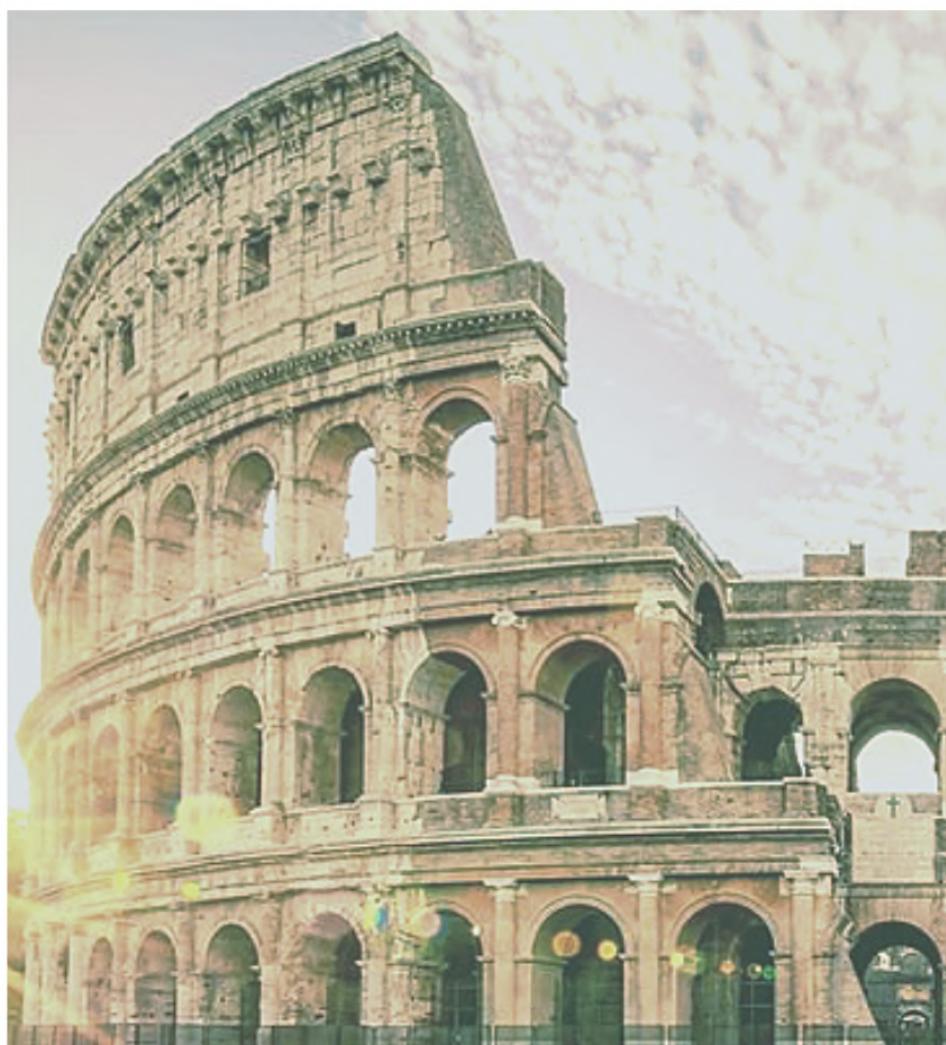
**RELATIONSHIP OF SOUTHERN EUROPE  
AND MEDITERRANEAN SEA MAINLY**



This chapter was written by the  
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Our Italy, a peninsula in the center of the Mediterranean, has been for centuries the economic and cultural core of the entire world. Base of the Roman Empire, it has spread language and traditions throughout the European territory. Being devastated by invasions and divided until 1861, it was home of philosophy, art and literature for centuries. Ideas and art branched out from Italy, different people passed through the Peninsula leaving their mark. The Papal Curia is located in Italy and, especially in the 1500s, contributed to the creation of masterpieces such as the "Sistine Chapel". It is now a small territory with an enormous history testified by cities of art that lie in a splendid territory in its landscapes.

At its border the Alps separate Italy from France, Switzerland, Austria and Slovenia and protect it from the cold currents from the North. Italy is crossed, for its entire length, by the Apennine Mountains which divide the waters of the rivers into two opposite sides. This is why their course is short. On the other hand, they are numerous, about 1200, and give rise to numerous estuaries. The Po, the longest one, runs for 652 km in the Po Valley. It rises on the Monviso, on the Cottian Alps, and flows into the Adriatic Sea. Its Delta, listed by UNESCO as a World Heritage Site, extends over about 610 square km and is made up of five branches. It constitutes the largest extension of protected wetlands in Italy.



## RIVERS

The Italian rivers are divided into:

- Alpine: rivers that have their source in the Alps, such as the Po. They have a high and constant flow throughout the year because in spring and summer, when rainfall is scarcer, they are fed by melting snow and glaciers
- Apennines: they have an irregular flow rate because they have a flood regime in autumn and winter, thanks to rainfall, but in spring and summer they are in a lean regime because they are not fed by glaciers
- Torrential Sardinians and Sicilians.

# LAKES



Italy has more than 1500 lakes. The largest are located in the north and are: Lake Garda, Lake Maggiore and Lake Como.

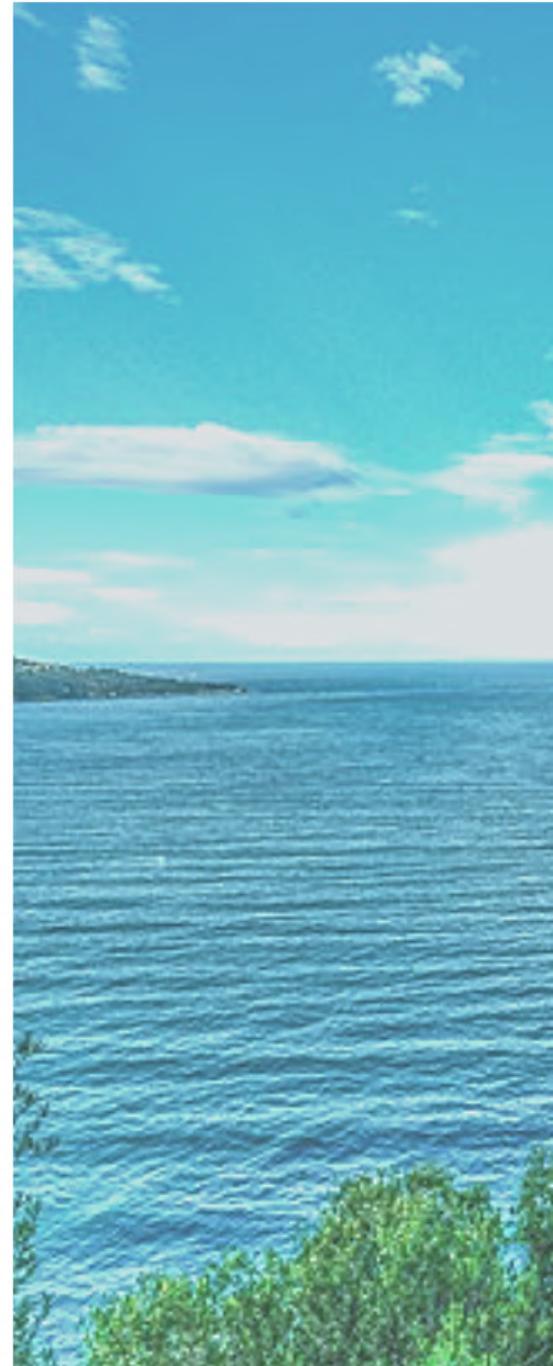
- Lake Garda is the largest with an area of 370 square km and borders on three regions: Veneto, Trentino and Lombardy.
- Lake Maggiore is divided between Italy and Switzerland, to which its northern part belongs and extends for 212 square km.
- Lake Como has an area of 146 square km and is the deepest Italian lake.

The lakes of northern Italy are of glacial origin, while those in the center are of volcanic origin such as Lake Bolsena.

# SEAS

Italy, as mentioned above, is in the center of the Mediterranean Sea. It bathes it in the west, south and east, assuming different names locally.

- - The Adriatic Sea, which extends between the Italian Peninsula to the west and the Balkan Peninsula to the east. It is shallow, has sandy and sometimes lagoon coasts, as in the case of the Venice Lagoon. Only in the promontories of Conero and Gargano are the coasts high and rocky
- - The Ionian Sea, which is the deepest sea in the Mediterranean. It bathes the southern coasts of the Italian peninsula and those of eastern Sicily. It communicates with the Tyrrhenian Sea through the Strait of Messina, which separates Calabria from Sicily. The coasts are low and sandy in Basilicata, high and rocky in Calabria
- - The Strait of Sicily or Strait of Sicily, which bathes the southern coasts of Sicily. There are the islands of Lampedusa, Linosa, Pantelleria
- - The Tyrrhenian Sea, which extends between the western coasts of the Italian Peninsula, Corsica and Sardinia to the east and Sicily to the south. It is the largest of the Italian seas and is quite deep. It is rich in islands. The coasts are mostly low and sandy
- - The Sea of Sardinia, located west of the island of the same name. It's very deep.
- - The Ligurian Sea bathes the north-western coasts of the Italian Peninsula. It is not very extensive but very deep. It has high and rocky coasts





The Italian seas and coasts are particularly fragile from an environmental point of view. In fact, the presence in these areas of settlements and the various human activities on the territory constitute, in some cases, a threat to the balance of the environment. In particular, the seas and coasts are at risk due to pollution, overbuilding, coastal erosion and overfishing.

Furthermore, climate change does not favor environmental sustainability and is affecting the Mediterranean area above all. In fact, the temperature in Italy is rising more than in other places in the world.

In recent years, Italians have witnessed natural events of increasing intensity and frequency, such as storms that hit various Alpine areas or intense rains and very violent gusts of wind that hit the forests, uprooting and breaking millions of cubic meters of trees. Many scholars have pointed out that the wind speed was strengthened by the high temperature of the Mediterranean Sea. In fact, by producing a greater amount of water vapour, a greater amount of energy is released into the atmosphere.

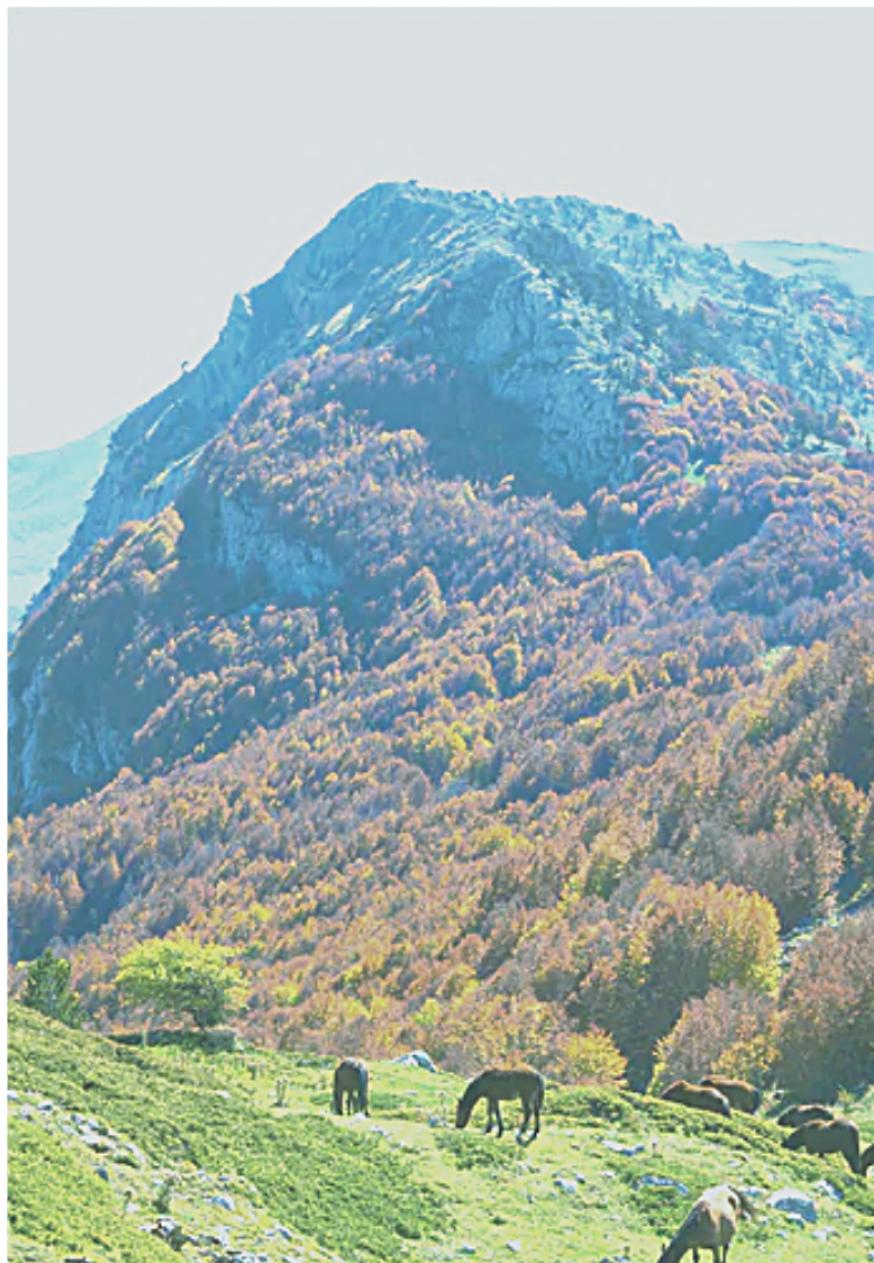
Other worrying phenomena are those linked to the tropicalization of the climate. In particular, in coastal areas there are both increasingly long periods of drought and violent storms, also known as "water bombs", which are more frequent and devastating. 2019 was a particularly critical year for Italy. 157 extreme events took place including floods, tornadoes, landslides and river floods. These phenomena affected almost the entire peninsula, causing the death of 42 people, the evacuation of several hundred and significant economic costs.

# NATIONAL PARKS

In Italy, however, there are 871 protected areas, for a total of over 3 million protected hectares. In addition, there are 24 National Parks such as, for example, the Gran Paradiso National Park, in the Aosta Valley or the Stelvio National Park, which stretches between Trentino-Alto Adige and Lombardy.

Furthermore, Italy is in the centre of southern Europe. This is made up of large countries such as: Spain, Portugal, Greece, Italy, Turkey and several smaller states such as the Principality of Monaco, Andorra, Vatican City, Malta, San Marino, Gibraltar and Montenegro. Southern Europe has around 150 million inhabitants. The climate is Mediterranean and is characterized by dry summers and rainy winters with mild temperatures. All kinds of cereals, potatoes, sugar beets, sunflowers and tobacco are grown there.

There are many Italian products of excellence thanks to the breadth of the cultivated area, the experience of the farmers and the mild climate. In many regions of Italy, for example, quality wines are produced and exported all over the world. Italian agriculture also features other excellent products: oil from many regions, apples from Trentino, oranges from Sicily, bergamot from Calabria. The typical products of each area are enhanced with specific brands such as DOP (Protected Designation of Origin) and IGP (Protected Geographical Indication). Italy is the leader in Europe for area cultivated with organic methods. There are, in fact, over 53,000 organic farms, mostly small in size. Overall 3.8% of the employed work in the primary sector and the sector contributes 3.6% to the Italian GDP.



Italy is a country poor in mineral resources. Some building materials are extracted such as the marble of the Apuan Alps, in the north of Tuscany. Hydrocarbon deposits are limited, so Italy is among the European countries that import oil and natural gas.

Italy is one of the top ten most industrialized countries in the world. Italian manufacturing industries compete internationally with other major economic powers. In the secondary sector 26.1% of the employed work, which are more concentrated in the northern regions and much less numerous in the southern ones. The secondary sector contributes 24.1% to the Italian GDP. The main industrial sectors are: food, textiles, engineering, construction, paper, leather and footwear.

## MADE IN ITALY



Made in Italy: the prestige of the Italian industry is due to a series of products considered of excellence for the high quality of the materials and the refined style, innovation, imagination, attention to detail and the ability to last in the time. The most exported products in the world are clothing, footwear, leather goods, furniture, food and engineering (such as cars and scooters).

The tertiary sector employs 70.1% of the employed and produces 73.8% of the Italian GDP. The tourism sector plays a decisive role for the extraordinary appeal that Italy exercises in the world. In 2018, over 63 million arrivals of foreign tourists were counted. Italy is in 5th place in the world ranking of tourist flows from abroad.

# CHAPTER 5

THE RELATIONSHIP OF NORTHERN EUROPE WITH WATER:  
ECOLOGICAL PROBLEMS IN THE BALTIC AND NORTH SEAS



This chapter was written by the  
**Kaunas Rokai gymnasium**  
**Kaunas, LITHUANIA**



There are very few places in the world where people can stand right between the two seas. Cape Grenen in the very north of Denmark is one of them. The Skagerrak and the Kattegat, which send waves to each other for millions of years, have formed a sand way here. This is where the two seas that wash Northern Europe - the North and the Baltic - come together.

Watch the video: <https://www.youtube.com/watch?v=goC9eE1rcz8&t=17s>



## **BALTIC SEA**



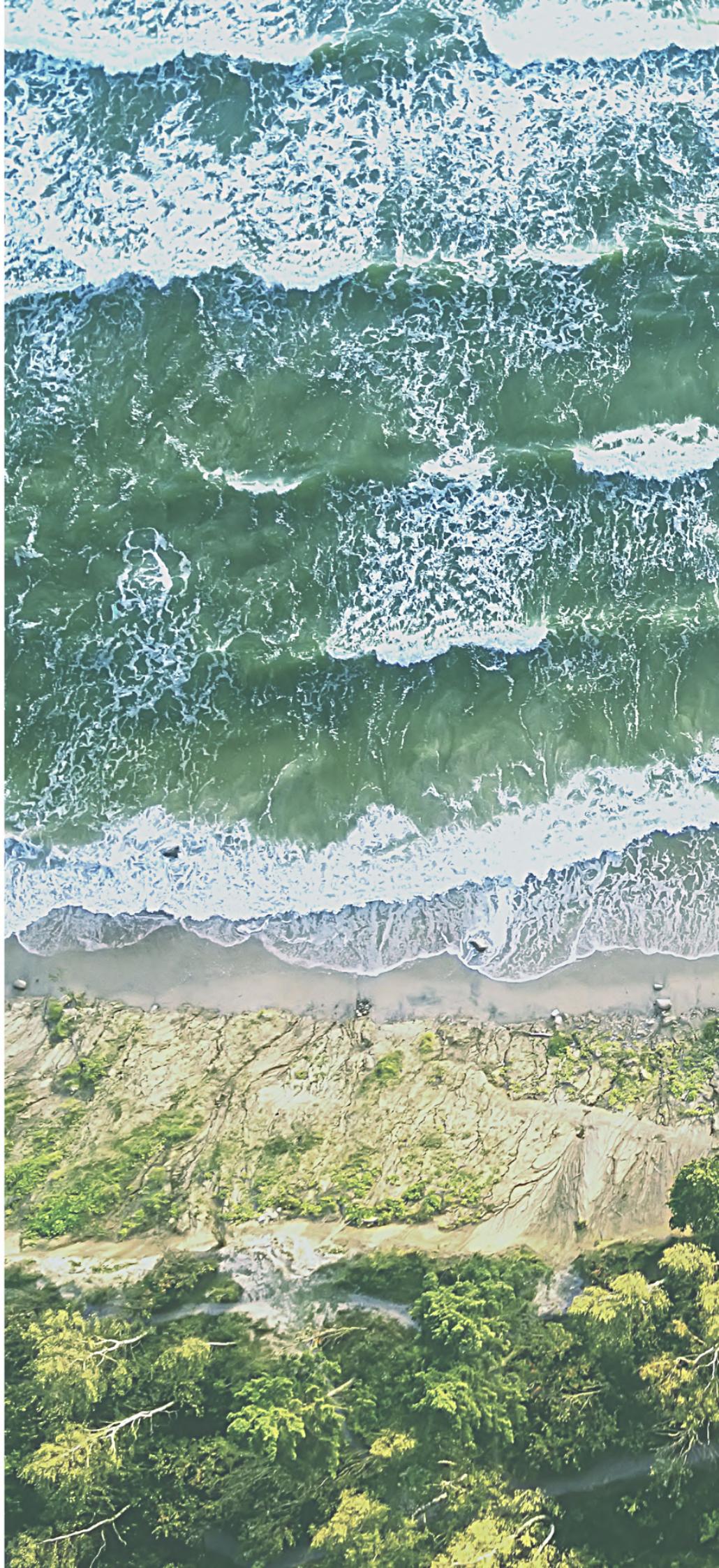
This sea is the inland sea of the Atlantic basin in the north of Europe. It is surrounded by the Scandinavian Peninsula on the one hand, and the countries of Eastern and Central Europe and the Danish islands on the other.

The Great Belt (16 km wide), the Little Belt (600 m) and Eresun (3.5 km) connect with the Kattegat and via the Kattegat and the Skagerrak with the North Sea. The Baltic Sea is connected by canals to the White Sea and the North Sea (Kiel Canal).

The origin of the current name of the Baltic Sea is not clear. The name can be associated with the Germanic word belt, which is used for the names of the two Danish Straits Belts, as well as with the lot. white 'tape'. The name of the Baltic Sea is also derived from the rain. white. According to another version, words derived from the same Indo-European root in various Indo-European languages refer to the colors observed in the swamps, and the name Baltic Sea would mean "sea surrounded by land" as opposed to the high seas.

The Baltic Sea is about 1600 km long, 193 km wide on average and 50 m [3] deep. Maximum depth 459 m. Area: 386 thousand.  $\text{km}^2$  [4]. The total volume of water in the Baltic Sea is 21,000  $\text{km}^3$ . The length of the coast is about 8000 km.

The color of the water is cloudy green its color depends on phytoplankton. The water is less transparent than the Atlantic Ocean. The water of the Baltic Sea is brackish. In some enclosed lagoons of the Baltic Sea, the water is completely fresh. The salinity of the sea is reduced by the fresh water of large rivers, rain and snow, which strongly dilutes the salt water coming from the ocean. In addition, the Baltic Sea has low evaporation, which also reduces its salinity.



The shallow bottom of the Baltic Sea and closer to the shores are composed of sand, gravel, gravel and silt. Bare rocks are found only in the northern part: limestone on the outskirts of Estonia and southern Sweden, granites and gneiss in the waters of Finland and northern Sweden.



The water of the Baltic Sea, especially on the Lithuanian-Latvian coast, should freeze at an average temperature of -0.3 - -0.4 ° C. As the Baltic Sea is shallow and non-salt water, sea ice is formed every year. The Baltic Sea is fed by the basins of the following rivers: the largest - the Nemunas, as well as the Daugava, Narva, Neva, Kiumijokis, Torné, Oder, Vistula and others.

Countries bordering the Baltic Sea: Sweden, Finland, Russia, Estonia, Latvia, Lithuania, Poland, Germany, Denmark.

Lithuanian towns by the Baltic Sea: Klaipeda, Palanga, Sventoji. Towns in other countries by the Baltic Sea: Gdansk (Poland), Helsinki (Finland), Kiel (Germany), Copenhagen (Denmark), Malmö (Sweden), Riga (Latvia), St. Petersburg (Russia), Stockholm (Sweden), Tallinn (Estonia).

Watch the video: <https://www.youtube.com/watch?v=BlyKG1Xpojo>

## THE NORTH SEA

The North Sea is an offshore sea near Europe, part of the Atlantic Ocean. The North Sea lies between Denmark, Sweden and Norway in the east, the British Isles in the west and Germany, Belgium, the Netherlands and France in the south.

The North Sea is becoming the English Channel, connecting the Atlantic Ocean. To the east, it joins the Baltic Sea via the Skagerrak and the Kattegat, which separate Denmark from Norway and Sweden.

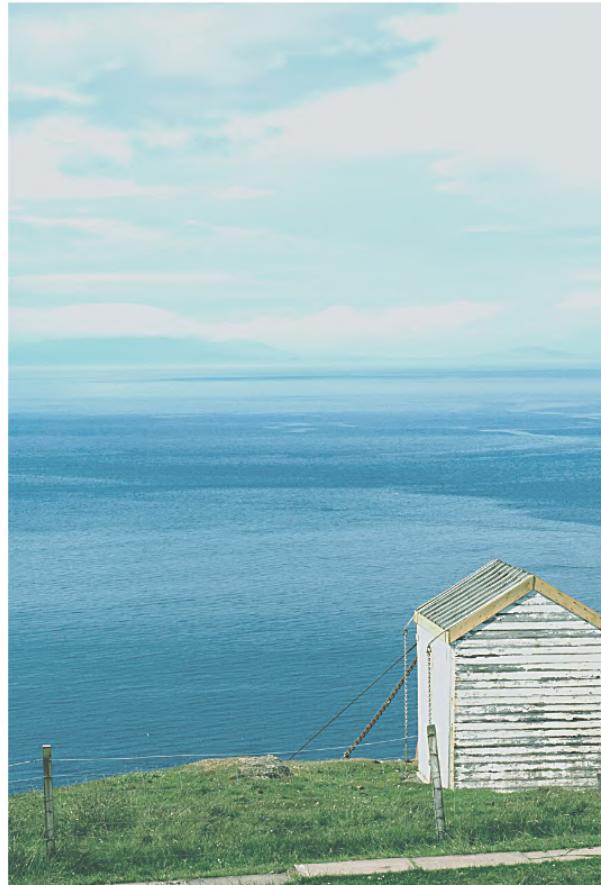


The North Sea has had various names throughout history. One of the earliest names recorded was the Septentrionalis Oceanus, or "North Ocean," quoted by Pliny. The name "North Sea" probably comes from the Dutch "Noordzee" whose name also came in English. Prior to the adoption of the North Sea, the names "German Sea" or "German Ocean" were used in English, and the Latin names "Mare Germanicum" and "Oceanus Germanicus" were used. used before the First World War.

The North Sea is more than 970 kilometers (600 miles) long and 580 kilometers (360 miles) wide, covering an area of 570,000 square kilometers. Average sea depth: 96 meters, maximum depth: 809 meters;

The salinity of the North Sea is as high as 35%. Salinity changes most where freshwater flows in.

The North Sea has long been a major European shipping lane and a major fishing destination. The coast is a popular destination for recreation and tourism in neighboring countries, and the sea has recently become a rich source of energy resources, including fossil fuels, wind and wave energy. The main natural resources are natural gas and oil. The North Sea is Europe's main fishing area, accounting for more than 5% of international commercial catches. In addition to oil, gas and fish, the North Sea states also take millions of cubic meters of sand and gravel from the ocean floor each year. They are used for beach catering, reclamation and construction. Due to strong winds and shallow water, the North Sea countries, especially Germany and Denmark, have been using the coast for wind energy since the 1990s. The North Sea is one of the first large-scale offshore wind farms in the world. The North Sea is important for maritime transport and its shipping lanes are among the busiest in the world.



The North Sea was the center of the Viking uprising. Later, the Hanseatic League, the Netherlands, and Britain sought to lead the North Sea and thus gain access to world markets and resources, as the North Sea is the only one to flow into the ocean, making it strategically important both during and after both world wars.

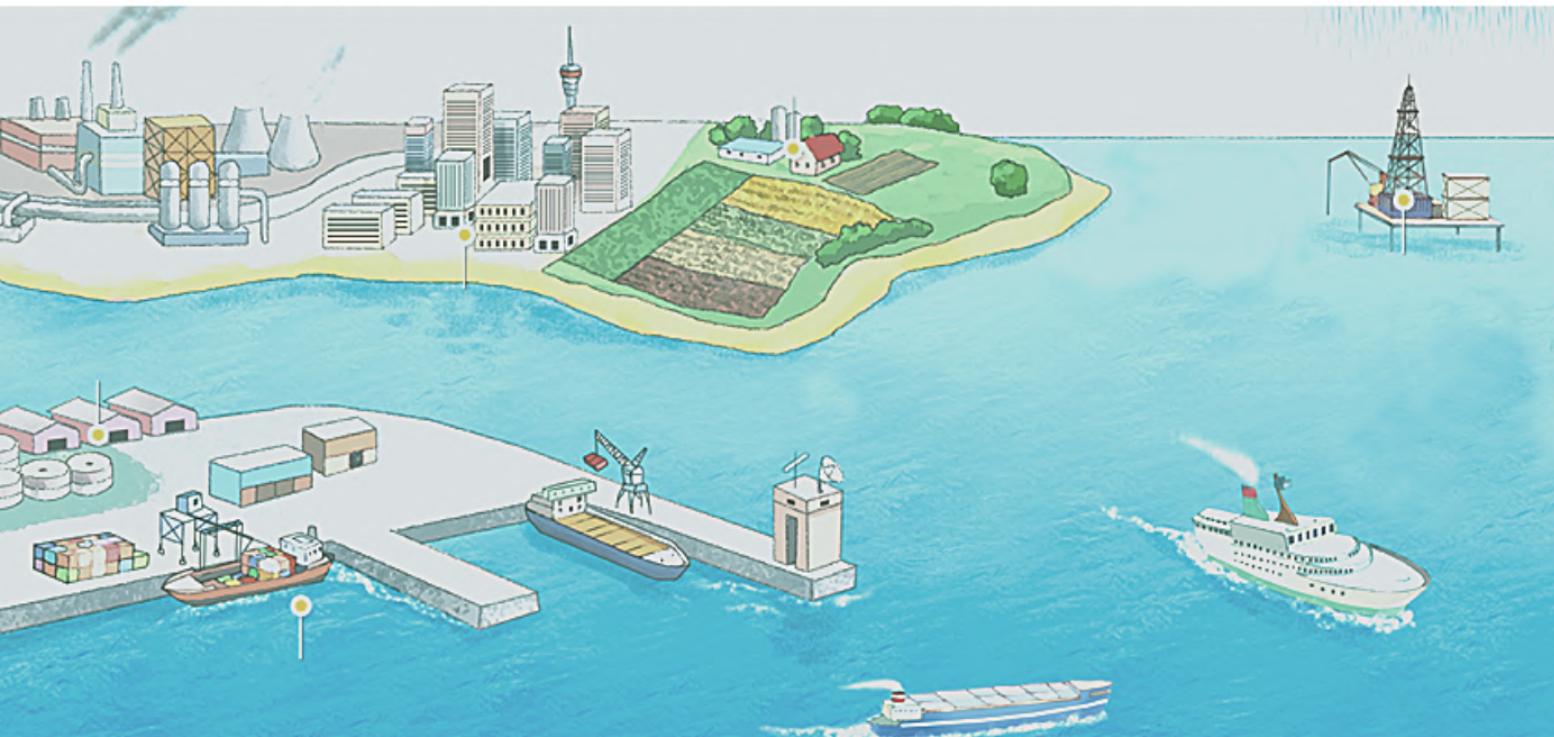
The North Sea is particularly dangerous to sail. The storm floods are particularly threatening the coasts of the Netherlands, Belgium, Germany and Denmark and the lowlands of the east of England. The modern shape of the embankments, complemented by overflow and lateral diversion channels, helps protect coastal towns.

The largest and most important rivers in the North Sea are the Elbe and the Rhine - Meuse. Some 185 million people live in the basin of rivers flowing into the North Sea, which includes some highly industrial areas, which has a very strong impact on the marine ecosystem.

Major North Sea ports: Rotterdam, London, Antwerp, Hamburg, Edinburgh, Bergen, Oslo

# ECOLOGICAL PROBLEMS

All of our lives on this planet, including our ecosystems, societies, and economies, depend on water.



**Marine and freshwater ecosystems perform many vital functions:**

- water filtration, dilution and storage;
- flood prevention;
- local and global climate balance;
- conservation of biological diversity.

## ECOLOGICAL ISSUES IN THE NORTH SEA

About 70% of our planet's area is covered by oceans, and debris in the seas can be found almost anywhere. Garbage pollution, especially plastics, poses a threat not only to the well-being of our seas and coasts, but also to our economy and society. Most marine litter is a consequence of continental activity. About 80% of rubbish is dumped in the seas from the mainland. Not all litter is caused by human activities in coastal areas. Even after throwing rubbish on land, rivers, floods and wind carry rubbish into the sea.

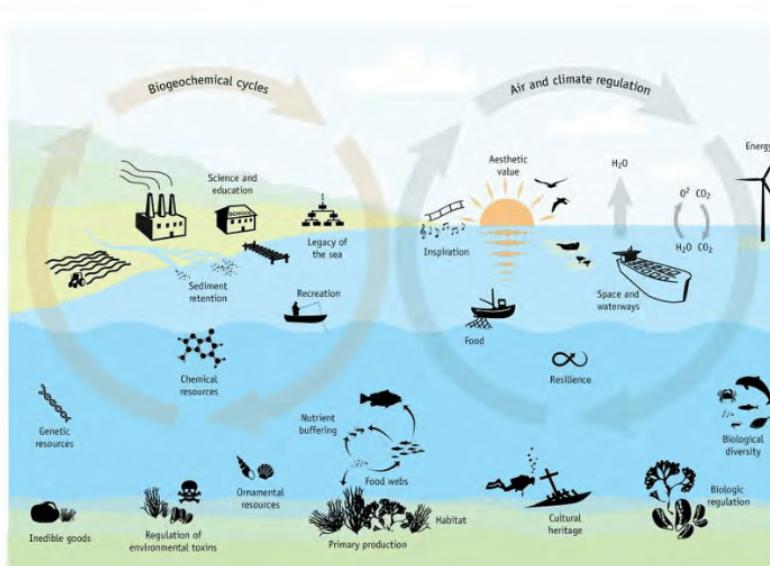
In the North Sea, the generation of waste is mainly due to activities at sea. Due to the large human population and the high degree of industrialization on its shores, wildlife in the North Sea has been affected by pollution, hunting and fishing.

The flamingos and pelicans that once lived along the southern shores of the North Sea became extinct during the second millennium. Gray whales, sturgeons, salmon and other species were common in the North Sea until the twentieth century. Unfortunately, their numbers have fallen due to overfishing. Other factors, such as the invasion of non-native species, industrial and agricultural pollution, trawling and dredging, man-made eutrophication, coastal construction, sand and gravel extraction, offshore construction and heavy shipping, have also contributed to the North Sea's ecological problems. Fishing, shipping, offshore installations such as oil rigs or sewers are sources of rubbish at sea. In the North Sea, the generation of waste is mainly due to activities at sea.



## ECOLOGICAL PROBLEMS OF THE BALTIC SEA

The Baltic Sea is polluted by many of the world's water bodies. This body of water is not only experiencing the best of times, but the danger of even greater pollution can be seen in the future. It is recognized that it is impossible to reduce pollution completely, but everyone has an important role to play in stopping it.



The biggest problem in the Baltic Sea is eutrophication: nutrient overload has led to more intense algal blooms. Algae consume oxygen during flowering, which leads to a lack of oxygen, as well as a decrease in water transparency and the formation of toxic bacteria. The very low-oxygen "dead zone" in the Baltic Sea covers almost 70,000 inhabitants km<sup>2</sup> area, more than the whole territory of Lithuania. This is leading to the extinction of seabed invertebrates, the fish they feed on and other aquatic animals.

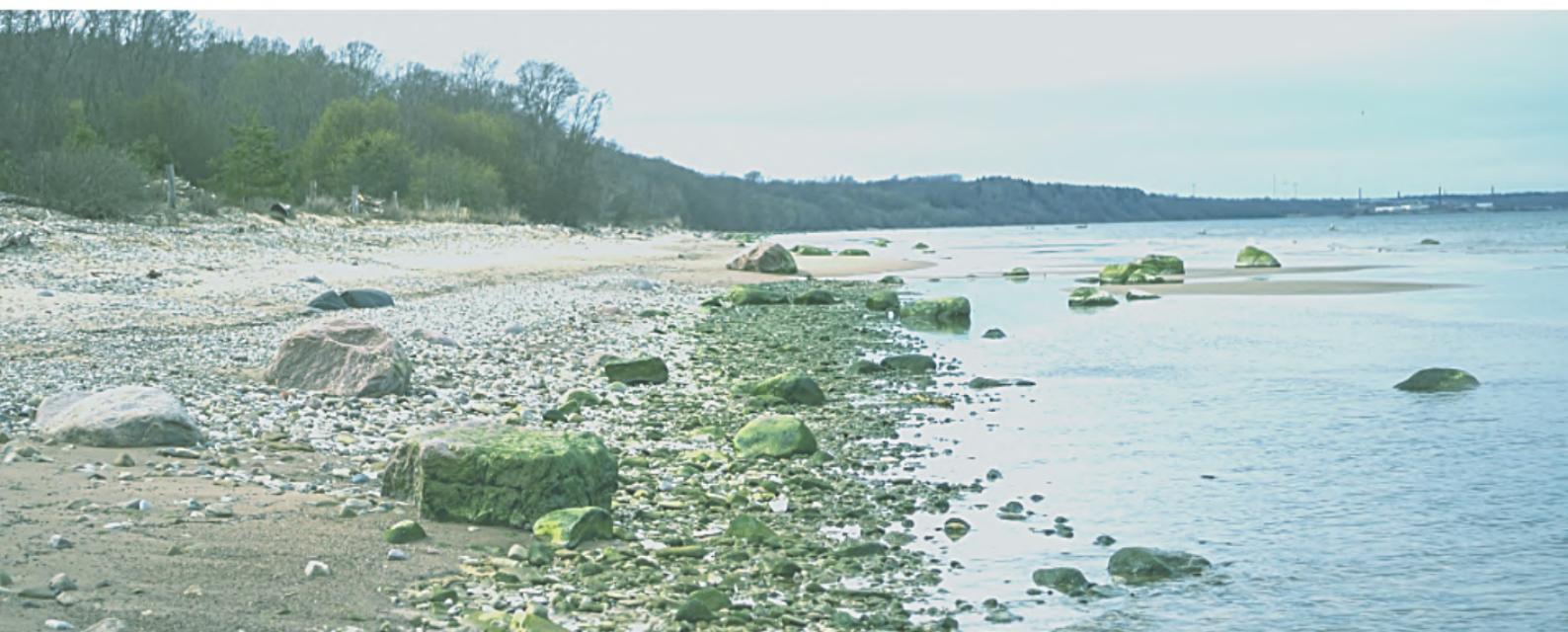
Watch the video: <https://www.youtube.com/watch?v=c2i5Ll3KWlw>

Not only plastic pollution but also chemical pollution is recorded in the Baltic Sea. Part of the responsibility for such pollution, in this case too, would lie with the population, not just industry. Attention should also be paid to what we discharge into the wastewater. These are usually hygiene products or shower gels that contain micro plastic particles that are added to make the product more beautiful to perform a scrubbing function. Those particles enter the environment. Another important thing is the streets and roads. We are currently talking about the dangers of road transport, both the wear and tear of tires and the rubbish on our streets and on the sidewalks. When there is heavier rainfall, this debris with sewage can enter the rivers and thus reach the sea.

Watch the video: <https://www.youtube.com/watch?v=BNNwE9MsPxl>

Another problem in the Baltic Sea is the amount of marine litter. After evaluating different coastal polluting facilities, plastics have been identified as leading the way. Plastic fragments account for 41.8% of rubbish and cigarette butts for 13.9%. Judging by the type of material, objects made of plastic make up nine of the ten most common debris on the coast. The highest amount of litter detected during one bottom trawl was recorded on the slopes of the Gotland and Gdansk basins.

The Baltic Sea is very closed, and there is an active agricultural activity, shipping and industry around it, so what goes into the water lasts a long time. The countries of the Baltic and North Sea region are considered to be developed, and in some areas the region itself is identified as an environmental flag bearer. Countries with a well-developed waste collection system are home to people with a relatively high level of environmental awareness. This suggests that the worst-case scenario in the Baltic Sea can be avoided.



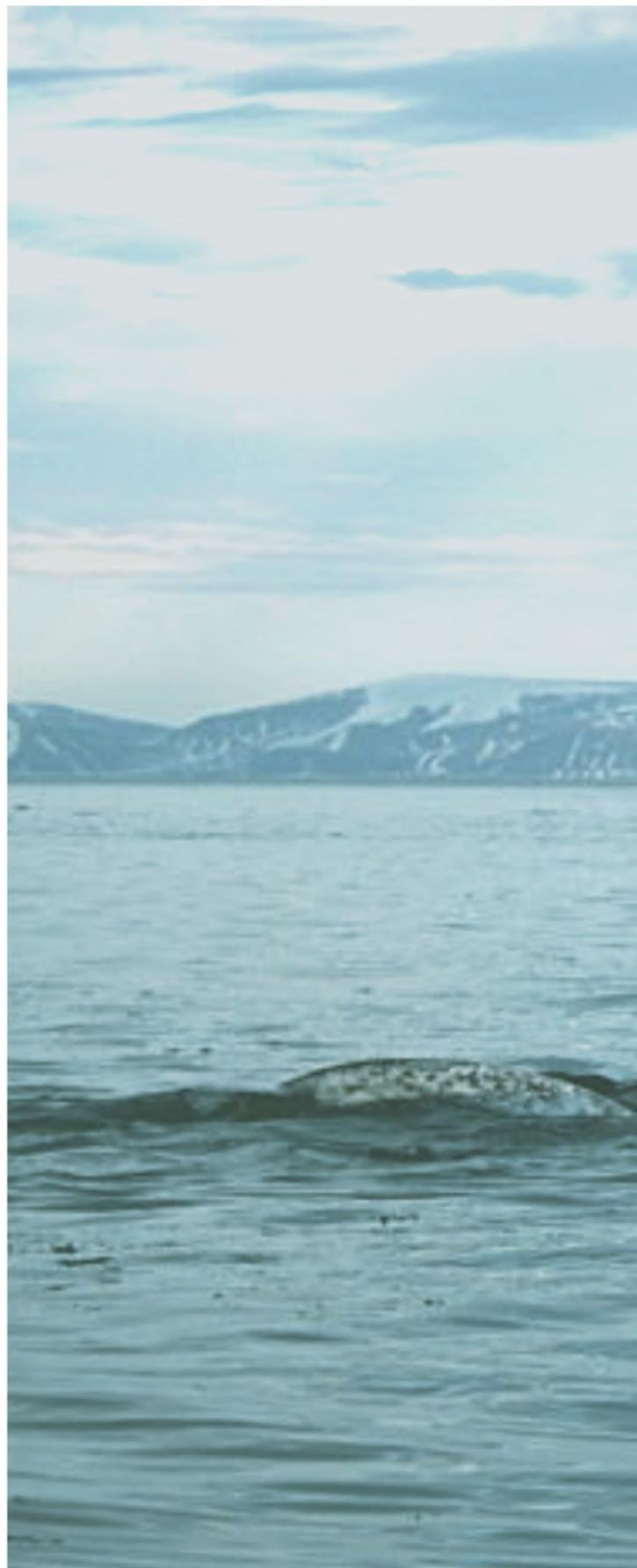
Another pressing ecological problem is the bombs and other explosives lying on the seabed in the North and Baltic Seas. However, the likelihood of their explosion is far from worrying. The bigger problem is white phosphorus. When this material is washed ashore, it appears harmless, but when dried, it ignites violently immediately. And the burning temperature of phosphorus is about 1300 degrees Celsius. In addition, it is not possible to extinguish a fire with water - only phosphoric acid is formed, which causes severe skin burns, and the phosphorus continues to burn. White phosphorus is a relic of war.

After World War II, a decision was made to disarm Germany and get rid of its ammunition stockpiles as soon as possible. Stocks were stowed, shipped and buried there (1.3 million in the North Sea and 300,000 in the Baltic Sea). This will be a huge problem in the coming decades. Bombs are made of metal, and the metal is eroded by erosion, especially in salt water. Eventually, a variety of toxic bomb substances enter the ecosystem. And there are signs that this is already happening. Arsenic is often found in a lot of fish caught in the Baltic Sea. There is no doubt that the source of arsenic is munitions of toxic gas.

Scientists believe that the only practical solution is to raise the ammunition as soon as possible and dispose of it properly, even though it is a very expensive rescue route.

Watch the video: <https://www.euronews.com/green/2021/06/18/the-dumped-munitions-in-our-oceans-causing-serious-pollution>

Marine and freshwater ecosystems provide a range of goods and services, natural resources, trade and transport, and recreational opportunities. That is to say, a comprehensive approach is needed to preserve these benefits. Examining the ecological relationship between nature and man, it can be concluded that man must use natural resources only by acting in harmony with nature, becoming a part of it, and not as an enemy. Therefore, water and marine environment policies need to be adapted to climate change and biodiversity policies. If the issue of pollution were addressed globally, the entire Baltic Sea and North Sea region would have a common vision, then the probability of change would become real.



# CHAPTER 6

**RELATIONSHIP OF SOUTHWESTERN EUROPE  
(IBERIAN PENINSULA) WITH THE ATLANTIC OCEAN**

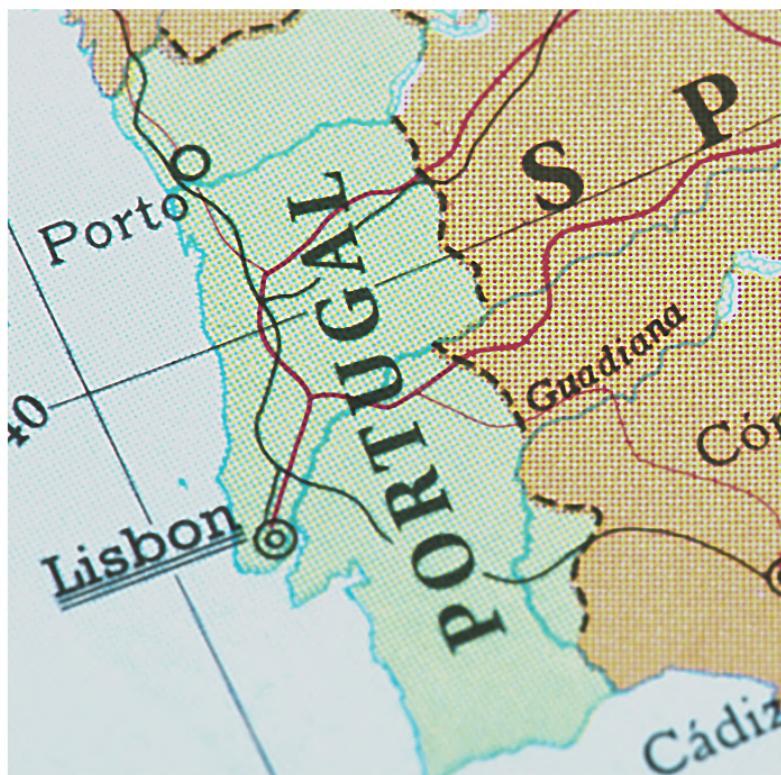


This chapter was written by the  
**Escola Secundária Manuel Cargaleiro**  
**Amora, PORTUGAL**

Portugal is located between 39.9° north latitude and 8.2° west longitude, in southwestern Europe. It occupies most of the western part of the Iberian Peninsula. It has an extensive coastline bathed by the Atlantic Ocean, where the archipelagos of Madeira and the Azores are located.

Portugal is currently a country open to the outside, establishing intense political, economic, and cultural relationships with European countries and other continents.

The geographical position, although peripheral in the European context, gives the Portuguese territory a central role in the Atlantic space, as a meeting place between Europe, Africa and America, which may constitute a strategic element for a favourable insertion of Portugal in international relationships.



Portugal shares a land border with Spain, which together constitute the Iberian Peninsula. This territory has similar climatic and geomorphological characteristics in the border areas, and they share the hydrographic networks of the rivers that start in Spain - Douro, Tejo and Guadiana - and flow into Portugal, in the Atlantic Ocean.

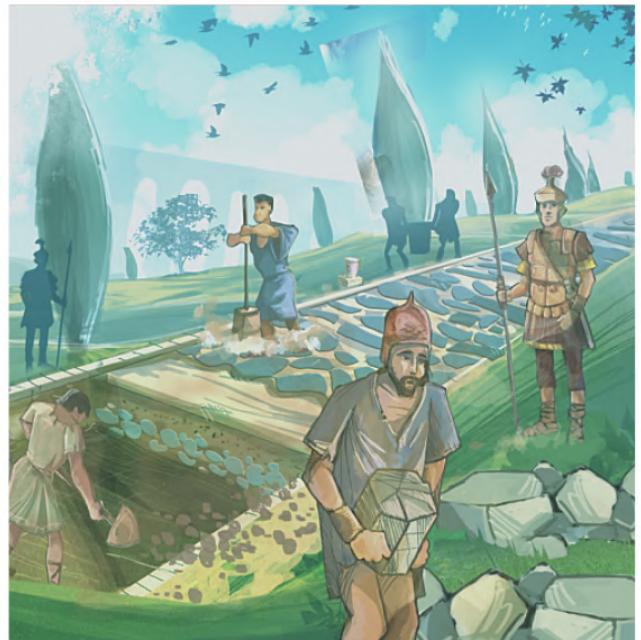
The relationships between Portugal and Spain are dynamic, from a commercial, touristic, and cultural point of view, with several cross-border projects benefiting both countries and their populations.

## PEOPLE OF THE IBERIAN PENINSULA

The first people who established sea contacts with the Iberian Peninsula were the Phoenicians. They came from the Mediterranean; they were very good navigators and had powerful ships for sea trade. In the Iberian Peninsula they searched for gold, iron, and silver, and introduced the alphabet.

The Romans, coming from Italy, arrived in the Iberian Peninsula with the intention of bringing wheat, iron and silver.

The presence of the Romans in the Peninsula was very important because they introduced many innovations, such as roads, bridges, temples, theaters, aqueducts, which can still be seen in many places in Portugal, today. These people introduced the Latin that gave origin to the Portuguese language.





The Muslims coming from North Africa invaded the Iberian Peninsula, in the year of 711 (VIII century). They developed handicrafts, medicine, geography, astronomy, mathematics and enriched the vocabulary by introducing new words such as: village, Algarve, Almada, numerals, olive, olive oil and others

In the XV century, the conquest of Ceuta in 1415 marks the beginning of the Portuguese expansion.

## THE MARITIME EXPANSION

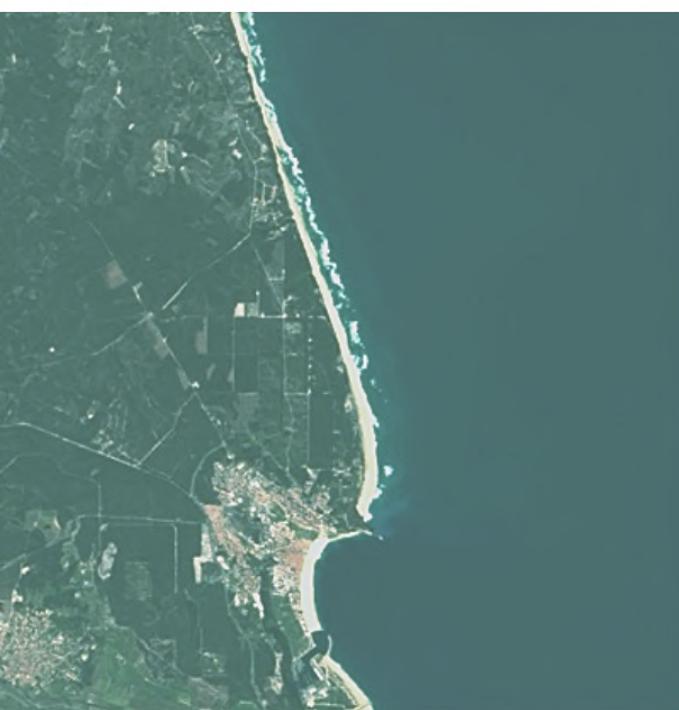
Portuguese navigators conquered territories along the African coast, heading south, forming trading posts, which consisted of fortresses against their enemies and trading posts, where many African products were bought to be sold in Europe.

The main goal was to cross the African coast to reach the Orient. It was a difficult journey and the Portuguese faced several difficulties due to the sea currents in the Atlantic Ocean. After fifteen attempts, the navigator Gil Eanes rounded Cape Bojador, near the Tropic of Cancer, and headed south. Later, Bartolomeu Dias crossed the Cape of Storms or Cape of Good Hope, at the southern end of the African continent. As these were places unknown to Europeans, there was a myth that it was an uninhabitable area due to the heat and the monsters who lived there.

Finally, in 1498, Vasco da Gama realized the goal of the Portuguese expansion and reached the Indies. The Portuguese crossed the Atlantic and discovered a new sea route to the Orient. Navigation across the Atlantic was made easier and allowed the discovery of new places in the American Continent with the discovery of Brazil in 1500 by Pedro Álvares Cabral. The Portuguese discoveries were very profitable for Portugal. New products were discovered for international trade, but they also contributed to a cultural enrichment of the people.



# THE COASTLINE



The Portuguese coast, with more than 2500 km, is very diversified, alternating between cliff coast and beach coast. It is a refuge for aquatic, plants and animals species in the river estuaries, marshes and coastal ecosystems in contact with the Atlantic Ocean.

The beauty and biodiversity of the Portuguese coast is affected by the problem of coastal erosion that contributes to a decrease of sediments on some beaches, due to the degradation of cliffs and retreat of the coastline.

The causes of coastal erosion may be natural, but most of them are direct or indirect consequences of human activities, such as construction of houses on cliffs and coastal engineering works.



## LIVING IN COASTAL AREAS

The Portuguese coast near the Atlantic Ocean offers natural and human advantages that allow the settling of the population.

The mild climate, with a strong Atlantic influence, provides throughout the year pleasant temperatures and abundant rainfall, especially in the north of the country. On the other hand, it is an extensive area of low altitude, where the plains predominate, more favourable to the construction of transport infrastructure, location of economic activities and settlement of the population.

Job opportunities, the access to health, education and culture justify the strong concentration of the population near the coast in large cities, of which Porto and Lisbon, the capital of Portugal, stand out.



## THE EXCLUSIVE ECONOMIC ZONE



The exclusive economic zone (EEZ) is located between 12 and 200 nautical miles off the coast, in which the coastal state has sovereign rights for the purpose of exploring and exploiting, conserving and managing natural resources, whether living or not.

The Portuguese EEZ is divided into three areas - continental Portugal, Madeira and the Azores - and has an extension of about 1,800,000 km<sup>2</sup>. It is the largest EEZ in the European Union and the 5th largest in the world.



In this economic zone, the abundance and diversity of species is influenced by the excellent conditions of temperature, light, salinity and oxygenation of the waters.

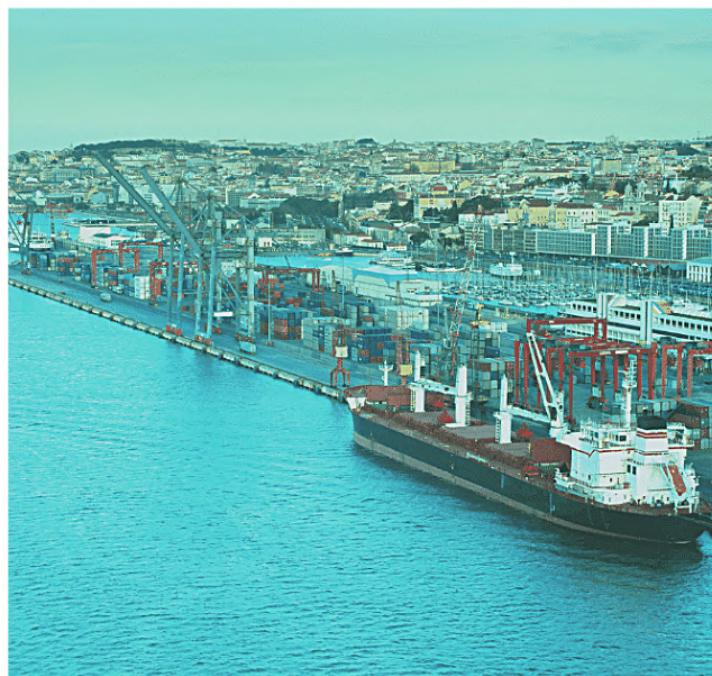
To the southwest of Portugal, the meeting of sea currents - the warm current from Portugal and the cold current from the Canary Islands - favour the abundance and quality of fish resources, particularly the greater quantity of sardines and horse mackerel that abound in the summer months.

## THE PORT ACTIVITY

Seaports are essential for Portugal's economic development, especially the exports. In Portugal there are 9 seaports located in Viana do Castelo, Leixões, Aveiro, Figueira da Foz, Lisbon, Setúbal, Sines, Madeira and Azores.

The Port of Lisbon is located at the meeting point of the waters of the Tagus River and the Atlantic Ocean. This was the first Portuguese commercial port due to its excellent natural conditions and its history.

The Port of Sines is the national leader in terms of the amount of goods handled. It is a deep-water port, with excellent maritime accessibility, which welcomes all types of ships and has an important volume of containerized cargo.



## THE SEA AND THE ARTS

The Sea is an integral part of human life and existence. It presents itself as a fundamental element of sustainability and is therefore part of our national identity. It is considered that the maritime landscape is a heritage always present in the history of Portugal in which narratives and paintings of historical memories are portrayed. More specifically at the time of the Discoveries, both in fishing activity in the naval industry and in the use of tourism activity.

Portugal is a country with an extensive coastal area. This immense maritime influence on the Portuguese landscape also ends up by influencing the arts, more specifically poetry and painting. It is the maritime landscape that stimulates artistic creativity represented in literature, painting and music.

Many poets, painters and musicians portray in their works the Sea as the "main figure" due to the impact it brings to the nation. Let's take as literary examples "Os Lusíadas" by Camões and "Mar Português" by Fernando Pessoa. These works evoke the value of Men that define the Sea as our national identity.

*Oh salty sea, how much of your salt  
Are tears of Portugal!  
To get across you, how many mothers cried,  
How many sons prayed in vain!  
How many brides were never be married  
In order to make you ours, oh sea!  
Was it worth it? Everything is worthy  
If the soul is not small.  
Who wants to go beyond Bojador,  
Must go beyond sufferance.  
God gave the sea peril and abyss,  
Yet upon it He also mirrored the sky.*

"Mar Português" by Fernando Pessoa



In the popular context several proverbs related to the Sea are presented:

"There are more tides than sailors"

In Fado, Amália Rodrigues, Carlos do Carmo and more recently Mariza sang about the city of Lisbon and the Tagus river. In Portuguese popular music, Fausto creates musical productions like "Por este rio acima" where the Tagus is emphasised.

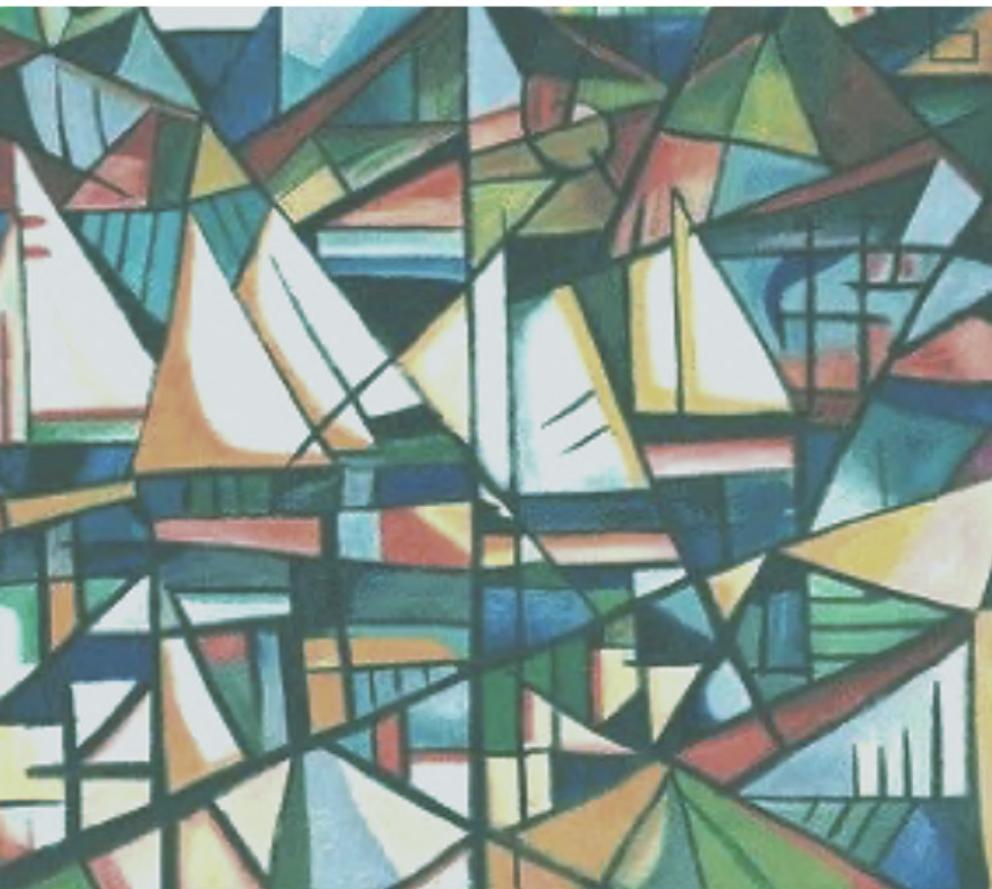
In juvenile literature, Sophia de Mello Breyner in the narrative "A Menina do Mar" young people see the Sea as a magical space, raising awareness of the importance of the Sea in Portuguese culture.

*"In September came the equinox. There came high tides, winds, fogs, rains, storms. The high tides swept over the beach and up to the dune. One night, the waves screamed so much, howled so much, crashed and broke so hard on the beach. that, in his whitewashed room of the white house, the little boy stayed up late at night without sleeping".*

An Extract from "Girl of the Sea" by Sophia de Mello Breyner

In painting, this identity presents, in the same way, portraits and paintings of maritime landscapes, in its vast diversity as representations of fishing, leisure and tourism.

In addition, several painters are inspired by the landscape to create various pieces of art and thereby remember in time the beauty of the ever-changing ecosystems. These works of art are sometimes used in science to analyse the evolution of a seascape over several centuries.



Being aware of these cultural manifestations, which define us, is pertinent because these legacies allow us to carry out a historical reading of the morphology of maritime territories, through a study of environmental processes, which suffer aggressions that come from the violation of the Rights of Planet Earth.

Reading, Listening, Seeing and Touching, through the arts, is to become aware of the beauty that characterises the World and this way we will be better prepared to save the Planet.



# CHAPTER 7

**WATER TOURISM ON THE MEDITERRANEAN  
COAST OF THE IBERIAN PENINSULA**



This chapter was written by the  
**I.E.S. La Albericia  
Santander, SPAIN.**



A good part of the tourists that visit the mediterranean coasts love water attractions.

The most requested by tourist are: Snorkel and diving activities, surf, paddle, kite, windsurf, sailing, yatching, aquatic parks and zoos, maritime entertainment



## SNORKEL AND DIVING

The Mediterranean is an idyllic sea to practice this sport due to its warm waters. In addition, there is a great diversity of marine life on these coasts.



## SURF

Barcelona, Alicante or Mallorca have many schools of surf and beaches to practice this sport. Most of the clients of these schools are tourist.



## PADDLE SURF

The Mediterranean is an idyllic sea to practice this sport due to its calm waters. All the beaches near a town have shops where boards are rented.

## WIND SURF

To practice Wind and Kite, the best place is Tarifa, close to the strait of Gibraltar. Winds are strong there because of it is the place where two seas meet.



# SAILING

Sailing is a famous water sport in the Mediterranean Sea. One of the most visited places to learn or practice Sailing is in the Olympic Port of Barcelona. There are some other famous places to sail, like the Valencian coast and by the Balearic Islands.



# YATCHING

A good part of the tourism in these coasts come by yacht. Barcelona, Valencia, Mallorca and Marbella have large marinas where these boats dock.



# AQUATIC PARKS

There are many parks along the Mediterranean sea. The most famous are in Salou and Benidorm. There are a lot of pools and water slides there.

## AQUATIC ZOOS

Another water attraction are the aquatic zoos. The most famous are close to the aquatic parks. There you can see Dolphins, Killer Whales, seals, sea lions or penguins.



## MARITIME ENTERTAINMENTS

Some people visit the Mediterranean coast looking for adventures. One of the most spectacular is the parasailing. This attraction connects a yacht and a parachute. Other activities are: Jetski, Flyboard, Flyfish or Wakeboard.





# **CHAPTERS IN NATIVE LANGUAGE**

# KAPITOLA 2

**VZTAH MEZI STŘEDNÍ EVROPOU A  
JEJÍMI HLAVNÍMI ŘEKAMI**



Tuto kapitolu napsal  
**Primary School of Dr. M. Tyrs**  
**Česká Lípa, ČESKÁ REPUBLIKA**

# LABE



Labe je nejvýznamnější česká řeka. Pramení na Labské louce v nadmořské výšce 1387 m v Krkonoších v České republice. Místo, kde řeka pramení je často navštěvované turisty.



Přes Labe je Česká republika spojena se Severním mořem. Vlévá se do něj několik řek, například Metuje, Úpa, Jizeru, Vltava, Ohře a také Ploučnice. Labe propojuje mnoho měst například Pardubice, Ústí nad Labem, Hradec Králové nebo Děčín. Po 368 km opouští Českou republiku v Hřensku. Jeho cesta pokračuje přes Německo, kde protéká Hamburkem, Drážďany, Magdeburkem a Cuxhavenem, kde se po 1 094 km trasy vlévá do Severního moře. Ústí Labe do moře v Cuxhavenem je široké 17 km.



Řeka je využívaná pro přepravu surovin a výrobků z České republiky do Německa a zpět. Tento způsob dopravy je pomalý, ale ekologický a levný.



Území, kolem středního a dolního toku řeky, má úrodnou půdu a vhodné klima, takže je využíváno pro pěstování mnoha plodin například: ovoce, zeleniny, cukrové řepy, obilí, vinné révy,...

V roce 2002 a 2013 bylo i Labe postiženo silnými povodněmi. Voda zaplavila mnoho měst a obcí podél řeky, mnoho lidí muselo být evakuováno a škody byly nevyčíslitelné.



# VLTAVA



Vltava je nejdelší česká řeka, která pramení v Národním parku Šumava blízko osady Horní Kvilda asi 600 m od hranice s Německem. Řeka pramení na svazích Černé hory, pramen, který navštěvují turisté, je pouze symbolický.

Řeka měří od pramene k soutoku s Labem 430 km. Vltava odvodňuje téměř celé Čechy. Z pravé strany do Vltavy přitéká Lužnice, Sázava z levé strany přibírá Vltava Otavu, Berounku. Z důvodů častých povodní byl na Vltavě vybudována soustava několika přehrad. Největší z nich je přehrada Lipno. Tyto přehrady slouží jako zásobárna vody, jsou na nich vybudované vodní elektrárny a jsou to vyhledávané rekreační oblasti.

Řeka Vltava protéká mnoha městy například Českým Krumlovem, Českými Budějovicemi, Prahou a u Mělníka se vlévá do Labe. I když je Vltava v místě soutoku delší, řeka dále teče pod názvem Labe.





Řeka Vltava je velice populární mezi vodáky a každoročně jí splouvá tisíce lidí. Vltava je českou národní řekou, která se objevuje v dílech mnoha umělců.

V roce 2002 byla řeka Vltava postižena velkou povodní. Přehrady nestihly pojmut obrovské množství srážkové vody a řeka se vylila z břehů téměř po celém toku Vltavy. Škody, které způsobila byly obrovské.



# ΚΕΦΑΛΑΙΟ 3

ΝΟΤΙΟΑΝΑΤΟΛΙΚΗ ΕΥΡΩΠΗ  
ΚΑΙ ΜΕΣΟΓΕΙΟΣ ΘΑΛΑΣΣΑ



Αυτό το κεφάλαιο γράφτηκε από το  
Γυμνάσιο Περάματος  
Ιωάννινα, ΕΛΛΑΣΑ

# ΝΟΤΙΟΑΝΑΤΟΛΙΚΗ ΕΥΡΩΠΗ



Στις μεσογειακές ακτές κατοικούν περισσότερα από 200 εκατομμύρια ανθρώπων. Ο βορράς της Μεσογείου, που αποτελείται από ευρωπαϊκές χώρες, είναι περισσότερο αναπτυγμένος από τον νότο, που αποτελείται από ασιατικές και αφρικανικές χώρες. Ωστόσο, παρά τις θρησκευτικές, οικονομικές, εθνολογικές διαφορές και ανεξάρτητα από την ήπειρο στην οποία βρίσκεται κάθε χώρα, κοινή είναι η αντίληψη στους μεσογειακούς λαούς πως τους ενώνουν πολλά, πως η Μεσόγειος είναι το κοινό τους σπίτι.

Η Νοτιοανατολική Ευρώπη είναι γεωγραφικός όρος που αναφέρεται στο τμήμα της Ευρώπης το οποίο αποτελείται κυρίως από τις χώρες της Βαλκανικής χερσονήσου. Όλες σχεδόν οι χώρες αυτές βρέχονται από τη Μεσόγειο θάλασσα. Η σχέση τους με τη Μεσόγειο υπήρξε διαχρονικά πολύ στενή. Η Μεσόγειος σημάδεψε την ιστορική τους διαδρομή με αποτέλεσμα η σημασία της Μεσογείου γι' αυτές ήταν ανέκαθεν και είναι ακόμη και σήμερα είναι πάρα πολύ μεγάλη.

Η Μεσόγειος έχει μικρή έκταση σε σχέση με άλλες θάλασσες της Γης. Επειδή όμως βρίσκεται στο σταυροδρόμι τριών ηπείρων και σ' αυτήν εμφανίστηκαν και αναπτύχθηκαν σπουδαίοι πολιτισμοί και σημαντικές θρησκείες, η θάλασσα αυτή θεωρείται η σπουδαιότερη για την ανθρώπινη ιστορία.



## ΑΝΑΤΟΛΙΚΗ ΜΕΣΟΓΕΙΟΣ

Η Ανατολική Μεσόγειος ενώνει γεωγραφικά την Ευρώπη, την Αφρική και την Ασία και αποτελεί πεδίο ενδιαφέροντος τόσο για τα κράτη που βρίσκονται στην περιοχή, όσο και για εκείνες τις χώρες που, αν και βρίσκονται μακριά, έχουν συμφέροντα και επιθυμούν τη συνεχή ανάμειξή τους στις γεωπολιτικές εξελίξεις.

Ένα από τα ιδιαίτερα χαρακτηριστικά της Ανατολικής Μεσογείου είναι το γεγονός βρίσκεται δίπλα στη Μέση Ανατολή. Η εγγύτητα αυτή καθιστά την αξία της Ανατολικής Μεσογείου πολύ μεγάλη.

Η Ανατολική Μεσόγειος είναι ένα εμπορικό σταυροδρόμι δεδομένης της εγγύτητάς της στη διώρυγα του Σουέζ, η οποία αποτελεί την γρηγορότερη ναυτική οδό μεταξύ του Ινδικού και του Ατλαντικού Ωκεανού. Μέσω της διώρυγας αυτής λαμβάνει χώρα η διακίνηση του πετρελαίου της Βόρειας Αφρικής και του Περσικού Κόλπου.

# ΘΑΛΑΣΣΙΟΙ ΔΡΟΜΟΙ

Αν θα έπρεπε μέσα από τα πολλά χαρακτηριστικά της Μεσογείου να επιλέξουμε ένα, ανεπιφύλακτα αυτό θα ήταν οι θαλάσσιοι δρόμοι της. Από την αρχαιότητα μέχρι σήμερα στα νερά της έχουν πραγματοποιηθεί εκατομμύρια ταξίδια, από τις περιπλανήσεις του μυθικού Οδυσσέα έως τα ταξίδια των υπερσύγχρονων πετρελαιοφόρων. Αυτά περνώντας από τη Διώρυγα του Σουέζ, μεταφέρουν αργό πετρέλαιο για διύλιση από τον Περσικό Κόλπο σε βιομηχανικές περιοχές της βόρειας Μεσογείου.



Η ανατολική Μεσόγειος λειτούργησε ως μεγάλο «χωνευτήρι» μέσα στο οποίο ήρθαν σε αλληλεπίδραση μερικοί από τους παλαιότερους και σημαντικότερους πολιτισμούς του κόσμου, ανάμεσα στους οποίους βέβαια και ο ελληνικός με τις ποικίλες εκφάνσεις του. Γλώσσες, παραδόσεις, συνήθειες, αγαθά αλλά και νοοτροπίες ανθρώπων έγιναν αντικείμενο επαφής και ανταλλαγής ανάμεσα στους λαούς της ανατολικής Μεσογείου. Το γεγονός αυτό δημιούργησε ένα ενδιαφέρον πολιτισμικό «μωσαϊκό», ίχνη του οποίου απαντούν ως τη σύγχρονη εποχή στα κράτη που σήμερα υπάρχουν στο εν λόγω γεωγραφικό πεδίο.

## ΑΠΟΙΚΙΕΣ

Η Ελλάδα, η οποία βρίσκεται στην ανατολική Μεσόγειο, έχει συνδέσει από την αρχή της ιστορίας της την ύπαρξη της μ' αυτή τη θάλασσα. Έλληνες ίδρυσαν αποικίες σε κάθε γωνιά της Μεσογείου, από το Γιβραλτάρ ως τα μικρασιατικά και τα αφρικανικά παράλια, φτάνοντας μέχρι τον Εύξεινο Πόντο.

Πόλεις που ιδρύθηκαν από Έλληνες είναι ακόμα και σήμερα σημαντικά οικονομικά κέντρα στην περιοχή, όπως η Μασσαλία, η Αλεξάνδρεια κ.ά. Η ελληνική γλώσσα ήταν για χιλιάδες χρόνια η διεθνής γλώσσα συνεννόησης στη Μεσόγειο, ενώ το ελληνικό αλφάριθμο αποτέλεσε τη βάση για το λατινικό και το κυριλλικό αλφάριθμο.

Η διαχρονική σχέση της Ελλάδας με τη θάλασσα γενικά και ιδιαίτερα με τη Μεσόγειο περιγράφεται στο παρακάτω ηλεκτρονικό βιβλίο StoryJumper «Η Ελλάδα και η θάλασσα». Αυτό δημιουργήθηκε από το Γυμνάσιο Περάματος και περιέχεται στην «Αφίσα πολυμέσων», η οποία δημιουργήθηκε στην 3η συνάντηση (εικονική) στην Πορτογαλία.



# ΜΕΣΟΓΕΙΑΚΟ ΚΛΙΜΑ

Στην περιοχή της Μεσογείου επικρατεί ιδιαίτερος τύπος εύκρατου κλίματος, το μεσογειακό κλίμα, το οποίο χαρακτηρίζεται από ήπιους χειμώνες και ξηρά, ζεστά καλοκαίρια. Οι βροχές είναι λιγοστές και πέφτουν κυρίως το φθινόπωρο και τον χειμώνα. Φυτά όπως η ελιά, το αμπέλι, το σιτάρι, τα εσπεριδοειδή ευδοκιμούν σ' αυτόν τον τύπο κλίματος. Ειδικά η ελιά είναι το πιο χαρακτηριστικό μεσογειακό φυτό.



Η ελιά δεν ευδοκιμεί σε κανένα άλλο μέρος του πλανήτη παρά μόνο στην παραλιακή ζώνη της Μεσογείου. Η Ισπανία, η Ιταλία και η Ελλάδα είναι οι τρεις μεγαλύτερες ελαιοπαραγωγικές χώρες στον κόσμο.

Ήταν γνωστή από τους αρχαιότατους χρόνους στους μεσογειακούς λαούς και είχε πρωταγωνιστικό ρόλο στην αρχαία ελληνική τέχνη και στη μυθολογία, ενώ, σύμφωνα με την παράδοση, το πρώτο δέντρο ελιάς φυτεύτηκε από τη θεά Αθηνά στην Ακρόπολη.

Η ελιά αποτελεί σύμβολο ειρήνης παγκοσμίως, ενώ η διατροφική της αξία είναι ανεκτίμητη - γι' αυτόν τον λόγο άλλωστε θεωρείται και σύμβολο μακροβιότητας.

## Η ΕΛΙΑ



## ΤΟΥΡΙΣΜΟΣ

Σημαντικό οικονομικό πόρο για τους μεσογειακές χώρες αποτελεί ο τουρισμός. Το γλυκό κλίμα, οι φυσικές ομορφιές, τα ιστορικά μνημεία, η φιλόξενη θάλασσα συμβάλλουν στο να κατακλύζουν τις μεσογειακές χώρες κάθε χρόνο εκατομμύρια τουρίστες, περίπου το 1/4 των τουριστών όλου του πλανήτη.



## ΠΕΡΙΒΑΛΟΝΤΙΚΗ ΕΠΙΒΑΡΥΝΣΗ. ΡΥΠΑΝΣΗ

Οι ανθρώπινες δραστηριότητες επιβαρύνουν περιβαλλοντικά τη Μεσόγειο. Βιομηχανικά, γεωργικά, τουριστικά και οικιστικά λύματα καταλήγουν σ' αυτή, ρυπαίνοντάς την. Όσον αφορά την αλιεία, η υπεραλίευση έχει μειώσει δραματικά τους πληθυσμούς ψαριών της Μεσογείου, βάζοντας σε κίνδυνο την ύπαρξη πολλών ειδών της θαλάσσιας πανίδας.



# CAPITOLO 4

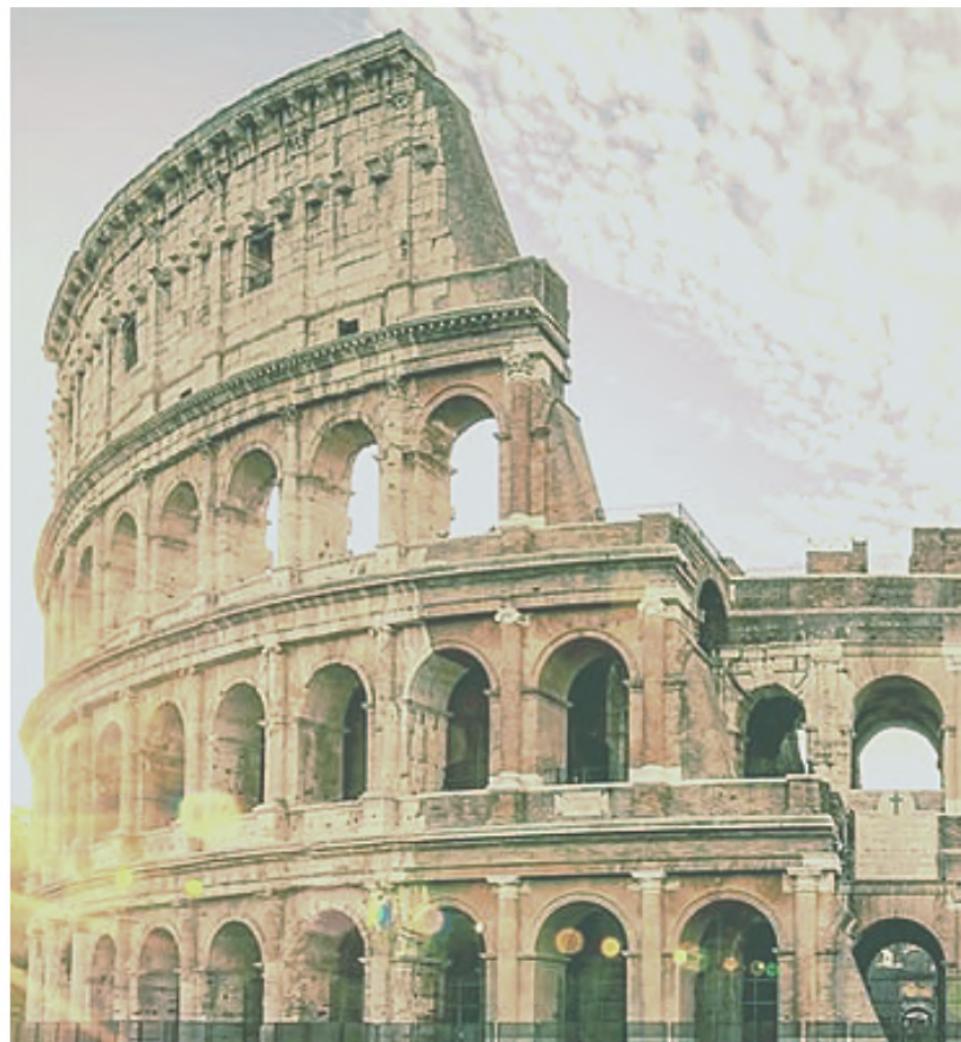
RAPPORTI DEL SUD EUROPA E  
PRINCIPALMENTE MAR MEDITERRANEO



Questo capitolo è stato scritto dal  
**ISTITUTO COMPRENSIVO "MICHELIBOLOGNESI"**  
Livorno, ITALIA

La nostra Italia, Penisola al centro del Mediterraneo, è stata per secoli il fulcro economico e culturale dell'intero mondo conosciuto. Base dell'Impero romano, ha propagato lingua e tradizioni in tutto il territorio europeo. Devastata da invasioni e divisa fino al 1861, è restata fonte di diffusione di filosofia, arte e letteratura per secoli. Dall'Italia si diramavano le idee e l'arte, per l'Italia si trasmettevano i commerci, nella Penisola passavano popoli diversi lasciando le proprie impronte. In Italia ha e ha avuto sede la Curia papale che, soprattutto nel '500, ha contribuito alla creazione di capolavori come la "Cappella Sistina". È ora un piccolo territorio con un'enorme storia testimoniata da città d'arte che si adagiano in un territorio splendido nei suoi paesaggi.

Delimitata dalle Alpi che la separano da Francia, Svizzera, Austria e Slovenia e che la proteggono dalle correnti fredde provenienti dal Nord, l'Italia è tagliata, per tutta la sua lunghezza, dai monti Appennini che dividono le acque dei fiumi in due versanti opposti. Per questo essi hanno corso breve. In compenso sono numerosi, circa 1200, e danno vita a numerose foci marine. Il più lungo, il Po, scorre per 652 Km nella Pianura Padana. Nasce sul Monviso, sulle Alpi Cozie, e sbocca nel Mar Adriatico. Il suo Delta, indicato dall'UNESCO come Patrimonio dell'Umanità, si estende su circa 610 km quadrati ed è formato da cinque rami. Costituisce la più vasta estensione di zone umide protette in Italia.



I fiumi italiani si dividono in:

## FIUMI



- **Alpini:** fiumi che hanno la sorgente sulle Alpi, come il Po. Presentano una portata elevata e costante per tutto l'anno perché in primavera e in estate, quando le precipitazioni sono più scarse, sono alimentati dallo scioglimento delle nevi e dei ghiacciai;
- **Appenninici:** hanno una portata irregolare perché hanno un regime di piena in autunno e inverno, grazie alle precipitazioni, ma in primavera e in estate sono in regime di magra perché non sono alimentati dai ghiacciai;
- **Sardi e siciliani** a carattere torrentizio.

# LAGHI



In totale l'Italia conta anche più di 1500 laghi. I più grandi si trovano a nord e sono: il lago di Garda, il lago Maggiore, il lago di Como.

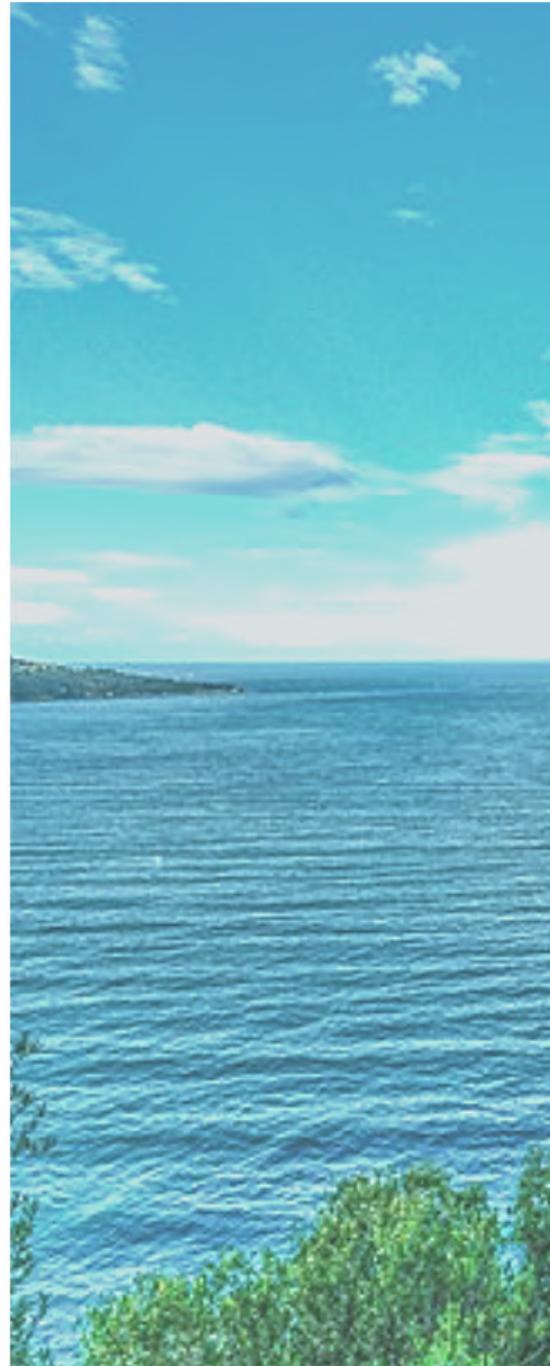
- Il lago di Garda è il più grande con una superficie di 370 km quadrati e confina con ben tre regioni: il Veneto, il Trentino e la Lombardia.
- Il lago Maggiore è diviso tra Italia e Svizzera, cui appartiene la sua parte settentrionale e si estende per 212 km quadrati.
- Il lago di Como ha una superficie di 146 km quadrati ed è il più profondo lago italiano.

I laghi del nord Italia sono di origine glaciale, mentre quelli del centro sono di origine vulcanica come il lago di Bolsena.

# MARI

L'Italia, come sopra detto, è al centro del Mar Mediterraneo. Esso la bagna a ovest, a sud e a est assumendo localmente nomi diversi.

- Il Mar Adriatico, che si estende tra la Penisola italiana a ovest e quella balcanica a est. È poco profondo, ha coste sabbiose e a tratti lagunari, come nel caso della Laguna di Venezia. Solo nei promontori del Conero e del Gargano le coste sono alte e rocciose
- Il Mar Ionio, che è il mare più profondo del Mediterraneo. Bagna le coste meridionali della Penisola italiana e quelle della Sicilia orientale. Comunica con il Mar Tirreno attraverso lo Stretto di Messina, che separa la Calabria dalla Sicilia. Le coste sono basse e sabbiose in Basilicata, alte e rocciose in Calabria
- Il Canale di Sicilia o Stretto di Sicilia, che bagna le coste meridionali della Sicilia. Vi si trovano le isole di Lampedusa, di Linosa, di Pantelleria
- Il Mar Tirreno, che si estende tra le coste occidentali della Penisola Italiana, la Corsica e la Sardegna a est e la Sicilia a sud. È il più vasto fra i mari italiani ed è piuttosto profondo. È ricco di isole. Le coste sono in prevalenza basse e sabbiose
- Il Mar di Sardegna, che si trova a ovest dell'isola omonima. È molto profondo.
- Il Mar Ligure bagna le coste nord-occidentali della Penisola Italiana. È poco esteso ma molto profondo. Ha coste alte e rocciose





I mari e le coste italiane sono realtà particolarmente fragili dal punto di vista ambientale. Infatti, la presenza in queste aree di insediamenti e le varie attività umane sul territorio costituiscono, in alcuni casi, una minaccia per l'equilibrio dell'ambiente. In particolare, i mari e le coste sono a rischio a causa dell'inquinamento, della cementificazione, dell'erosione costiera e della pesca eccessiva. Il cambiamento climatico, inoltre, non favorisce la sostenibilità ambientale e sta colpendo soprattutto l'area mediterranea. Infatti, la temperatura in Italia sta crescendo più che in altre località del mondo.

Negli ultimi anni gli italiani hanno assistito a eventi naturali di crescente intensità e frequenza, come le tempeste che hanno colpito varie zone alpine o intense piogge e violentissime raffiche di vento che si sono abbattute sulle foreste, sradicando e spezzando milioni di metri cubi di alberi. Molti studiosi hanno sottolineato come la velocità del vento sia stata rafforzata dalla temperatura elevata del Mar Mediterraneo. Infatti, producendosi una maggiore quantità di vapore acqueo, si sprigiona nell'atmosfera una maggiore quantità di energia.

Altri fenomeni preoccupanti sono quelli legati alla tropicalizzazione del clima. In particolare, nelle aree costiere si registrano sia periodi di siccità sempre più lunghi, sia violenti nubifragi, detti anche "bombe d'acqua", più frequenti e devastanti. Il 2019 è stato un anno particolarmente critico per l'Italia. Si sono realizzati ben 157 eventi estremi tra allagamenti, trombe d'aria, frane ed esondazioni dei fiumi. Questi fenomeni hanno riguardato quasi tutta la Penisola, causando la morte di 42 persone, l'evacuazione di diverse centinaia e rilevanti costi economici.

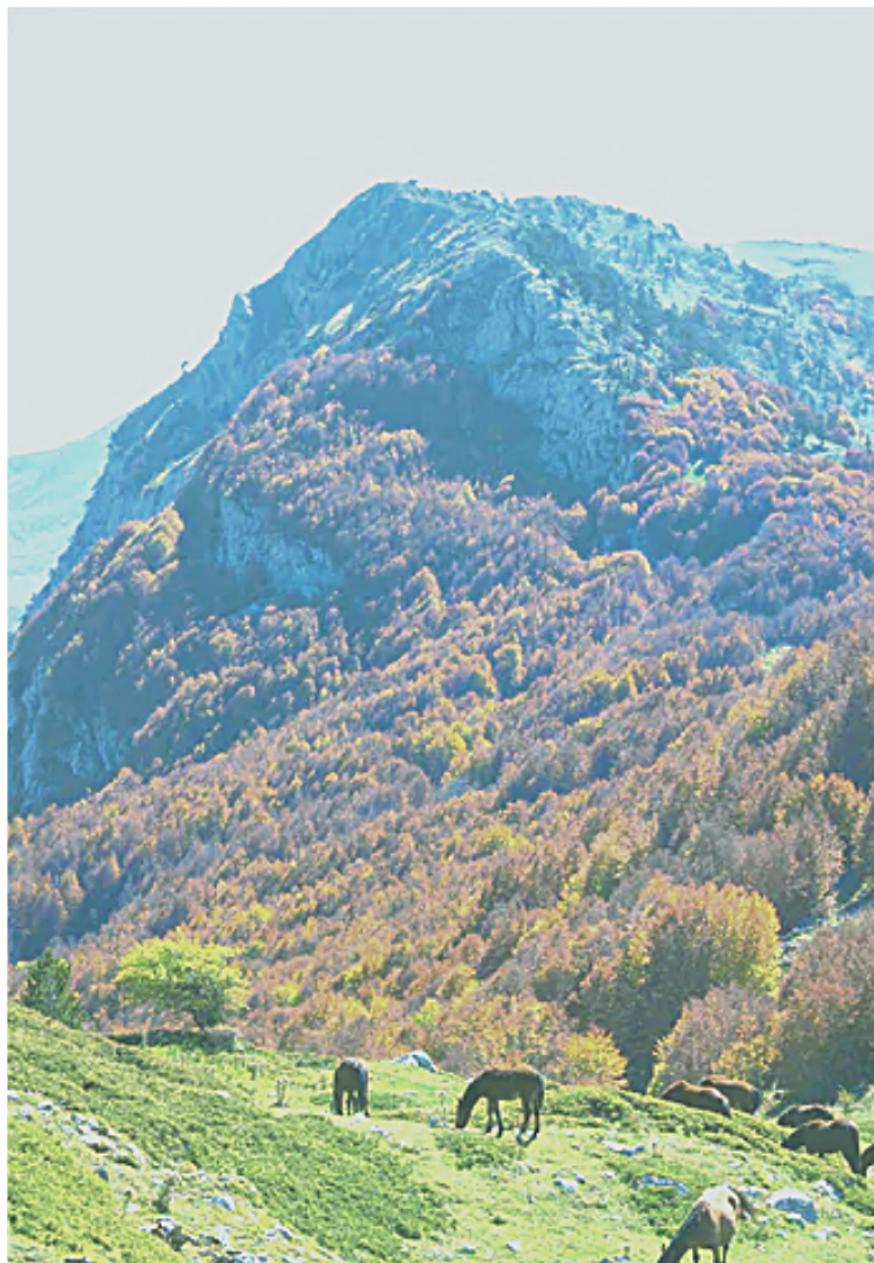
# PARCHI NAZIONALI

In Italia esistono, però, ben 871 aree protette, per un totale di oltre 3 milioni di ettari tutelati. Inoltre, ci sono 24 Parchi Nazionali come, ad esempio, il Parco Nazionale del Gran Paradiso, in Valle D'Aosta o il Parco Nazionale dello Stelvio, che si estende tra Trentino-Alto Adige e Lombardia.



L'Italia, inoltre, è al centro dell'Europa meridionale. Questa si compone di grandi paesi come: Spagna, Portogallo, Grecia, Italia, Turchia e diversi stati più piccoli come il Principato di Monaco, Andorra, Città del Vaticano, Malta, San Marino, Gibilterra e Montenegro. L'Europa meridionale ha circa 150 milioni di abitanti. Il clima è Mediterraneo ed è caratterizzato da estati secche ed inverni piovosi con temperature miti. Vi si coltivano tutti i tipi di cereali, patate, barbabietola da zucchero, girasoli e tabacco.

Molti sono i prodotti d'eccellenza italiani grazie all'ampiezza del territorio coltivato, all'esperienza degli agricoltori e al clima mite. In molte regioni d'Italia si producono, ad esempio, vini di qualità esportati in tutto il mondo. L'agricoltura italiana presenta anche altri prodotti d'eccellenza: l'olio di molte regioni, le mele del Trentino, le arance della Sicilia, il bergamotto della Calabria. Le produzioni tipiche di ogni zona vengono valorizzate con appositi marchi come DOP (Denominazione di Origine Protetta) e IGP (Indicazione Geografica Protetta). L'Italia è leader in Europa per superficie coltivata con metodi biologici. Ci sono, infatti oltre 53.000 aziende biologiche, perlopiù di piccole dimensioni. Complessivamente nel settore primario lavora il 3,8% degli occupati e il settore contribuisce per il 3,6% al PIL italiano.



L'Italia è un paese povero di risorse minerarie. Si estraggono alcuni materiali da costruzione come i marmi delle Alpi Apuane, nel Nord della Toscana. I giacimenti di idrocarburi sono limitati, perciò l'Italia è tra i Paesi europei importatori di petrolio e gas naturale.

L'Italia è tra i primi dieci Paesi più industrializzati del mondo. Le industrie manifatturiere italiane competono a livello internazionale con le altre grandi potenze economiche. Nel settore secondario lavora il 26,1% degli occupati, che sono maggiormente concentrati nelle regioni del Nord e molto meno numerosi in quelle del Sud. Il settore secondario contribuisce per il 24,1% al PIL italiano. I compatti industriali principali sono: l'alimentare, il tessile, il metalmeccanico, l'edile, il cartario, quelli del cuoio e delle calzature.

## FATTO IN ITALIA



Il Made in Italy: il prestigio dell'industria italiana è dovuto a una serie di prodotti considerati di eccellenza per l'alta qualità dei materiali e lo stile raffinato, l'innovazione, la fantasia, la cura dei dettagli e la capacità di durare nel tempo. I prodotti più esportati nel mondo sono quelli dell'abbigliamento, delle calzature, della pelletteria, dell'arredamento, dell'alimentare e del metalmeccanico (come auto e scooter).

Il settore terziario impiega il 70,1% degli occupati e produce il 73,8% del PIL italiano. Il comparto turistico svolge un ruolo decisivo per lo straordinario richiamo che l'Italia esercita nel mondo. Nel 2018 sono stati contati oltre 63 milioni di arrivi di turisti stranieri. L'Italia è al 5° posto nella classifica mondiale dei flussi turistici dall'estero.

# SKYRIUS 5

**ŠIAURĖS EUROPOS SANTYKIS SU VANDENIU:  
EKOLOGINĖS PROBLEMOΣ BALTIJOS IR ŠIAURĖS JŪROSE**

Šj skyrių parašė  
**Kauno Rokų gimnazija**  
**Kaunas, LIETUVA**



Pasaulyje yra labai mažai vietų, kur žmonės gali atsistoti tiesiai tarp dviejų jūrų. Greneno kyšulys pačioje Danijos šiaurėje – viena iš jų. Milijonus metų vienas į kitą bangas siunčiantys Skagerakas ir Kategatas čia suformavo smėlio taką. Būtent čia susijungia dvi Šiaurės Europą skalaujančios jūros – Šiaurės ir Baltijos

Pažiūrėkite šį video: <https://www.youtube.com/watch?v=goC9eE1rcz8&t=17s>



## BALTIJOS JŪRA

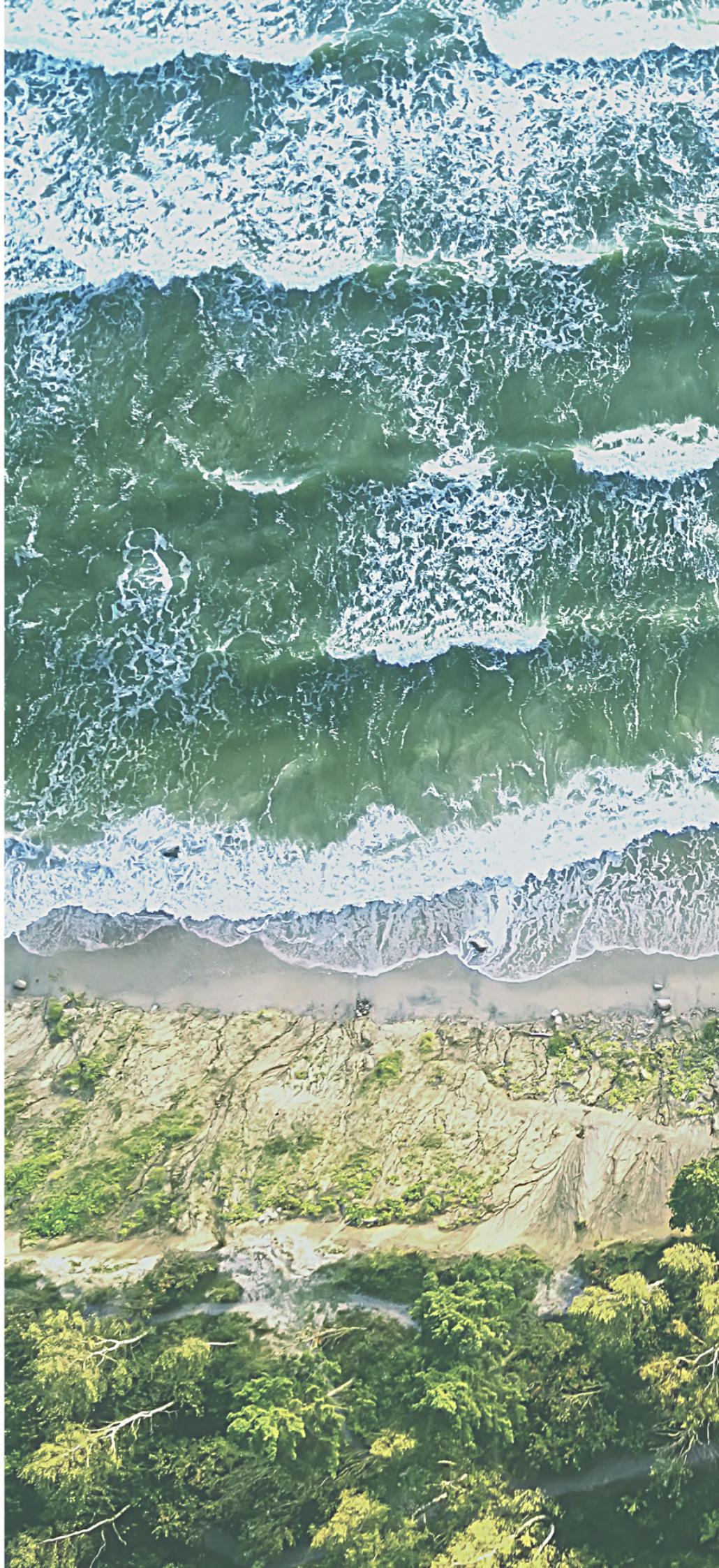


Ši jūra – Atlanto vandenyno baseino vidinė jūra, esanti Europos šiaurėje. Iš vienos pusės ją supa Skandinavijos pusiasalis, iš kitos – Rytų ir Centrinės Europos šalys ir Danijos salos. Didžiojo Belto (16 km pločio), Mažojo Belto (600 m) ir Eresuno (3,5 km) sąsiauriais susisiekia su Kategatu, o per Kategatą ir Skageraką – su Šiaurės jūra. Kanalais Baltijos jūra yra sujungta su Baltaja jūra ir Šiaurės jūra (Kylio kanalas).

Dabartinio Baltijos jūros pavadinimo kilmė nėra aiški. Pavadinimas gali būti siejamas su germanišku žodžiu belt, kuris vartojamas dviejų Danijos sāsiaurių Beltų pavadininius, taip pat su lot. balteus 'juosta'. Baltijos jūros pavadinimą taip pat kildino iš liet. baltas. Pagal kitą versiją iš tos pačios indoeuropietiškos šaknies kilę žodžiai jvairose indoeuropiečių kalbose susiję su pelkėse stebimomis spalvomis, o Baltijos jūros pavadinimas reikštų „žeme apsuptą jūrą“, kaip priešingybę atvirai jūrai.

Baltijos jūra yra apie 1600 km ilgio, vidutiniškai 193 km pločio bei vidutiniškai 50 m[3] gylio. Didžiausias gylis 459 m. Plotas: 386 tūkst.  $\text{km}^2$ [4]. Bendras Baltijos jūros vandens tūris – 21 000  $\text{km}^3$ . Pakrantės ilgis – apie 8000 km.

Vandens spalva drumzlinai žalsva, jo spalva priklauso nuo fitoplanktono. Vanduo mažiau skaidrus nei Atlanto vandenyno. Baltijos jūros vanduo yra apysūris. Kai kuriose uždarose Baltijos jūros lagūnose vanduo išvis gėlas. Jūros sūrumą mažina gėlas didelių upių, lietaus ir sniego vanduo, stipriai atskiedžiantis iš vandenyno patenkantį sūrų vandenj. Be to, Baltijos jūra mažai garuoja, o tai taip pat mažina jos sūrumą.



Baltijos jūros dugnas negiliose vietose ir arčiau krantų sudarytas iš smėlio, žvyro, žvirgždo ir nuosėdinio dumblo. Plikos uolos randamos tik šiaurinėje dalyje: Estijos ir pietų Švedijos pakraščiuose kalkakmeniai, Suomijos ir šiaurinės Švedijos vandenye granitai ir gneisas.



Baltijos jūros vanduo, ypač Lietuvos-Latvijos pakrantėje turėtų užšalti vidutiniškai  $-0,3 - -0,4$  °C temperatūroje. Kadangi Baltijos jūra yra negili ir nesūraus vandens, dalyje jos kasmet susiformuoja jūrinis ledas.

Baltijos jūrą maitina šių upių baseinai: didžiausias - Nemuno, taip pat Dauguvos, Narvos, Nevos, Kiumijokis, Tornės , Oderio , Vyslos kt. Su Baltijos jūra besiribojančios valstybės: Švedija, Suomija, Rusija, Estija, Latvija, Lietuva, Lenkija, Vokietija, Danija.

Lietuvos miestai esantys prie Baltijos jūros: Klaipėda, Palanga, Šventoji. Kitų šalių miestai esantys prie Baltijos jūros: Gdanskas (Lenkija), Helsinki (Suomija), Kylis (Vokietija), Kopenhaga (Danija), Malmē (Švedija), Ryga (Latvija), Sankt-Peterburgas (Rusija), Stokholmas (Švedija), Talinas (Estija)

Pažiūrėkite šį video: <https://www.youtube.com/watch?v=BlyKG1Xpojo>

## ŠIAURĖS JŪRA

Šiaurės jūra – šelfinė jūra prie Europos, Atlanto vandenyno dalis. Šiaurės jūra yra tarp Danijos, Švedijos ir Norvegijos rytuose, Britanijos salų vakaruose ir Vokietijos, Belgijos, Nyderlandų ir Prancūzijos pietuose.

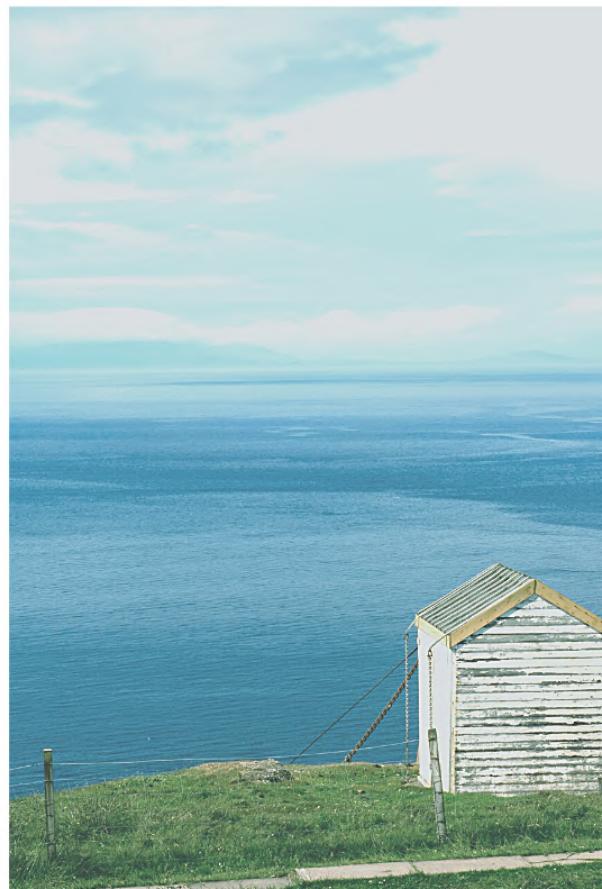
Šiaurės jūra tampa Lamanšo sąsiauriu, jungiančiu Atlanto vandenyną. Rytuose ji jungiasi su Baltijos jūra per Skagerako ir Kategato sąsiaurius, skiriančius Daniją nuo Norvegijos ir Švedijos.



Šiaurės jūra per istoriją turėjo įvairius pavadinimus. Vienas iš anksčiausiai užregistruotų vardų buvo Septentrionalis Oceanus, arba „Šiaurės vandenynas“, kurį citavo Plinijus. Pavadinimas „Šiaurės jūra“ tikriausiai kilo iš olandų „Noordzee“, kurio pavadinimas atėjo ir į anglų kalbą. Prieš priimant „Šiaurės jūrą“, angliskai, buvo vartojami pavadinimai „Vokietijos jūra“ arba „Vokietijos vandenynas“, jie vadinti lotyniškais pavadinimais „Mare Germanicum“ ir „Oceanus Germanicus“. naudotas iki Pirmojo pasaulinio karo.

Šiaurės jūra yra daugiau nei 970 kilometrų (600 mylių) ilgio ir 580 kilometrų (360 mylių) pločio, jos plotas yra 570 000 kvadratinių kilometrų . Vidutinis jūros gylis: 96 metrai, didžiausias gylis: 809 metrai;

Šiaurės jūros druskingumas siekia iki 35% . Druskingumas labiausiai kinta ten, kur įteka gėlo vandens. Šiaurės jūra jau seniai yra svarbių Europos laivybos kelių vieta ir pagrindinė žvejybos vieta. Pakrantė yra populiarai poilsio ir turizmo vieta besiribojančiose šalyse, o pastaruoju metu jūra virto turtingu energijos išteklių šaltiniu, išskaitant iškastinį kurą, vėjų ir bangų energija. Pagrindiniai gamtiniai ištekliai yra gamtinės dujos ir nafta. Šiaurės jūra yra pagrindinė Europos žuvininkystės sritis, kuriai tenka daugiau kaip 5% sugautų tarptautinių komercinių žuvų. Be naftos, dujų ir žuvies, Šiaurės jūros valstijos iš vandenyno dugno per metus taip pat paima milijonus kubinių metrų smėlio ir žvyro. Jie naudojami paplūdimių maitinimui, melioracijai ir statyboms. Dėl stipraus vyraujančio vėjo ir negilaus vandens Šiaurės jūros šalys, ypač Vokietija ir Danija, nuo 1990-ųjų dešimtmečio krantą panaudojo vėjo energijai. Šiaurės jūra yra vienas iš pirmųjų didelio masto vėjo jėgainių jūroje pasaulyje. Šiaurės jūra yra svarbi jūrų transportui, o jos laivybos keliai yra vieni judriaisių pasaulyje.



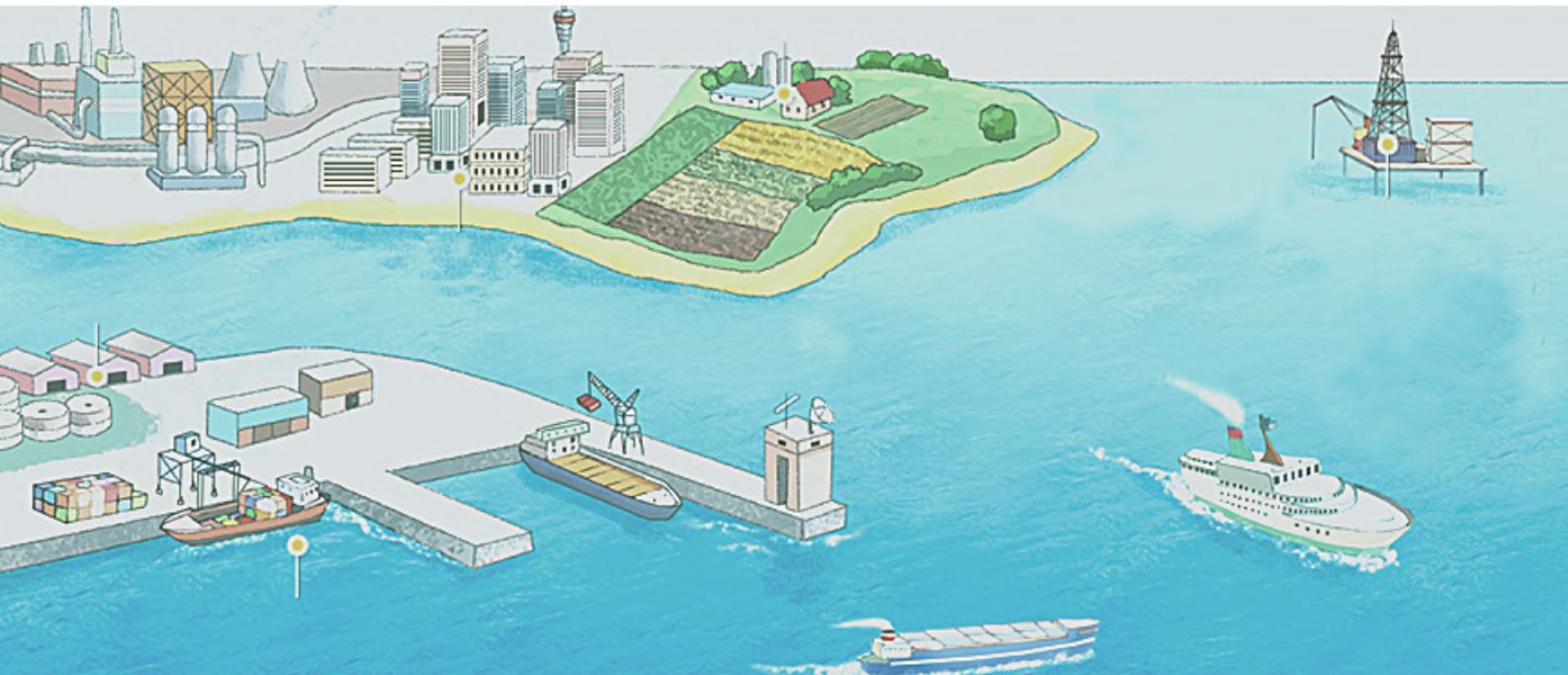
Šiaurės jūra buvo vikingų pakilimo centras. Vėliau Hanzos lyga, Olandija ir Didžiosioji Britanija siekė vadovauti Šiaurės jūrai ir taip patekti į pasaulio rinkas bei išteklius, nes Šiaurės jūra vienintelė išteka į vandenyną, todėl tiek per abu pasaulinius karus, tiek ir dabar yra strategiškai svarbi.

Šiaurės jūrą ypač pavojingą plaukioti. Audros potvyniai ypač kelia grėsmę Nyderlandų, Belgijos, Vokietijos ir Danijos pakrantėms ir žemai Rytų Anglijos teritorijoms. Šiuolaikinė pylimų forma, papildyta perpildymo ir šoniniais nukreipimo kanalais padeda apsaugoti pakrančių miestus.

Didžiausios ir svarbiausios upės, įtekančios į Šiaurės jūrą, yra Elba ir Reinas - Meuse. Maždaug 185 milijonai žmonių gyvena upių, ištekančių į Šiaurės jūrą, baseine, apimančiame kai kurias labai pramonines teritorijas, kas labai stipriai veikia jūros ekosistemą. Svarbiausi Šiaurės jūros uostai: Roterdamas, Londonas, Antverpenas, Hamburgas, Edinburgas, Bergenas, Oslas

# EKOLOGINĖS PROBLEMO

Visas mūsų gyvenimas šioje planetoje, įskaitant mūsų ekosistemas, visuomenę ir ekonomiką, priklauso nuo vandens



Jūrų ir gėlo vandens ekosistemos atlieka daug gyvybiškai svarbių funkcijų:

- vandens filtravimo, skiedimo ir saugojimo;
- potvynių prevencijos;
- klimato pusiausvyros užtikrinimo vietas ir pasaulio lygmenimis;
- biologinės įvairovės išsaugojimo.

## EKOLOGINĖS PROBLEMO ŠIAURĖS JŪROJE

Apie 70 % mūsų planetos ploto sudaro vandenynai, ir šiukslių jūrose galima aptikti beveik visur. Jūras teršiančios šiukslės, ypač plastmasės, kelia grėsmę ne tik mūsų jūrų ir pakrančių gerovei, bet ir mūsų ekonomikai bei visuomenei. Dauguma jūras teršiančių šiukslių yra veiklos kontinente pasekmė. Apie 80 % šiukslių sunėšama į jūras iš žemyninės dalies. Ne visos šiukslės atsiranda dėl žmonių veiklos, vykdamos pakrančių zonose. Net ir išmetus šiuksles žemėje, upės, potvyniai ir vėjas sunėša šiuksles į jūrą.

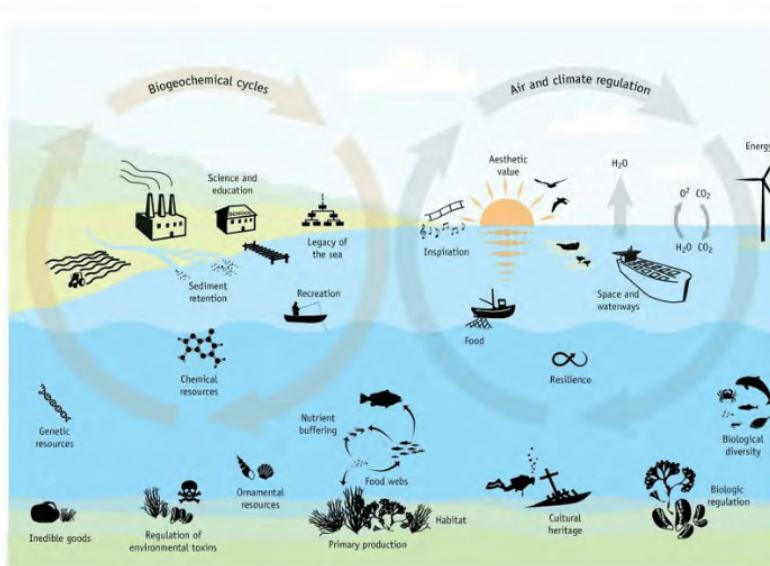
Šiaurės jūroje šiukslių atsiradimą daugiausia salygoja jūroje vykdoma veikla. Dėl gausios žmonių populiacijos ir didelio industrializacijos jos pakrantėse Šiaurės jūros laukiniai gyvūnai patyrė taršos, medžioklės bei žvejybos poveikį.

Flamingai ir pelikanai kadaise gyvenę palei pietinius Šiaurės jūros krantus, išnyko per antrajį tūkstantmetį. Pilkieji banginiai, eršketai, lašišos ir kitos rūšys buvo paplitusios Šiaurės jūroje iki XX amžiaus. Deja, jų skaičius sumažėjo dėl per didelės žvejybos. Kiti veiksniai, tokie kaip nevietinių rūsių invazija, pramoninė ir žemės ūkio tarša, tralavimas ir gilinimas, žmonių sukelta eutrofifikacija, pakrančių statyba, smėlio ir žvyro gavyba, statybų jūroje darbai ir intensyvus laivybos srautas, taip pat prisidėjo prie Šiaurės jūros ekologinių problemų. Žvejyba, laivyba, atviroje jūroje esantys įrenginiai, pvz., naftos gavybos platformos arba kanalizacija – tai šiukslių jūroje šaltiniai. Šiaurės jūroje šiukslių atsiradimą daugiausia salygoja jūrose vykdoma veikla.



## EKOLOGINĖS PROBLEMO BALTIJOS JŪROJE

Baltijos jūra iš daugelio pasaulio vandens telkinių išskiria užterštumu. Šis vandens telkinys išgyvena ne pačius geriausius laikus, o žvelgiant į ateitį įžvelgiamas ir dar didesnės taršos pavojus. Pripažstama, kad visiškai sumažinti taršą yra neįmanoma, tačiau ją pristabdant svarbus kiekvieno žmogaus vaidmuo.



Didžiausia Baltijos jūros problema – eutrofifikacija: maistinių medžiagų pertekliaus paskatintas intensyvesnis dumbliai žydėjimas. Dumbliai žydėdami sunaudoja deguonį, todėl jo pradeda trūkti, taip pat mažėja vandens skaidrumas, susidaro toksiškų bakterijų. Baltijos jūroje aptinkama „negyvoji zona“, kurioje yra labai mažai deguonies, užima beveik 70 tūkst. km<sup>2</sup> plotą, daugiau nei visa Lietuvos teritorija. Dėl to nyksta jūros dugne gyvenantys bestuburiai, nukenčia jais mintančios žuvys, kiti vandens gyvūnai.

Baltijos jūroje fiksuojama ne tik tarša plastiku, bet ir cheminė tarša. Dalis atsakomybės dėl tokios taršos ir šiuo atveju tektų gyventojams, o ne tik pramonei. Reikėtų atkreipti dėmesį ir į tai, ką mes nuleidžiame nutekamaisiais vandenimis. Tai dažniausiai higienos produktai ar prausimosi geliai, turintys mikroplastiko dalelių, kurios dedamos, kad produktas būtų gražesnis, atliktu šveitimo funkciją. Tos dalelės patenka į aplinką. Kitas svarbus dalykas yra gatvės ir kelai. Šiuo metu kalbama apie gatvių transporto keliamas grėsmes – tiek padangų dėvėjimas, tiek šiukšlės, esančios mūsų gatvėse ir ant šaligatvių. Kai būna didesnės liūtys, šios šiukšlės su nutekamaisiais vandenimis gali patekti į upes ir taip atkeliauti į jūrą.

Pažiūrėkite šį video: <https://www.youtube.com/watch?v=BNNwE9MsPxl>

Dar viena Baltijos jūros problema yra jūros šiukšlių kiekiai. Jvertinus skirtingus pakrantę teršiančių šiukšlių objektus nustatyta, kad pirmauja plastikai. Plastiko fragmentai sudaro 41,8% šiukšlių, cigarečių nuorūkos – 13,9%. Vertinant pagal medžiagos tipą, objektai, pagaminti iš plastiko, sudaro devynis iš dešimties dažniausiai sutinkamų šiukšlių pakrantėje. Didžiausias šiukšlių kiekis, aptiktas vieno dugnинio tralavimo metu, užfiksuotas Gotlando bei Gdansko baseinų šlaituose.

Baltijos jūra yra labai uždara, o aplink ją aktyviai vykdoma žemės ūkio veikla, laivyba, veikia pramonė, tad tai, kas patenka į vandenį, tame išsilaiako ilgai. Baltijos ir Šiaurės jūrų regiono šalys laikomos išsivysčiusiomis, o kai kuriose srityse pats regionas įvardijamas kaip aplinkosaugos vėliavnešys. Šalyse, kuriose gerai išplėtota atliekų surinkimo sistema, gyvena žmonės, turintys gana aukštą aplinkosauginį sąmoningumą. Tai leidžia tikėtis, kad blogiausio įvardyto scenarijaus Baltijos jūroje pavyks išvengti.



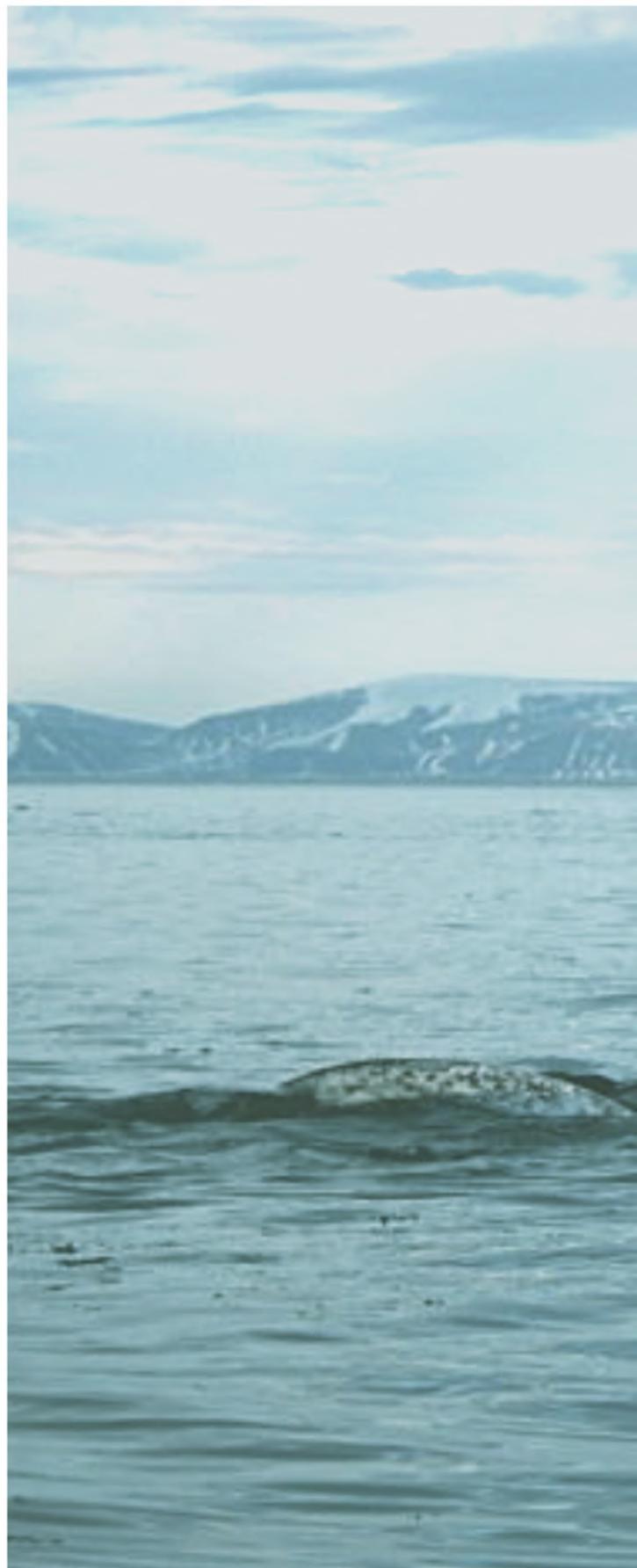
Dar viena aktuali ekologinė problema – Šiaurės ir Baltijos jūrų dugne gulinčios bombos ir kiti sprogmenys. Tačiau jų sprogimo tikimybė – toli gražu ne tai, kas turėtų kelti didžiausią nerimą. Didesnė problema – baltasis fosforas. Kai ši medžiaga išplaunama į krantą, ji atrodo nekenksminga, tačiau išdžiūvusi ji iškart smarkiai užsiliepsnoja. O fosforo degimo temperatūra – maždaug 1300 laipsnių Celsijaus. Be to, užgesinti ugnies neįmanoma vandeniu – taip tik susiformuoja fosforo rūgštis, kuri sukelia didelius odos nudėgimus, o fosforas dega toliau. Baltasis fosforas – tai karos reliktas.

Po Antrojo pasaulinio karo buvo priimtas sprendimas nuginkluoti Vokietiją ir kuo greičiau atsikratyti jos amunicijos atsargų. Atsargos buvo sukrautos į laivus, išplukdytos į jūrą ir palaidotos joje (1,3 mln. Šiaurės jūroje ir 300 000 – Baltijos jūroje). Artimiausiais dešimtmečiais tai bus milžiniška problema. Bombos yra gaminamos iš metalo, o metalą ardo erozija, ypač sūriame vandenye. Galiausiai jvairios nuodingos bombų medžiagos patenka į ekosistemą. Ir yra ženkli, kad tai jau vyksta. Baltijos jūroje sužvejojamoje žuvyse neretai randama daug arseno. Nėra jokios abejonių, kad arseno kilmės šaltinis – nuodingų dujų amunicija.

Mokslininkai mano, kad vienintelis praktiškas sprendimas – kuo greičiau išskelti amuniciją ir ją tinkamai utilizuoti, nors tai ir labai brangus gelbėjimo kelias.

Pažiūrėkite šį video: <https://www.euronews.com/green/2021/06/18/the-dumped-munitions-in-our-oceans-causing-serious-pollution>

Jūrų ir gėlo vandens ekosistemos teikia jvairias prekes ir paslaugas, gamtos ištaklius, jas pasitelkiant vystoma prekyba ir transportas bei plėtojamos rekreacinės galimybės. Tai gi, siekiant išsaugoti šią teikiamą naudą reikia taikyti visapusišką požiūrį. Išnagrinėjus ekologinį gamtos ir žmogaus santykį, galima padaryti išvadą, kad žmogus privalo naudotis gamtos turtais tik harmoningai veikdamas kartu su gamta, tapdamas jos dalimi, o ne priešu. Todėl reikia keisti vandens ir jūros aplinkos politiką, pritaikant ją prie klimato kaitos ir biologinės jvairovės politikos. Jeigu taršos klausimas būtu sprendžiamas globaliai, visas Baltijos jūros bei Šiaurės jūros regionas turėtų vieningą viziją, tuomet permanentų tikimybė taptų reali.



# CAPÍTULO 6

**RELAÇÃO DO SUDOESTE DA EUROPA  
(PENÍNSULA IBÉRICA) COM O OCEANO ATLÂNTICO**

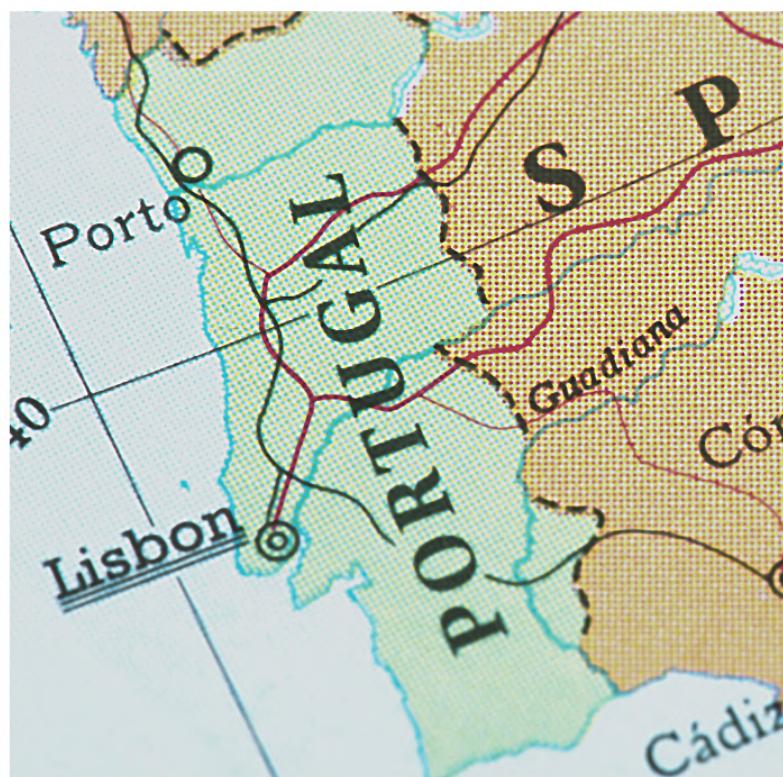


Este capítulo foi escrito pelo  
**Escola Secundária Manuel Cargaleiro**  
**Amora, PORTUGAL**

Portugal situa-se entre 39.9° de latitude Norte e 8.2° longitude Oeste, no sudoeste da Europa. Ocupa a maior parte da faixa ocidental da Península Ibérica. Tem uma extensa linha de costa banhada pelo oceano Atlântico, onde se localizam os arquipélagos da Madeira e dos Açores.

Portugal é actualmente um país aberto ao exterior, estabelecendo com os países europeus e outros continentes intensas relações políticas, económicas e culturais.

A posição geográfica, embora periférica no contexto europeu, confere ao território português uma centralidade no espaço atlântico, enquanto espaço de encontro entre a Europa, a África e a América, que poderá constituir um elemento estratégico para uma inserção favorável de Portugal nas relações internacionais.



Os primeiros povos que estabeleceram contactos por mar com a Península Ibérica foram os Fenícios. Vieram do Mediterrânio, eram bons navegadores e possuíam barcos poderosos para o comércio marítimo. Na Península Ibérica procuraram o ouro, o ferro e a prata e trouxeram o alfabeto.

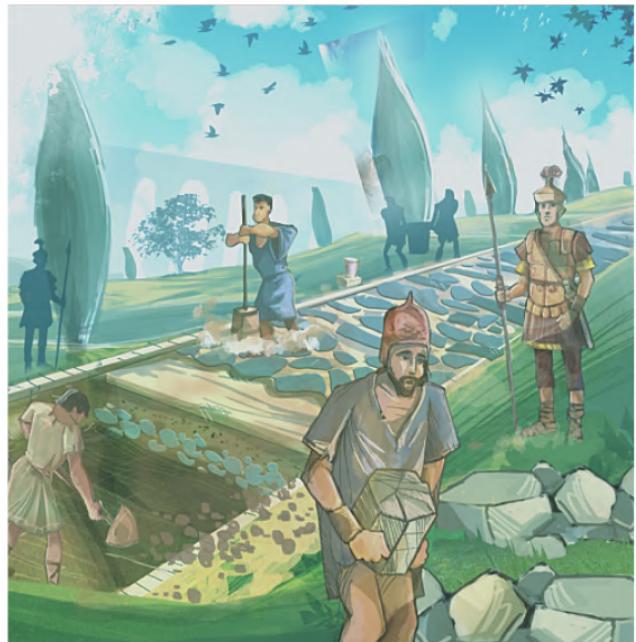
Os Romanos, vindos de Itália, chegaram à Península Ibérica com a intenção de levarem trigo, ferro e prata.

A presença dos romanos na Península foi muito importante pois introduziram aqui muitas inovações, como estradas, pontes, templos, teatros, aquedutos, que ainda hoje se podem observar em muitos locais de Portugal. Este povo introduziu o latim que deu origem à língua portuguesa.

Portugal faz fronteira terrestre com Espanha, que em conjunto constituem a Península Ibérica. Este território apresenta características climáticas e geomorfológicas semelhantes nas áreas fronteiriças e partilham entre si as redes hidrográficas dos rios que nascem em Espanha - Douro, Tejo e Guadiana - e desaguam em Portugal, no oceano Atlântico.

As relações entre Portugal e Espanha são dinâmicas, do ponto de vista comercial, do turismo e cultura, destacando-se vários projectos transfronteiriços com benefícios para os dois países e suas populações.

## OS POVOS DA PENÍNSULA IBÉRICA





Os Muçulmanos invadiram a Península Ibérica, no ano de 711 (século VIII), vindos do Norte de África. Aperfeiçoaram técnicas de regadio, desenvolveram o artesanato, a medicina, a geografia, a astronomia, a matemática e enriqueceram o vocabulário introduzindo novas palavras: aldeia, Algarve, Almada, algarismo, zero, azeitona, azeite. No século XV, a conquista de Ceuta em 1415 marca o início da expansão portuguesa.

## OS DESCOBRIEMENTOS PORTUGUESES

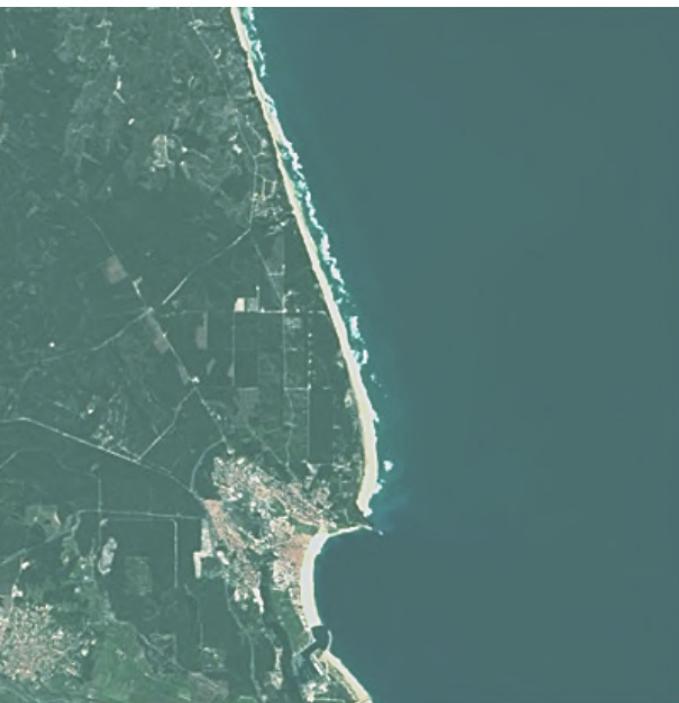
Os navegadores portugueses conquistaram territórios ao longo da costa africana, em direção ao sul, formando feitorias, que consistiam em fortalezas contra os inimigos e em entrepostos comerciais, onde muitos produtos africanos eram adquiridos para serem vendidos na Europa.

O objetivo era contornar a costa africana para chegar ao Oriente. Foi uma viagem difícil e os portugueses depararam-se com diversas dificuldades devido às correntes marítimas do oceano Atlântico. Após 15 tentativas, o navegador Gil Eanes contorna o Cabo Bojador, próximo do Trópico de Câncer, e avança para Sul. Mais tarde, Bartolomeu Dias passa o Cabo das Tormentas ou da Boa Esperança, no extremo sul do continente africano. Como eram lugares desconhecidos dos europeus, havia o mito de se tratar de uma zona inabitável devido ao calor e aos monstros lá existentes.

Finalmente, em 1498, Vasco da Gama concretiza o objetivo da expansão portuguesa e chega às Índias. Os portugueses através do Atlântico descobriram uma nova rota marítima para o Oriente. A navegação pelo Atlântico foi facilitada e permitiu a descoberta de novos lugares no continente americano com a descoberta do Brasil, em 1500, com Pedro Álvares Cabral.



# A COSTA LITORAL



As descobertas portuguesas foram muito lucrativas para Portugal. São descobertos novos produtos para o comércio internacional, mas também contribuíram para um enriquecimento cultural dos povos.

A costa portuguesa, com mais de 2500 Km, é bastante diversificada, alternando entre costa de arriba e costa de praia. É um refúgio para as espécies aquáticas, vegetais e animais nos estuários dos rios, nos sapais e nos ecossistemas do litoral, em contacto com o oceano Atlântico.

A beleza e biodiversidade da costa litoral portuguesa é afetada pelo problema da erosão costeira que contribui para uma diminuição de sedimentos em algumas praias, para a degradação das falésias e recuo da linha de costa.

As causas da erosão costeira podem ser naturais, mas a maior parte é consequência direta ou indireta de atividades humanas, tais como a construção de habitações nas falésias e as obras de engenharia costeira.



## VIVER NAS ZONAS COSTEIRAS

O litoral português em contacto com o oceano Atlântico oferece vantagens naturais e humanas que facilitam a fixação da população.

O clima ameno, com uma forte influência atlântica, proporciona ao longo do ano temperaturas agradáveis e precipitação abundante, sobretudo no norte do País. Por outro lado, é uma extensa zona de baixa altitude, onde predominam as planícies mais favoráveis à construção de infraestruturas de transporte, localização das atividades económicas e fixação da população.

A oferta de emprego, o acesso à saúde, educação e cultura justificam a forte concentração da população junto ao litoral em cidades de grande dimensão, das quais se destacam Porto e Lisboa, a capital de Portugal.

## A ZONA ECONÓMICA EXCLUSIVA



A Zona Económica Exclusiva (ZEE) situa-se entre as 12 e as 200 milhas náuticas da costa, na qual o Estado costeiro tem direitos de soberania para fins de exploração e aproveitamento, conservação e gestão dos recursos naturais, vivos ou não vivos.

A ZEE portuguesa reparte-se por três áreas – Portugal Continental, Madeira e Açores – e tem uma extensão de cerca de 1 800 000 Km<sup>2</sup>. É a maior ZEE da União Europeia e a 5<sup>a</sup> maior do Mundo.



Nesta zona económica, a abundância e diversidade de espécies é influenciada pelas excelentes condições de temperatura, iluminação, salinidade e oxigenação das águas.

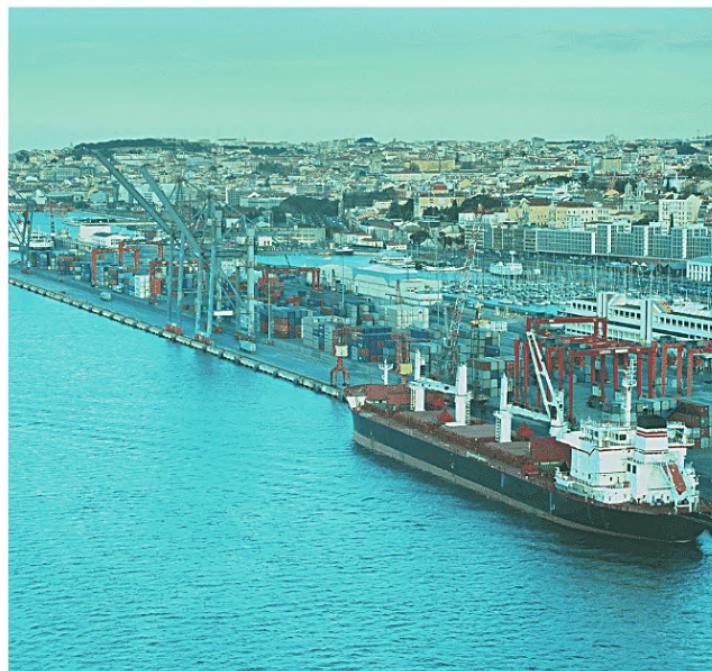
A sudoeste de Portugal, o encontro das correntes marítimas – a corrente quente de Portugal e a corrente fria das Canárias – favorecem a abundância e qualidade dos recursos piscatórios, designadamente a maior quantidade de sardinha e carapau que abundam nos meses de verão.

## A ATIVIDADE PORTUÁRIA

Os portos marítimos são fundamentais para o desenvolvimento económico de Portugal, especialmente as exportações. Em Portugal existem 9 portos marítimos localizados em Viana do Castelo, Leixões, Aveiro, Figueira da Foz, Lisboa, Setúbal, Sines, Madeira e Açores.

O Porto de Lisboa localiza-se no encontro das águas do rio Tejo e do oceano Atlântico. Este foi o primeiro porto comercial português, pelas suas excelentes condições naturais e pela sua história.

O Porto de Sines é o líder nacional na quantidade de mercadorias movimentadas. É um porto de águas profundas, com excelentes acessibilidades marítimas, que acolhe todos os tipos de navios e possui um volume importante de carga contentorizada.



## O MAR E AS ARTES

O Mar é parte integrante da vivência e existência humanas. O mesmo apresenta-se como um elemento da natureza fundamental para a sobrevivência, sustentabilidade e consequentemente faz parte da nossa identidade nacional. Considera-se que a paisagem marítima é um património sempre presente na história de Portugal em que são retratadas as narrativas e pinturas das memórias históricas. Mais especificamente na época dos Descobrimentos, quer na atividade piscatória como na indústria naval e no aproveitamento na atividade turística.

Portugal é um país com extensa zona costeira. Esta imensa influência marítima na paisagem portuguesa acaba por também influenciar as artes, mais especificamente na poesia e pintura. É a paisagem marítima que estimula a criatividade artística representada na literatura, pintura e música.

Muitos poetas, pintores e músicos retratam nas suas obras, em que o Mar é a “personagem principal” devido ao impacto que este traz à nação. Tomemos como exemplos literários “Os Lusíadas” de Luís de Camões e “Mar Português” de Fernando Pessoa. Estas obras evocam o valor dos Homens que definem o Mar como a nossa identidade nacional.

*Ó mar salgado, quanto do teu sal  
São lágrimas de Portugal!  
Por te cruzarmos, quantas mães choraram,  
Quantos filhos em vão rezaram!  
Quantas noivas ficaram por casar  
Para que fosses nosso, ó mar!  
Valeu a pena? Tudo vale a pena  
Se a alma não é pequena.  
Quem quer passar além do Bojador  
Tem que passar além da dor.  
Deus ao mar o perigo e o abismo deu,  
Mas nele é que espelhou o céu."*

"Mar Português" de Fernando Pessoa



No contexto popular apresentam-se vários provérbios relacionados com o Mar:  
"Há mais marés que marinheiros"

No Fado, de Amália Rodrigues, Carlos do Carmo e mais recentemente Mariza enalteceram a cidade de Lisboa e o Tejo. Na música popular portuguesa, Fausto cria produções musicais como "Por este rio acima" onde o Tejo é realçado.

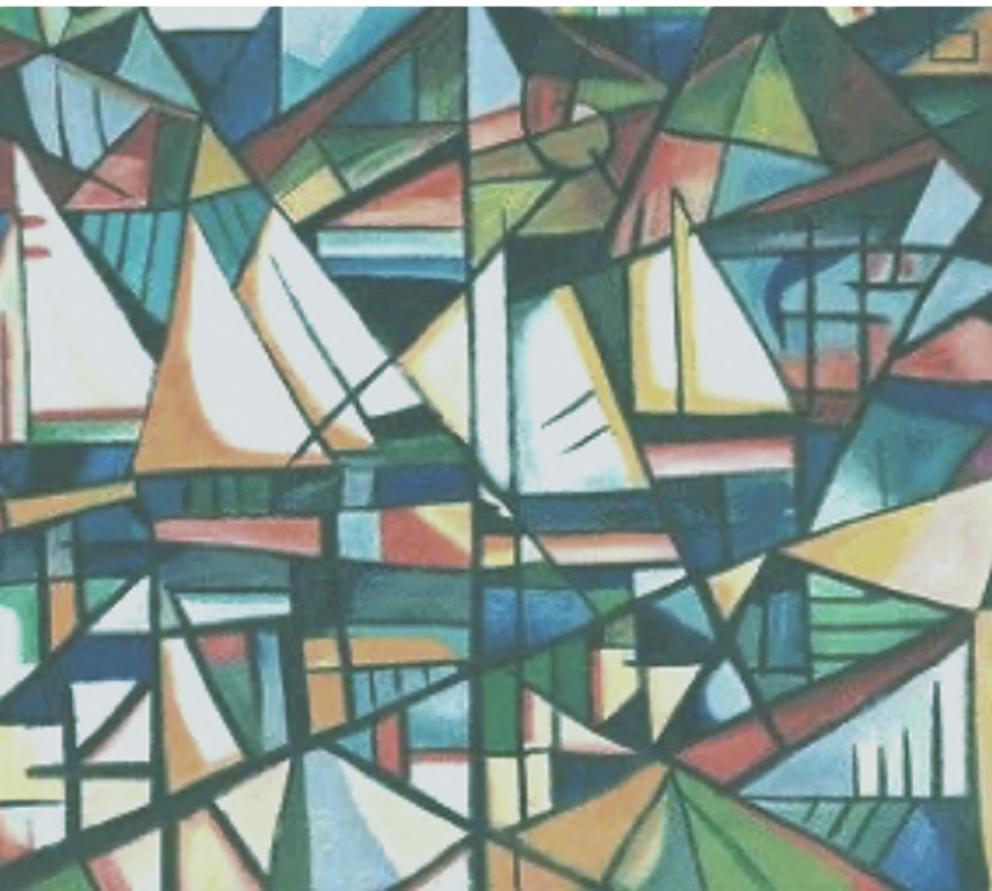
Na literatura juvenil, Sophia de Mello Breyner na narrativa "A Menina do Mar" os jovens vêm o Mar como um espaço mágico, sensibilizando para a importância do Mar na cultura portuguesa.

*"Em setembro veio o equinócio. Vieram marés vivas, ventanias, nevoeiros, chuvas, temporais. As marés altas varriam a praia e subiam até à duna. Certa noite, as ondas gritaram tanto, uivaram tanto, bateram e quebraram-se com tanta força na praia. que, no seu quarto caiado da casa branca, o rapazinho este até altas horas da noite sem dormir".*

Excerto da "Menina do mar" de Sophia de Mello Breyner

Na pintura, essa identidade apresenta, de igual modo, retratos e pinturas de paisagens marítimas, na sua vasta diversidade como representações da faina da pesca, do lazer e do turismo.

Para além disso, vários pintores inspiram-se na paisagem para criar várias peças de arte e assim gravar no tempo a beleza dos ecossistemas, em constante mudança. Estas obras de arte são por vezes utilizadas nas ciências para se analisar a evolução de uma paisagem marítima ao longos de várias séculos.



Tomar conhecimento destas manifestações culturais, que nos definem, é pertinente porque estes legados permitem-nos realizar uma leitura histórica da morfologia dos territórios marítimos, através de um estudo dos processos ambientais, que sofrem agressões que advém da violação dos Direitos do Planeta Terra.

Ler, Ouvir, Ver e Tocar, através das artes é tomar consciência da beleza que caracteriza o Mundo e assim estaremos mais aptos para salvar o Planeta.



# CAPÍTULO 7

**TURISMO ACUÁTICO EN EL MEDITERRÁNEO  
COSTA DE LA PENÍNSULA IBÉRICA**



Este capítulo fue escrito por el  
**I.E.S. La Albericia**  
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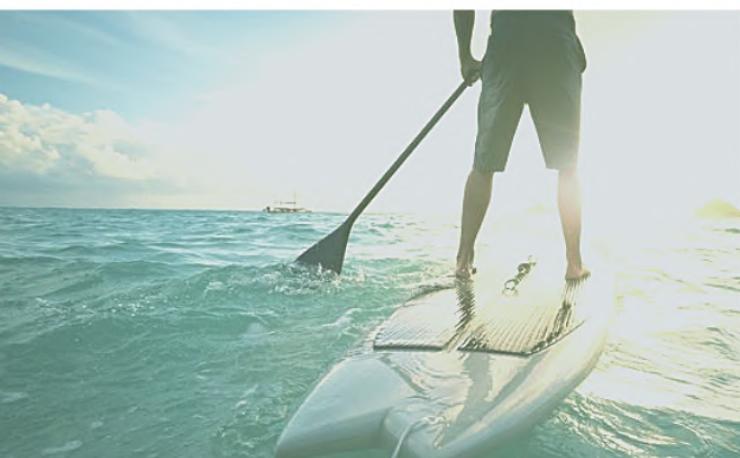
A una gran parte de los turistas que visitan la costa mediterránea les encantan las atracciones de agua.

Las más demandadas son: Snorkel y actividades de buceo; Surf; Paddle; Kite; Surf de vela; Vela y Viajes en yate; Parques acuáticos y zoos marinos; Atracciones marítimas.



## SNORKEL Y BUCEO

Las aguas del Mediterráneo son idílicas para la práctica de deportes acuáticos, debido a su cálida temperatura. Además, existe una gran diversidad mariana en sus costas.



## SURF

Barcelona, Alicante o Mallorca tienen muchas escuelas de surf y playas aptas para la práctica de este deporte. La mayor parte de los clientes de estas escuelas son turistas.

## PADEL SURF

Debido a sus aguas tranquilas, el Mediterráneo se considera un mar ideal para la práctica de este deporte. Todas las playas cercanas a un centro urbano tienen lugares en los que se alquilan tablas.

## SURF DE VIENTO

Tarifa es el mejor lugar para la práctica de los deportes de vela, debido al gran viento que se genera en el estrecho de Gibraltar. Este hecho se debe a que confluyen el mar y el océano.



# NAVEGAR

Este deporte es uno de los más extendidos en el mar Mediterráneo. Uno de los lugares más visitados para practicar este deporte es el puerto deportivo de Barcelona. Otros lugares muy visitados por sus puertos deportivos son los de las costas de Valencia y las Islas Baleares.



## DE YATES

Una buena parte del turismo que visita estas costas lo hace en yate. Barcelona, Valencia, Mallorca y Marbella tienen grandes puertos deportivos en los que atracan estos barcos.



## PARQUES ACUÁTICOS

Hay gran cantidad de parques acuáticos a lo largo de la costa Mediterránea. Los más conocidos están en las localidades de Salou y Benidorm. En estos, podemos encontrar una gran variedad de piscinas y toboganes.

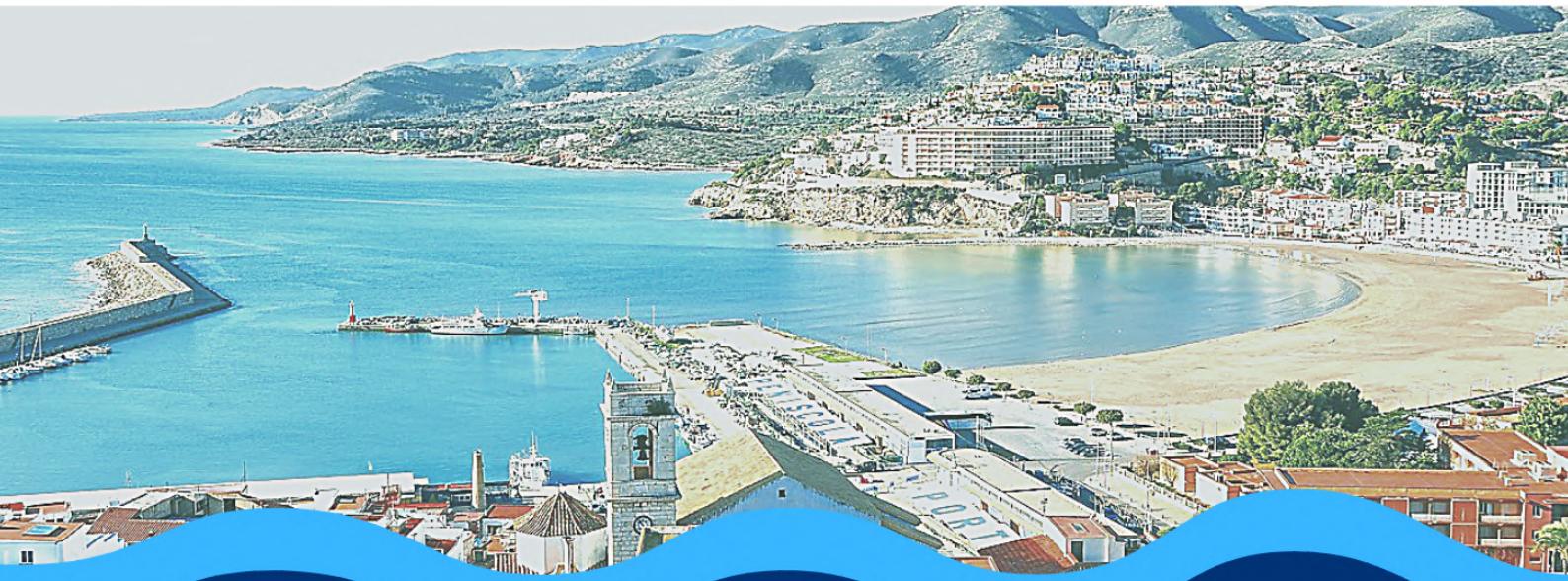
## ZOOLOGICOS ACUATICOS

Una atracción especial es la de zoos acuáticos. Los más conocidos están cerca de parques acuáticos. En ellos, se pueden ver delfines, orcas, focas, leones marinos o pingüinos, entre otros.



## ENTRETENIMIENTOS MARÍTIMOS

Algunos de los turistas visitan el Mediterráneo en busca de aventuras. Una de las atracciones más espectaculares es el parasailing. En esta, se combinan el uso del paracaídas y del yate. Otras actividades muy demandadas son: Sky acuático, Flyboard, Flyfish y Wakeboard.





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# EUROPE'S RELATIONSHIP WITH WATER

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