

The European Atlas of the Seas

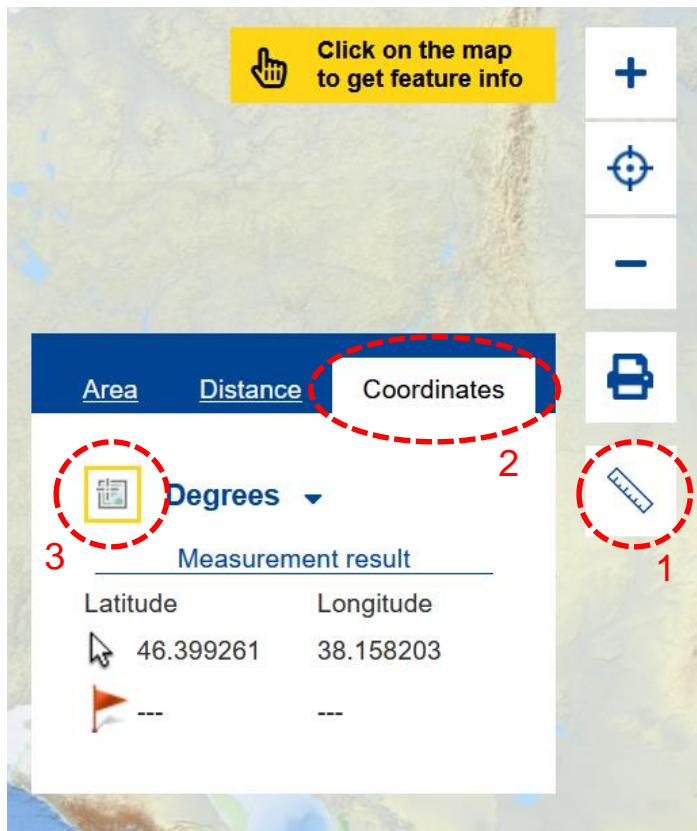
www.european-atlas-of-the-seas.eu

Blue Economy Challenge - Teachers Guide



Question 1: Match the geographic coordinates of the images you have found with the different sectors in the document below.

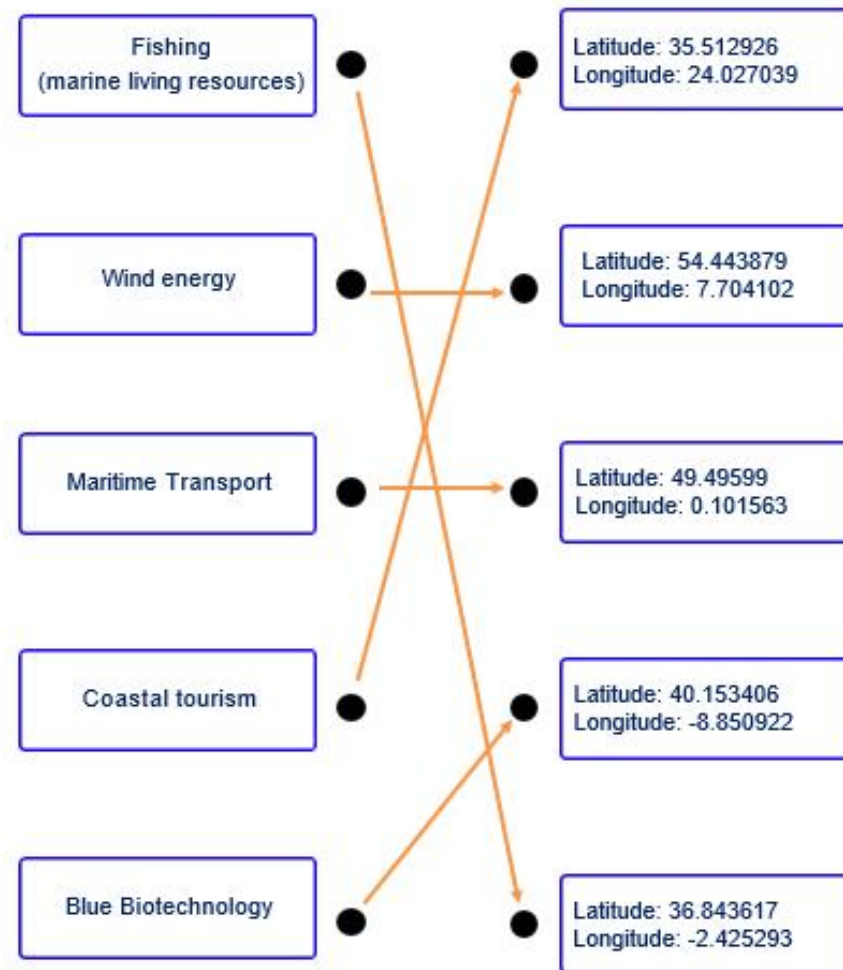
To find the images:





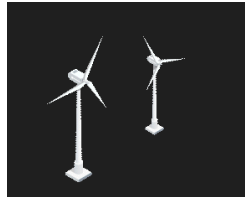
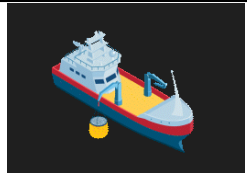

1. open the measure tool by clicking on the ruler;
2. select 'Coordinates';
3. click on the icon next to the units;
4. Use the computer mouse or keyboard keys to move on the map and click on different locations to see the geographical coordinates. See how the coordinates change as you move north/south and west/east.
5. When you have reached coordinates provided in the list, click again on the icon next to the units (3) to deactivate the tool and click on the location.

An image will appear. Identify which sector this image is related to. Start again to find the other images.

The answers are provided in the graph on the right. Details are included on the next slide.



Question 2: What are the nearest events to each location where you have found an image? What are the titles of these events?

Sector	Image	Country	Geographical coordinates	Nearby event
Coastal tourism		Greece	Latitude: 35.512926 Longitude: 24.027039	Seas and Climate Change: Navigating the Waters of Environmental Transformation
Maritime Transport		France	Latitude: 49.49599 Longitude: 0.101563	Back to the Sea – Summer School
Wind energy		Germany	Latitude: 54.443879 Longitude: 7.704102	Coastal Summer School 2024, in cooperation with the research mission sustainMare
Fishing		Spain	Latitude: 36.843617 Longitude: -2.425293	Stories told of fishermen and the sea
Blue Biotechnology		Portugal	Latitude: 40.153406 Longitude: -8.850922	Blue Generation – the careers of the future: Blue Economy Career Fair

Question 3: The image for the marine renewable energy sector is located in the sea. Combine the map layers '2024 EMD in My Country' and 'Wind farm locations (polygons)' to see that the image is hidden at a location of wind farms. Are these wind farms planned or in production?

(1) Open the search window



English EN

Follow us

Give feedback



Add layers to the map



wind|

(2) Type 'wind' to see relevant map layers

Search results

Average wind speed and direction
Energy

Algorithms

Locations of wind farms
Energy

Locations of wind farms (polygons)
Energy

(3) Select the suggested map layer

Seawater finfish farms

Shellfish farms

Blue indicators

Employment in coastal tourism

Employment in marine extraction of minerals, oil and gas

Climate change

Global mean sea level regional trend

Global sea surface temperature regional trend

(4) Close the search window

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Question 3: The image for the marine renewable energy sector is located in the sea. Combine the map layers '2024 EMD in My Country' and 'Wind farm locations (polygons)' to see that the image is hidden at a location of wind farms. Are these wind farms planned or in production?

Locations of wind farms (polygons) (1 of 2)

Country: Germany
Name: Meerwind Sued/Ost
Number of turbines: 80
Power (MW): 288.0000000000
Status: **Production**

They are in production

Use the measure tool to find the location. Deactivate the tool and click on the location to open the information window.

Degrees

Measurement result	
Latitude	Longitude
54.129642	11.428467
54.443879	7.704102

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Question 4: The current basemap is the 'EMODnet template'. Change the basemap to the 'Cities template'. What is the closest city to the location where you have found the image for coastal tourism?

The screenshot shows a web mapping application interface. On the left, a 'Layers (0) Legend' panel is open, displaying two basemap options: 'EMODnet template' and 'Cities template'. The 'Cities template' is circled in red, and a red arrow points from it to a text box that says 'Change the basemap under layers.' The main map area shows a satellite view of Crete, Greece, with a red pin marking a location on the northern coast. A red arrow points from this pin to a text box that says 'The closest city is Chania.' On the right, a measurement tool is active, showing a 'Degrees' dropdown menu circled in red. Below it, a 'Measurement Result' table displays the following data:

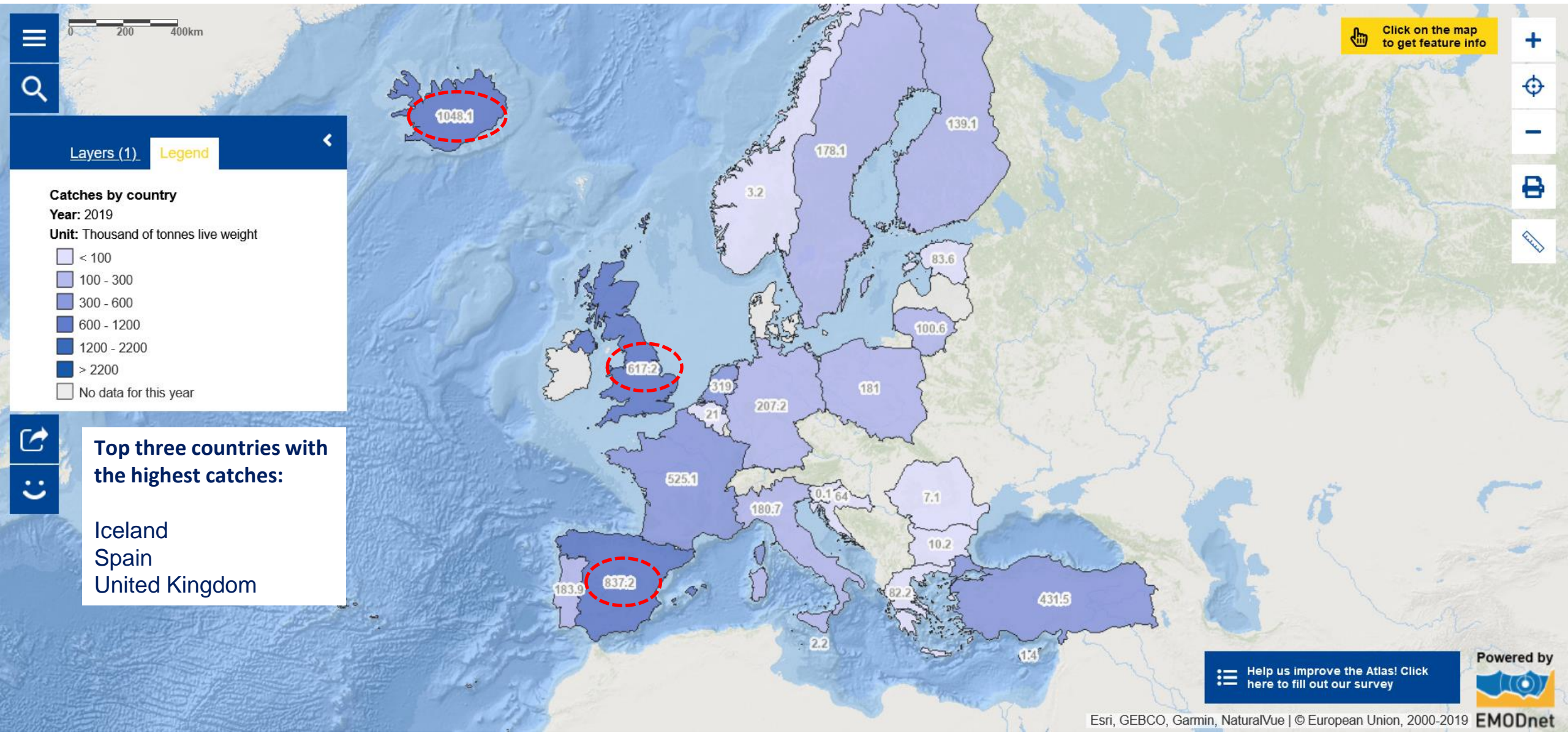
Area	Distance	Coordinates
Degrees ▾		
Measurement Result		
Latitude	Longitude	
35.966039	24.377228	
35.512926	24.027039	

At the bottom right, there is a blue button with the text 'Help us improve the Atlas! Click here to fill out our survey' and a logo for 'Powered by' Earthstar Geographics | Esri, HERE, Garmin | E-MODnet.

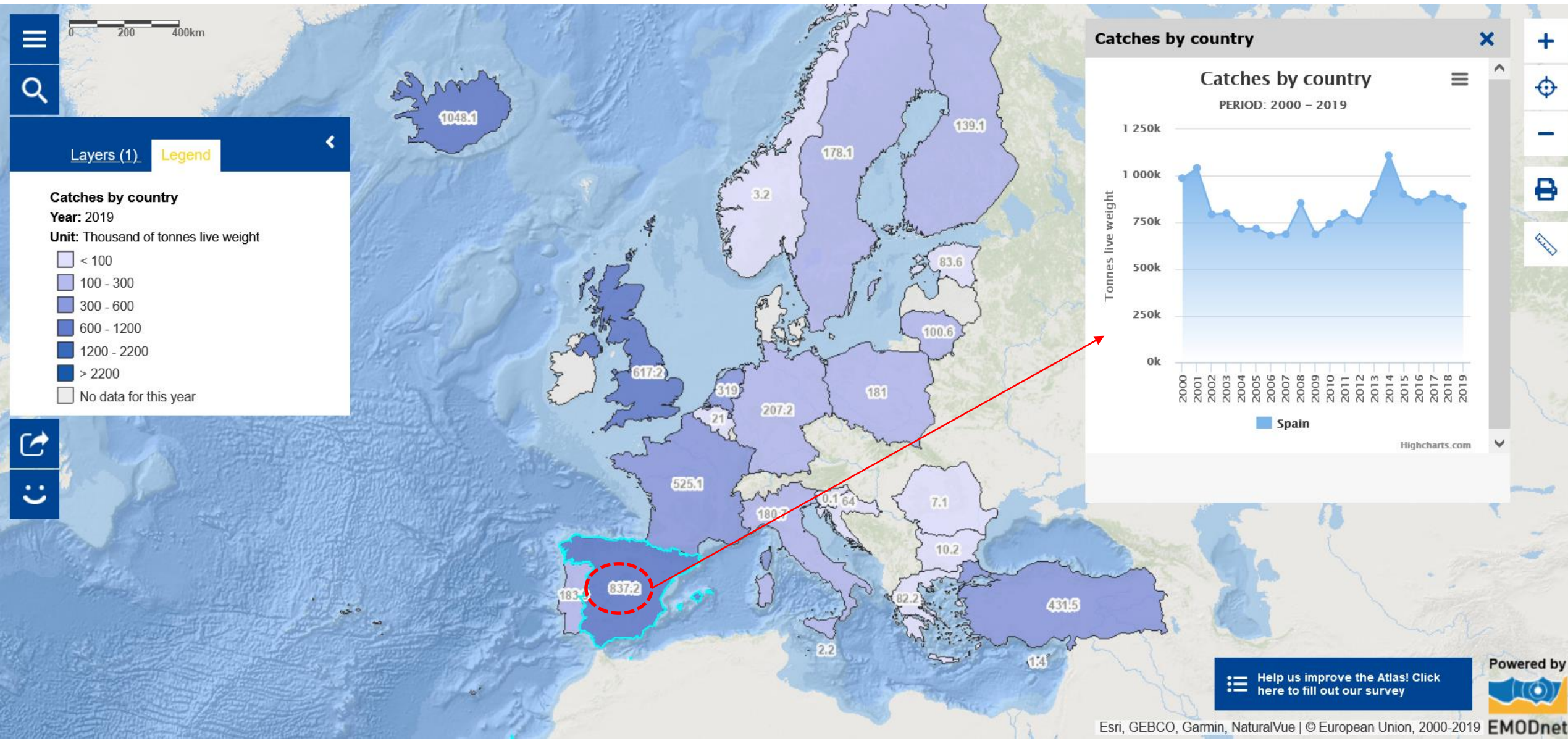
Question 5: Open the map layer related to fisheries that present data on Catches by country. Looking at the map, can you indicate which are the top three countries with the highest catches? Click on one of these countries to see how catches have evolved in time. What is the overall trend in this country over the past 19 years?

The screenshot shows a web-based map interface. At the top, there is a navigation bar with the European Union flag, a help icon, the language 'English EN', a 'Follow us' link with a Twitter icon, and a 'Give feedback' link with a smiley face icon. A red dashed circle highlights a close button (X) in the top right corner of the map area. Below the navigation bar is a blue header with the text 'Add layers to the map'. A search bar contains the text 'catch|' and is also circled in red. Below the search bar, under the heading 'Search results', there are two options: 'Catches by country' (checked) and 'Catches by fishing zone'. Below the search results are six category tiles: 'Marine Data' (with a yellow buoy), 'Biodiversity' (with a jellyfish), 'Food from the ocean' (with a fishing boat), and three partially visible tiles at the bottom: a wind turbine, an underwater coral reef, and the European Union flag. The interface also includes a scale bar (0-200), a 'Layers (1)' panel on the left, and various map controls on the right side.

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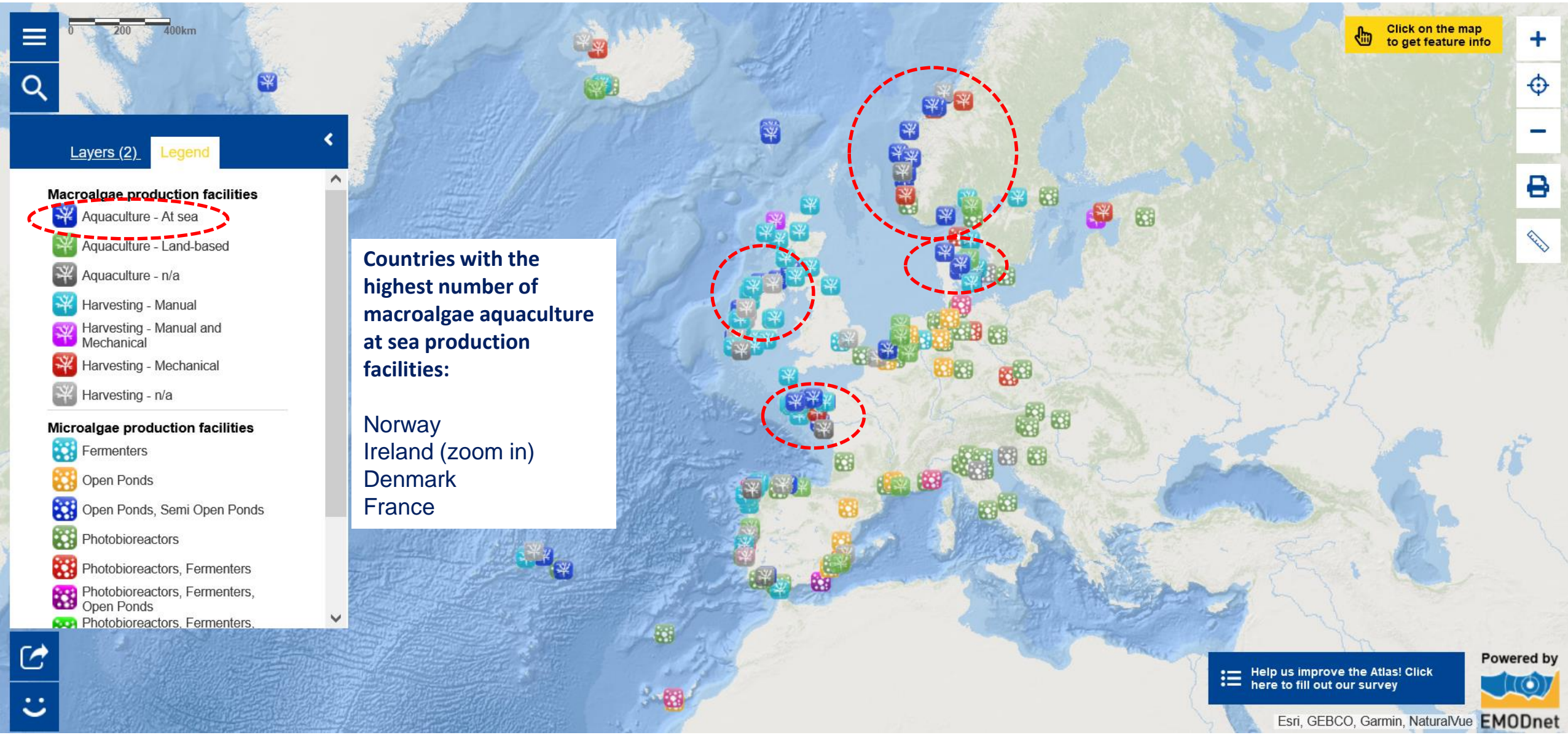
Question 6: Open the map layers 'Macroalgae production facilities' and 'Microalgae production facilities' and explore the resulting map. In which countries do you see the highest number of macroalgae aquaculture at sea production facilities?

The screenshot shows a web-based map interface with a top navigation bar containing a search icon, a scale bar (0-200), a language selector (English EN), social media links (Follow us, Give feedback), and a close button (X) circled in red. Below the navigation bar is a blue header with the text "Add layers to the map". A search bar labeled "Search for layers" is positioned below the header. The main content area is divided into four tabs: "Predefined maps (24)", "Layers", "Map stories", and "My maps" (marked with a "NEW" badge). The "Layers" tab is active, displaying a list of layer categories and their respective options:

- Algae production**
 - Macroalgae production facilities
 - Microalgae production facilities
- Aquaculture**
 - Aquaculture production
 - Aquaculture production by species
 - Freshwater finfish farms
 - Seawater finfish farms
 - Shellfish farms
- Blue indicators**
 - Employment in coastal tourism
 - Employment in marine extraction of minerals, oil and gas
- Climate change**
 - Global mean sea level regional trend
 - Global sea surface temperature regional trend

On the left side of the interface, a "Layers (2)" panel shows two map thumbnails, each with a graduation cap icon, representing the selected layers. A "Clear all layers" button is located at the bottom left of this panel. The background shows a map of Europe with various colored markers indicating production facilities.

Question 6: Open the map layers 'Macroalgae production facilities' and 'Microalgae production facilities' and explore the resulting map. In which countries do you see the highest number of macroalgae aquaculture at sea production facilities?



Question 7: Watch the Euronews Ocean episode on “How schools and industry are working together for the future of Europe's blue economy”. Explain in your own words what the blue economy is. Can you think of other sectors that are included in the blue economy?



EU Blue Economy Sectors

EU Blue Economy includes all sectoral and cross-sectoral economic activities based on or related to the oceans, seas and coasts: Marine-based activities and Marine-related activities.

Source: https://blue-economy-observatory.ec.europa.eu/index_en

The blue economy generates millions of jobs both in coastal regions and in the European Union as a whole.



4.5 million jobs

were generated by the blue economy in 2019. That's around 2.3% of all EU jobs.



There are 7 major sectors

Living resources (aquaculture and fisheries), non-living resources (oil, gas and other materials), transport, ports, shipbuilding, wind energy and coastal tourism.



63% are coastal tourism jobs

It's the largest blue economy sector in the EU.



New sectors are emerging

Sectors like ocean energy, biotechnology and desalination are growing rapidly.

Source: [The Blue Economy report 2022](#), EU Commission

Source: <https://www.euronews.com/green/2023/04/25/how-schools-and-industry-are-working-together-for-the-future-of-europes-blue-economy>)



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