

Study on resilience and local economic development in EU coastal communities

Final Report

European Maritime, Aquaculture and Fisheries Fund (EMFAF)

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(EMFAF)**

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Abstract

Coastal communities – defined by this study as “*groups of interconnected actors (individuals, organisations, and institutions), rooted in specific coastal territories (1) and characterised by locally grounded, sea-related forms of capital*” – play a strategic role in shaping the European Union’s competitiveness and resilience. Yet, their specific characteristics, vulnerabilities, and development potentials remain insufficiently mapped and understood. Against the backdrop of the European Ocean Pact (2025) and growing policy interest in coastal resilience, this study provided an evidence based- assessment of EU coastal communities across 22 Member States (MS).

The objectives of the study were to:

- 1) characterise the demographic, socioeconomic, and environmental features of coastal territories;
- 2) identify the key internal and external pressures shaping their resilience;
- 3) analyse how communities are responding to these pressures; and
- 4) assess the extent to which EU policies and funding support coastal resilience and the economic development and diversification of coastal communities.

The research combined three methodological pillars:

- Structured **desk based statistical analysis** of coastal Local Administrative Units (LAUs) and NUTS 3 regions using a dedicated set of proxy indicators derived from EU official datasets, as well as desk-based analysis of selected EU funds and programmes data.
- **Six in-depth case studies** in Galicia (Spain), Sand Motor project (the Netherlands), Vis (Croatia), Pays de Brest (France), Burgas (Bulgaria), and Gdynia (Poland), developed through interviews, local documentation, and comparative analysis of resilience building practices.
- **Scoping interviews** with key stakeholders to refine the methodological framework and a **validation workshop** on the study’s emerging findings.

These complementary methods were used to triangulate findings and identify gaps, opportunities, and policy relevant insights.

Results showed that EU coastal communities host over 90 million residents, generate nearly 38% of EU GDP, and rely on a distinctive combination of natural capital and blue economy assets. Despite strong economic weight and innovation capacity, coastal territories are highly heterogeneous and face significant, place-specific challenges: accelerated urbanisation and land use pressures in coastal

(1) Intended as EUROSTAT’s Local Administrative Units (LAUs).

cities; demographic decline and limited service provision in rural and remote areas; environmental degradation and climate-related risks (sea level rise, erosion, extreme events); labour and skills shortages; pressures on traditional sectors such as fisheries; and socioeconomic volatility linked to tourism intensity and seasonality.

The case studies highlighted recurring enablers of resilience – effective multilevel governance, economic diversification, social capital, technical readiness, and access to finance – while also revealing persistent barriers such as fragmented competencies, data gaps, limited investment capacity, and uneven access to EU funding-specific challenges.

The study concluded that coastal communities are crucial for the EU’s green, blue, and digital transitions, yet require strengthened and better targeted support. Coastal resilience will depend on integrated land–sea planning, improved monitoring and data availability, sustainable management of natural resources, skills development for emerging blue economy sectors, enhanced cooperation across governance levels, and more coherent and accessible EU funding. Ensuring that coastal communities can mitigate risks, harness local assets, and seize new opportunities is essential to safeguarding their long-term viability and their contribution to EU-wide strategic objectives.

1. Introduction

1.1. Purpose, definitions and structure

Aim and problems addressed

Recent EU political priorities have placed renewed focus on the future of coastal communities: the European Commission (2024–2029) incorporates explicit commitments to support coastal communities, including islands, as a specific “policy subject”, including via the **European Ocean Pact** ⁽²⁾, launched in June 2025. However, **there is an incomplete comprehensive, up to date understanding of the characteristics, governance structures, challenges, and needs of EU coastal communities**, as well as how existing EU instruments and funds address those needs. Current evidence on data gaps, the accessibility and impact of EU support mechanisms, and the local governance processes driving resilience-building remains fragmented.

The overarching aim of this study was to support the European Commission and its stakeholders in **better understanding the challenges coastal communities face and identifying how EU action can reinforce their resilience and foster sustainable local economic development**. To achieve this, the study aimed to:

- **Characterise EU coastal communities** by analysing demographic, socio-economic and physical attributes, while exploring how different definitions of “coastal community” affect monitoring and policymaking.
- **Map and evaluate existing EU support and funding opportunities**, assessing their scope, effectiveness, and accessibility for coastal areas.
- **Conducting in-depth case studies** across diverse regions to understand real-world challenges, good practices, stakeholder dynamics, and the role of EU interventions.
- **Develop conclusions and actionable recommendations** for EU, national, and regional authorities to improve support mechanisms, strengthen resilience, and promote economic diversification in coastal communities.

By providing a comprehensive assessment and evidence-based recommendations, the study contributes to shaping a coherent EU approach that empowers coastal communities to adapt to a changing climate, unlock new economic opportunities, and preserve the social and environmental assets that underpin their long-term resilience and prosperity.

(2) https://oceans-and-fisheries.ec.europa.eu/european-ocean-pact_en

Relevant concepts and definitions

As a first step in the study, we undertook a literature review of definitions of “coastal communities” suitable for policy and monitoring purposes. We proposed a working definition that balances conceptual completeness with practical use as a basis for data collection. We also defined “resilience” in context of this study. The working definitions used in the study are as follows. These concepts are further elaborated and discussed in **Annex 1 – Conceptual Foundations for Coastal Community Analysis**.

Coastal communities are defined as *groupings of interconnected actors (individuals, organisations, institutions) based on specific coastal territories (intended as LAU coastal areas and NUTS 3 regions) and characterised by locally grounded capitals related to the sea (natural, economic, social, cultural)*.

This definition acknowledges that the term “community” not only encompasses the *population settlements* and the specific *territories* in which they are based (coastal regions, cities, etc.), but also the complex range of *functional relations and common purposes* – including social, economic, cultural or environmental – in which community actors engage. Such functional relations include value-chains supporting local blue economy sectors, as well as broader functions in critical areas such as blue skills, ocean literacy, ecosystem preservation, impact financing, etc.

Resilience is understood as their *capacity to anticipate, absorb, and adapt to external and internal stressors while maintaining their core functions*.

Drawing from the definition provided by the EU’s Joint Research Centre, it encompasses three dimensions: **absorptive capacity** is the ability to withstand shocks without major structural change; **adaptive capacity** is the ability to adjust and learn from experience; **transformative capacity** is the ability to initiate deep, systemic change when existing systems become unsustainable.

Structure of the study

The report is structured in six consecutive sections, following the present Introduction (Section 1):

Section 2 of the study provides a factual and evidence-based overview of the characteristics that shape EU coastal communities, including environmental attributes and socio-economic conditions. It also explores functional aspects of coastal communities related to the blue economy.

Section 3 explores the multifaceted challenges and pressures faced by EU coastal communities, analysing a set, from climate change and urbanisation to economic diversification and connectivity issues.

Section 4 draws lessons on community-led responses and innovations that are helping coastal areas build resilience. It does so by cross analysing the findings of the six case studies conducted as part of this study.

Section 5 evaluates the extent to which current EU policies and funding mechanisms are supporting EU coastal communities, offering both quantitative and qualitative analysis of the main support provided over time.

Section 6 concludes the study by reflecting on the main conclusions of the analysis and offering actionable recommendations for targeted interventions.

1.2. Methodological considerations

The study applies **two complementary methodological approaches**: review of secondary sources (desk-based statistical analysis and literature review) and case studies.

Review of secondary sources of information

First, we analysed characteristics of coastal communities in relation to the “coastal areas and regions” in which they are located, which can be defined and monitored statistically. A methodological decision was to use the highest spatial resolution available, prioritising LAU and NUTS 3-level analyses where possible to more accurately represent localised features and assets, in line with our proposed definition. The key method we applied within this approach was the design, screening, and analysis of a set of relevant “proxy indicators” available at EU official data sources. This set of indicators cover demographic trends, economic structure, environmental assets, social capital, and other relevant variables. Desk-based data analysis was then performed to identify patterns, vulnerabilities, and trends across coastal regions and areas. The results of this analysis are presented in **Sections 2** and **3** of this report.

We conducted the statistical analysis in two steps: first, we compared coastal communities’ performance relative to non-coastal areas within the same Member State. This allowed us to highlight both shared national characteristics and features specific to coastal settings. Second, we explored **variation within coastal territories themselves**. Coastal areas were classified according to key settlement and location typologies, such as urban, rural, or remote, to capture structural differences in population, economic activity, and access to resources. This typological framework enabled the identification of patterns and groupings across coastal areas, supporting a more nuanced understanding of resilience, development opportunities, and locally specific challenges.

Table 1 – Glossary of terms and classifications employed in statistical analysis

Classifications	Definition
Coastal region	NUTS level 3 region with a sea border (coastline) and/or with more than 50% of its population within 50 km of the coastline ⁽³⁾ .
Coastal area	Local Administrative Units (LAUs) that border the coastline or that have at least 50 % of their surface area within 10 km from the coastline ⁽⁴⁾ .
Predominantly urban region	According to Eurostat, predominantly urban regions form part of the urban-rural typology; they are NUTS level 3 regions where more than 80 % of the population lives in urban clusters ⁽⁵⁾ .
Predominantly rural region	According to Eurostat, predominantly rural regions form part of the urban-rural typology; they are NUTS level 3 regions in which at least 50% of the population lives in rural grid cells ⁽⁶⁾ .
Intermediate region	According to Eurostat, intermediate regions form part of the urban-rural typology, they are NUTS level 3 regions where more than 50% and up to 80% of the population live in urban clusters ⁽⁷⁾ .
Remote region	According to Eurostat, the concept of remoteness characterises non-metropolitan regions, more specifically regions if at least half of the population in a non-metropolitan region cannot reach a functional urban area within a one-hour drive, then that region is sub-classified as 'remote'; or if at least half of the population in a non-metropolitan region can reach a functional urban area within a one-hour drive, then that region is sub-classified depending on the size of the functional urban area, as a non-metropolitan region: <ul style="list-style-type: none"> • 'With access to a metropolitan region' (for functional urban areas of at least 250 000 inhabitants); or • 'With access to a small functional urban area' (for functional urban areas with less than 250 000 inhabitants).
Island region	Eurostat defines Island regions as NUTS level 3 regions within the European Union (EU) that are entirely composed of one or more islands ⁽⁸⁾ .

Source: Author's own elaboration based on Eurostat definitions

Case studies

In parallel, we performed six case studies focusing on a diverse set of coastal communities across the EU: Galicia (Spain), Sand Motor project (the Netherlands), Vis (Croatia), Pays de Brest (France), Burgas (Bulgaria), and Gdynia (Poland). Employing case studies allowed us to capture drivers of resilience, highlighting how communities preserve and expand local capital (institutional, economic, social, technical, and financial) while responding to both internal and external stressors. The methods applied for the identification and

⁽³⁾ Special cases and nuances to this general rule are explained here:

[https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Territorial typologies manual - coastal regions](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Territorial_typologies_manual_-_coastal_regions)

⁽⁴⁾ [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Territorial typologies manual - coastal areas](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Territorial_typologies_manual_-_coastal_areas)

⁽⁵⁾ [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Predominantly urban region](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Predominantly_urban_region)

⁽⁶⁾ [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Predominantly rural region](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Predominantly_rural_region)

⁽⁷⁾ [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Intermediate region](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Intermediate_region)

⁽⁸⁾ [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Island region](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Island_region)

analysis of case studies combined **qualitative data collection** (interviews, stakeholder consultations, local documentation) with **comparative assessment** of how communities respond to internal and external stressors.

The **triangulation** of insights from these two methods informed a set of recommendations for sustainable and resilient local development of coastal communities in the EU.

1.3. Limitations and gaps identified

As acknowledged above, this study represents a step in strengthening our understanding of coastal communities, as it provides a novel overview of the current attributes and challenges faced by EU coastal communities. However, the findings of this study should be used with its limitations in mind, particularly those related to **data gaps and methodological choices made as a result**.

In terms of statistical and quantitative analysis, relevant data at the LAU level were missing for most indicators relevant for coastal communities, which constrained a comprehensive overview and understanding of coastal communities' characteristics. While we found many relevant indicators at the NUTS 3 level, other critical aspects for understanding resilience were only available at the NUTS 2 level -considered often too large to provide specific insights on coastal regions-, or even at the national level. The latter particularly concerns the blue economy-related indicators. Variations in data availability and collection periods across Member States also affected longitudinal analysis. To address these limitations, we complemented our analysis with literature review and a set of case studies. **Insights from case studies** are, however, inherently context-specific and, as such, not fully generalisable. Nevertheless, they provide valuable insights into functional relations, resilience, and local adaptive strategies. **The quality of data and information available** also varied across locations. While these limitations do not undermine the study's main findings, more consistent and detailed data could further strengthen future analyses, as also pointed out in the conclusions and recommendations section.

Environmental indicators

When we used environmental indicators from EMODnet and other EU geospatial platforms, the data were typically provided as continuous geospatial layers. However, our analysis required assigning these environmental variables to statistical units, specifically NUTS 3 regions and LAU coastal areas, so that they could be compared with demographic and socio-economic data. This created a methodological challenge for several reasons: i) environmental datasets do not align with administrative boundaries, therefore, to analyse them at NUTS 3/ LAU level, we had to aggregate or downscale these spatial layers, reducing overall accuracy; ii) some geospatial data layers are available only at high-level geometries or not directly downloadable with coordinate-level precision.

Demographic indicators

Certain demographic indicators were available at the LAU level, as well as at the NUTS 3 level, which made the level of granularity of the analysis adequate to our research needs. However, analysing trends over time was not possible at the LAU level, since there is no validated data for all the municipalities for the time span of the study ⁽⁹⁾. Instead, trend analysis was conducted at NUTS 3 level, where validated longitudinal data is available for the full study period. This means that localised demographic variation within NUTS 3 regions may not be fully reflected in the trend findings ⁽¹⁰⁾.

Socioeconomic indicators

No socio-economic indicators were available at the LAU level, and not all relevant indicators were available on NUTS 3 level. Therefore, for relevant aspects (such as education) we drew on broader NUTS 2 levels, making it difficult to infer conclusive remarks that would apply to coastal communities. Moreover, we identified significant gaps during the analysis of blue economy sectors. This was due to most indicators being available only at the national level (e.g., the Blue Economy Observatory). In addition, Member States' registration of data on certain blue economy sectors is often presented in broader categories such as "Primary Sector" (i.e., fishing, forestry, and agriculture), without disaggregating in sub-sectors relevant to our analysis.

⁽⁹⁾ Cyprus' LAU data for 2020 was provisional rather than validated, while LAU data for 2021 for Cyprus, Spain and France was partially validated (see datasets in <https://ec.europa.eu/eurostat/web/nuts/local-administrative-units>)<https://ec.europa.eu/eurostat/web/nuts/local-administrative-units>.

⁽¹⁰⁾ Population density is the only demographic indicator for which trend analysis is presented at NUTS 3 level rather than LAU in this report (see Section 2.3).

2. Characterisation of EU coastal communities

This section provides a statistical profile of coastal communities across the European Union, drawing primarily on data available at the Local Administrative Unit (LAU) level, complemented by NUTS 3 and, where necessary, NUTS 2 classifications. The analysis establishes a factual foundation for understanding the diverse realities of these territories and supports an evidence-based assessment of the challenges they currently face.

Based on the Eurostat definition, there are 8,402 coastal LAUs ⁽¹¹⁾ and 326 NUTS 3 ⁽¹²⁾ coastal regions in the European Union, spanning across 22 EU Member States. The characterisation exercise of these areas and their communities encompassed five aspects:

- **Key environmental attributes** of coastal zones, including a brief overview of the main ecosystems, and their level of protection.
- **Territorial distribution and settlement patterns**, distinguishing urban, rural, and remote coastal areas.
- **Demographic trends**, such as population density and age structures.
- **Socio-economic performance**, covering employment, income, and innovation capacity, among others.
- A **dedicated focus on the blue economy**, highlighting its role as a distinctive asset and driver of growth for coastal regions.

By integrating these elements, this section aims to capture the complexity and heterogeneity of EU coastal communities, providing a basis for subsequent analysis of their vulnerabilities, opportunities, and policy needs.

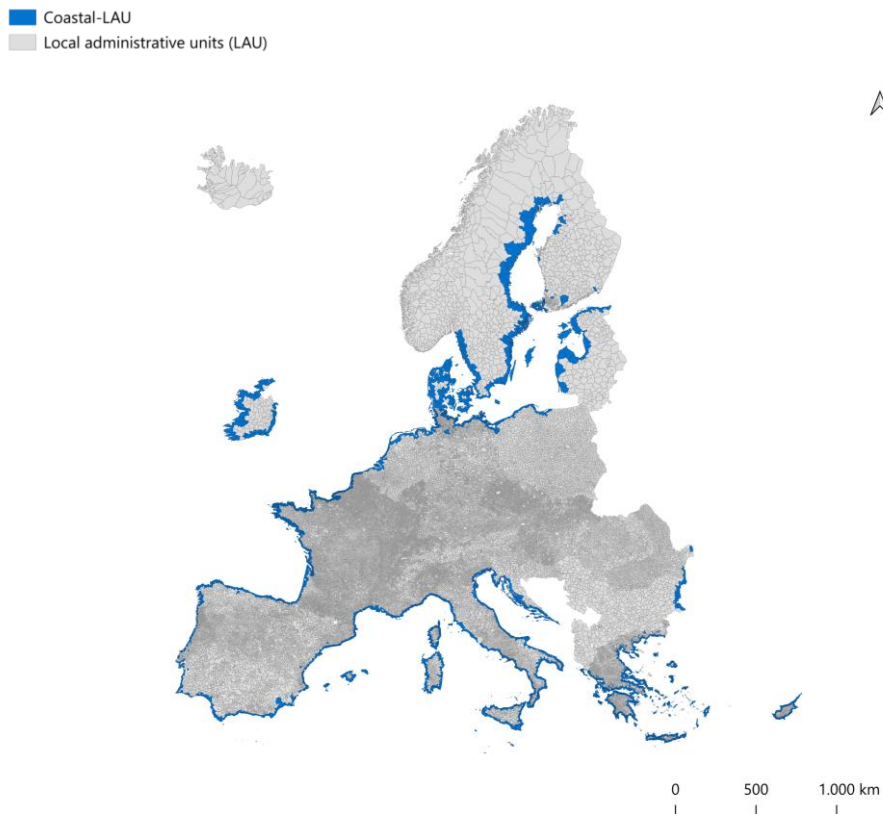
⁽¹¹⁾ In addition to this, there are 410 Coastal LAUs located in OR. Including them in the estimates leads to a total of 8812 coastal LAUs.

⁽¹²⁾ In addition to this, there are 14 NUTS3 regions which belong to the 9 OR, distributed across Spain, Portugal, and France. The total will hence be 340 NUTS3.

2.1. Environmental attributes of coastal areas

With a coastline extending **68,000 kilometres** ⁽¹³⁾ and over **501,000 km²** ⁽¹⁴⁾ of **associated coastal zones**, the EU's coastal areas represent a substantial and diverse territorial asset, corresponding to approximately **14% of the total land mass** of EU Member States. Coastal LAUs throughout the EU are shown on the map below.

Figure 1 – EU Member States coastal surface by Local Administrative Unit (LAU)



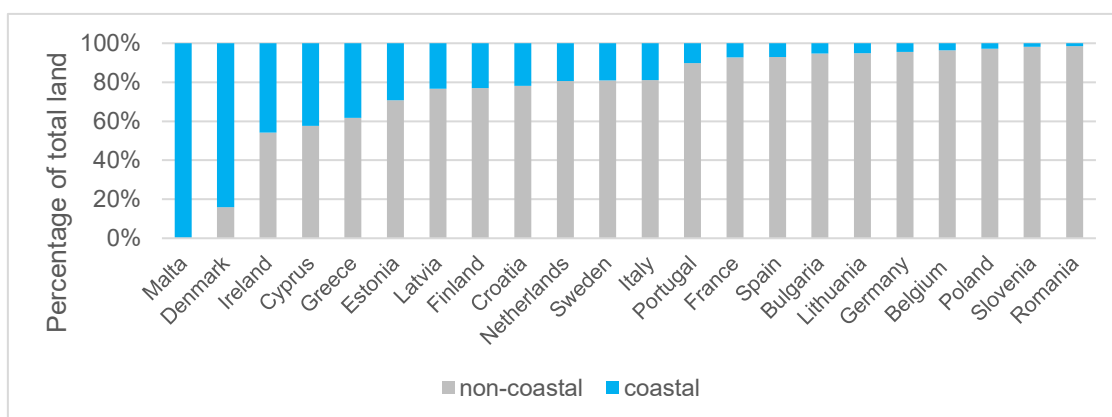
Source: Estimated based on the LAU coastal surface across 22 EU Member States, excluding OR. [Eurostat](#)

When analysing coastal communities across EU Member States, as shown in the figure below, we observe that larger countries tend to have a smaller proportion of their population living along the coast, whereas islands and smaller countries have a higher coastal percentage. Additionally, Central and Eastern Member States are less 'coastal' compared to Mediterranean and Northern countries.

⁽¹³⁾ https://www.copernicus.eu/en/news/news/observer-how-copernicus-helps-monitor-health-europes-coastal-waters#_ftn1

⁽¹⁴⁾ Estimated based on LAU coastal surface across 22 EU Member States, excluding OR. [Eurostat](#)

Figure 2 – Land cover by country (coastal and non-coastal areas)



Source: Author's own elaboration based on data from Eurostat, 2024. Note that some countries lacked validated data for the last year available, namely Spain and Italy. The data used to mitigate these gaps was from 2022. Similarly, 187 areas in Cyprus, Denmark and Greece were deleted due to persistent data gaps, leading to miscalculations. Due to the nature of the study, in this analysis, landlocked countries and OR were also excluded.

From an environmental perspective, EU coastal ecosystems concentrate an **exceptional diversity of natural assets**, being home to around **48,000 marine organisms** ⁽¹⁵⁾. Up to **39 different coastal habitat types** are present and currently recognised and protected by EU law, including estuaries, lagoons, dunes, salt marshes, and sea cliffs. The main coastal ecosystems present in the EU and their associated ecosystem services are classified in the table below by the five major EU sea basins.

Table 2 – Coastal ecosystem distribution per sea basin and related ecosystemic services

Sea Basin	Key coastal habitats	Examples of ecosystem services for coastal communities
Mediterranean	<i>Posidonia</i> meadows, lagoons, reefs	Protection: Buffering beaches against winter storm erosion. Livelihood: Supporting artisanal fisheries and blue tourism (diving/snorkelling).
Baltic Sea	Coastal reed beds, seagrass, macroalgae	Health: Filtering agricultural runoff to ensure safe, clear bathing waters. Economy: Biomass for local "circular economy" products (thatching, insulation, biogas).
Greater North Sea	Tidal mudflats, salt marshes, oyster reefs	Safety: "Nature-based" flood defence for low-lying coastal towns. Identity: Preserving traditional maritime heritage and local tourism experiences "Mudflat Hiking" (Wattwandern).
Atlantic	Kelp forests, rocky cliffs, dunes	Resource: High-yield nursery for commercial fish (Cod/Bass) essential for small-scale fleets. Harvesting: Source of iodine and alginates for local specialty industries.

⁽¹⁵⁾ <https://www.eea.europa.eu/soer>

Sea Basin	Key coastal habitats	Examples of ecosystem services for coastal communities
Black Sea	Danube Delta wetlands, salt marshes	Climate safety: Acting as a "sponge" to absorb river floodwaters before they hit settlements. Diversification: Ecotourism opportunities in Europe's best-preserved delta.

Source: Author's own elaboration

Regarding measures to protect coastal ecosystems across the EU, studies show that **15% of the over 27.000 Natura 2000 sites include coastal and marine areas** ⁽¹⁶⁾. Moreover, the **Natura 2000 network** encompasses approximately 11.7% of EU Member States' territorial waters, but less than 6% of their Exclusive Economic Zones ⁽¹⁷⁾, either exclusively or in combination with terrestrial areas. Among the protected ecosystem types, **coastal wetlands**, though covering a small proportion of total land (~2–3%), are significant. In addition, over half (approximately 56%) of coastal and salt-related wetland habitats are protected ⁽¹⁸⁾.

However, the physical and environmental features that sustain coastal communities also heighten their exposure to risk, with coastal flooding currently causing economic damages of **€ 1.2 billion and 72,000 people affected each year in the EU** ⁽¹⁹⁾. Notably, along the EU coastline, approximately **7.39% of coastal areas are located in Low-Elevation Coastal Zones (LECZ)**. These are commonly defined as the contiguous and hydrologically connected zone of land along the coast and below 10 m of elevation. Settlements in coastal lowlands are especially vulnerable to climate-induced risks such as flooding, yet these lowlands are densely settled and growing rapidly ⁽²⁰⁾. LECZ hotspots are located in the Netherlands (where 56% of the country surface are lowlands), Denmark (27%), Belgium (12%), and Estonia (10%) ⁽²¹⁾.

Low-lying topography, dense human settlements, and intensive land use make many coastal areas vulnerable to flooding, erosion, and sea-level rise. Furthermore, the degradation of coastal ecosystems intensifies those risks – further details are discussed in **Section 3**.

⁽¹⁶⁾ <https://academic.oup.com/icesjms/article/75/1/190/4080231?>

⁽¹⁷⁾ Ibid

⁽¹⁸⁾ <https://biodiversity.europa.eu/natura2000/en/coasts-and-seas>

⁽¹⁹⁾ <https://op.europa.eu/webpub/mare/eu-blue-economy-report-2025/energy-transition-and-coastal-flood-impacts/climate-change-and-nature-based-solutions-against-coastal-floods-in-europe.html>

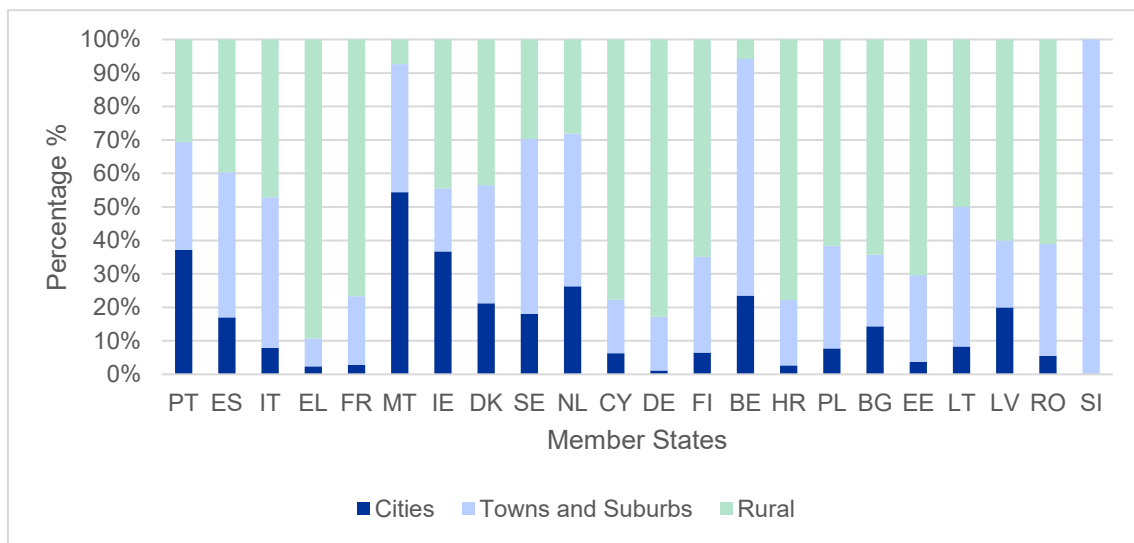
⁽²⁰⁾ <https://journals.sagepub.com/doi/epdf/10.1177/0956247807076960>

⁽²¹⁾ Percentages represent the portion of low-elevated coasts per country, retrieved from Pomianowski and Doburzyński (2021). "The Importance of Coastal Cities and Regions in Selected European Countries".

2.2. Territorial distribution and settlement types in coastal areas

The coastal population is distributed across a wide range of settlement types, reflecting the structural diversity of Europe’s coastal territories. At LAU level, the Degree of Urbanisation (DEGURBA) is derived bottom-up from 1 km² population grids and classifies each municipality as a city, town & suburbs, or rural area ⁽²²⁾. This scale of analysis allows to capture fine-grain settlement contrasts along coasts. Figure 3 below illustrates the degree of urbanisation across the coastal areas located in each Member State:

Figure 3 – Number of coastal areas per country by degree of urbanisation



Source: Author’s own elaboration, building on LAU data from [Eurostat](#).

This distribution highlights several interesting facts, with relevant policy implications:

1. **The vast majority of coastal areas at LAU level in the EU are rural.** There are 5,818 rural coastal LAUs across the Union, accounting to almost 70% of all coastal areas. They are home to 11.89 million inhabitants, 13% of all coastal population in the EU ⁽²³⁾.

⁽²²⁾ <https://ec.europa.eu/eurostat/web/degree-of-urbanisation/information-data>

⁽²³⁾ In addition to this, there are 199 Coastal Rural LAUs located in the OR. Including them in the estimates leads to a total of 6018 coastal rural LAUs (68.29%). These regions host 461.576 inhabitants, which aggregated to the total estimate will lead to 12.35 million inhabitants (representing a similar percentage).

2. **Few coastal cities concentrate 56% of all coastal population.** 627 urban LAUs (7.5% of all coastal areas) host around 50.6 million people, 56% of all coastal population ⁽²⁴⁾.
3. **Significant number of “buffer areas” with intermediate density levels.** Smaller towns and suburban areas comprise 1,957 LAUs (23% of the total) and accommodate approximately 27.96 million inhabitants, representing 31% of the coastal population ⁽²⁵⁾.
4. The distribution of settlement types across EU Member States varies widely, and allows to **cluster Member States by their predominant type of coastal settlements**:
 - a. *Majority of MS with predominantly rural coasts:* Eastern Mediterranean MS like Greece, Cyprus and Croatia show some of the highest shares of rural areas. These settlements are also predominant in France, along the North Sea (Germany and Poland) and Baltic coasts (Estonia, Lithuania and Latvia), and in the Black Sea (particularly in Bulgaria and to a smaller extent in Romania).
 - b. *Coastal areas characterised by intermediate settlements:* Slovenia stands out with fully intermediate (100%) coastal areas, followed by Belgium, Sweden, the Netherlands, Italy, Spain and Denmark, where small towns or suburban coastal settlements are more prevalent.
 - c. *Few MS displaying a prevailing urban profile:* Such is the case of Malta, which represents an outlier in EU coastal settlement patterns with over 50% of urban LAUs. Ireland and Portugal follow this trend with over 30% of urban LAUs and, to a lesser extent, the Netherlands.

At NUTS 3 level, Eurostat’s urban–rural typology ⁽²⁶⁾ aggregates those same 1 km² grids across much larger regions and labels the entire region as predominantly urban, intermediate, or predominantly rural according to threshold shares of population in urban clusters/rural cells. Applying this methodology to our analysis, a total of 326 NUTS 3 coastal regions can be identified.

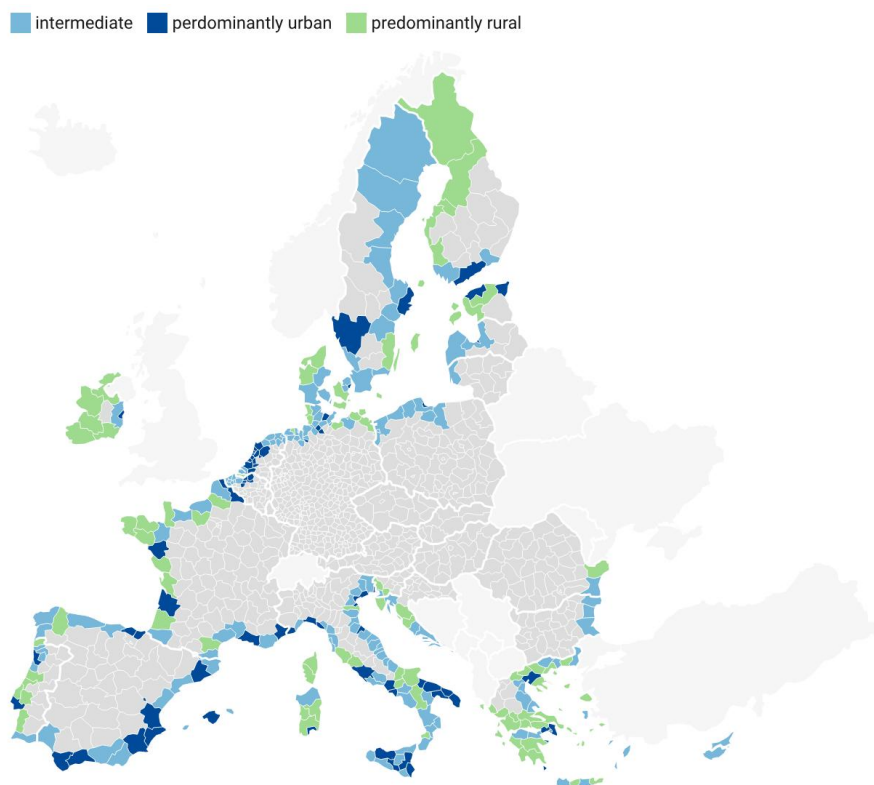
⁽²⁴⁾ In addition to this, there are 49 Coastal cities (LAUs) located in the OR. Including them in the estimates will lead to a total of 676 coastal rural LAUs (almost 7.7.%). These regions host 1.72 million inhabitants, which aggregated to the total estimate will lead to 52.3 million inhabitants (which represent almost 55%).

⁽²⁵⁾ In addition to this, there are 162 Coastal towns (LAUs) located in the OR. Including them in the estimates will lead to a total of 2118 coastal rural LAUs (representing 24%). These regions host 2.55 million inhabitants, which aggregated to the total estimate will lead to 30.5 million inhabitants (which represent 32 % of the coastal population).

⁽²⁶⁾ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Urban-rural_typology

Their distribution by settlement type, as depicted in the figure below, presents significant differences if compared to the DEGURBA LAU-level analysis.

Figure 4 – Coastal regions by urban-rural typology



Source: Author's own elaboration building on DG REGIO dataset. NUTS3 2021 version

At this scale of aggregation, urban coastal regions represent a much larger share: 25%. Intermediate regions become the most prominent settlement type (47%), and predominantly rural areas account to 27% of the total. Indeed, this level of analysis can “smooth out” local rural pockets within coastal provinces or conversely label wide coastal regions as rural despite having a few urbanised corridors. The contrast is particularly visible in Spain, where NUTS 3 units are provinces containing major metropolitan centres (e.g., Barcelona, Valencia, Málaga). At this scale the region's classification is often driven by those urban cores, masking many rural coastal municipalities that show up clearly under LAU-level DEGURBA. Conversely, in Ireland NUTS 3 regions cover long stretches of coast that include not just empty or rural land, but also towns, suburbs, and areas where people commute to work.

The figure below locates EU coastal cities with the highest population. The Mediterranean Sea Basin is home to large coastal cities, which may in turn face higher exposure to the challenges related to urban pressures (as explained in section 3.1.).

countries where a large share of the population lives in coastal areas (such as Sweden, Finland, the Netherlands, Denmark, Portugal, Italy, Spain, and Greece), coastal cities contribute strongly to national economic activity. By contrast, countries where coastal populations are comparatively smaller, such as Germany, Bulgaria, and Slovenia, tend to have more inland-focused urban systems. Other Member States, including France, Belgium, and Croatia, display a more balanced situation in which both inland and coastal cities play significant roles ⁽²⁸⁾.

Several studies flagged that urban coastal areas can be considered one of the main “hotspots of coastal vulnerability”. Indeed, research shows that these areas tend to accumulate multiple, interacting sources of risk: they are often densely populated, heavily transformed by human activities, and located in geomorphologically sensitive zones that are highly exposed to flooding, erosion, storm surges, and sea-level rise. ^(29,30).

By contrast to urban concentration, remoteness remains a defining characteristic for a significant share of coastal communities, shaping their demographic and socio-economic characteristics. Remote regions in Europe are defined as areas where less than half of the population can reach the centre of a functional urban area (FUA) with at least 50,000 residents within a 45-minute drive. This definition emphasises accessibility to services, employment markets, and infrastructure as the key determinant of remoteness, independent of physical isolation alone ⁽³¹⁾. LAU level data indicate that 2,085 coastal areas across the EU are part of remote regions at NUTS 3 level, home to more than 9 million residents. Among these, 1,750 are rural areas, 292 are towns and suburbs, and 41 are cities. Over 3 million people live in coastal rural areas located within remote regions, representing roughly 25% of the total rural coastal population, which stands at around 11 million inhabitants.

In parallel, the NUTS 3 degree of remoteness classification shows that 79 coastal regions are considered remote (23% of EU coastal regions), and account for almost 15 million people.

⁽²⁸⁾ <https://ersj.eu/journal/2608>

⁽²⁹⁾ <https://www.sciencedirect.com/science/article/abs/pii/S0272771413004514>

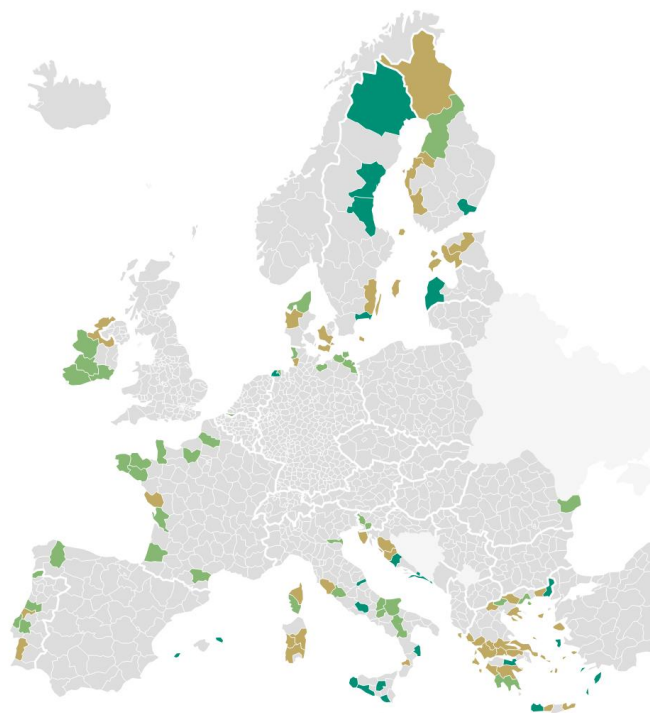
⁽³⁰⁾ <https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2016.00265/full#B18>

⁽³¹⁾ <https://publications.jrc.ec.europa.eu/repository/handle/JRC135599>

Figure 6 – Coastal regions (NUTS 3) by degree of remoteness

Remote and rural coastal regions

- predominantly rural, close to a city
- intermediate, remote
- predominantly rural, remote



Source: Author's own elaboration, based on data from Eurostat ⁽³²⁾

As shown in the map above, which categorises EU coastal regions (NUTS 3) by their degree of remoteness, the majority of these regions are found in Southern Europe, particularly in Greece and Italy. However, Northern EU countries such as Latvia, Sweden, and Denmark also have considerable populations living along the remote coasts. Rural and remote regions across Europe face inherent vulnerabilities: they tend to face declining and ageing populations, poorer transport accessibility, weaker digital connectivity, and lower household incomes. These structural constraints limit economic diversification and access to essential services, creating socio-economic risks that are also present in inland remote regions. Section 3.1 below further discusses the challenges remote and rural coastal areas face. However, coastal communities often benefit from socioeconomic advantages that partially offset these risks. Their natural landscapes, ecosystems, and environmental amenities enhance residential attractiveness and support key sectors such as tourism, fisheries, and

⁽³²⁾ The definition of remoteness, as set out by DG REGIO, is as follows (https://ec.europa.eu/regional_policy/sources/focus/2008_01_rural.pdf): All NUTS3 regions can be characterised as “remote” or “close to a city”, depending on the distribution of the regional population in relation to selected cities. In our definition, a region is labelled “remote” if at least half of its population lives at more than 45 minutes by road from any city of at least 50,000 inhabitants.

coastal-linked services. A recent JRC study highlights that even some remote areas with structural disadvantages can exhibit favourable socio-economic conditions when endowed with high natural assets: a pattern particularly relevant for coastal communities. These natural and amenity-based assets open opportunities for place-based economic development, including tourism, marine industries, and the sustainable use of natural capital ⁽³³⁾.

Overall, the pronounced heterogeneity of settlement types across Europe's coastal areas impedes treating them as a "uniform territorial category". This diversity highlights the need for place-based and territorially differentiated policy approaches, capable of responding to local conditions while aligning with broader EU objectives on cohesion, competitiveness, and sustainability.

Moreover, the territorial typologies presented in this section significantly shape the economic performance and demographic patterns of coastal areas and regions. These differences are not inherently the result of being coastal but largely reflect national contexts and whether major urban centres are located on the coast or inland.

2.3. Demographics of EU coastal areas and regions

Coastal areas in Europe (LAU level), spread across 22 EU Member States, host nearly 90.4 million people ⁽³⁴⁾, representing 22% of those Member States' population and roughly 20% of the EU population. This underscores the demographic weight of coastal territories within the Union. When looking at a broader regional level (NUTS 3), the share of inhabitants living in coastal regions rises to more than 160 million people, close to 40% of the total population of the 22 EU Member States with direct access to the sea ⁽³⁵⁾.

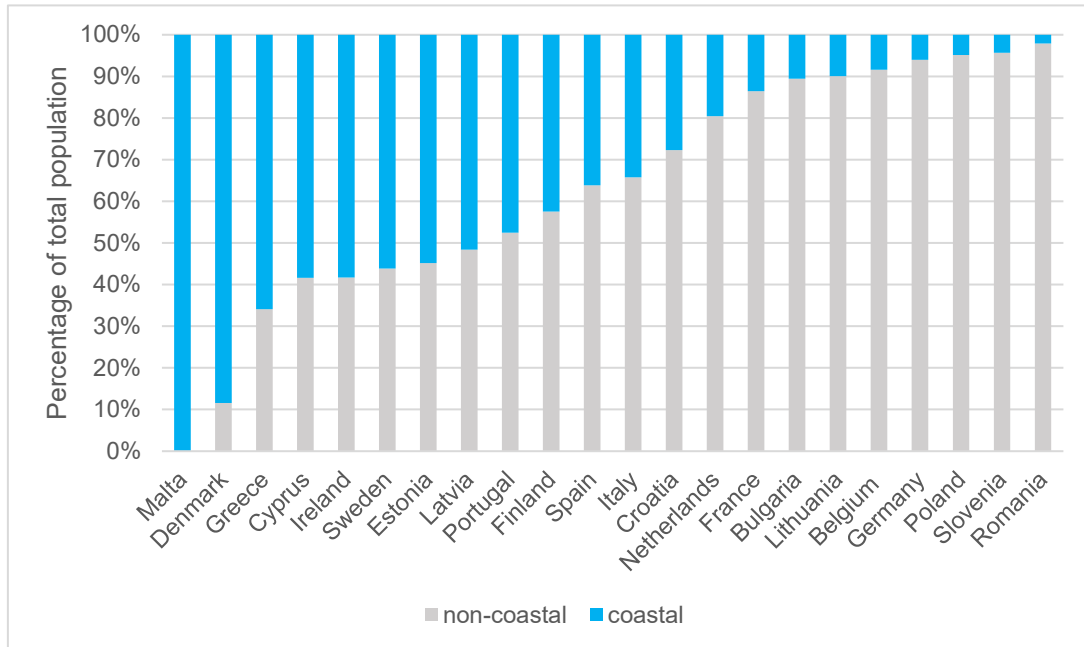
Coastal communities are concentrated in three of the most populated Member States with long coastlines (Italy, Spain, and France), together representing about 55% of the total EU coastal population. Also expectedly, and as shown in the figure below, the EU MS showing the highest share of population in coastal LAUs are insular and peninsular Member States, such as Malta (100%), Denmark (88%), Greece (66%), Cyprus (58%), and Ireland (58%).

⁽³³⁾ <https://publications.jrc.ec.europa.eu/repository/handle/JRC133129>

⁽³⁴⁾ Excluding Outermost Regions due to the scope of the present study. Including them leads to a total of approximately 95.2 million people.

⁽³⁵⁾ This number excluded outermost regions due to the scope of the present study. Including them will lead to a total of approximately 165.6 million people.

Figure 7 – Population distribution (coastal / non-coastal) as a percentage of the total (LAU)

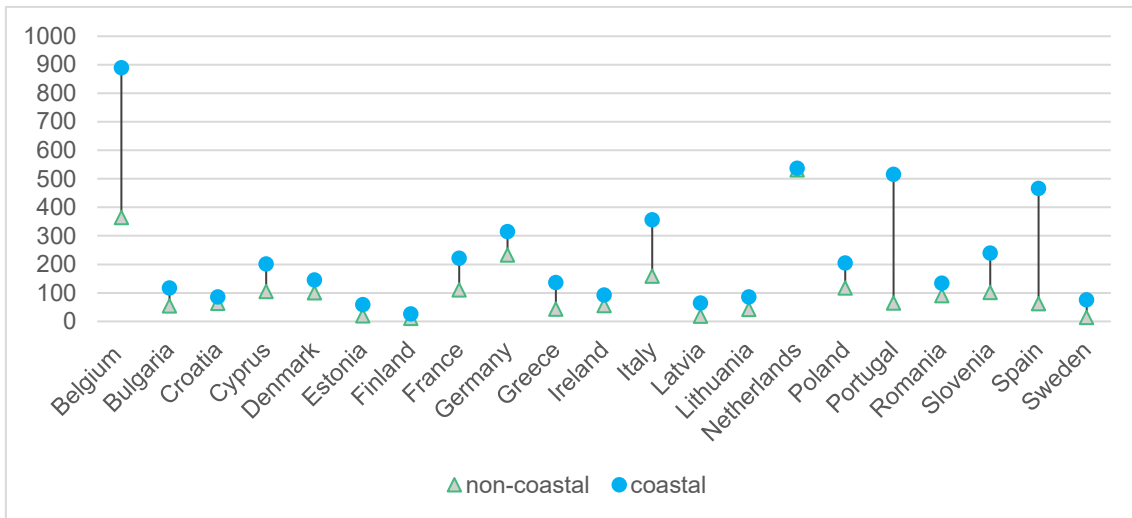


Source: Author's own elaboration based on data from [Eurostat](#), 2024. Note that some countries lacked validated data for the last year available, namely Spain and Italy and the data used to mitigate these gaps was from 2022. Similarly, 187 areas in Cyprus, Denmark and Greece were deleted due to persistent gaps in terms of population, leading to miscalculations. Due to the nature of the study, in this analysis, landlocked countries and OR were also excluded.

Population density is significantly higher in coastal regions than inland - according to the latest data from Eurostat (2024). Density levels average 237 inhabitants/km² ⁽³⁶⁾ for coastal areas compared to 107 inhabitants/km² for inland areas. The highest density levels are observed along the Mediterranean, Atlantic and the North Sea. Country patterns mostly reinforce this trend: coastal density exceeds inland density in all Member States, as shown in the figure below.

⁽³⁶⁾ Coastal Average excludes Malta, since it is a significant outlier and biases the results upwards. These results show average estimations calculated at the LAU level, with population and land data at LAU level, and the average equally weighs all units. Therefore, it should not be directly compared with the “official” EU average for population density, since Eurostat aggregates raw population numbers provided by Member States, rather than averaging national densities.

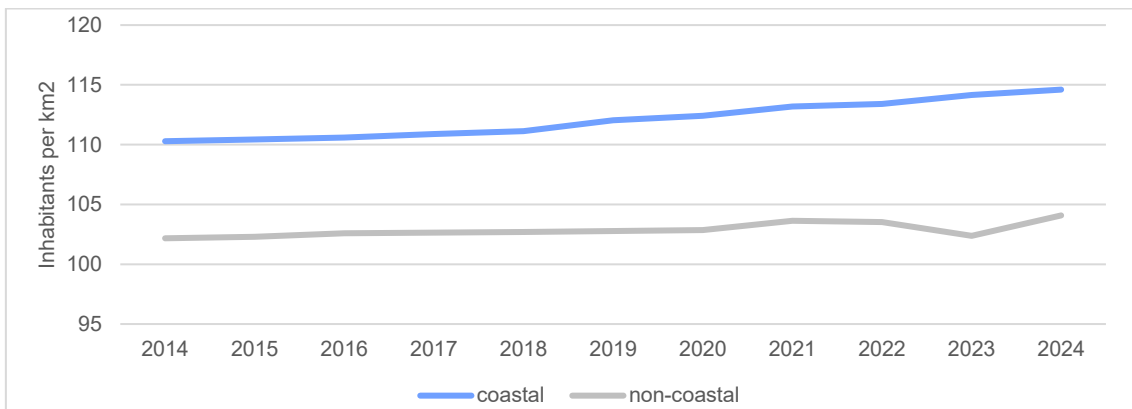
Figure 8 – Population density levels in coastal and non-coastal areas (LAU) ⁽³⁷⁾



Source: Author's own elaboration based on LAU data from Eurostat, 2024. Unit: Inhabitants per km². This Figure excludes Malta, which has an average population density of 1788,77 inhabitants per km², and acts as a remarkable outlier, and is hence excluded for visualization purposes.

Over the past decade, population density has increased more rapidly in coastal areas than in inland regions. **The figure below shows that from 2014 to 2023, the density gap between coastal and inland regions has widened.**

Figure 9 – Population density in coastal and non-coastal communities (NUTS 3) ⁽³⁸⁾



Source: Author's own elaboration based on data from Eurostat, 2012 - 2024.

According to several sources, the increase in coastal population density, particularly after 2021, suggests a continued attractiveness of these areas

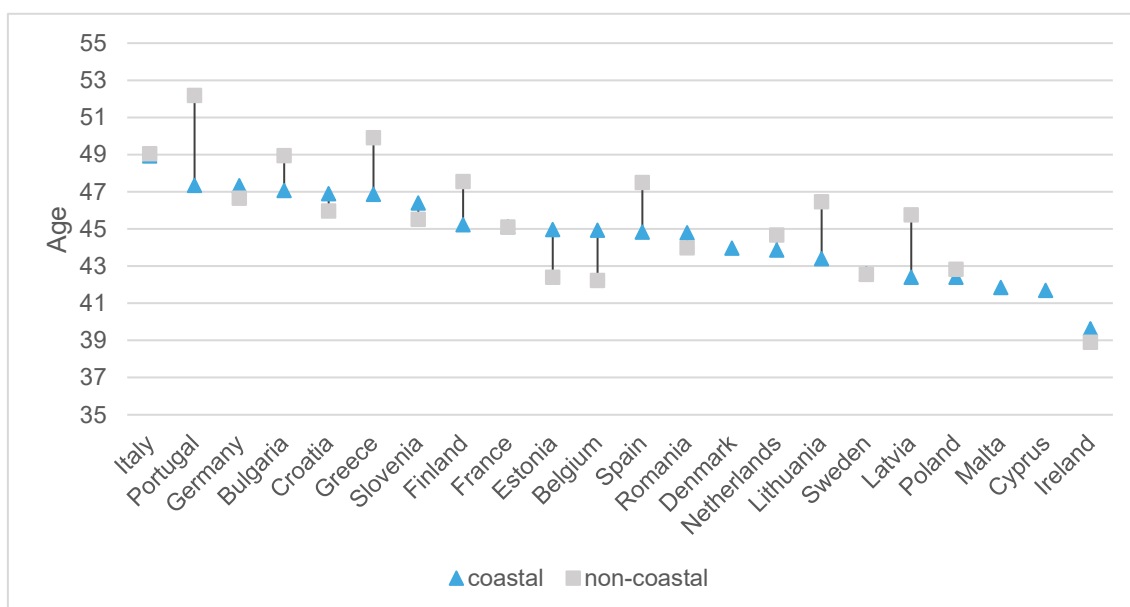
⁽³⁷⁾ Disclaimer: This is an approximate estimate that has been developed while accounting for potential data gaps. Actual values may vary due to limitations in the available data. Malta has been excluded from this figure, as it consists solely of coastal LAUs and has an average population density of 3,788 people/km².

⁽³⁸⁾ This graph was produced from Eurostat's NUTS3 Population Densities data. To homogenise the data, regions lacking values for three or more years, as well as the year 2023 have been removed.

towards new residents ⁽³⁹⁾. Such an increase is possibly related to restored mobility and net migration after COVID-19 ⁽⁴⁰⁾ and possibly reflecting a shift in residential preferences ⁽⁴¹⁾. The same evidence suggests that the post-pandemic re-assessment of where and how people wish to live - shaped by remote and hybrid work, demand for space, access to nature and amenities, and the quality-of-life benefits of coastal and green/blue environments ⁽⁴²⁾ - has driven renewed interest in peri-urban and coastal areas, particularly those near major labour markets ⁽⁴³⁾.

The age profile of coastal regions differs slightly from that of inland regions. On average, coastal regions tend to concentrate younger populations than inland regions, although national averages reveal sharper contrasts. As shown in the figure below, younger populations tend to be concentrated along the coast in North Sea and Baltic countries such as Germany, Sweden, Finland, and Estonia. Mediterranean countries like Greece, Spain, and Italy also display slightly lower median age in coastal areas, though the gap is sometimes smaller than in northern basins. In island countries such as Cyprus, and Ireland, coastal and non-coastal median ages are remarkably similar, reflecting limited geographic differentiation.

Figure 10 – Median age of the coastal population in years (NUTS 3)



Source: Author's own elaboration based on data from [Eurostat](https://ec.europa.eu/eurostat), 2022

⁽³⁹⁾ This moderate growth in coastal regions have been also commented on in: https://ec.europa.eu/regional_policy/sources/reports/cohesion9/9CR_Report_FINAL.pdf

⁽⁴⁰⁾ <https://www.migrationpolicy.org/research/covid-19-migration-europe>

⁽⁴¹⁾ <https://ec.europa.eu/eurostat/web/products-flagship-publications/w/ks-ha-24-001>

⁽⁴²⁾ https://link.springer.com/chapter/10.1007/978-3-031-56607-3_6

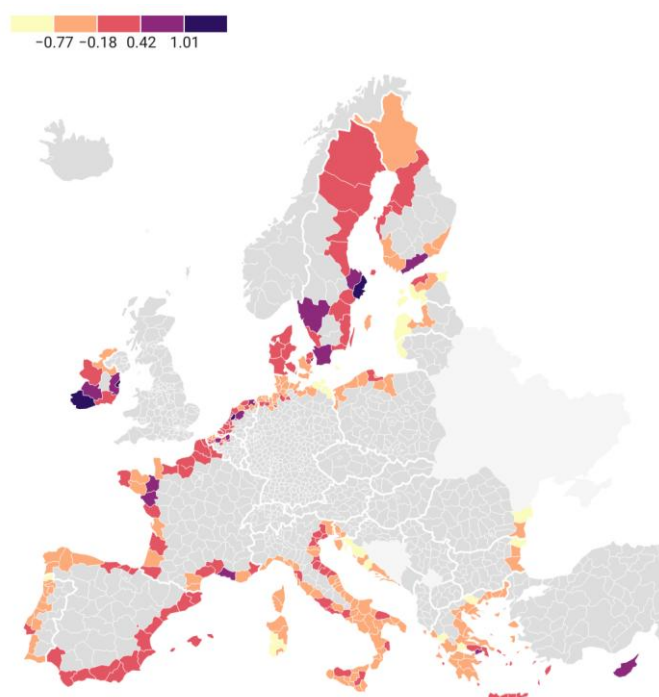
⁽⁴³⁾ https://link.springer.com/chapter/10.1007/978-3-031-56607-3_6

However, demographic ageing is progressing rapidly, following a similar trend as the EU averages. Working-age adults (15-64 years) still account for the majority of coastal residents across the EU (63.7%), although their share is gradually shrinking (-1.9 pp. between 2016 and 2024). The senior share is rising significantly (by around 3.2 pp.), representing 21.9% of the population. At the same time, the share of children is slightly decreasing (-1.4 pp.), representing 14.4% of the population. These trends indicate that, despite relative demographic advantages, coastal areas are increasingly exposed to the challenges associated with population ageing, including rising demand for health and care services and potential labour market constraints.

In addition, population projections point to an overall decline in population across the EU, a trend that also affects coastal regions. That said, the projected decline in coastal areas is slightly less pronounced than in inland regions. According to the EU's Joint Research Centre (JRC) population projections from 2023 to 2040 ⁽⁴⁴⁾, an average annual population decrease of -0.19% in coastal regions is expected, versus -0.24% for non-coastal regions. This relative resilience suggests that coastal communities may continue to play an important role in attracting population towards coastal areas at EU level. Projections vary per country, however, with EU's Eastern countries expected to experience the most pronounced decline, and with Latvia's and Lithuania's populations shrinking by nearly 1% per year. The highest population growth is expected in Malta, Ireland, Luxembourg, Cyprus, and Sweden, with average annual growth rates above 0.5%. Coastal regions' population change projections are illustrated in the figure below.

⁽⁴⁴⁾ <https://publications.jrc.ec.europa.eu/repository/handle/JRC140514>

Figure 11 – Average yearly population change by NUTS 3, forecast (2023-2040) on coastal regions



Source: Author's own elaboration based on [JRC estimations](https://data.jrc.ec.europa.eu/dataset/00156a52-db4a-44cf-9f37-dd0373abba14). Average yearly population change by NUTS3 territorial units, as a percentage. <https://data.jrc.ec.europa.eu/dataset/00156a52-db4a-44cf-9f37-dd0373abba14>

2.4. Socio-economic characteristics of coastal regions

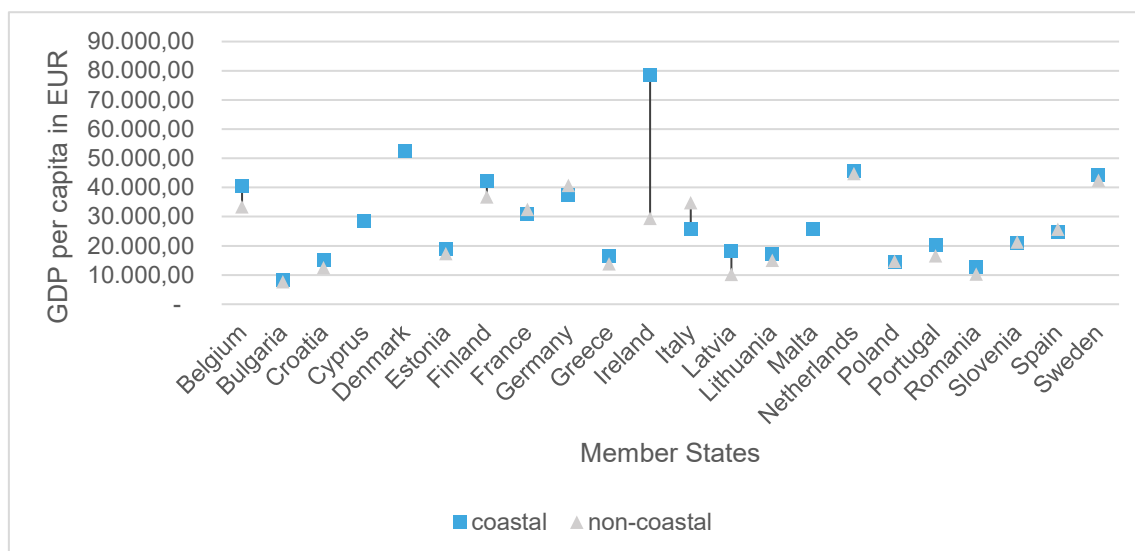
Coastal regions play a central role in the EU's economy. Collectively, they generate approximately **€6.76 trillion in gross domestic product**, accounting for **37.8% of total EU GDP**. This contribution is substantial relative to their population share, confirming the strategic economic importance of coastal territories for growth, competitiveness, and employment across the Union.

In most EU Member States, coastal regions show higher GDP per capita (at constant prices) than non-coastal regions, although the differences are not particularly pronounced, according to 2022 data, only available at NUTS 3 level. A country-by-country comparison shows that coastal regions tend to have stronger GDP performance than non-coastal ones, with an average advantage of 14.2%, although this is largely driven by Ireland's exceptional +166.8% higher GDP over non-coastal regions ⁽⁴⁵⁾. Excluding Ireland, the gap persists but narrows to a 5.2% advantage in GDP for coastal regions compared to inland regions. Of 19 Member States with both coastal and inland NUTS 3 regions (hence excluding the Member States with exclusively coastal regions (Cyprus,

⁽⁴⁵⁾ These contrasts highlights how regional economic concentration, particularly in urban hubs, can skew the national average in Ireland, where the population of the Greater Dublin Area accounts for almost half of the country's total.

Denmark, and Malta), 13 have higher GDP in coastal areas. In France, Poland, Slovenia, and Spain, the difference between non-coastal and coastal regions is under 5%, whereas in Germany and Italy, GDP is over 5% higher in non-coastal regions, due to strong inland economies.

Figure 12 – GDP per capita at constant prices by Member State (NUTS 3)



Source: Author's own elaboration based on data from [Eurostat](https://ec.europa.eu/eurostat), 2022

This relative advantage reflects the concentration of economic activities linked to trade, logistics, tourism, services, and emerging blue economy sectors, as well as the presence of major urban and metropolitan areas along the coastline. At the same time, the limited size of the gap suggests that coastal prosperity is not uniform and that pockets of lower productivity persist within coastal territories, often linked to their degree of urbanisation.

Indeed, urban regions show higher GDP levels than rural and intermediate regions in both coastal and inland settings. This pattern describes a common and widely studied phenomenon whereby, in urban areas, economic activities are typically more diverse and dynamic, with urban centres serving as hubs for commerce, finance education, and technology ⁽⁴⁶⁾. Despite the average advantage of coastal regions, data shows that non-coastal urban regions in the EU clearly outperform coastal ones, with 39,000 EUR in coastal urban regions. The highest average GDP per capita corresponds to non-coastal urban areas, with over 47,000 EUR in 2022. In turn, rural coastal regions (27,800 EUR), while well below the EU-27 average (36,000 EUR), are performing slightly better than inland rural regions (26,600 EUR) ⁽⁴⁷⁾.

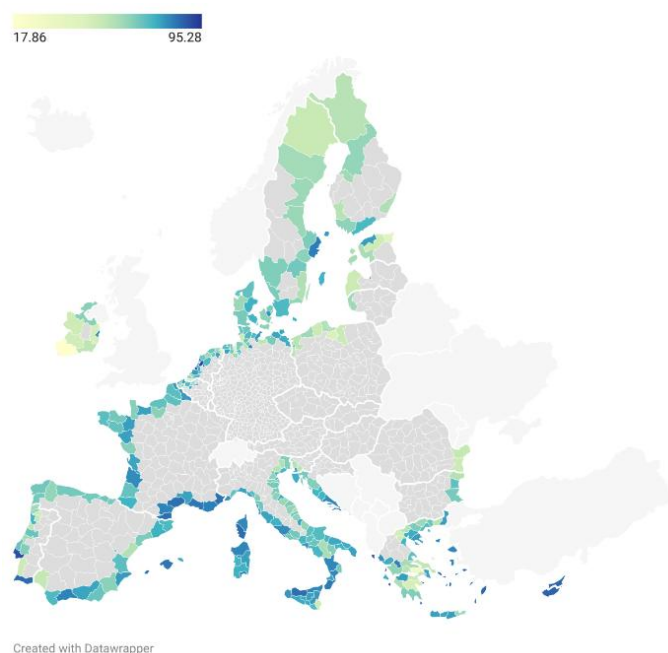
⁽⁴⁶⁾ https://ec.europa.eu/regional_policy/sources/reports/cohesion9/9CR_Report_FINAL.pdf

⁽⁴⁷⁾ <https://territorial.ec.europa.eu/ardeco/viewer/208780?jdvfys=asc&jdvfc=eu&jdvfnl=0%2C1%2C2%2C3%2C9>

When comparing across economic sectors, the tertiary sector (services) has a significantly higher share of the overall economy (72%) in coastal NUTS 3 regions compared to non-coastal regions (64%) ⁽⁴⁸⁾. This reflects the strong role of services related to tourism and logistics but also points to the exposure of coastal regions to structural shifts affecting service-based economies ⁽⁴⁹⁾. Share of gross value added of the tertiary sector in coastal regions across the EU is illustrated in the figure below.

By contrast, non-coastal regions exhibit a stronger industrial profile, with the secondary sector accounting for around 32% of economic activity, compared to 24% in coastal regions. This is likely linked to the competition for land between different uses in coastal areas, as well as historical industrialisation patterns and availability of traditionally exploited raw materials in non-coastal areas (e.g., non-coastal regions in Germany, Poland, and Italy) ⁽⁵⁰⁾. The primary sector of agriculture, forestry, fisheries and aquaculture show similar shares in both coastal and inland regions (4%).

Figure 13 – Share of gross value added of the tertiary sector in coastal regions (NUTS 3)



Source: Author's own elaboration based on data from [Eurostat](#), 2022

⁽⁴⁸⁾ This was calculated based on the indicator “Gross Value added at basic prices by NUTS3 region”. The operationalisation consisted of in dividing Primary (NACE Rev. 2 Section A), Secondary (NACE Rev. 2 Sections B-F), and Tertiary (NACE Rev. 2 Sections G-U) economic activities by the total to obtain the share of each sector into the total GVA.

⁽⁴⁹⁾ https://www.oecd.org/en/publications/the-ocean-economy-to-2050_a9096fb1-en.html

⁽⁵⁰⁾ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Structural_business_statistics_at_regional_level

The educational attainment in coastal regions is, on average, lower than that observed in inland regions. Although the availability of data for this indicator is limited to the NUTS 2 level, which reduces representativeness of results, coastal regions show a higher share (23%) of inhabitants with lower secondary or lower education levels than non-coastal regions (15%) and the EU average (20%). When exploring differences across sea basins, the lowest educational attainment is found in the Mediterranean Sea Basin (27.6% lower secondary or less), while the Baltic Sea has the highest (89% upper secondary or higher).

However, between 2012 and 2022, the education gap among coastal regions across different sea basins has been gradually narrowing. Comparing country-by-country, in Belgium (15.9% in coastal vs. 17.5% in non-coastal, Croatia (6.1% in coastal vs. 17.5% in non-coastal) and the Netherlands (19.4% compared to 20.3% in coastal), coastal regions have a lower share of citizens with low education compared to non-coastal regions. In France (+5 percentage points) and Romania (+9 percentage points), coastal regions show a significantly higher share of inhabitants with lower secondary or lower education levels than non-coastal regions. Interestingly, when analysing the degree of urbanisation, urban coastal regions have the highest share of citizens with lower education levels (28.7%), while urban non-coastal regions have the lowest share of citizens with lower education levels (13.9%). In urban regions, the more rural the region, the lower the share of inhabitants with lower education levels, whereas these patterns are not observed in non-coastal regions.

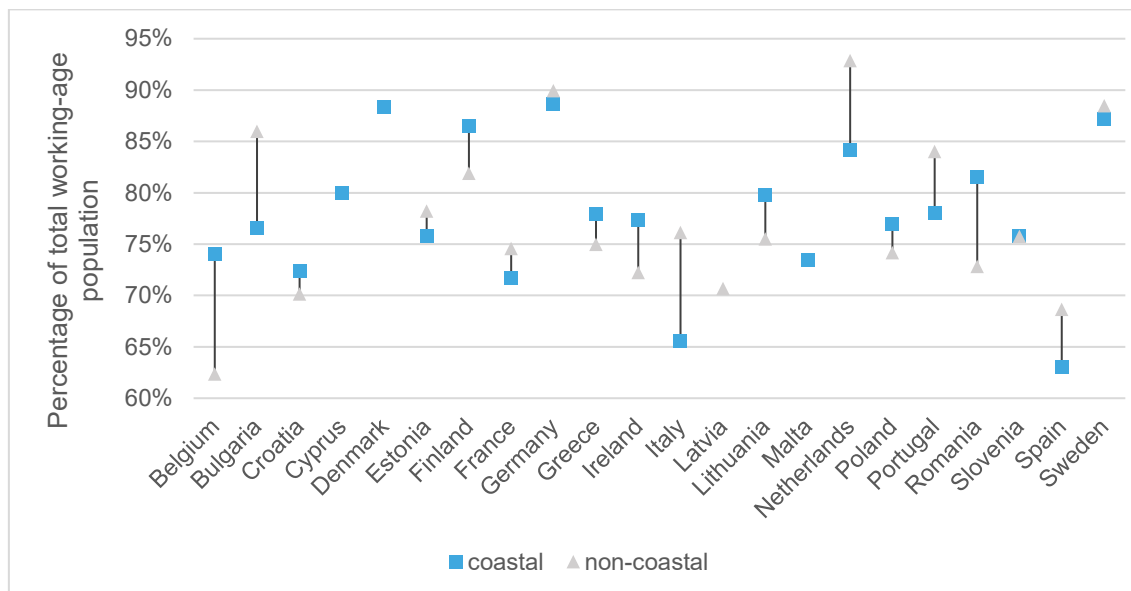
When it comes to employment rates, coastal and inland regions at NUTS 3 level show similar patterns. According to existing literature, the nature of employment in coastal regions is often characterised by greater seasonality and higher reliance on specific sectors, particularly tourism and services ⁽⁵¹⁾, which may to a certain extent affect job stability and income levels, as discussed further in Section 3.1.

Coastal employment patterns, in turn, vary significantly by country. In countries such as Belgium (74%), Finland (87%), Romania (82%), and Ireland (77%), coastal regions outperform their inland counterparts by 5-12 percentage points, reflecting the concentration of urban hubs along the coast. Similarly, Greece, Croatia, Lithuania, and Poland show higher coastal values, with a difference of around 2-3 percentage points. In the southern European countries Portugal, Italy, and Spain, as well as the Netherlands and Bulgaria, non-coastal regions tend to have higher employment levels (+6-11 p.p.) than their coastal counterparts. This suggests that regional labour dynamics are influenced not only by geography but also by national economic structures. In this case, the employment rate is equal across coastal urban, rural, and intermediate regions

⁽⁵¹⁾ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tourism_statistics_-_seasonality_at_regional_level; <https://op.europa.eu/webpub/mare/eu-blue-economy-report-2025/blue-economic-sectors/coastal-tourism.html>

(75-76%), while in non-coastal regions, bigger differences exist between urban and rural regions. A similar pattern holds for remote coastal regions (73%), which lag slightly behind urban coastal regions (76%).

Figure 14 – Employment rate by country (NUTS 3)



Source: Author's own elaboration based on data from [Eurostat](https://ec.europa.eu/eurostat), 2022.

Interestingly, in recent years, coastal regions experienced a 14% growth in average innovation scores, outpacing the 10% growth seen in non-coastal regions ⁽⁵²⁾. The innovation index, as measured by the EU Regional Competitiveness Index (RCI) ⁽⁵³⁾, also identifies coastal regions as more innovative than non-coastal regions and the EU-27 average, which is a novelty in 2022 as non-coastal regions were more innovative in 2016 and 2019. This trend reinforces the role of coastal regions as emerging hubs for innovation, including in areas related to the blue economy, digital services, and sustainable development.

Across all degrees of urbanisation (urban, intermediate, and rural) coastal regions consistently outperform non-coastal counterparts in both growth rate and absolute innovation scores. Urban coastal regions are classified as strong innovators, indicating prominent levels of R&D activity, patenting, and knowledge diffusion. Intermediate and rural coastal regions are moderate innovators, reflecting a solid but less intensive innovation ecosystem ⁽⁵⁴⁾.

However, innovation performance varies significantly by sea basin, revealing geographic disparities. The North Sea leads in innovation, followed

⁽⁵²⁾ https://ec.europa.eu/regional_policy/information-sources/maps/regional-competitiveness_en

⁽⁵³⁾ https://ec.europa.eu/regional_policy/information-sources/maps/regional-competitiveness_en

⁽⁵⁴⁾ <https://op.europa.eu/en/publication-detail/-/publication/7f4bfd8b-6382-11f0-bf4e-01aa75ed71a1/language-en>

closely by the Baltic and Atlantic Sea basins. All three are categorised as strong innovators, suggesting robust innovation ecosystems supported by industrial clusters, research institutions, and policy frameworks. In contrast, the Black Sea is classified as an emerging innovator. This indicates a region with growing but still developing innovation capacity, potentially hindered by structural challenges (such as sustaining investment, talent, and innovation infrastructure) or limited investment directed towards R&D and innovation. Between 2016 and 2023, the North Sea and the Mediterranean Sea basins showed the biggest improvement in their scores. The regions in the Mediterranean Sea basin have been closing the gap to the EU-27 average ⁽⁵⁵⁾.

2.5. The blue economy as a distinct socio-economic asset for coastal communities

When discussing socio-economic patterns in EU coastal regions, the blue economy should be specifically mentioned as a distinct socio-economic asset for coastal communities. Economic activities related to the sustainable exploitation of marine and coastal ecosystems – and the ecosystem services they provide – shape the “functional relations” specific to coastal communities, as defined in this study (See Annex 1).

A notable gap for our analysis, in this respect, is the lack of harmonised and aggregated data on blue economy activities at the coastal community level – i.e. in related LAU, NUTS 3, or even NUTS 2 regions. It is therefore difficult to provide a clear analysis of coastal performance in this key area, although some overview of specific hotspots is attempted here (and in Section 3.1).

From a macro-economic point of view, the EU blue economy generated an estimated € 263 billion in gross value added in 2022 (latest data available), representing 1.7% of the total EU gross value added. It also generated an **estimated total of 4.9 million jobs** in that same year, constituting 2.4% of total EU employment ⁽⁵⁶⁾. In recent years, several external shocks have affected the EU blue economy, which may be understood as a “proxy” for the socio-economic vulnerabilities faced by coastal communities. The COVID-19 pandemic and related policy interventions negatively hit demand for many blue economy sectors rooted in coastal areas. More recently, Russia’s war of aggression against Ukraine in February 2022 led to disruptions in the supply chain, including an increase in energy and fuel prices until the end of 2022. Nonetheless, in the aftermath of these shocks, blue economy sectors have, on average, followed a positive trend – the turnover in the EU blue economy increased by 29%, from

⁽⁵⁵⁾ <https://op.europa.eu/en/publication-detail/-/publication/7f4bfd8b-6382-11f0-bf4e-01aa75ed71a1/language-en>

⁽⁵⁶⁾ https://oceans-and-fisheries.ec.europa.eu/european-ocean-pact_en

EUR 689 billion in 2021 to EUR 891 billion in 2022, demonstrating resilience through a strong recovery.

The interactions between key blue economy sectors and coastal communities are explored as follows:

The coastal tourism ⁽⁵⁷⁾ sector supports jobs and livelihoods for coastal communities, driving a “multiplier effect” which stimulates other economic sectors ⁽⁵⁸⁾, but its unsustainable management has negative impacts on communities. In 2022, the gross value added (GVA) generated by the coastal tourism sector amounted to 82.0 billion EUR, surpassing pre-pandemic levels. The sector’s total turnover reached € 238 billion EUR the same year ⁽⁵⁹⁾. Roughly 42% of the EU’s total bed capacity is concentrated in coastal municipalities ⁽⁶⁰⁾, and 63.5% of all nights spent in the EU are concentrated in coastal NUTS 3 regions ⁽⁶¹⁾. The figure below illustrates the latter point. Indeed, when looking at the 20 areas concentrating the highest number of nights spent for the sector across the EU, 65% of them are coastal, and 92% of those are coastal cities ⁽⁶²⁾. This highlights the strong spatial concentration of tourism activity along the coastline and its importance for local employment, service provision, and seasonal income generation. At the same time, high dependence on tourism exposes some coastal communities to risks related to seasonality (further detailed in Section 3.1), external shocks, and environmental pressures, underlining the need for diversification and sustainable tourism models.

⁽⁵⁷⁾ https://blue-economy-observatory.ec.europa.eu/eu-blue-economy-sectors/coastal-tourism_en

⁽⁵⁸⁾ <https://e-journal.unair.ac.id/JIET/article/view/76620/34889>

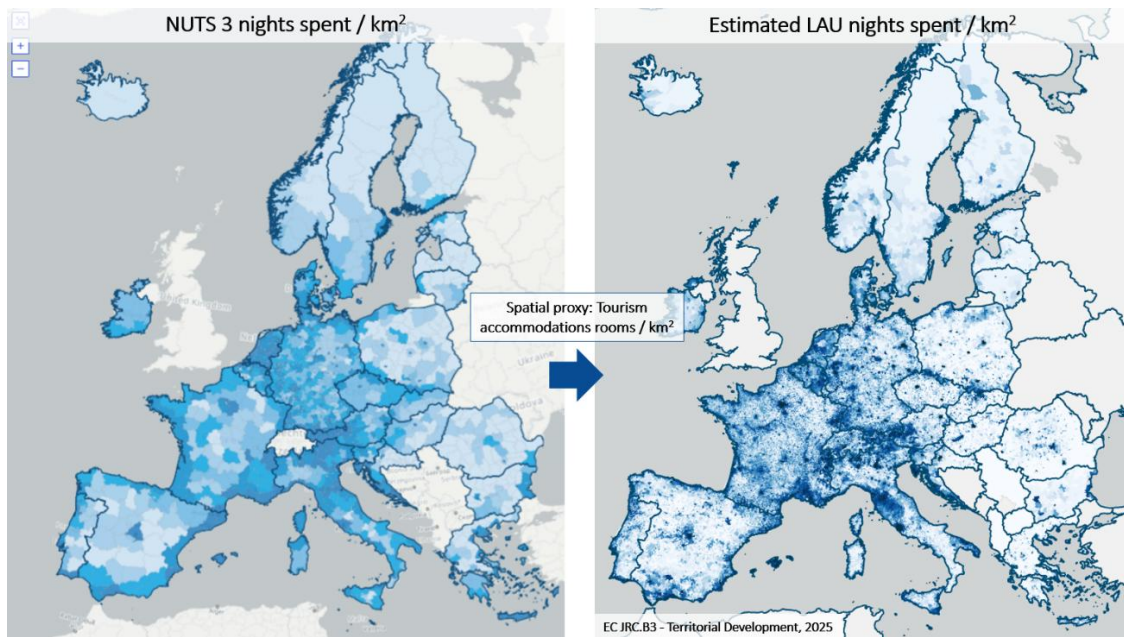
⁽⁵⁹⁾ <https://op.europa.eu/webpub/mare/eu-blue-economy-report-2025/blue-economic-sectors/coastal-tourism.html>

⁽⁶⁰⁾ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tourism_statistics_-_annual_results_for_the_accommodation_sector

⁽⁶¹⁾ <https://tourism-dashboard.ec.europa.eu/?lng=en&ctx=tourism>

⁽⁶²⁾ Nights spent at Accommodation 2023 data at LAU level, dataset shared by DG JRC.

Figure 15 – Nights spent at tourism accommodation (LAU), 2025



Source: JRC, 2025. After downscaling the Eurostat NUTS 3 nights spent to LAU, using as spatial proxy the location of the tourism accommodation rooms, covering both traditional accommodation (e.g. hotels, hostels, bed & breakfasts, etc) and short-term rentals. The high-resolution data for traditional accommodations was web-scraped from TripAdvisor in 2023 (11 million rooms) while the short-term rentals were web-scraped from Airbnb in 2025 (6 million rooms).

The fisheries sector continues to contribute to food security and the preservation of maritime heritage and local identity ⁽⁶³⁾. The marine living resources sector, which includes fisheries, aquaculture, aquatic food processing, and blue biotechnology, is a relevant source of jobs and wealth for EU coastal communities. It generated €37.9 billion in gross value added (GVA) in 2022. Both the Small-Scale Coastal Fleet (SSCF) and the Large-Scale Fleet (LSF) play essential but distinct roles in coastal economies. According to the 2025 Annual Economic Report on the EU Fishing Fleet (STECF 25-03 & 25-07), the EU fleet in 2023 consisted of 70,280 vessels, of which 53,260 were active. The SSCF represented 77% of these active vessels, while 5.8 % belonged to the category 'vessels under 12 metres using active gears' (L12AG), 16.5% formed the LSF, and less than 0.5% made up the Distant-Water Fleet (DWF). The active EU fleet provided direct employment to 119,479 fishers (equivalent to 73,974 full-time equivalents (FTEs)).

The SSCF contributed only 6.4% of total EU landings by volume and 16.6% by value, but remains vital for local employment, cultural identity and community cohesion. In contrast, the LSF, despite representing a much smaller share of vessels, accounted for 71.2% of total landings by volume and 64.5% of landings

⁽⁶³⁾ STECF (Scientific, Technical and Economic Committee for Fisheries) - Social Data in Fisheries – update of the national profiles (STECF-23-14). Publications Office of the European Union, Luxembourg, 2023.

value and thus underpins much of the supply to the EU processing, distribution and retail chains that sustain coastal economies.

As an attempt to trace the link between the fisheries sector and local communities, an analysis of fisheries-dependent coastal communities was developed in 2013 ⁽⁶⁴⁾. It identified a total of 1,697 “fisheries communities” in Europe, out of which 388 presented high dependency ratios. Notably, around 54% of all fishery employment was estimated in these areas, meaning that the majority of the workforce sustaining the European fishing sector is located in areas where this is not a marginal economic activity, but rather a crucial socio-economic anchor. As such, these fisheries-dependent areas face heightened economic and social vulnerability to shocks such as declines in fish stocks or changes in market demand. The challenges that the fisheries sector currently faces are further explored in Section 3.1.

Ports constitute “gateways” where global trade flows intersect with coastal communities, playing a pivotal role in strengthening resilience not only at local level but in the EU as a whole. In 2022, the maritime transport sector generated €61.8 billion in gross value added and employed 400,000 people, with freight transport accounting for 65% of the sector’s GVA ⁽⁶⁵⁾. Approximately 74% of the EU’s foreign trade is conducted via maritime routes ⁽⁶⁶⁾, placing coastal communities at the forefront of global trade flows. The EU’s coastline is dotted with over 1,200 ports, with 329 of these being part of the vital Trans-European Transport Network (TEN-T) for crucial trade connectivity. Around the EU’s major maritime gateways lie “port city territories”, defined as complex spatial and economic systems where the urban centre and the maritime hub are intrinsically linked ⁽⁶⁷⁾. For instance, cities like Rotterdam, Antwerp, and Hamburg (all located on the North Sea coast) represent strategic multimodal nodes that not only connect the Union’s sea-based corridors to its internal transport networks but conform autonomous industrial complexes. In turn, medium and smaller ports enhance territorial and social resilience by supporting connectivity in peripheral and island regions. For remote coastal and island communities, ports often constitute critical lifelines, ensuring access to goods, services, and mobility. Moreover, ports are increasingly being redefined as “decarbonisation nodes” to drive the renewable energy transition. In this context, ports are expected to contribute not only to emissions reduction but also to energy security and system flexibility at EU level. Recent studies identified €80 billion in investment needs over the next decade to make this transition possible, with a focus on green port infrastructure (electrification, hydrogen storage, and circular economy clusters) ⁽⁶⁸⁾.

⁽⁶⁴⁾ <https://publications.jrc.ec.europa.eu/repository/handle/JRC74191>

⁽⁶⁵⁾ <https://op.europa.eu/fr/publication-detail/-/publication/0a4a79d8-353f-11f0-8a44-01aa75ed71a1/language-en>

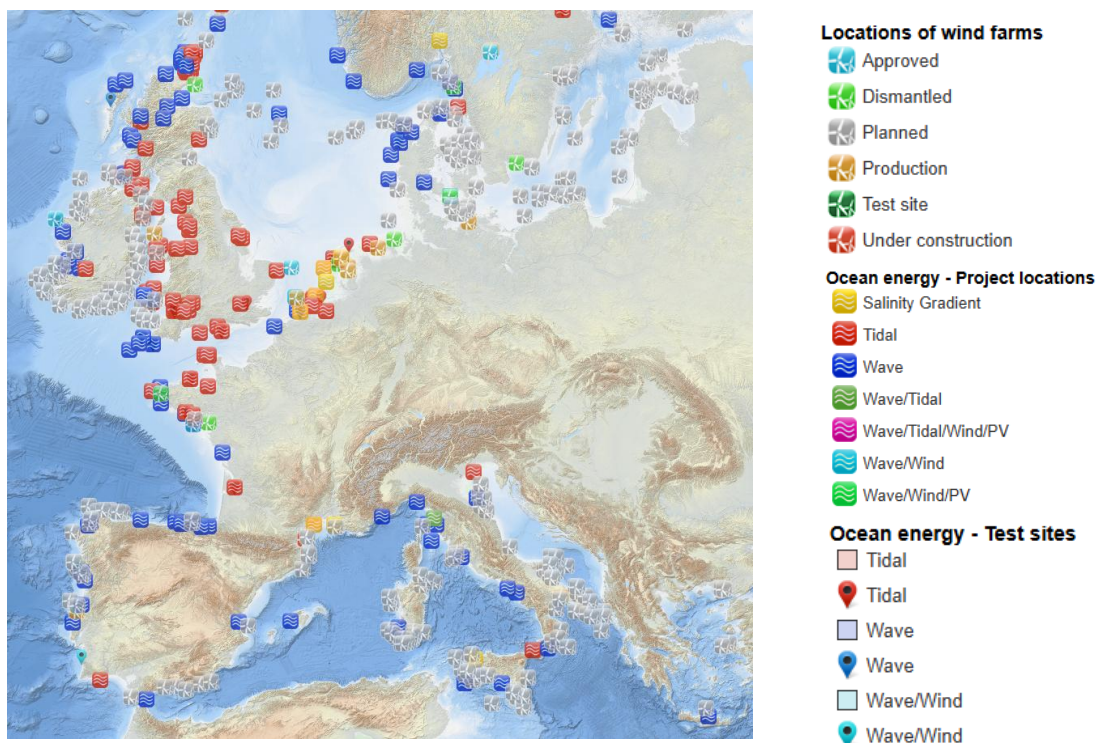
⁽⁶⁶⁾ <https://op.europa.eu/webpub/mare/eu-blue-economy-report-2025/blue-economic-sectors/port-activities.html>

⁽⁶⁷⁾ <https://books.open.tudelft.nl/home/catalog/book/73>

⁽⁶⁸⁾ https://www.espo.be/media/ESP-3217_InvestmentStudyReport2024_LR.pdf

Furthermore, emerging sectors, such as blue biotechnologies, blue renewable energy, and desalination, are rapidly expanding and creating new business opportunities and economic growth for coastal communities. Blue biotechnology, which can bolster coastal economies by converting marine resources and by-products into high-value bioproducts (e.g. pharmaceuticals, nutraceuticals, and bioplastics) is already creating knowledge-intensive jobs (2,400 direct employees, €66,300 average annual wage in 2022) and stimulating SME growth and regional innovation clusters under EU bioeconomy initiatives ⁽⁶⁹⁾. Marine renewable energy is also increasingly expanding across the EU. The figure below shows the spatial distribution of the ocean energy projects as of 2024 (n=95), as well as wind farm locations and ocean energy test sites. Sea basins' differences can be perceived, with the Atlantic Ocean concentrating 36% of the overall projects, most of them located in the Spanish Atlantic Coast and in France. Similarly, the Greater North Sea hosts 33 ocean energy projects, with the highest portion based in Denmark (n=11). The Mediterranean gathers 24 projects, 17 of which are active in Italy. Finally, the Baltic Sea is slowly starting new projects (n=3), while the Black Sea currently has no registered ocean energy projects. Notably, non-EU countries like the United Kingdom are far more advanced in this field, with almost 70 projects registered to date.

Figure 16 – Offshore renewable energy installations



Source: [EMODNET](https://emodnet.eu) 2022. Ocean energy project and test site locations across European seas, based on the EMODnet Human Activities dataset (AZTI, 2014–2024). The dataset aggregates harmonised data from multiple national sources and includes site attributes such as technology type, capacity, status, and environmental assessments ⁽⁷⁰⁾.

⁽⁶⁹⁾ <https://op.europa.eu/webpub/mare/eu-blue-economy-report-2025/blue-economic-sectors/blue-biotechnology.html>

⁽⁷⁰⁾ <https://i0.wp.com/epthinktank.eu/wp-content/uploads/2024/01/Offshore-wind-energy.png?ssl=1>

While blue economy sectors deliver major socio-economic benefits to communities, they can also put significant pressures on the coastal environment and local livelihoods – hence hindering the resilience of coastal communities and their (marine and coastal) ecosystems over time. These aspects are explored further in Section 3.

3. Specific challenges and pressures affecting coastal communities

This section examines key resilience challenges and pressures currently demanding targeted action. The analysis builds on the statistical characterisation presented in Section 2, a review of relevant literature, and insights from case studies presented in Section 4. The non-exhaustive list of challenges and pressures identified through the analysis arise from a combination of internal dynamics and external drivers, often intersecting to create complex vulnerabilities.

- **Internal pressures** (i.e. endogenous trends deriving mainly from internal dynamics) include for example demographic and socio-economic conditions such as accelerated urbanisation, increasing competition for space, and persistent socio-economic divides between remote and rural coastal areas.
- **External pressures** (i.e. exogenous factors affecting coastal communities) stem amongst other from climate change and its associated impacts, including rising sea levels, coastal erosion, and extreme weather events. In addition, safety and security risks further compound these challenges, influencing both the resilience and sustainability of coastal territories.

By identifying and analysing these factors, the section provides an understanding overview of the main multifaceted risks facing coastal communities.

3.1. Internal pressures: demographic and socio-economic conditions

Internal pressures arising from the analysis and further developed in this subsection include increased urbanisation and pressure on space in coastal regions, socioeconomic challenges in rural and remote coastal areas, tourism intensity and seasonality, the decline of traditional blue economy sectors, the persistent divide in the uptake of innovation, and the lack of relevant skills.

3.1.1. Increased urbanisation and pressure on space in coastal regions

As discussed in Section 2, urban coastal regions remain the focal points of population growth, fuelled by their economic dynamism and sustained ability to attract working-age individuals and families, even as their growth rate slows

compared to previous decades ⁽⁷¹⁾. This concentration reflects a continuing trend whereby over 50 million people now inhabit European coastal cities.

Several studies have flagged that urban areas can be considered one of the main “hotspots of coastal vulnerability” in the context of climate change and rising sea levels ^(72;73), meaning that a big portion of their national economy lies in potentially vulnerable areas. Indeed, increased urbanisation and concentration of population in coastal areas pose a two-fold and mutually reinforcing challenge for coastal communities. On the one hand, the concentration of people, assets, and infrastructure in the narrow coastal strip increases the potential negative consequences of climate-related events, such as damage to housing, industries, and infrastructure, which can severely disrupt livelihoods and the local economy. This can lead to significant losses if no adaptation measures are taken ⁽⁷⁴⁾. On the other hand, urban sprawl ⁽⁷⁵⁾ along the coastline, particularly affecting Mediterranean cities ⁽⁷⁶⁾ and often associated with tourism development ⁽⁷⁷⁾ can lead to the destruction of natural defences against those same climate-related events – such as coastal erosion, sea-level rise, and storm surges (see challenges related to climate change in section 3.2) ⁽⁷⁸⁾.

Land cover assessments show significant increase in artificial surface development, a trend observed across the EU, but particularly in coastal areas ⁽⁷⁹⁾. The map below shows the percentage of land-use change that occurred from 2012 to 2018 in coastal NUTS 3 regions, converting agricultural,

⁽⁶⁰⁾ A modelling-based exercise (No 01/2025)” and coastal areas as “it has more than half its population living within 50 km”.

⁽⁷²⁾ Newton, A., and Weichselgartner, J. (2014). Hotspots of coastal vulnerability: A DPSIR analysis to find societal pathways and responses. *Estuar. Coast. Shelf Sci.* 140, 123–133. doi: 10.1016/j.ecss.2013.10.010.

⁽⁷³⁾ <https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2016.00265/full#B18>

⁽⁷⁴⁾ https://joint-research-centre.ec.europa.eu/document/download/8f22629d-b9bf-40ed-99b6-6385a95028ab_en?filename=pesetaiv_task_6_coastal_final_report.pdf

⁽⁷⁵⁾ The European Environment Agency (EEA) has described sprawl as 'the physical pattern of low-density expansion of large urban areas, under market conditions, mainly into the surrounding agricultural areas' (EEA, 2006b). Similarly, the Swiss FOEN uses the term to refer 'to the uncontrolled spread of towns and villages into undeveloped areas' (FOEN, 2015). For further information, please see <https://www.eea.europa.eu/en/analysis/publications/urban-sprawl-in-europe/annexes-120135-urban-sprawl-in-europe>

⁽⁷⁶⁾ https://planbleu.org/sites/default/files/upload/files/WM_Urbanization_factsheet.pdf

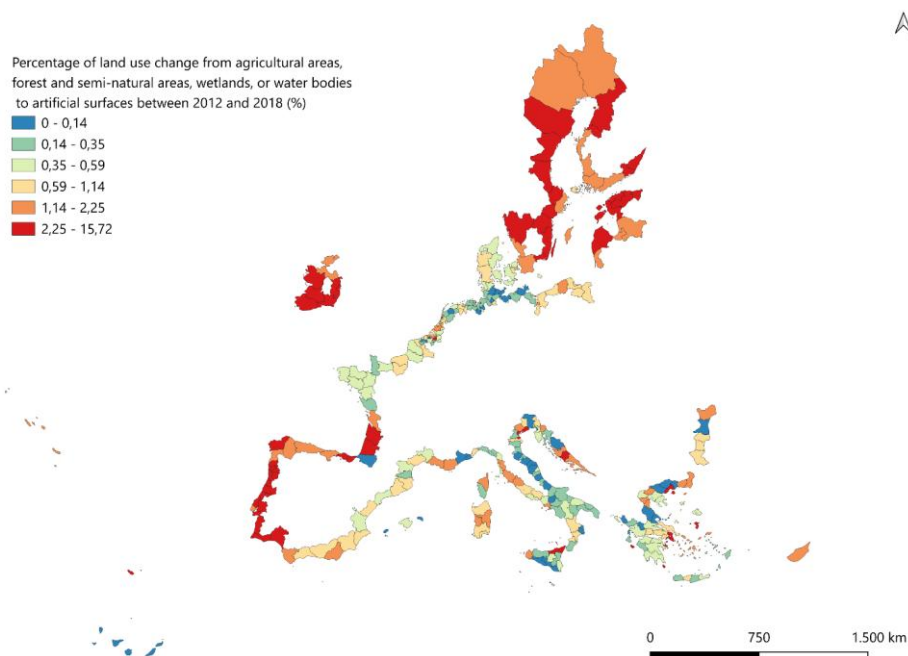
⁽⁷⁷⁾ <https://link.springer.com/article/10.1007/s10708-022-10756-8>

⁽⁷⁸⁾ <https://www.sciencedirect.com/science/article/pii/S09645669125000456>

⁽⁷⁹⁾ [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Land_cover_statistics#:~:text=for%20Sustainable%20Development,In%202022%2C%20artificial%20land%20accounted%20for%204.4%25%20of%20the%20EU's_Germany%20\(see%20Figure%203\)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Land_cover_statistics#:~:text=for%20Sustainable%20Development,In%202022%2C%20artificial%20land%20accounted%20for%204.4%25%20of%20the%20EU's_Germany%20(see%20Figure%203))

forest, semi-natural, wetlands, and water bodies into artificial surfaces. Hotspots cluster in the southern Baltic Sea and Atlantic coast (red/orange >2.5%).

Figure 17 – Percentage of land use change from natural areas to artificial surfaces between 2012 and 2018 (NUTS 3)



Source: [EEA](#) Note. Author's own elaboration building on land use change from agricultural areas, forest and semi-natural areas, wetlands or water bodies to artificial surfaces between 2012 and 2018 as a %.

Increasing land take and soil loss pose a threat to Europe's ecosystems, especially in urban areas, which may become less resilient and face negative impacts on biodiversity and weaker potential for climate change adaptation. Hence, urban sprawl process also **exacerbates land conversion dynamics**, further challenging sustainable coastal management ⁽⁸⁰⁾.

⁽⁸⁰⁾ <https://www.eea.europa.eu/en/newsroom/news/urban-sprawl-continues-cost-nature>

3.1.2. Socio-economic challenges, particularly in rural and remote coastal areas

Rural and remote coastal regions are the most affected by the socio-economic challenges observed in the analysis. The condition of “rurality” or “remoteness” remains a key explanatory factor for the trends observed in coastal regions. For instance, multiple studies have confirmed the **relevance of the degree of urbanisation in the ageing phenomenon** ⁽⁸¹⁾. Urban regions are likely to continue attracting working-age individuals ⁽⁸²⁾. This is expected to offset the negative natural change. EU urban regions are thus expected to experience a slight population increase of 0.18% per year. By contrast, population is expected to decrease slightly in intermediate regions by 0.11%, at a higher rate in rural regions close to a city by 0.35%, and in remote rural regions by 0.46%. These trends raise a set of issues which may amongst other impact service delivery in these areas; dispersed settlement patterns increase unit costs; difficulties recruiting and retaining health and social-care staff reduce access and continuity; and long travel times limit the feasibility of at-home and personalised care ⁽⁸³⁾. As a result, coastal rural and remote regions face a dual challenge, depicted by a growing number of people who may need care paired with a shrinking working-age population ⁽⁸⁴⁾.

Rural and remote coastal areas also face challenges due to their physical isolation, which may limit their access to basic services, especially in **island regions**. In low-density and depopulating areas, transport options are often limited by low service frequency, long travel times, and excessive costs, restricting residents’ access to markets, healthcare, education, and tourism opportunities ⁽⁸⁵⁾. Indeed, remoteness remains a factor in a wide range of challenges. These include a declining and ageing population, poor digital connectivity, long distances to services, and lower household income.

For this reason, **ensuring the proper functioning of interconnections between coastal and inland regions is pivotal to enhancing their resilience**. These interactions take place across sectors such as agriculture, fisheries, aquaculture, and tourism, and they influence ecosystem health, resource

⁽⁸¹⁾ Lewandowska-Gwarda, K., & Antczak, E. (2020). Urban Ageing in Europe—Spatiotemporal Analysis of Determinants. *ISPRS International Journal of Geo-Information*, 9(7), 413.

<https://doi.org/10.3390/ijgi9070413>

⁽⁸²⁾ https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/demography-2040-cities-keep-growing-while-population-shrinks-remote-rural-regions-2025-04-04_en#:~:text=4%20min%20read-.Demography%202040%3A%20cities%20keep%20growing%2C%20while%20population%20shrinks%20in%20remote,and%20rural%20regions%20until%202040.

⁽⁸³⁾ https://publications.jrc.ec.europa.eu/repository/bitstream/JRC135398/JRC135398_01.pdf

⁽⁸⁴⁾ https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/demography-2040-cities-keep-growing-while-population-shrinks-remote-rural-regions-2025-04-04_en

⁽⁸⁵⁾

[https://www.europarl.europa.eu/RegData/etudes/STUD/2021/652227/IPOL_STU\(2021\)652227_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/652227/IPOL_STU(2021)652227_EN.pdf)

availability, and economic activities, making it imperative to adopt an integrated approach that considers the greater land-sea interactions for sustainable management and development. This interconnected perspective enables a better understanding of how territorial activities affect marine ecosystems and how marine resources support coastal livelihoods, fostering resilience and sustainability in coastal communities ⁽⁸⁶⁾.

3.1.3. Tourism intensity and seasonality

As explained in section 2.5, coastal tourism represents the most significant sector of the EU's blue economy, yet its success is increasingly overshadowed by high tourism intensity and a sharp seasonal concentration. This phenomenon, characterised by **the concentration of tourism demand in a limited number of months** – often July and August – affects most destinations in the EU at different levels, and constitutes a stressor to the **labour market** conditions ⁽⁸⁷⁾, the **profitability and costs** of the sector ⁽⁸⁸⁾, and the local **environment**, as a high seasonal population puts immense pressure on water and energy resources, as well as waste management systems.

The 20 regions with the highest tourism seasonality in Europe are all coastal ⁽⁸⁹⁾. The figure below illustrates how tourism intensity and seasonality is geographically distributed across Europe. Tourism intensity is defined as the number of nights spent at tourist accommodations divided by the resident population, as a way to measure the economic dependence on tourism. Similarly, tourism seasonality is the number of nights spent in the three most visited months relative to the total nights spent, revealing uneven pressure and economic activity, and vulnerability to demand shocks.

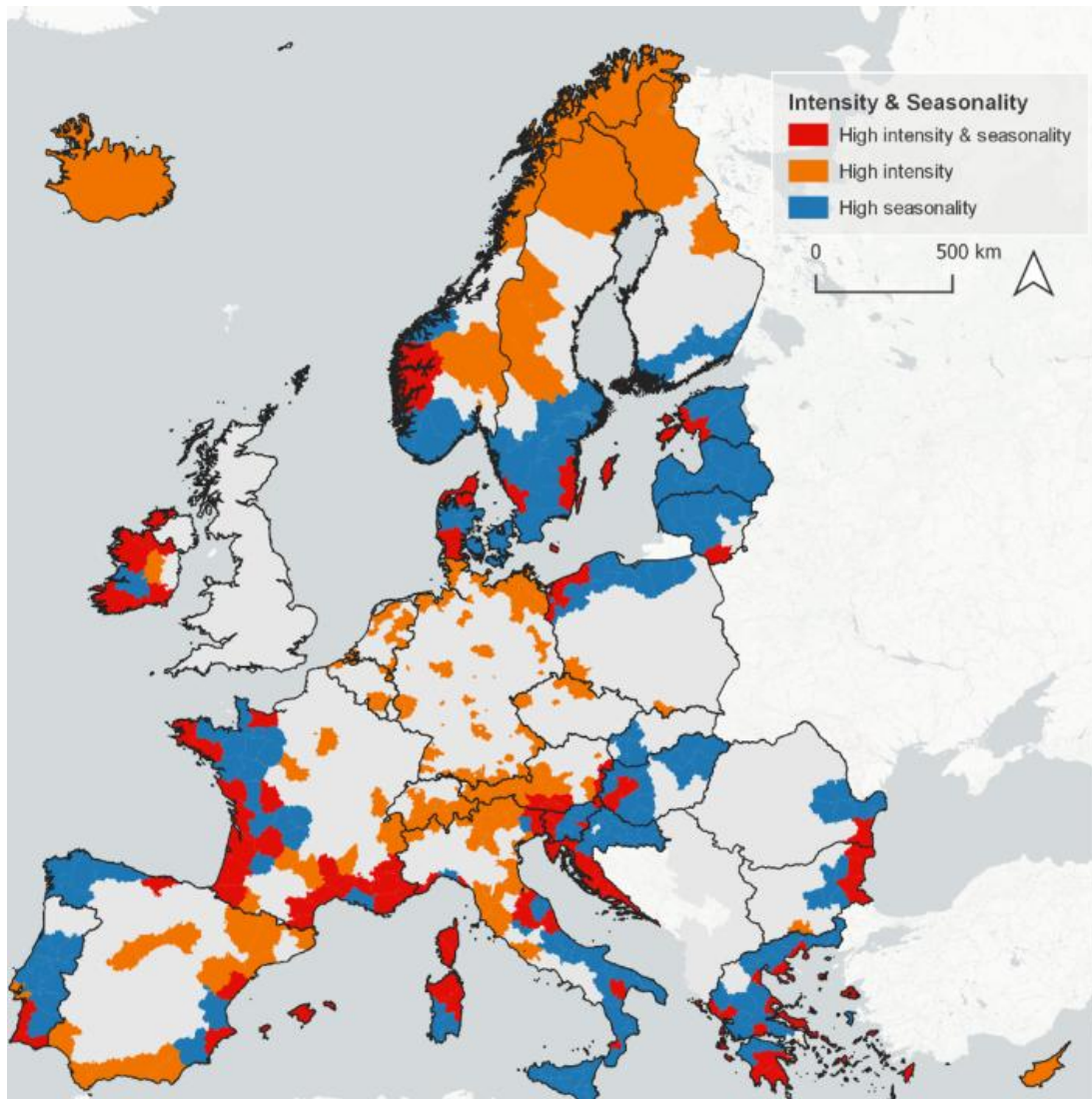
⁽⁸⁶⁾ <https://www.sciencedirect.com/science/article/pii/S0964569124000784>

⁽⁸⁷⁾ Caponi, V. (2021). "The economic and environmental effects of seasonality of tourism: A look at solid waste," *Ecological Economics*, 192. <https://doi.org/10.1016/j.ecolecon.2021.107262>

⁽⁸⁸⁾ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tourism_statistics_-_seasonality_at_regional_level

⁽⁸⁹⁾ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tourism_statistics_-_seasonality_at_regional_level#The_regions_with_the_highest_seasonality_are_coastal_regions

Figure 18 – Tourism Intensity and Seasonality (NUTS 3)



Source: Unbalanced tourism: which European destinations are potentially vulnerable? (JRC, 2025)

Tourism-intensive regions are mostly located in Croatia, Italy, France, Germany, Greece, and Spain, **along their coastlines and in mountainous areas**. Such high intensity leads to the saturation of public infrastructure, ranging from waste management systems to medical services; and poses severe threats to coastal ecosystems, including the aggravation of water scarcity issues, and the physical degradation of natural sites such as dunes and seagrass meadows ⁽⁹⁰⁾. Similarly, **seasonality tends to be higher in coastal regions**, and lower in destinations with large cities (city tourism). The map above shows that the **regions affected by the combination of both challenges tend to be island regions**, including French, Greek, Irish, Italian, and Spanish regions.

⁽⁹⁰⁾ <https://www.frontiersin.org/journals/environmental-economics/articles/10.3389/frevc.2025.1497532/full>

Some coastal regions in Bulgaria, Croatia, Finland, Greece, and Romania concentrate more than 70% of their nights spent during the three most visited months. This shows the strong imbalance of tourist visits between the high peak season and the rest of the year. The highest imbalance is observed in the island region Notio Aigaio in Greece (which includes popular islands like Rhodes, Kos, Mykonos), where, during the peak month (August), as many as 782 overnight stays by tourists were recorded per 1 000 inhabitants, on average. Other regions with high tourism intensity and seasonality are the region bordering the Adriatic coast in Croatia (Jadranska Hrvatska), the Austrian and Italian alpine areas, island regions in Greece (Ionia Nisia, Kriti), Spain (Illes Balears), France (Corse), and Portugal (the Algarve) ⁽⁹¹⁾.

The high seasonality of coastal tourism risks creating a variable economic cycle that can undermine long-term community resilience ⁽⁹²⁾. While the tourism sector offers millions of jobs in the EU, including in areas with scarce employment opportunities, they can also be characterised by a high seasonality and volatility. Coastal tourism wages were estimated at €20,200 in 2022, despite a post-pandemic rebound in revenues, having experienced a 15% increase since 2021 ⁽⁹³⁾. This can be considered a relatively low annual average wage, if compared to the average EU salary, although this is not true across all EU Member States ⁽⁹⁴⁾. During the off-season, many coastal communities face significant revenue drops and the closure of local businesses. This, in turn, further drives demographic "drain" as younger residents migrate to urban centres for stable year-round employment ⁽⁹⁵⁾. The socio-economic volatility is aggravated by the housing market; the proliferation of short-term rentals, now a major pillar of the EU tourism ecosystem, often displaces local families and workers ⁽⁹⁶⁾.

Looking ahead, research indicates an "asymmetrical" impact of climate change and rising temperatures. Northern European coasts may experience "de-seasonalisation", with a significant increase in demand during the summer and early autumn months. In contrast, southern Mediterranean hotspots could face a potential collapse in traditional summer demand due to extreme heat ⁽⁹⁷⁾.

⁽⁹¹⁾ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tourism_statistics_-_seasonality_at_regional_level

⁽⁹²⁾ <https://publications.jrc.ec.europa.eu/repository/handle/JRC117669>

⁽⁹³⁾ <https://op.europa.eu/webpub/mare/eu-blue-economy-report-2025/blue-economic-sectors/coastal-tourism.html>

⁽⁹⁴⁾ In 2024, the average annual full-time adjusted salary for employees in the EU was €39,800. Significant differences by country are observed, however. The lowest average salaries were recorded in Bulgaria (€15 400), Greece (€18 000) and Hungary (€18 500). In these cases, coastal tourism wages are indeed above average

⁽⁹⁵⁾

<https://www.tandfonline.com/doi/abs/10.1080/15022250.2024.2439905#:~:text=Bogad%C3%B3ttir%2C%20R.%2C%20Gaini%2C,TemaNord%202022%3A555>

⁽⁹⁶⁾ https://transport.ec.europa.eu/news-events/news/unbalanced-tourism-which-european-destinations-are-potentially-vulnerable-2025-04-29_en

⁽⁹⁷⁾ https://adaptecca.es/sites/default/files/documentos/2023-jrc-regional-impact-cc-european_tourism-demand.pdf

3.1.4. Decline of fisheries' economic performance

Section 2.5 underscores that both small and large-scale fisheries fulfil complementary roles in coastal regions: the SSCF anchors community-level livelihoods and heritage, while the LSF is indispensable for maintaining stable volumes of raw material for EU seafood markets, ensuring value-chain continuity, and securing employment in processing and ancillary sectors.

The 2025 STECF Annual Economic Report provides clear quantitative evidence that 2023 marked one of the weakest economic years for the EU fishing fleet in the past decade. Across all segments combined, the EU fleet showed a marked decline: a 10.1% decrease in Gross Value Added and 2.6% lower landings than in 2022.

These overall trends are more pronounced in some regions than others. Particularly fisheries' dependent coastal communities, this may translate into lower incomes for fishers, reduced investment capacity and increased financial vulnerability.

In addition, the sector as a whole is grappling with important challenges of generational renewal and risks losing so-called "Traditional Ecological Knowledge". The "Fishers of the Future" foresight study highlights a pervasive absence of generational renewal; as the average age of fishers rises, younger generations are opting for more stable employment in coastal tourism or inland urban centres ⁽⁹⁸⁾. This out-migration is compounded by a "spatial squeeze", where artisanal fishers, who are geographically tethered to coastal waters, must compete for space with expanding offshore wind farms, marine protected areas, and recreational activities ⁽⁹⁹⁾.

These pressures are exacerbated by the slow recovery of some fish stocks to MSY, leading to a decline in potential landings, particularly in certain sea basins like the Baltic, Mediterranean and the Black Sea ⁽¹⁰⁰⁾.

3.1.5. A lack of relevant skills (e.g. blue economy and digital)

The European Commission procured a study to support and design skills development in the blue economy ⁽¹⁰¹⁾ finds widespread gaps between current training and the evolving needs of emerging sectors like offshore renewable energy, blue biotechnology, and sustainable aquaculture. The study identified a

⁽⁹⁸⁾ <https://op.europa.eu/en/publication-detail/-/publication/d1fde0a2-cf0f-11ef-be2a-01aa75ed71a1>

⁽⁹⁹⁾ <https://link.springer.com/article/10.1007/s40152-020-00178-y>

⁽¹⁰⁰⁾ <https://publications.jrc.ec.europa.eu/repository/handle/JRC144396>

⁽¹⁰¹⁾ https://maritime-forum.ec.europa.eu/document/download/ef60ae61-dee3-4f2f-95c8-ac4101042e68_en?filename=Ares%20skills%20study_Final%20Report.pdf

growing demand for digital and green skills across the EU, which in turn points to a relevant area of concern for the competitiveness of relevant value chains for coastal communities. Blue economy sectors are, in fact, essential economic resources to coastal communities, but they increasingly require both general digital competencies and specialised technical and managerial skills. Besides the need for innovation to make traditional blue economy sectors (e.g. tourism, transport, and fisheries) more sustainable and resilient, niche areas like blue biotechnology, desalination, and marine robotics call for highly specific expertise.

A digital skills gap persists across the EU, with **rural communities lagging behind urban areas.** In 2021, only 26% of EU residents aged 16–74 reported having above-basic digital skills. This figure was notably higher within cities (33%), while just 24% of those in towns and suburbs, and 20% in rural areas reached the same level of proficiency ⁽¹⁰²⁾. The adoption of digitised systems, artificial intelligence, and autonomous maritime technologies is reshaping workforce demands, especially in the context of the energy transition, and as such is pointed out as a key challenge in the abovementioned Study to support and design skills development in the blue economy.

3.2. External pressures: climate change, safety, and security

External pressures stem from climate change and its associated impacts. In these subsections the following environmental pressures are considered: rising sea levels, coastal erosion, and extreme weather events. In addition, safety and security risks further compound these challenges, influencing both the resilience and sustainability of coastal territories.

3.2.1. Environmental pressures induced and aggravated by climate change

Coastal communities across the European Union are increasingly vulnerable to the multifaceted impacts of climate change: the combination of these stressors poses serious threats to infrastructure, biodiversity, economic activities, and local communities. According to the European Climate Risk Assessment (EUCRA), Southern Europe, low-lying coastal areas, and rural communities are the key hotspots for multiple climate-related threats ⁽¹⁰³⁾. The IPCC's latest assessment ⁽¹⁰⁴⁾ highlighted four key risks threatening European coastal communities: (1) mortality and morbidity of people and changes in

⁽¹⁰²⁾ <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20230320-2>

⁽¹⁰³⁾ <https://www.eea.europa.eu/en/analysis/publications/european-climate-risk-assessment/european-climate-risk-assessment-report/@@download/file>

⁽¹⁰⁴⁾ https://www.ipcc.ch/report/ar6/wg2/downloads/outreach/IPCC_AR6_WGII_FactSheet_Europe.pdf

ecosystems due to heat; (2) heat and drought stress on crops, (3) water scarcity and (4) flooding and sea level rise. Along these lines, and complementing with additional studies, the table below presents an overview of the key environmental challenges faced by coastal communities and how these are aggravated by climate change or human activity.

Table 3 – Key environmental challenges and impact on coastal communities

Challenge	Impact on coastal communities
Ocean Warming	Accelerated warming is having significant impacts on key Blue Economy sectors, particularly fisheries and aquaculture. Changes in sea temperature are altering the life cycles, distribution, and productivity of both wild and farmed species ⁽¹⁰⁵⁾ . Additionally, the increasing frequency of marine heatwaves poses a serious risk, often leading to mass mortality events among farmed organisms such as mussels and clams.
Extreme weather events	Significant temperature increase, coupled with diminishing precipitation patterns affect coastal communities' health and economy. Citizens face water scarcity issues ⁽¹⁰⁶⁾ due to dryness, which also threatens crops' productivity ⁽¹⁰⁷⁾ . Similarly, heat leads to significant changes across ecosystems while affecting humans' health.
Coastal flooding	Coastal flooding is a major risk for coastal communities. Rising sea levels have aggravated these phenomena. Citizens living in low-lying coastal regions are heavily exposed to this event, as they risk facing infrastructure damage and eventually need to relocate ⁽¹⁰⁸⁾ .
Coastal Erosion	Coastal erosion is a critical and escalating issue across European shorelines, particularly affecting sandy beaches and dune systems ⁽¹⁰⁹⁾ .
Saltwater Intrusion	This phenomenon is a threat to water quality, especially impacting low-lying areas in the Mediterranean, where seawater intrusion is projected to cause additional risks in coastal aquifers, with severe impacts on agricultural productivity ⁽¹¹⁰⁾ .
Ocean Acidification	This major climatic hazard has worsened due to CO ₂ absorption over time. Currently, it poses a threat to calcifying organisms such as molluscs, corals and calcareous algae, species which play a foundational role in habitat formation. The Mediterranean Sea is particularly vulnerable ⁽¹¹¹⁾ .
Biodiversity Loss and Ecosystem Degradation	These overlapping pressures can lead to significant biodiversity loss. Among the most affected habitats, Seagrass meadows are critical for biodiversity and ecosystem stability, have experienced a dramatic decline (e.g. <i>Posidonia oceanica</i> in the Mediterranean) ⁽¹¹²⁾ .

⁽¹⁰⁵⁾ <https://www.eea.europa.eu/en/analysis/indicators/european-sea-surface-temperature>

⁽¹⁰⁶⁾

<https://www.eea.europa.eu/en/analysis/publications/european-bathing-water-quality-in-2024>

⁽¹⁰⁷⁾ https://www.ipcc.ch/report/ar6/wg2/downloads/outreach/IPCC_AR6_WGII_FactSheet_Europe.pdf

⁽¹⁰⁸⁾ <https://climate-adapt.eea.europa.eu/en/eu-adaptation-policy/key-eu-actions/european-climate-risk-assessment/eucra-viewer-major-risks>

⁽¹⁰⁹⁾ <https://www.sciencedirect.com/science/article/abs/pii/S0261517718300748>

⁽¹¹⁰⁾ <https://www.eea.europa.eu/publications/92-9167-056-1/page010.html>

⁽¹¹¹⁾ <https://www.eea.europa.eu/en/analysis/indicators/ocean-acidification?activeAccordion=>

⁽¹¹²⁾ <https://www.eea.europa.eu/publications/how-climate-change-impacts>

Challenge	Impact on coastal communities
Increasing levels of urbanization and artificial landscape development	Urbanization places significant pressure on both ecological integrity and community wellbeing ⁽¹¹³⁾ . It changes landscapes, reducing the adaptive capacity of coastal communities by fragmenting habitats and increasing pollution, e.g. emissions from ports, cities, and industrial sectors ⁽¹¹⁴⁾ .
Agricultural and rural runoff	Intensive farming activities exert pressures on adjacent coastal and marine ecosystems through the mobilization of nutrients such as nitrogen and phosphorus, often resulting from fertilizer runoff ⁽¹¹⁵⁾ .
Eutrophication	The consequences of eutrophication are undesirable if they appreciably degrade the ecosystem health and/or the sustainable provision of goods and services ⁽¹¹⁶⁾ .
Pollution and Marine Litter	Litter, primarily plastics, accumulates across all marine environments, harming ecosystems as organisms ingest debris or become entangled. Moreover, oil spills are also a concerning threat for marine ecosystems ⁽¹¹⁷⁾ .

Ocean warming is the main climate hazard for European coastal ecosystems, according to the latest IPCC report (AR6) ⁽¹¹⁸⁾. European seas have experienced an increase in their average temperature since the late 1970s, with recent years being among the warmest on record, as shown in the figure below. This phenomenon has been accompanied by an increase in the frequency and intensity of marine heatwaves, both globally and in European seas, nearly doubling between 1982 and 2016 ⁽¹¹⁹⁾. Sea surface temperature (SST) in European seas is expected to reach higher temperatures by 2100, with different scenarios estimating from 2°C increases (SSP1 2.6) up to by -6°C (under the SSP2-8.5), depending on the impact of mitigation policies in place) ⁽¹²⁰⁾.

⁽¹¹³⁾ <https://www.eea.europa.eu/highlights/europe2019s-coasts-reconciling-development-and-conservation>

⁽¹¹⁴⁾ <https://marine.copernicus.eu/explainers/why-ocean-important/urban-and-regional-planning>

⁽¹¹⁵⁾ <https://marine.copernicus.eu/explainers/phenomena-threats/eutrophication>

⁽¹¹⁶⁾ <https://www.eea.europa.eu/en/datahub/datahubitem-view/7a6f335f-97c4-4eaf-820c-8b4a091047ce?activeAccordion=1069979>

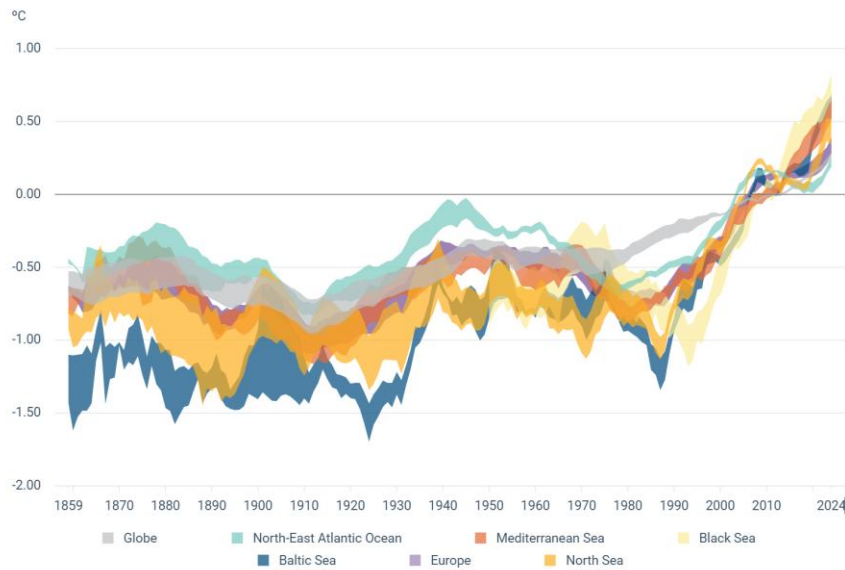
⁽¹¹⁷⁾ Asensio-Montesinos, F., Molina, R., Anfuso, G., Manno, G., & Lo Re, C. (2024). Natural and Human Impacts on Coastal Areas. *Journal of Marine Science and Engineering*, 12(11), 2017. <https://doi.org/10.3390/jmse12112017>

⁽¹¹⁸⁾ https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Chapter03.pdf

⁽¹¹⁹⁾ Oliver, E. C. J., Donat, M. G. and Burrows, M. T., 2018, 'Longer and more frequent marine heatwaves over the past century', *Nature Communications* 9, 1324.

⁽¹²⁰⁾ <https://www.eea.europa.eu/en/analysis/indicators/european-sea-surface-temperature>

Figure 19 – Average sea surface temperature change (°C), with respect to the period 1991- 2024, in European sea basins



Source: [European Environment Agency](#), 2025

Sea level rise (SLR) is another major threat to coastal zones. Since 1970, most EU coastal regions have experienced increases in both absolute and relative sea levels – the latter being particularly relevant for coastal protection ⁽¹²¹⁾. **Such rises have been more significant (above 3mm/year) along the Mediterranean and Atlantic coasts.** The northern Baltic Sea coastal regions are the most notable exception to this pattern due to rising land levels linked to a post-glacial rebound.

The combined effects of sea level rise and more frequent marine storm surges linked to ocean warming are currently inducing and amplifying **a major hazard to coastal communities: flooding**. According to JRC, 100,000 people in Europe (EU-27 + UK) are exposed to coastal flooding risks on an annual basis. Studies have singled out low-lying coastal areas as the most vulnerable to hazards like sea-level rise or flooding ⁽¹²²⁾. Recent studies provided new supporting evidence showing that nearly half of the low-lying coastal areas in Europe are currently subsiding - at a rate faster than 1 mm/yr on average- which strongly amplifies coastal risk ⁽¹²³⁾. Four of the major coastal subsidence hotspots are the northern coast of the Netherlands, the Po River Delta in Italy, and Thessaloniki in Greece, Schiavonea ⁽¹²⁴⁾.

⁽¹²¹⁾ <https://www.eea.europa.eu/en/analysis/indicators/global-and-european-sea-level-rise?activeAccordion=546a7c35-9188-4d23-94ee-005d97c26f2b>

⁽¹²²⁾ https://joint-research-centre.ec.europa.eu/system/files/2020-05/pesetaiv_summary_final_report.pdf

⁽¹²³⁾ <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2024EF004523>

⁽¹²⁴⁾ <https://land.copernicus.eu/en/use-cases/a-pan-european-analysis-of-coastal-subsidence-with-egms/a-pan-european-analysis-of-coastal-subsidence-with-egms>

As coastal areas and regions are increasingly more densely populated than their inland counterparts and exhibit higher rates of urban concentration, the exposure of people and infrastructure to climate hazards and their related impacts is widespread. In addition to human fatalities, the economic losses due to coastal flooding are considerable: they are currently estimated at EUR 1.4 billion/year, although this could increase by 2–3 orders of magnitude if coastal adaptation is only maintained to its current level ⁽¹²⁵⁾. Moreover, recent data from the European Environment Agency ⁽¹²⁶⁾ show that **coastal floods are happening more often and with greater intensity across many European coasts, especially in low-lying areas and estuaries** around the North Sea, Baltic Sea, Atlantic, and Mediterranean. Climate change is aggravating the situation by raising sea levels and increasing storm strength. By 2100, floods that happened once every 100 years could occur several times a year along the Mediterranean and Black Sea coasts, and at least once a year along most European coast. As noted above, the northern Baltic Sea coast is an exception, where land is rising due to postglacial rebound, which lowers relative sea level locally and counteracts global sea level rise effects, thereby diminishing flood risk ⁽¹²⁷⁾.

Another critical issue driven by rising sea levels and intense storms is coastal erosion This phenomenon is particularly prominent in **low-lying sandy shorelines and soft cliffs**, such as France, Belgium, and particularly, Portugal, which present a high prevalence of erosion on their floodable shoreline. In the IPCC 's Sixth Assessment ReportAR6 WG2, it is suggested that 27 %–40 % of Europe's sandy coast is already eroding ⁽¹²⁸⁾. Historically, erosion has not been significant, but this may change under the influence of rising sea levels, with a higher impact expected in the Baltic Sea ⁽¹²⁹⁾. **Over 2,500 km of coasts will require additional defences to maintain current protection levels and 1,000 km are likely to require new defences to be implemented over the short or medium term.** Dual approaches are needed, combining strategies to reduce flood risk with those to prevent erosion ⁽¹³⁰⁾.

Ocean acidification is also emerging as an important climatic hazard for European coastal ecosystems, driven primarily by the absorption of anthropogenic CO₂ and amplified by rising sea temperatures ⁽¹³¹⁾. This process alters the ocean's carbonate chemistry, disrupting benthic ecosystems and threatening calcifying organisms, such as molluscs, corals, and calcareous algae ⁽¹³²⁾. These species, which play a foundational role in habitat formation are

⁽¹²⁵⁾

https://adaptecca.es/sites/default/files/documentos/2020_jrc_pesetaiv_task_6_coastal_final_report.pdf

⁽¹²⁶⁾ <https://www.eea.europa.eu/en/analysis/indicators/extreme-sea-levels-and-coastal-flooding>

⁽¹²⁷⁾ <https://www.eea.europa.eu/en/analysis/indicators/global-and-european-sea-level-rise>

⁽¹²⁸⁾ https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Chapter13.pdf

⁽¹²⁹⁾ <https://esd.copernicus.org/articles/12/871/2021/esd-12-871-2021.html>

⁽¹³⁰⁾ <https://egusphere.copernicus.org/preprints/2025/egusphere-2025-2371/>

⁽¹³¹⁾ https://archive.ipcc.ch/publications_and_data/ar4/wg1/en/ch5s5-4-2-3.html

⁽¹³²⁾ <https://www.eea.europa.eu/en/analysis/indicators/ocean-acidification?activeAccordion=>

experiencing reduced skeletal functionality, limiting their growth, reproduction, and survival.

The combined impact of these climate-induced pressures could become an existential threat for some coastal communities. Persistent sea-level rise and chronic erosion will increasingly combine to amplify the severity of flooding, demanding significant and repeated investment to maintain infrastructure and habitable space. Ocean warming and acidification are projected to cause considerable disruption to marine ecosystems, thereby threatening the productivity of local fisheries and aquaculture and the stability of the tourism sector, which in turn constitute critical components of the local blue economy capital ⁽¹³³⁾. Addressing these risks will require proactive, large-scale investment in both **coastal adaptation** and **transformative governance strategies** to avert widespread social disruption and the severe degradation of maritime heritage.

Pressure on coastal and marine resources: pollution and over-exploitation of resources

Beyond the pressures exerted by climate change, coastal and marine environments face significant challenges stemming from a range of unsustainable extractive and waste-generating practices, degrading the ecological health of the sea, and directly undermining the ecosystemic capital upon which coastal communities depend.

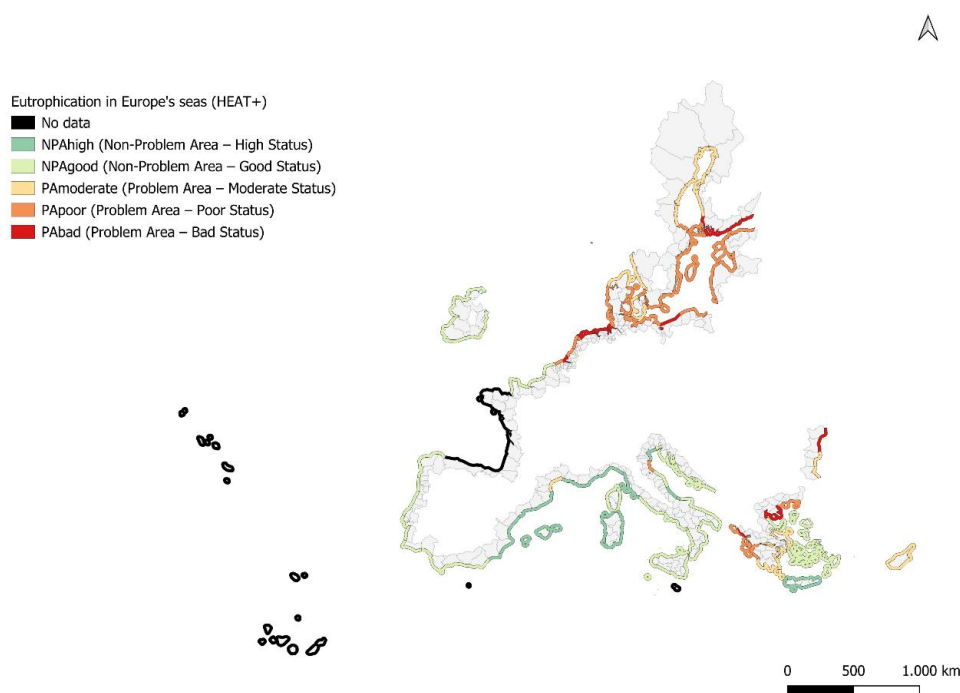
Eutrophication is the excessive enrichment of water bodies with nutrients, primarily nitrogen and phosphorus. In coastal areas, this is driven by land-based sources such as agricultural runoff (fertilizers), untreated sewage, and industrial effluents ⁽¹³⁴⁾. The resulting bloom of algae and phytoplankton depletes oxygen as the organic matter decomposes, creating areas where most marine life cannot survive. To address this, Europe adopted an integrated strategy to reduce nutrient inputs ⁽¹³⁵⁾. Despite this, the eutrophication status of the European seas -visualized in the figure below- shows that the Baltic Sea coast, the North Sea, and some areas of the Adriatic and the Black Sea are particularly affected.

⁽¹³³⁾ <https://www.eea.europa.eu/en/analysis/publications/how-climate-change-impacts-marine-life>

⁽¹³⁴⁾ <https://www.eea.europa.eu/en/analysis/indicators/nutrients-in-transitional-coastal-and>

⁽¹³⁵⁾ <https://www.eea.europa.eu/en/analysis/indicators/nutrients-in-transitional-coastal-and>

Figure 20 – Eutrophication in European coastal regions (NUTS 2)



Source: Author's own elaboration, based on data from the [European Environment Agency](https://www.eea.europa.eu/). Classification of coastal areas based on nutrient concentration using the HEAT+ assessment. The map shows non-problem areas (high and good status) in green and problem areas (moderate, poor, and bad status) in orange and red. Areas in black indicate locations with no available data. The original data set, which is representative of the 2008–2016-time frame, was processed to associate a specific class to each NUTS 2.

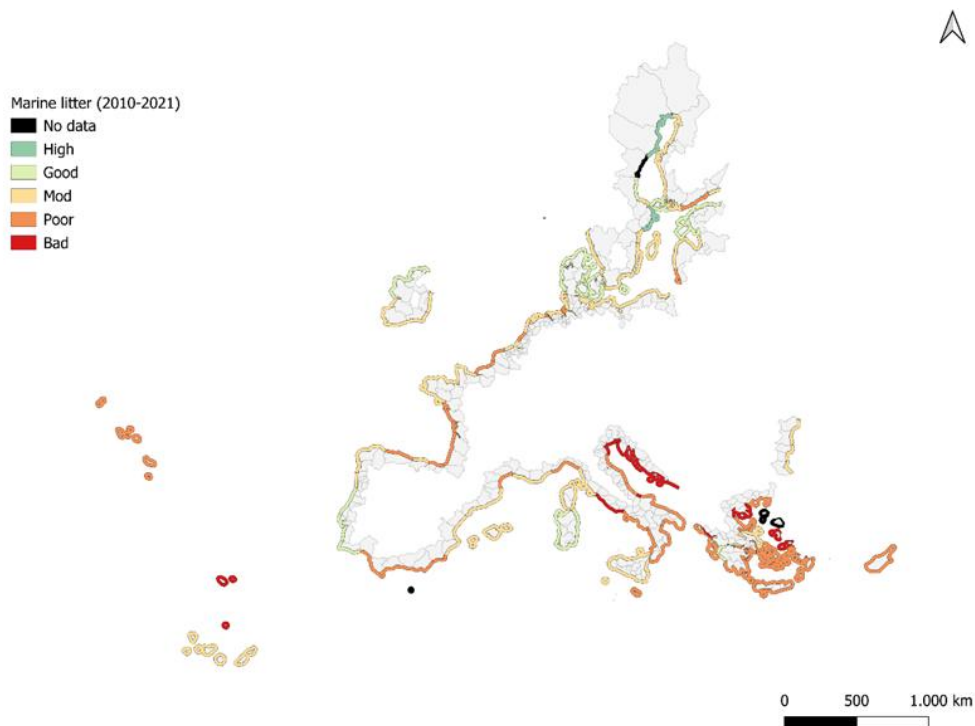
The coastal zone acts as a sink for various forms of **land-based waste**, posing a continuous threat to human health and marine life. The figure below shows the qualitative status of coastal areas with respect to the presence of marine litter, beach litter, and floating microplastics, classifying areas as problematic or non-problematic based on defined thresholds. The map indicates that **marine litter pollution is highest in the Mediterranean basin and along the Adriatic coast**. In the Mediterranean, high population density levels along the coastline and the tourism industry, are the main drivers of plastic waste generation and marine litter in the Mediterranean ⁽¹³⁶⁾. Water pollution can threaten the **quantity and quality of water supply**, which is not only a basic need but a critical resource. Moreover, nutrients from agriculture, urban settlements, and other sources impact **human health** - potentially leading to water-borne diseases and antimicrobial resistance exacerbation- and cause algal blooms and oxygen-depletion which are lethal to aquatic ecosystems ⁽¹³⁷⁾. This also entails **socio-economic losses** estimated to be between EUR 75 and 485 billion a year regarding nitrogen alone ⁽¹³⁸⁾.

⁽¹³⁶⁾ <https://www.unep.org/unepmap/resources/factsheets/pollution>

⁽¹³⁷⁾ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52025DC0280>

⁽¹³⁸⁾ Van Grinsven et al, Costs and Benefits of Nitrogen for Europe and Implications for Mitigation, 2013.

Figure 21 – Marine litter distribution in European coastal waters (2010–2021)



Source: Author's own elaboration. The resolution is 20×20 km near the coast and 100×100 km in the open sea.

The **unfavourable stock status of several commercially valuable fish stocks** and marine ecosystems is a critical pressure that directly compromises the long-term sustainability and economic resilience of fishing communities. Despite the improvements in the number of sustainably managed stocks under the Common Fisheries Policy (CFP), overexploitation of some stocks and unhealthy marine ecosystems continue to impose severe socio-economic and ecological strains on European coastal communities in some regions. In the **Mediterranean and the Black Seas**, the state of stocks is gradually improving, but ICES reports persistent pressures on certain stocks which suffer from overfishing⁽¹³⁹⁾. Equally, stocks in the **Baltic Sea** continue to be under pressure, including from sources other than fisheries, which have led to ecosystem failure and a degraded biodiversity⁽¹⁴⁰⁾. This also threatens the small-scale fleets that dominate the region. Restoring marine ecosystems and recovering stocks to levels capable of producing maximum sustainable yield in line with the CFP objectives, by reducing pressure from fisheries and other anthropogenic and mitigating the effects of non-anthropogenic stressors, could alleviate such strains on fishing communities.

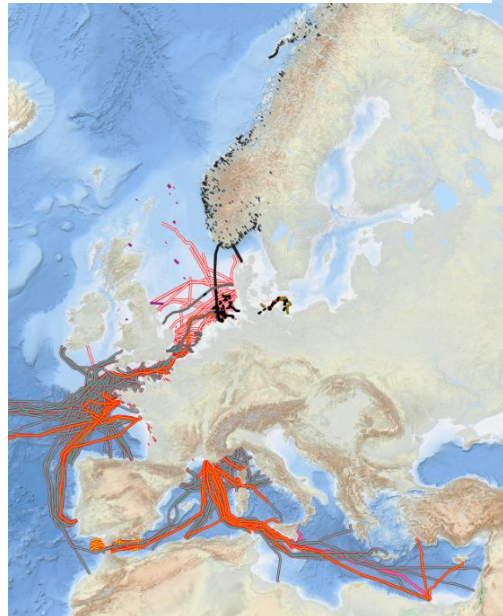
⁽¹³⁹⁾ https://oceans-and-fisheries.ec.europa.eu/news/eu-fish-populations-show-signs-recovery-more-efforts-needed-key-species-struggle-2025-06-06_en

⁽¹⁴⁰⁾ https://ices-library.figshare.com/articles/report/Cod_i_Gadus_morhua_i_in_subdivisions_24_32_eastern_Baltic_stock_eastern_Baltic_Sea_Replacing_advice_provided_in_May_2024/27202563?file=54858659

3.2.2. Safety and security risks due to geopolitical tensions

Current geopolitical tensions, including Russia's war of aggression against Ukraine, are particularly threatening Europe's coastal communities, notably in the Black Sea, but also in the Baltic area. Amongst the most pressing challenges are **hybrid threats and accidents involving critical maritime infrastructure**. Incidents such as the sabotage of pipelines or damage to subsea cables have shown how dependent coastal economies are on energy flows and digital connectivity. At least 11 **undersea cables** in the Baltic Sea were reported damaged over 15 months (starting October 2023) ⁽¹⁴¹⁾. Indeed, the average sea depth of 52.3 metres in the Baltic and 95 metres in the North Sea makes these territories particularly vulnerable, since ship anchors can easily sever critical undersea cables ⁽¹⁴²⁾. The increasing **digitalisation of ports and shipping** has also introduced new vulnerabilities. Cyberattacks on port management systems, ferry booking platforms, and cargo logistics can halt passenger services or delay critical supplies to coastal populations.

Figure 22 – Undersea cables in Europe



Source: EMODNET

As a response, **military presence** on the coast has increased: NATO and EU states have intensified naval patrols, surveillance, and joint exercises, particularly in the Baltic, Black, and North Seas ⁽¹⁴³⁾. For local communities, this means more visible military activity, including warships in ports, flight restrictions, or temporary closures of fishing and shipping grounds. While these enhance security, they can disrupt local economies reliant on tourism or small-scale fisheries ⁽¹⁴⁴⁾ and can create a sense of heightened vulnerability among residents (e.g., due to sea mines in Black Seas). However, there is evidence that increased military presence in the Baltic Sea region has contributed to a **sense of safety and**

⁽¹⁴¹⁾ <https://apnews.com/article/nato-france-russia-baltic-cables-ships-damage-764964a275530915c2cc5af1125ec125>

⁽¹⁴²⁾ <https://ecfr.eu/article/shallow-seas-and-shadow-fleets-europes-undersea-infrastructure-is-dangerously-vulnerable/>

⁽¹⁴³⁾ <https://www.nato.int/en/what-we-do/operations-and-missions/natos-maritime-activities#heading-1>

⁽¹⁴⁴⁾ [https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/767238/EPRS_BRI\(2025\)767238_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/767238/EPRS_BRI(2025)767238_EN.pdf)

reassurance among citizens, particularly in countries like **Latvia, Lithuania, and Estonia** ⁽¹⁴⁵⁾.

Beyond security threats, the increasing volume and scale of maritime traffic, particularly in major shipping lanes and near congested ports in Europe, heightens the likelihood of pollution accidents that directly harm coastal communities' ecological and economic integrity. According to recent data from the European Maritime Safety Agency (EMSA), despite overall improvements in maritime safety culture, major casualties still occur, particularly involving vessels carrying hazardous or polluting cargo ⁽¹⁴⁶⁾. **Fuel and chemical spills** contaminate shellfish beds and temporarily cripple local tourism and fishing industries, directly affecting the income of coastal residents. In addition, the sustained high volume of commercial shipping and offshore infrastructure work (like wind farm construction) contributes to chronic **subsea noise** ⁽¹⁴⁷⁾, which can displace marine mammal populations and disrupt fisheries.

Moreover, some coastal communities serve as the geographic terminus for major international **trafficking routes**, placing humanitarian and security burdens on local towns. The coasts of Italy, Portugal, and Spain, but also large shipping ports are frequently used as entry points for illicit drugs ⁽¹⁴⁸⁾. This requires high-speed interception operations that force local law enforcement to dedicate disproportionate resources to maritime patrol rather than community policing. Across the Mediterranean, **organised criminal networks** exploit vulnerable people, particularly around migratory routes, leading to frequent humanitarian crises ⁽¹⁴⁹⁾. Coastal towns and small island communities, particularly in Greece, Italy, and Malta, often become the primary staging points for search-and-rescue (SAR) operations and the subsequent reception of large numbers of people. This activity strains local social services, healthcare, and humanitarian infrastructure, diverting resources and attention from local socio-economic needs.

⁽¹⁴⁵⁾ https://www.gssc.lt/wp-content/uploads/2024/02/v01_Rozevic_Baltic-Sea-Region-Security-Dialogue_EN_A4.pdf

⁽¹⁴⁶⁾ <https://emsa.europa.eu/damage-stability-study/items.html?cid=14&id=5352>

⁽¹⁴⁷⁾ <https://www.eea.europa.eu/en/european-zero-pollution-dashboards/indicators/underwater-noise-pollution-in-europes-seas>

⁽¹⁴⁸⁾ https://www.euda.europa.eu/publications/eu-drug-markets/cocaine/europe-and-global-cocaine-trade_en

⁽¹⁴⁹⁾ <https://www.frontex.europa.eu/media-centre/news/news-release/frontex-releases-annual-risk-analysis-2025-2026-xq0c2u>

4. Lessons on resilience-building across EU coastal communities: cross-analysis of case studies

Building on the results of the cross-analysis of the **six case studies developed** in the context of this study, this section looks at key factors contributing to developing coastal communities' resilience across the EU ⁽¹⁵⁰⁾. It does so by identifying common patterns, differences, and lessons for strengthening resilience across **five interdependent thematic clusters**, which are briefly described below:

- **Institutional capacity**, covering governance and coordination structures affecting coastal management, local planning capacity, etc.
- **Economic diversification and innovation**, focusing on sectoral diversification, integration of blue economy value chains, uptake of innovation, etc.
- **Social capital**, addressing community engagement and awareness, ocean literacy, etc.
- **Technical readiness**, examining “blue” skills development, infrastructure for technological advancement, and coastal protection, etc.
- **Financial capacity**: availability and access to finance, impact and blended financing, intermediation mechanisms, etc.

As such, we first provide an overview of the six case studies analysed, and then we present the case study cross-analysis, considering the above-mentioned thematic clusters.

4.1. Overview of the analysed case studies

Our case study research drew insights on six coastal communities across the EU: Galicia (Spain), Sand Motor project (the Netherlands), Vis (Croatia), Pays de Brest (France), Burgas (Bulgaria), and Gdynia (Poland). The case studies can be read in full in **Annex 2 – Case studies**.

The selected case studies represent EU countries with coastal communities from all major sea basins (Atlantic Ocean, the Baltic Sea, the North Sea, the Mediterranean, and the Black Sea). This **geographical diversity** was sought intentionally to provide a balanced picture of the EU landscape and to assess the impact and support provided at the EU level.

⁽¹⁵⁰⁾ See Annex 1 on “Conceptual foundations for coastal community analysis” for further details on the resilience definition provided.

Figure 23 – Map of Europe displaying locations of case studies



Source: Author’s own elaboration

Beyond geographical balance, we ensured **broad thematic coverage**, capturing various blue economy sectors and activities as well as a broad spectrum of resilience challenges and adaptation strategies. The main themes covered by each case study are displayed briefly in Table 4 below:

Table 4 – Main themes covered by each case study

Case study	Main themes covered
1 - Ría de Arousa, Galicia (Spain)	Small-scale fisheries, aquaculture, pescaturism, macroalgae cultivation, community-led governance.
2 - Sand Motor project (Netherlands)	Nature-based coastal protection, climate adaptation, ecosystem restoration, recreation, governance and blended finance for NbS.
3 - Vis (Croatia)	Low-impact tourism, heritage valorisation, geogastronomy, circular economy, fisheries diversification, participatory governance.
4 - Pays de Brest (France)	Integrated land-sea planning, marine renewable energy, blue biotechnologies, fisheries and algae value chains, innovation clusters, ocean literacy.
5 - Burgas (Bulgaria)	Port diversification, intermodal infrastructure, fisheries modernization, cultural tourism, renewable energy integration, governance and EU funding.
6 - Gdynia (Poland)	Dual-use port logistics, offshore wind services, defence industry innovation, critical infrastructure protection.

Importantly, for each case study we followed a **shared analytical framework**, which consisted of examining the characterization of the coastal community, value chain structures, governance arrangements, innovation and financing mechanisms, resilience challenges, adaptation strategies, and the role of public

support. This allowed for a structured comparison and cross-analysis of findings, which are presented in detail in the next sub-section.

4.2. Cross-analysis of case studies

By comparing six different geographical and socio-economic contexts, the case study cross-analysis exercise highlighted **recurring vulnerabilities** as well as **key enablers** for coastal communities' resilience across the EU. As described above, we organised lessons around five thematic clusters which constitute key dimensions of coastal resilience (institutional, economic, social, technical and financial). The main lessons extracted from the case study analysis are summarised in Table 5 and presented in detail as follows.

Table 5 – Key takeaways from cross-analysis of case studies

Thematic cluster	Key takeaways from cross-analysis of case studies
Institutional	<ul style="list-style-type: none"> • Coordination challenges due to distributed competencies (horizontally and vertically) result in multi-level and polycentric approaches to coastal governance • Lack of a clear shared vision for coastal communities' needs, challenges and opportunities or a shared platform or strategy for relevant authorities to coordinate their efforts and support • Need for enhanced joint planning between communities to ensure land-sea interactions and synergies between coastal and maritime activities • Planning capacity and coastal adaptation is hindered by gaps in (socio-ecological) data and monitoring at local level
Economic	<ul style="list-style-type: none"> • Significant heterogeneity in the economic structure of coastal communities (emerging vs. traditional sectors) • Integration of sectors into complex value chains and the development of new niches are crucial for the creation of higher added value and stronger local economic returns and jobs in coastal areas • Need for up- and re-skilling and generational renewal, particularly in traditional blue economy sectors
Social	<ul style="list-style-type: none"> • Community engagement grows where collective action has recognised fora that combine participatory governance with resource mobilisation. • Community awareness and preparedness are stronger when literacy and monitoring are co-produced with local actors
Technical	<ul style="list-style-type: none"> • Structural gaps in transport, port facilities, and basic services constrain economic diversification and climate adaptation • Infrastructure investment and adaptation need focus on green/blue technologies, particularly advanced port systems • Nature-based solutions (NbS) can be key enablers of risk-aware and resilient infrastructure
Financial	<ul style="list-style-type: none"> • Public funding, particularly EU instruments, plays a significant role in enabling diversification, infrastructure modernisation, and innovation • Private investment appears more limited and concentrated in specific contexts • Blending and synergetic use of funds is most advanced where municipalities or regional bodies act as integrators

4.2.1. Institutional capacity: governance, coordination, and planning

All cases analysed display a multi-layered interplay of stakeholders involved in the coastal community's governance structure, with relevant competencies spanning from the local municipality level to the regional, national, and EU levels. While the competence structure varies widely across EU member states -depending on their internal political and administrative organisation-, in all the case studies analysed national governments tend to have a pre-eminent role in aspects concerning critical infrastructure (energy supply, maritime ports, coastal protection infrastructure, etc.), whereas subnational governments (NUTS and LAU levels) have responsibilities in overarching issues affecting local and regional economic development, including urban planning, tourism, innovation policies, waste management, etc. – all relevant to address coastal communities' challenges as identified in Chapter 3. These observations are in line with findings of existing studies on the multi-level governance of the blue economy ⁽¹⁵¹⁾.

Coordination challenges due to distributed competencies (horizontally and vertically), resulting in polycentric approaches to governance. As shown across all case studies, the fact that responsibilities for key aspects of coastal management are distributed across multiple layers of government, each with distinct competencies and priorities, constitutes a coordination and governance challenge. **In some cases, regional and local authorities have strong competencies** when it comes to coastal management issues. For instance, the Pôle métropolitain du Pays de Brest (CS 4) is an inter-municipal cooperation structure that strengthens coastal community resilience through integrated territorial governance. It manages the Territorial Coherence Scheme (SCoT) for land-sea spatial planning, coordinates economic development (seaweed, tourism, local value chains), drives the ecological and energy transition (PCAET, coastal risk management). The Burgas Municipality (Bulgaria) (CS 5), a NUTS 3 level region, also plays a key role as an integrator and convenor of all local actors, balancing business interests with environmental protection and public access to the sea, mediating spatial conflicts and ensuring that port investments translate into community benefits. This is also particularly the case in Ria de Arousa (Spain) (CS 1), where the NUTS 2-level regional authority (*Xunta de Galicia*), through its *Consellería do Mar*, holds the most direct and operational responsibilities for small-scale fisheries and aquaculture management. It governs inshore fishing, shellfish harvesting, aquaculture, fishing port infrastructure, and the distribution of EU funds within Galicia (especially EMFF/EMFAF). **Other cases illustrate a pre-eminent role of national government in key aspects of coastal management.** As an example, in the Netherlands, where coastal protection is deeply enshrined in national regulation due to geographical and

⁽¹⁵¹⁾ https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/04/the-blue-economy-in-cities-and-regions_95eed51/bd929b7d-en.pdf

historical factors, the national government plays a significant role in planning and implementing coastal protection measures, such as the Sand Motor project (CS 2). Provinces and municipalities were engaged, but in aspects related to the recreational activities linked to the coastal protection project and fostering the local economy.

The distribution and fragmentation of competencies make it difficult to plan and act coherently, while the need to align decisions across local, regional, national, and EU levels can slow responses to urgent pressures. National governments' control over critical infrastructure limits the influence of local communities on decisions that directly affect them, whereas subnational authorities must coordinate their responsibilities with higher-level policies to avoid inconsistencies. Overall, these dynamics reduce the ability of coastal communities to respond efficiently and effectively to emerging challenges. That being said, case studies highlight several examples of effective coordination and alignment across various levels of competencies. Such is the case of the Pays de Brest (France) (CS 4), where municipalities, the relevant regional authority, and the national authority are working together to develop a visible and competitive business location offer, defining shared objectives that are territorially coherent and operationalising relevant policies in matters of urbanisation, mobility, housing, and environmental transition at the inter-municipal level. This alignment is translated at Pays de Brest (CS 4) scale in a key document, the so-called SCoT – *Schéma de Cohérence Territoriale*, which in turn is compliant with upper frames such as the *Schéma Régional d'Aménagement, de Développement Durable et d'Égalité des Territoires* (SRADDET) and *Document Stratégique de Façade* (DSF).

The case studies hint at a lack of a clear shared vision for coastal communities' needs, challenges, and opportunities, as well as a shared platform or strategy for relevant authorities to coordinate their efforts and support. As a result, funding priorities and local needs are not always aligned, and Integrated Territorial Investments (ITI) are not yet well embedded. Examples of important existing frames include **national and regional blue economy strategies (Brest)** (CS 4), as well as **regional smart specialisation strategies** (Galicia, CS 1; Burgas, CS 5). However, these remain a reflection on specifically the blue economy sectors, rather than a strategic development strategy for the coastal community, considering main aspects of their resilience and local economic development in an integrated manner.

Similarly, enhanced joint planning between communities can ensure that land-sea interactions and synergies between coastal and maritime activities are considered. As a key cross-cutting lesson, case studies show that the large-scale application of resilience-building innovations (e.g. emerging blue economy sectors such as marine renewable energies, nature-based solutions, etc.) requires carefully balancing diverging interests and uses of the maritime space and coastal areas. For instance, in Gdynia (Poland) (CS 6), the dual-use nature of port activities brings about persistent spatial conflicts between port,

naval, and urban functions. Conflict resolution can be enabled by the active participation of regional and local governments, as well as functional communities. As pointed out by the Pays de Brest (CS 4) and Burgas (CS 5) cases, this may include the engagement of local actors in the development and revision of national maritime spatial plans, including inputs on local priorities and feedback. For example, issuing formal guidance on offshore wind areas to the State and guides integration of MSP insights into local planning tools, ensuring that land–sea continuity is respected.

Lastly, planning capacity is hindered by gaps in (socio-ecological) data and monitoring at the local level. For example, the Vis case (Croatia) (CS 3) points out the absence of detailed hydrogeological data, as well as insufficient ecological monitoring and enforcement capacities, resulting in spatial and water plans not being integrated. The case of Sand Motor (Netherlands) (CS 2) reports continuous challenges in the valuation of ecosystem services, which hampers coherent cross-actor investment and long-term strategic framing.

4.2.2. Economic diversification and innovation

Case studies reveal significant heterogeneity in the economic structure of coastal communities, ranging from highly diversified territories where traditional sectors coexist with emerging industries to models that remain anchored in traditional activities. The Pays de Brest (CS 4), Gdynia (CS 6), and Burgas (CS 5) stand out as territories with the most diversified economic structures. In the Pays de Brest (CS 4), diversification is deeply embedded in its territorial strategy, combining traditional maritime sectors such as fisheries, aquaculture, and shipbuilding with emerging activities in marine renewable energy, blue biotechnologies, and digital innovation. Similarly, Burgas (CS 5) demonstrates a broad economic base anchored in port logistics and maritime transport, complemented by fisheries, processing industries, and tourism. Recent diversification into cultural and event-based tourism, ICT services, and renewable energy integration illustrates a proactive approach to resilience, supported by long-term municipal leadership and strategic use of EU funds. Vis in Croatia (CS 3) and Ría de Arousa in Galicia (CS 1) represent intermediate models of diversification. Both territories maintain strong ties to traditional sectors (tourism, fisheries, and agriculture in Vis, and mussel farming and shellfish harvesting in Ría de Arousa) while introducing innovative activities to buffer seasonal and market vulnerabilities.

Greater integration/diversification of sectors into complex value chains and the development of new niches is crucial for the creation of higher added value and stronger local economic returns and jobs. One key insight across cases is that resilience improves when traditional sectors are not treated in isolation but linked to complementary activities that expand the value chain and embed innovation. For instance, in Vis (CS 3), diversification beyond tourism relies on combining heritage valorisation with sustainable food systems and

circular economy practices. Consequently, local cooperatives and FLAG Škoji promote integrated projects that link fisheries and agriculture with gastronomy and cultural tourism, creating synergies that strengthen the island's economic base while maintaining its ecological and cultural assets. The ability of coastal territories to **leverage research institutions, technology clusters, and partnerships between academia and industry is a key factor in creating new economic opportunities** beyond traditional sectors. For example, in the Pays de Brest (CS 4), the *Pole de compétitivité Mer Bretagne Atlantique and Technopole Brest Iroise* anchor a cluster that supports startups and SMEs in areas such as algae-based products, marine robotics, and maritime cybersecurity, enabling the region to move beyond traditional sectors like fisheries and shipbuilding toward future-oriented industries. Burgas (CS 5) illustrates how digital infrastructure can transform a port city: the municipality created Bulgaria's first fully 5G-covered city and launched the Southeast Digital Innovation Hub, accelerating digitalization in maritime transport, tourism, and fisheries while promoting smart specialization in ICT and blue economy technologies. In Gdynia (CS 6), innovation is linked to its dual role as a commercial and NATO port, with advanced R&D facilities such as the Marine Technology Centre and the Polish Naval Academy developing defence systems, hydroacoustic technologies, and cybersecurity solutions. These partnerships position Gdynia as a hub for maritime security and offshore wind logistics, complementing its established shipbuilding and port operations.

Need for generational renewal and increased alignment between workforce capabilities and emerging sectors. Another lesson emerging from the case studies concerns two structural vulnerabilities common to the coastal communities analysed: **labour shortages in specialised sectors** and **ageing population**. Regarding the former, in Pays de Brest (CS 4), 8,000 new entrants in key maritime sectors are required by 2026 in short-staffed occupations, including 1,500 in Brittany (where Brest is located). The Burgas (CS 5) case also highlights a shortage of blue economy specialised professionals, alongside high levels of youth unemployment. To bridge the gap between employment and skills, Gdynia (CS 6) introduced a "Blue Skills Strategy" to address workforce shortages and prepare for emerging sectors such as offshore wind, green shipping, and maritime logistics. The strategy emphasises vocational training, university curricula alignment, and lifelong learning to secure high-quality employment and intergenerational knowledge transfer. The ageing workforce and demographic ageing are trends observed across all communities analysed, though to varying degrees and at different scales. In Vis (CS 3), the issue is particularly visible, with population ageing and youth outmigration threatening the community's vitality. The case links this to housing shortages, among other factors, while in Burgas (CS 5), the ageing trend is increasing the burden on social and health systems, highlighting the need for service adaptation and workforce renewal. All these aspects exacerbate the difficulty of retaining younger generations and ensuring intergenerational continuity. The case of Ría de Arousa (CS 1) also draws significant insights on this challenge: according to the survey on the employed

population in the marine fishing and aquaculture sectors carried out in 2023 in Galicia, the fishing sector is predominantly composed of individuals aged 35 to 54 (66.75%), while only 16.09% are younger workers aged 16 to 34. This is partially attributed to the perceived lack of opportunities derived from these sectors, which results in younger generations often seeking opportunities in other industries or migrating elsewhere.

4.2.3. Social capital: community engagement and awareness

Community engagement grows where collective action has recognised fora that combine participatory governance with resource mobilisation. Indeed, inclusive decision-making is most effective when participation is not occasional or symbolic but formally embedded in the governance structures that allocate resources and set priorities. Structures such as EC-funded programme implementation ones, such as Fisheries Local Action Groups (FLAGs), Local Action Groups (LAGs), but also the ones created at the local level, such as sectoral cooperatives, clusters, and dedicated commissions, provide institutional spaces where different types of local actors in coastal communities can articulate shared priorities, co-design projects, and access funding. These mechanisms do more than administer grants; they foster dialogue, build trust, and enable communities to reconcile economic diversification with cultural continuity.

Where such platforms exist and function effectively, communities demonstrate greater capacity to adapt to structural challenges, leverage external funding, and maintain a sense of shared purpose. In Ría de Arousa (CS 1), fishermen's guilds (*cofradías*) and women shellfish harvesters (*mariscadoras*) have led diversification initiatives such as pescaturism and macroalgae cultivators. In this context, the FLAG operates as a pivotal intermediary between EU instruments and existing organisations, which maintain cultural identity while embracing innovation. The FLAG/LAG acts like a catalyst to support the local needs of the Coastal Community. Similarly, in Vis, Croatia (CS 3), the presence of FLAG Škoji and local cooperatives has underpinned integrated development, linking heritage valorisation with sustainable tourism and gastronomy. These fora have proven essential for mobilising EU and national resources while embedding intergenerational knowledge transfer into economic initiatives. The Pays de Brest (CS 4) case illustrates how governance bodies like the Commission Mer et Littoral firstly created for FLAG management, complement FLAG and LAG structures to create a local governance for land–sea planning. By convening municipalities, professional organisations, and civil society, these platforms enable consensus-building on complex issues such as maritime spatial planning and ecological transition. The evidence suggests that strengthening these participatory mechanisms is a critical enabler for integrated coastal development and long-term resilience across Europe's coastal communities.

Community awareness and preparedness are stronger when literacy and monitoring are co-produced with local actors. Through citizen science, participatory campaigns, or the integration of traditional knowledge, communities develop a stronger sense of ownership, increase risk awareness, and enhance preparedness for environmental and socio-economic challenges when engaged in monitoring and adaptation processes. This approach transforms passive information reception into active engagement, making resilience strategies more effective and socially legitimate. The Vis case (CS 3) highlights how the local community is structured, including the FLAG and local cooperatives, which work with researchers. to combine traditional practices and modern monitoring, enriching understanding of ecosystems and informing adaptive strategies. This co-production of knowledge ensures that conservation and tourism initiatives are socially grounded, while educational eco-tourism and awareness campaigns foster a culture of stewardship among residents and visitors. Similarly, in Pays de Brest (CS 4), ocean literacy is explicitly framed as a resilience enabler. The case describes a wide range of initiatives targeting students, professionals, and citizens through organisations such as *Campus de la Mer* or programmes such as Club Jeunes Océan, which engages high school students in marine pollution science and advocacy, and public campaigns like “*Ici commence l’Océan*” (“Here starts the ocean”), marking storm drains with educational plaques to link urban runoff to marine health.

4.2.4. Technical readiness: infrastructure and solutions for coastal protection

Several territories analysed report structural gaps in transport, port facilities, and basic services that constrain economic diversification and climate adaptation. In Burgas (CS 5), the redirection of freight flows during the Russia–Ukraine conflict exposed limitations in multimodal connectivity and outdated port facilities, prompting urgent calls for capacity expansion and integration with international logistics chains. Similarly, Gdynia’s case (CS 6) underscores the strategic importance of modernising port infrastructure to meet TEN-T standards and NATO mobility requirements, while addressing environmental performance through electrification and shore-power systems. These investments are framed as essential to reducing congestion, enhancing security, and aligning with EU decarbonisation goals. On islands such as Vis (CS 3), infrastructure deficits extend beyond maritime transport to water supply, waste management, and housing, creating barriers to sustainable tourism and social inclusion. The case highlights how ageing ferry fleets and limited connectivity exacerbate isolation, while inadequate sewage systems threaten environmental quality.

Infrastructure investment and adaptation needs tend to focus on green/blue technologies, particularly advanced port systems. Across cases, infrastructure investment needs often include green technologies, such as

electrified cranes and shore power systems, which reduce environmental impacts while supporting competitiveness. In Burgas (CS 5) and Gdynia (CS 6), efforts towards **modernization of port facilities and intermodal connectivity** – in the Polish case, with greater innovation and investment potential due to dual use of defence technology – have been central to economic diversification, enabling larger cargo flows, improved logistics efficiency, and integration with European transport corridors. Even in innovation-driven areas like Pays de Brest (CS 4), the challenge lies on one hand in adapting port and coastal facilities to host marine renewable energy projects, requiring significant upgrades to accommodate floating wind assembly and hydrogen logistics, but also on the way to finance and to support these actions with public funding, in particular the ones from the EU.

Nature-based solutions (NbS) as a key enabler of risk-aware and resilient infrastructure, although requiring greater capacity to be duly considered as part of viable solutions currently at hand, and to ensure full engagement of coastal community actors in the identification of solutions. The Netherlands case (CS 2) illustrates a shift from hard engineering to Nature-based Solutions, with the Sand Motor and Hondsbossche Dunes combining coastal defence with ecosystem restoration and recreational functions. Conceived under the Dutch “Building with Nature” approach, the Sand Motor replaced conventional hard engineering with a dynamic, adaptive system that harnesses natural processes to deliver coastal protection, ecological restoration, and socio-economic benefits. By depositing 21.5 million cubic metres of sand to create a peninsula, the project allowed wind, waves, and currents to redistribute sediment over time, strengthening coastal defences against sea-level rise and storm surges without the need for recurrent, disruptive interventions. This approach demonstrates how NbS can reduce long-term maintenance costs, enhance biodiversity, and create multifunctional spaces that serve both environmental and community needs. The Sand Motor not only safeguarded the coastline but also generated new recreational opportunities, fostering public engagement and awareness of climate adaptation. Crucially, its success relied on rigorous monitoring and adaptive management, co-produced by research institutions and local stakeholders, ensuring transparency and trust in an innovative solution. The case underscores that resilient infrastructure is not solely about physical robustness; it is about integrating ecological dynamics, social acceptance, and scientific evidence into design and governance.

4.2.5. Financial capacity: access to funding and investment

Case studies reveal both strong practices and persistent gaps in two areas: access to funding and the blending of various sources of finance.

Across all territories, public funding (particularly EU instruments such as EMFAF, ERDF, CEF, Interreg, and Horizon Europe) plays a significant role

in enabling diversification, infrastructure modernization, and innovation. In Burgas (CS 5), for example, port upgrades and fisheries diversification projects were financed through a combination of CEF transport projects and EMFAF grants, while the municipality leveraged ERDF for urban regeneration and tourism initiatives. Similarly, in the Pays de Brest (CS 4), LEADER and EMFAF supported short food chains, algae value chains, and maritime culture projects via the actions of LAG and FLAG. Their actions were complemented by Horizon Europe for research and climate adaptation. These examples illustrate that access to EU funds is widespread, but reliance on project-based financing creates vulnerability, as continuity often depends on new calls and administrative capacity at the local level to prepare proposals.

Private investment appears more limited and concentrated in specific contexts, such as port concessions in Burgas (CS 5), defence-related industries in Gdynia (CS 6), or even the private sector (e.g., insurance company) when discussing support to coastal erosion in the Netherlands (CS 2). Even where private actors are present in fact, as in the Netherlands' Sand Motor case (CS 2), large-scale Nature-based Solutions remain funded by public authorities, with blended finance still in its infancy. The Dutch experience highlights the challenge of attracting private co-investment for projects that deliver public goods like coastal protection and biodiversity, due to a lack of awareness of private investors and the absence of innovative financing models.

Blending and synergetic use of funds is most advanced where municipalities or regional bodies act as integrators. Burgas (CS 5) demonstrates how combining EU structural funds with national budgets and foreign direct investment can accelerate complex projects, from port modernization to cultural infrastructure. In Brest (CS 4), coordination between regional authorities and intercommunal structures enables layering of funds from different programs to support innovation clusters and environmental restoration. However, these practices require strong institutional capacity and strategic planning, which smaller or more isolated communities, such as Vis (CS 3) or Ría de Arousa (CS 1), often lack, limiting their ability to move beyond single-source grants.

5. EU support to coastal communities

In this section, the landscape of EU support is mapped and assessed to identify contributions to resilience, economic diversification and socio-economic development in coastal communities. Understanding how EU programmes and instruments are structured, delivered, and aligned with coastal priorities is essential for informing future policymaking at all levels of governance. A more detailed qualitative analysis of EU financial and technical support for coastal communities, as well as examples of projects supported by EU funds, is provided in Annex 3 of this report.

5.1. Relevant EU funds and support mechanisms

The study assessed how EU funds and support programmes mechanisms address the needs of coastal and island communities. This involved identifying relevant funds and support mechanisms, looking at their management and implementation modalities, and identifying budgetary allocations of the funds, their modes of delivery (“how” support is channelled), and the underlying policy objectives (“why” they exist) in the context of the resilience and socio-economic development of coastal communities.

The table below brings these findings together by mapping the **EU funds and programmes** against the specific challenges and pressures identified. The first column lists the funds and programmes in scope. The second shows delivery proximity to local communities by indicating the level at which decisions and implementation occur, from the community to the EU. Although some instruments also support EU-level projects, this column reflects the influence coastal actors have over decisions and delivery. The remaining columns mark direct contributions (D) where a fund has explicit objectives or dedicated measures for a challenge, and indirect contributions (I) where supported actions can help address it without being a primary aim. The table provides a comparative view of where EU support is strongest and where coverage is thinner or fragmented.

Table 6 – Mapping of EU funds and programmes against coastal community challenges

EU Funds and programmes	Delivery proximity to local community	Climate change, and pressure on ecosystems	Increased urbanisation and pressure on space	Economic dependence on key sectors	Innovation and skills gaps	Socio-economic challenges in rural and remote areas	Connectivity and infrastructure	Safety and security risks
Funds with shared management strands								
EMFAF/EMFF	Local/ community – FLAGs for aquaculture and fisheries projects	D	I	D	D	I	I	I
EAFRD	Local/ community – LEADER	D	D	D	I	I	D	-
ERDF	Local/ community – LAGs; National/regional – government	D	D	D	D	D	D	I
ESF+		I	D	D	D	D	I	-
Cohesion Fund	National/ regional – government	D	D	I	I	-	D	I
JTF		I	I	D	D	-	-	-
Selected Interreg programmes for cross-basin cooperation (primarily supported by the ERDF)								
Interreg Euro-MED	Transnational/ regional - Research/ education, government (regional/ local), and enterprises.	D	D	D	D	-	I	-
Interreg Baltic Sea		D	D	D	D	-	-	-
Interreg Atlantic		D	D	D	D	-	-	-
Interreg NEXT Black Sea Basin		D	D	D	D	-	I	-
Centrally managed funds: locally accessible project funding								
LIFE Programme	EU-level – Research/ education, government (regional/ local), NGOs and enterprises.	D	-	I	I	-	-	-
Horizon Europe / Horizon 2020		D	I	D	D	-	-	I
EU Mission Restore our Ocean and Waters		D	I	D	D	-	-	-

<i>EU Mission Adaptation to Climate Change</i>		D	I	I	D	-	-	-
<i>Sustainable Blue Economy Partnership</i>		D	I	D	D	-	-	-
<i>European Institute of Innovation and Technology (EIT)</i>		D	I	D	D	-	I	I
Centrally managed: large-scale infrastructure and transformation								
CEF – Energy, and Cross-border Renewable Energy	Transnational/ national/ regional – government; large enterprises	I	D	I	I	-	D	I
CEF – Transport		I	D	I	I	-	D	I
INNOVFUND	EU-level – Research/ education, enterprise	I	I	I	I	-	D	I
Modernisation Fund	National/ regional – government, and enterprises	I	D	I	I	-	D	I
Recovery and Resilience Facility	National government	D	D	D	D	I	D	D
EU Investment Mobilisation								
InvestEU Fund	Enterprises, via national intermediaries	I	I	D	D	-	D	-
Crisis Response Mechanisms								
Brexit Adjustment Reserve		-	-	D	-	-	-	-
EU Solidarity Fund	National – government	D	-	-	-	-	-	D ^d
EU Civil Protection Mechanism and rescEU		D	-	-	-	-	-	D ^d

Source: Own elaboration. Legend: D = direct contribution (fund/programme has explicit objectives or dedicated measures addressing the challenge); I = indirect contribution (fund/programme can contribute even if not its primary focus).

The mapping highlights clear contrasts in coverage. **Challenges associated with the environment, including climate adaptation and economic diversification, are addressed through multiple instruments, while others – notably socio-demographic issues such as ageing populations – are only supported indirectly or by a limited set of instruments.** These differences reflect the proximity of delivery mechanisms. Community-managed instruments, such as Community-Led Local Development (CLLD) strategies delivered and implemented by Local Action Groups (LAGs) ⁽¹⁵²⁾, enable locally tailored responses, whereas larger centrally managed or infrastructure funds mobilise significant resources but demand higher administrative capacity and stronger alignment with EU-level strategies such as the Green Deal.

Among these, **the EMFAF and its predecessor, the EMFF, stand out for combining community-led initiatives with nationally managed measures across fisheries, aquaculture, biodiversity, marine monitoring, and wider blue economy development.** CLLDs delivered via FLAGs have generated wide-ranging benefits, from entrepreneurship and youth engagement to marine conservation and local governance. Additionally, several of the case studies (e.g. Vis Island, CS 3; Pays de Brest, CS 4; Galicia, CS 1) confirm the positive role of FLAGs.

Community-Led Local Development under the EMFF: Localised and inclusive support for resilience, diversification and innovation in coastal areas

Evidence from a FAMENET study ⁽¹⁵³⁾ shows that CLLD under the EMFF (2014 to 2020) delivered strong results in coastal areas. About 10% of the EMFF budget was allocated to CLLD. This enabled local support to more than 14,300 projects implemented by 348 FLAGs across 19 Member States. CLLD emerged as the Fund's leading job-creator, generating 4,245 new jobs while helping launch over 1,000 businesses, maintain more than 10,000 jobs, diversify activity in more than 4,000 enterprises, and strengthen local food systems through 1,400 new or improved sales channels. It also backed about 1,600 environmental actions, mobilised an estimated 140,000 young people via educational and awareness-raising activities, broadened access to EU funding for many first-time beneficiaries, improved local governance in 64% of

⁽¹⁵²⁾ Under Article 31 of the Common Provisions Regulation (2021–2027), the ERDF, ESF+, JTF and EMFAF may support community-led local development (CLLD) delivered by 'local action groups'. The legal term is the same regardless of Fund, but sectoral practices vary: in fisheries/coastal contexts EMFAF partnerships are commonly branded 'Fisheries Local Action Groups (FLAGs)', while ERDF/ESF+ partnerships are referred to as 'local action groups (LAGs)'. In rural development under the CAP, the EAFRD implements CLLD through partnerships called 'LEADER'; this is the same CLLD method and governance framework, just under the LEADER label.

⁽¹⁵³⁾ https://oceans-and-fisheries.ec.europa.eu/publications/clld-fisheries-and-coastal-communities-achievements-and-lessons_en

areas, and was more gender-inclusive (20% women beneficiaries supported via CLLDs vs 9% across the EMFF overall).

The **ERDF**, with its broader purpose and territorial scope, has been mobilised in coastal regions for physical and digital infrastructure, equipment, SME competitiveness, the development of Smart Specialisation Strategies (S3) ⁽¹⁵⁴⁾, and environmental protection, alongside measures to support tourism, access to services, and the promotion of social inclusion. **Interreg programmes**, supported by the ERDF, enable cooperation at cross-border, transnational and interregional levels, including with the outermost regions, and support joint work across borders on issues such as marine pollution and biodiversity loss, as well as sustainable culture and tourism. The **EAFRD** plays a bridging role: it supports tourism, agri-environmental schemes, and heritage projects in rural coastal zones, giving coastal community-based local action groups discretion to address priorities beyond fisheries or other maritime sectors. It also supports infrastructure for coastal protection and sustainable land and water management. The **ESF+** focuses on people and skills, funding training, employment activation, upskilling, and social inclusion, benefiting coastal communities that face skills gaps, ageing populations, gender imbalances, economic vulnerability, and a rural-urban divide. It supports social innovation and diversification and, through CLLD, backs locally tailored projects that connect people to jobs, learning, and essential services.

Centrally managed programmes channel EU support to coastal communities' needs and priorities through research, innovation, environmental action, and large-scale cross-border infrastructure and strategic investments. **Horizon Europe** supports research and innovation in ocean health, biodiversity, and climate resilience, increasingly involving local authorities, SMEs, and communities through Missions such as Restore our Ocean and Waters and Climate Adaptation. The **LIFE Programme**, by contrast, focuses on on-the-ground implementation, from restoring habitats to managing Natura 2000 sites, delivering tangible benefits for ecosystems and communities. Infrastructure- and strategic-investment-oriented instruments such as the Modernisation Fund, the Innovation Fund, and the Connecting Europe Facility (CEF) have also financed large-scale, low-carbon infrastructure with coastal relevance, ranging from transport links to cross-border energy networks.

Taken together, these examples highlight the complementary roles of EU instruments. Funds such as EMFAF, EAFRD, and ERDF are more accessible to

⁽¹⁵⁴⁾ Smart Specialisation Strategies (S3) are national or regional research and innovation strategies developed by Member States to identify their competitive advantages, allowing them to concentrate investment in key priority areas. S3 were first introduced as an ex-ante conditionality for ERDF investment in research and innovation under the 2014–2020 programming period (see [Regulation EU 1303/2013](#)). Under the 2021-2027 programming period, ERDF support under Policy Objective 1 is explicitly conditioned on building capacities for S3 (see Paragraph 14 of [Regulation \(EU\) 2021/1058](#)). [Sustainable Blue Economy](#) is a Thematic Platform under S3.

local actors, such as LAGs, enabling them to respond directly to community-level needs. Nationally managed programmes and centrally managed initiatives bring larger-scale investment, cross-border cooperation, and innovation capacity. On the other hand, Invest EU and its Blue Economy equity mechanism demonstrate how financial instruments can mobilise private investment to support the financing needs of smaller businesses.

The effectiveness of EU support depends not only on the volume of resources but also on the balance between proximity and scale, and on the ability of coastal communities to navigate across these layers of funding and effectively use them for their needs.

In addition to the financial instruments described above, **a range of EU-level support mechanisms complements the funding landscape for coastal and island communities.** These mechanisms do not provide grants or loans directly, but instead offer technical assistance, advisory services, and matchmaking platforms that help stakeholders make better use of available funding and overcome non-financial barriers to project development.

Some mechanisms focus on **technical and administrative support** for project preparation. The Joint Assistance to Support Projects in European Regions (JASPERS) ⁽¹⁵⁵⁾, for example, provides independent advice on designing high-quality investment projects, with a particular emphasis on Cohesion Policy funds. While not specific to coastal regions, such advisory services can be especially valuable for smaller authorities and community-level actors, helping them navigate complex EU requirements and strengthen compliance.

Others concentrate on **investment facilitation and access to finance.** BlueInvest ⁽¹⁵⁶⁾ is a prominent case in the blue economy, offering investment-readiness support, matchmaking and direct links between SMEs, start-ups and investors. By bridging the gap between innovative project ideas and financing, it helps coastal and maritime entrepreneurs bring innovative solutions to market that might otherwise struggle to secure backing.

Several mechanisms provide **knowledge exchange and transition support.** The Just Transition Platform ⁽¹⁵⁷⁾ connects national, regional and local authorities, offering guidance on accessing the Just Transition Mechanism ⁽¹⁵⁸⁾ and supporting territories facing structural change, including those with coastal dimensions. Broader EU networks and platforms also act as multipliers, enabling lessons from one region to be transferred and adapted in others.

⁽¹⁵⁵⁾ <https://jaspers.eib.org/>

⁽¹⁵⁶⁾ <https://blueinvest-community.converve.io/index.php>

⁽¹⁵⁷⁾ https://ec.europa.eu/regional_policy/funding/just-transition-fund/just-transition-platform_en

⁽¹⁵⁸⁾ https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism_en. Note that the Just Transition Fund falls under the Just Transition Mechanism.

Finally, a distinct set of mechanisms operates at the level of sea basins, **providing targeted assistance for cooperation in shared marine areas**. The assistance mechanisms for EU Sea Basin Strategies, including the WestMED initiative ⁽¹⁵⁹⁾, the Atlantic Strategy ⁽¹⁶⁰⁾, the Common Maritime Agenda for the Black Sea ⁽¹⁶¹⁾ and the Greater North Sea Basin Initiative ⁽¹⁶²⁾, do not provide funding directly but support stakeholders in their respective sea basins in developing projects, identifying financing opportunities across EU programmes and building partnerships ⁽¹⁶³⁾. By focusing on the specific challenges of each basin, they foster coherent action on issues such as sustainable fisheries, marine litter, renewable energy, and blue economy innovation, while strengthening regional cooperation. A similar role is played by EU Macro-Regional Strategies with relevant coastal components ⁽¹⁶⁴⁾.

These mechanisms extend the reach and effectiveness of EU support beyond direct funding. They help coastal stakeholders design stronger projects, connect with investors, and learn from peers across Europe.

5.2. Quantitative assessment: analysis of available funding

The quantitative analysis carried out provides an indication of the scale of EU support allocated to coastal and island territories since 2014 ⁽¹⁶⁵⁾. It covers funds and programmes for which data on allocations and spending could be associated with coastal communities. These include the EMFF/EMFAF, the Cohesion Policy funds (ERDF and the Interreg Programmes, Cohesion Fund, and the Just Transition Fund (JTF)), Horizon Europe and its predecessor Horizon 2020, and the LIFE programme. An analysis of EU shared management funds spending based on territorial mechanisms is also presented. For EMFAF and Cohesion Policy funds, the analysis focuses on planned EU contributions as reported in official data portals, reflecting programmed allocations rather than actual

⁽¹⁵⁹⁾ <https://westmed-initiative.ec.europa.eu/assistance-mechanism/>

⁽¹⁶⁰⁾ <https://atlantic-maritime-strategy.ec.europa.eu/en>

⁽¹⁶¹⁾ <https://black-sea-maritime-agenda.ec.europa.eu/>

⁽¹⁶²⁾ <https://www.government.nl/documents/reports/2024/11/25/greater-north-sea-basin-initiative---antwerp-ministerial-declaration>

⁽¹⁶³⁾ Additional EU macro-regional strategies with coastal and maritime dimensions exist, e.g. [EUSAIR \(Adriatic-Ionian Region\)](#) and [EUSBSR \(Baltic Sea Region\)](#). These operate as strategic frameworks rather than targeted assistance mechanisms.

⁽¹⁶⁴⁾ https://ec.europa.eu/regional_policy/policy/cooperation/macro-regional-strategies_en (Note: EU macro-regional strategies have operational budgets to support their coordination activities, but similar to EU sea basin support mechanisms, they function as strategic frameworks that facilitate access to existing EU programmes rather than providing direct funding to coastal communities themselves).

⁽¹⁶⁵⁾ Landlocked EU Member States (Austria (AT), Czechia (CZ), Hungary (HU), Luxembourg (LU) and Slovakia (SK)) are excluded from the quantitative analysis because, by definition, they have no coastal communities.

expenditure. For Horizon and LIFE programmes, the analysis examines the EU contribution towards the total project value.

The sub-sections below summarise these results. For in-depth information on the datasets used, assumptions applied for the analysis, and a more in-depth presentation and discussion of the results, please refer to Annex 4 of this report.

5.2.1. Summary of EU spending in coastal communities

The quantitative analysis of EU funding for coastal communities reveals significant EU financial contributions across multiple funding streams and programming periods. Based on a comprehensive assessment of selected EU programmes covering both the 2014-2020 and 2021-2027 MFFs, the analysis distinguishes between funding that can be directly attributed to coastal communities and broader support relevant to coastal community resilience and development, but which may extend beyond coastal areas. The estimates in the tables below focus on EU planned allocations for shared management funds and EU contributions for directly managed programmes, providing the most comparable basis for assessment across different funding instruments.

Table 7 – Estimated direct coastal community EU allocations (EUR)

EU Fund	2021-2027 EU planned (EUR million)	2014-2020 EU planned (EUR million)
EMFAF/EMFF	5,224	5,533
Cohesion Policy funds	2,254	2,061
Total	7,487	7,594

Source: Own estimations based on the following datasets: EMFAF and Cohesion Policy Funds (2021-2027), 2021-2027 Finances Detailed Planned vs Implemented (timeseries), dataset from 21 August 2025; EMFF (2014-2020) ESIF 2014-2020 Finance Implementation Details, dataset from 26 August 2025; Cohesion Policy funds (2014-2020), ESIF 2014-2020 categorisation ERDF-ESF-CF planned vs implemented, dataset from 5 April 2024.

Notes: The results exclude funding for AT, CZ, HU, LU and SK. Cohesion Policy funds estimates are based on intervention fields unique to coastal communities, including marine renewable energy and seaports infrastructure. The reference period for the 2021-2027 dataset is up to June 2025. The 2021-2027 period is still ongoing as of preparation of this report; therefore, the EUR values only reflect planned and spend amounts up to this reference period. The reference period for the 2014-2020 datasets is 2023. Full details are in Annex 4 of this report.

Additional territorial targeting data (2021-2027 only) identifies EUR 5.8 billion in combined support explicitly designated for coastal areas, representing an alternative classification of the same funding streams.

Table 8 – Estimated relevant but geographically non-specific support for coastal communities (EUR)

EU Fund	2021-2027 EU planned (EUR million)	2014-2020 EU planned (EUR million)
Cohesion Policy funds	19,218	10,081
Horizon Europe/Horizon 2020	300	267
Life Programme	385	461
Total	19,903	10,809

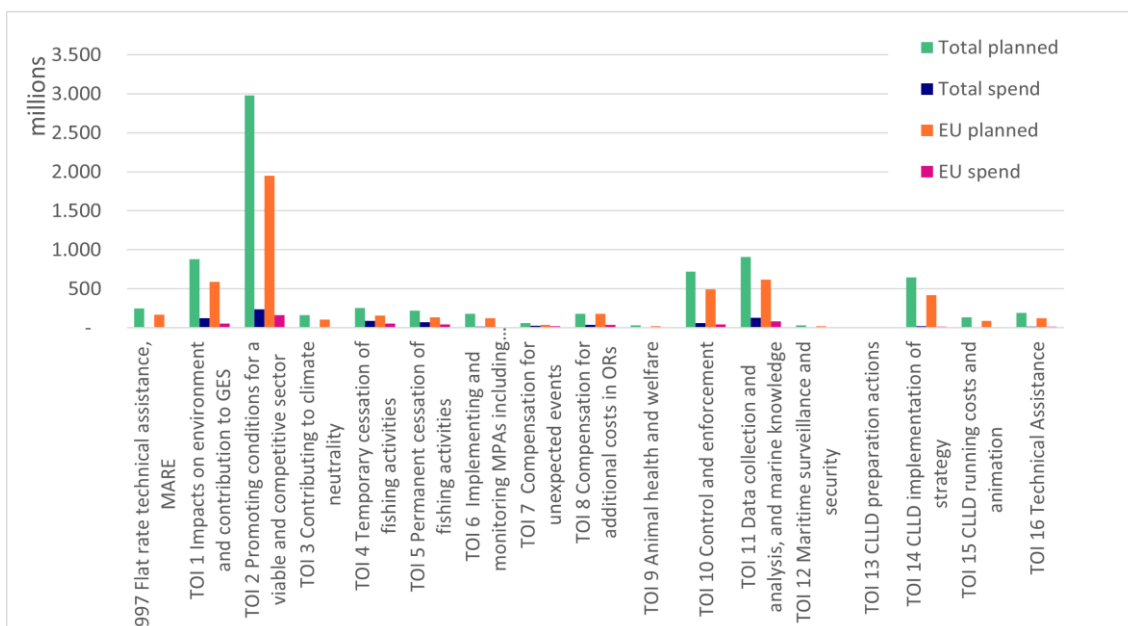
Source: Own estimations based on the following datasets: Cohesion Policy Funds (2021-2027), 2021-2027 Finances Detailed Planned vs Implemented (timeseries), dataset from 21 August 2025; Cohesion Policy funds (2014-2020), ESIF 2014-2020 categorisation ERDF-ESF-CF planned vs implemented, dataset from 5 April 2024; Horizon Europe and Horizon 2020, dataset provided by the European Research Executive Agency (REA) (01 August 2025); LIFE Programme, dataset downloaded from the CINEA Programme Dashboard.

Notes: The results for Cohesion Policy funds exclude funding for AT, CZ, HU, LU and SK. Cohesion Policy funds estimates are based on intervention fields relevant to coastal communities but also applicable to non-coastal areas, including climate adaptation, nature protection, and tourism development. The reference period for the 2021-2027 Cohesion Policy funds dataset is up to June 2025. The 2021-2027 period is still ongoing as of preparation of this report; therefore, the EUR values only reflect planned amounts up to this reference period. The reference period for the Cohesion Policy funds 2014-2020 dataset is 2023. Full details are in Annex 4 of this report.

5.2.2. EMFF/EMFAF

The EMFF (2014-2020) and its successor EMFAF (2021-2027), are the EU instruments most explicitly targeted to the coastal and island communities. By June 2025, **the EU contribution planned in national EMFAF (2021-2027) programmes amounts to EUR 5.2 billion, of which EUR 540 million has been reported as spent so far.** Most EU planned amounts are made to “Promoting conditions for a viable and competitive sector” (nearly EUR 2 billion), followed by “Data collection and analysis, and marine knowledge” (EUR 618 million).

Figure 24 – EMFAF total and EU planned and spent amounts according to Type of Intervention (EUR)

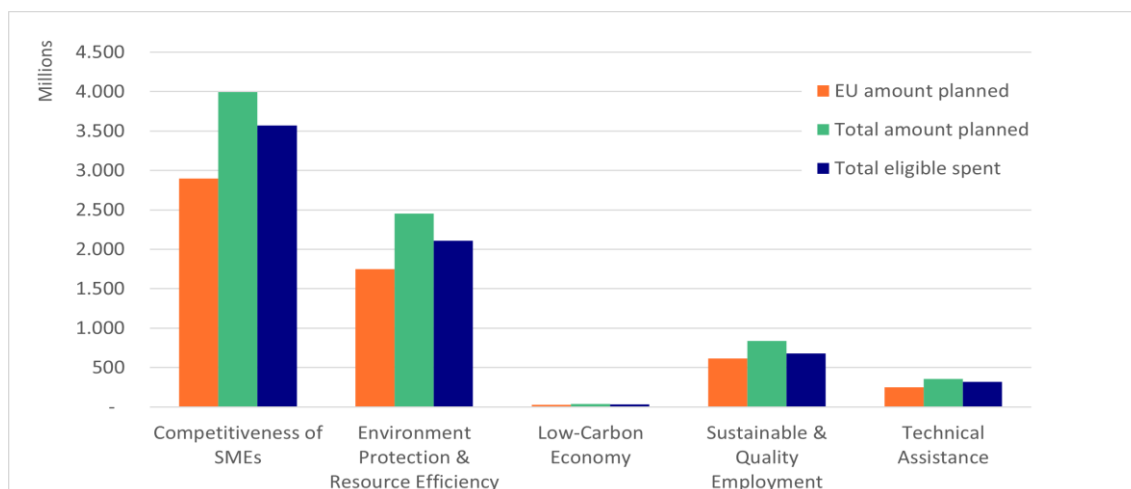


Source: Own estimations based on [Cohesion Open Data Portal](#), ‘2021-2027 Finances Detailed Planned vs Implemented (timeseries)’, 2025. Notes: The reference period is June 2025. The 2021-2027 period is still ongoing as of preparation of this report; therefore, the EUR values only reflect planned and spend amounts up to this reference period. The analysis excludes funding for AT, CZ, HU, LU and SK (see details about the approach in Annex 4).

By 2023 ⁽¹⁶⁶⁾, the reported EU planned contribution to the national EMFF (2014-2020) programmes was EUR 5.5 billion. Most planned and spent EU allocations are directed towards promoting the competitiveness of SMEs (EUR 2.9 billion EU contribution), followed by environmental protection and resource efficiency (EUR 1.75 billion is the EU contribution).

⁽¹⁶⁶⁾ Even though the previous MFF covered 2014 to 2020, spending and reporting of funds under this MFF continued until after this period.

Figure 25 – EMFF EU planned, and total planned and spent amounts according to Thematic Objective (EUR)



Source: Own estimations based on [Cohesion Open Data Portal](#), 'ESIF 2014-2020 categorisation ERDF-ESF-CF planned vs implemented', dataset from 5 April 2025. Notes: The reference period is 2023. The analysis excludes funding for AT, CZ, HU, LU and SK (see details about the approach in Annex 4).

Looking at the data for both MFF periods, **planned EU contributions⁽¹⁶⁷⁾ for the 2021-2027 MFF is marginally lower: EUR 5.2 billion compared to the EUR 5.5 billion in the 2014-2020 period.** In terms of thematic areas supported in both periods, the largest allocations from an EU contribution perspective are for supporting economic competitiveness of maritime/coastal activities.

5.2.3. Cohesion Policy funds: ERDF and Interreg Programmes, Cohesion Fund, and the JTF

Cohesion Policy funds represent the largest source of EU funding with relevance for coastal and island communities, primarily through the European Regional Development Fund (ERDF) and the Interreg programmes, the Cohesion Fund, and more recently, the Just Transition Fund (JTF).

⁽¹⁶⁷⁾ Since the 2021-2027 period remains in progress and not all allocations have been spent yet, the comparison of EMFF and EMFAF funding data focuses on **planned allocations** rather than actual spending figures.

Because Cohesion Policy funds are not exclusively dedicated to coastal regions and areas, the analysis focused on a selection of intervention fields (IFs) ^(168;169) judged to be most relevant to coastal and island communities. These included IFs directly relevant to coastal regions and areas (e.g. marine renewable energy; seaports) and those that are relevant but not unique to coastal areas (e.g. protection and development of tourism; nature and biodiversity protection; climate change adaptation).

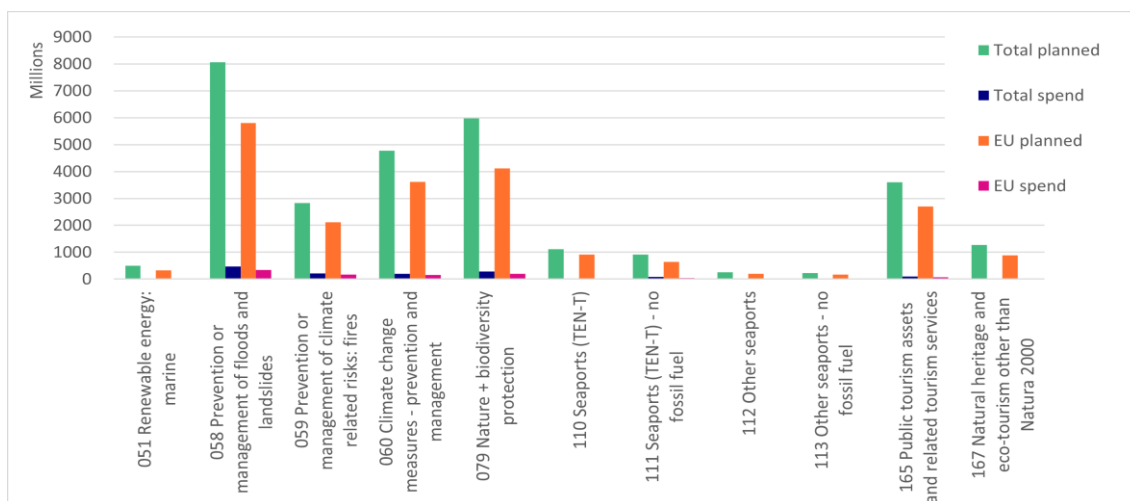
For the 2021-2027 period, **the planned EU contribution towards IFs unique to coastal communities ⁽¹⁷⁰⁾ is EUR 2.25 billion, of which EUR 65 million has been spent.** On the other hand, the planned EU contribution to IFs not unique to but relevant for the resilience of coastal communities is EUR 19.22 billion, of which EUR 951 million has been spent.

⁽¹⁶⁸⁾ For example, see Table 1 of Annex 1 of the [Common Provisions Regulation](#) for the full list of IFs applicable to the ERDF, the Cohesion Fund, and the JTF for the 2021-2027 MFF. These IFs also apply to the ESF+, but this Fund is not included in the quantitative analysis of Cohesion Policy funds.

⁽¹⁶⁹⁾ As highlighted in the previous section, ESF+ supports coastal communities through skills development, education and training, and social inclusion for vulnerable groups such as older people and women. However, the Intervention Fields used for ESF+ are not specific to coastal territories and cannot be reliably disaggregated to identify spending targeted at coastal communities. Including ESF+ in the quantitative analysis based on “Intervention Fields” would therefore risk overstating or understating the level of support to coastal areas would not provide a representative picture. ESF+ contributions to coastal community challenges are instead considered in the quantitative analysis based on territorial delivery mechanisms.

⁽¹⁷⁰⁾ Intervention Fields in the 2021-2027 MFF unique to coastal communities include marine renewable energy (IF 51) and seaports infrastructure (IFs 110-113). Non-unique intervention fields relevant to coastal communities include climate adaptation measures (IFs 58-60), nature and biodiversity protection (IF 79), and tourism development (IFs 165, 167).

Figure 26 – 2021-2027 Cohesion Policy funds planned and spent amounts relevant to coastal communities according to Intervention Field (EUR).

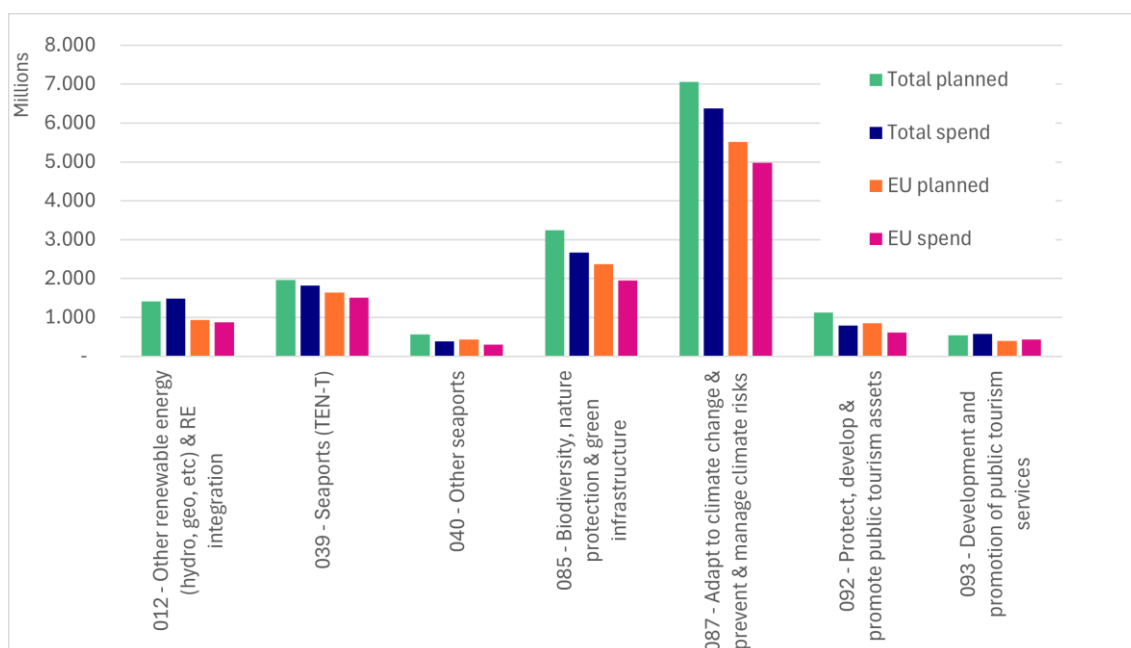


Source: Own estimations based on [Cohesion Open Data Portal](#), ‘2021-2027 Finances Detailed Planned vs Implemented (timeseries)’, dataset from 21 August 2025. Notes: The reference period is June 2025 and covers ERDF, CF, Interreg and JTF. The 2021-2027 period is still ongoing as of preparation of this report; therefore, the EUR values only reflect planned and spend amounts up to this reference period. The analysis excludes funding for AT, CZ, HU, LU and SK (see details about the approach in Annex 4).

For the 2014-2020 period, **the planned EU contribution towards IFs unique to coastal communities⁽¹⁷¹⁾ is EUR 2.06 billion, of which 1.81 billion has been spent.** On the other hand, the EU planned contribution towards IFs not unique to but relevant for the resilience of coastal communities is EUR 10.81 billion, of which EUR 8.85 billion has been spent.

⁽¹⁷¹⁾ Intervention fields in the 2014-2020 MFF unique to coastal communities include seaports infrastructure (IFs 39-40). Non-unique intervention fields relevant to coastal communities include renewable energy (IF 12), biodiversity and nature protection (IF 85), climate adaptation measures (IF 87), and tourism development (IFs 92-93).

Figure 27 – 2014-2020 Cohesion Policy funds planned and spent amounts relevant to coastal communities according to Intervention Field (EUR)



Source: Own estimations based on [Cohesion Open Data Portal](#), 'ESIF 2014-2020 categorisation ERDF-ESF-CF planned vs implemented', dataset from 5 April 2025. Notes: The reference period is 2023 and covers ERDF (incl. Interreg) and CF. The analysis excludes funding for AT, CZ, HU, LU and SK (see details about the approach in Annex 4).

Considering the IFs unique to coastal communities – 5 in the 2021-2027 MFF and 2 in the 2014-2020 MFF – the planned EU Cohesion Policy support allocated through these coastal-specific intervention fields is EUR 2.25 billion in 2021-2027, compared to EUR 2.06 billion in 2014-2020. A substantial portion of these totals is related to investments in seaports. There is also significant planned support through intervention fields for climate adaptation, nature protection, and tourism that are relevant to the resilience of coastal communities but may also benefit non-coastal areas. These planned allocations total EUR 19.22 billion in the 2021-2027 MFF, compared to EUR 10.08 billion in the 2014-2020 MFF.

Table 9 – Cohesion Policy funds planned allocations relevant for coastal communities (EUR million)

Relevant IFS	2021-2027 MFF		2014-2020 MFF	
	Total planned	EU planned	Total planned	EU planned
Adaptation to climate risks	15,667	11,523	7,060	5,518
Nature protection	5,971	4,112	3,245	2,374
Tourism	4,866	3,584	1,668	1,256
Renewable energy	494	326	1,410	933
Seaports*	2,494	1,928	2,519	2,061
TOTAL	24,492	21,473	15,903	12,142
Directly relevant for coastal communities	2,988	2,254	2,519	2,061

Source: Own estimations based on Cohesion Open Data Platform datasets (2021-2027 Finances Detailed Planned vs Implemented (timeseries), and ESIF 2014-2020 categorisation ERDF-ESF-CF planned vs implemented). *Notes:* For Adaptation to climate risks, Seaports, and Tourism, the estimates are aggregated from multiple IFS. All numbers are rounded. The analysis excludes funding for AT, CZ, HU, LU and SK. Reference period for the 2021-2027 MFF is June 2025 (2025/06), and for the 2014-2020 MFF is 2023 (see details about the approach in Annex 4). The 2021-2027 period is still ongoing as of preparation of this report, therefore the EUR values for this MFF reflect planned amounts up to the June 2025 period.

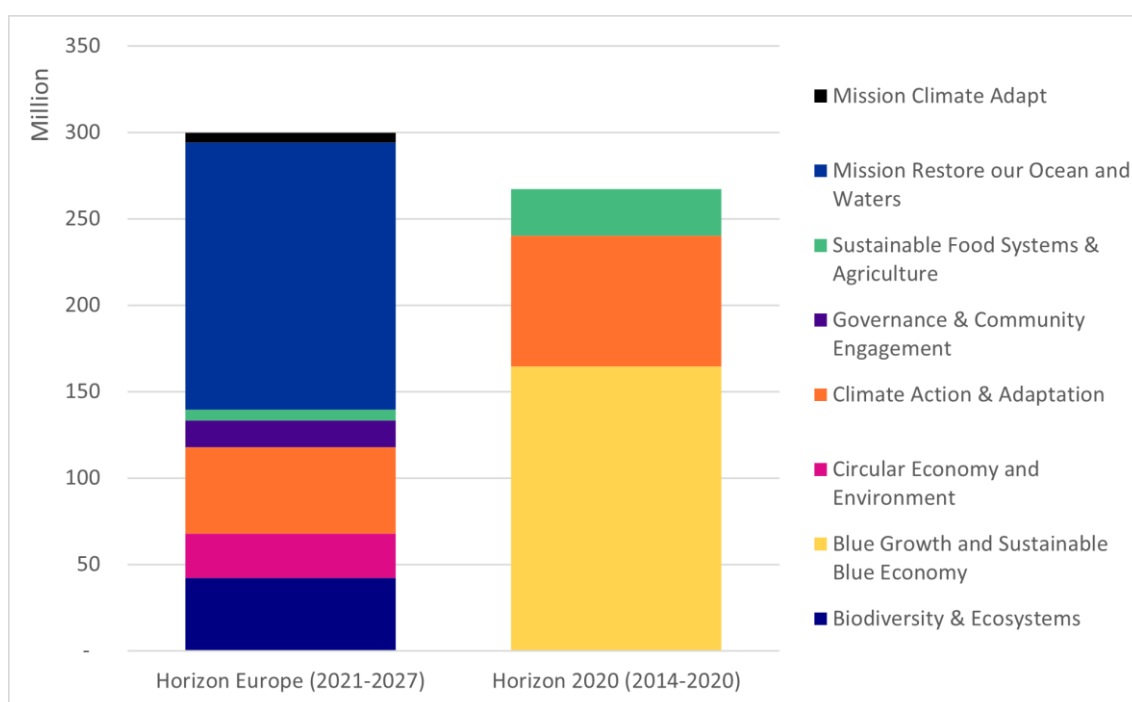
5.2.4. Horizon Europe and Horizon 2020

The quantitative analysis for Horizon Europe (2021-2027) and Horizon 2020 (2014-2020) focuses specifically on Horizon Europe Cluster 5 (Climate, Energy and Mobility) and Cluster 6 (Food, Bioeconomy, Natural Resources, Agriculture and Environment), together with their equivalent areas under Horizon 2020. These clusters were selected as they cover research areas most relevant to coastal and marine challenges, including climate adaptation and resilience, marine ecosystem conservation, sustainable fisheries, and blue economy development ⁽¹⁷²⁾.

⁽¹⁷²⁾ Authors of this report recognise that Other Horizon Europe clusters, such as Cluster 2 (Culture, Creativity and Inclusive Society) and Cluster 3 (Civil Security for Society), also touch on issues of relevance to coastal communities, for example underwater cultural heritage, tourism, and disaster resilience. However, in line with the scope defined in the inception report, the analysis presented here is limited to Clusters 5 and 6 and their Horizon 2020 equivalents. The EU Missions Restore our Ocean and Waters and Climate Adapt are also included in this analysis.

Within the 86 relevant projects identified using a dataset provided by the European Research Executive Agency (REA) ⁽¹⁷³⁾, **50 projects are from the (on-going) Horizon Europe programme, with a total EU contribution ⁽¹⁷⁴⁾ of over EUR 299.67 million.** For the 2014-2020 period, 36 out of the 86 projects identified using the REA dataset are under Horizon 2020. **The total EU contribution is just over EUR 267 million.**

Figure 28 – EU contributions relevant to coastal communities under Horizon Europe (2021-2027) and Horizon 2020 (2014-2020), in EUR



Source: Own estimations based on dataset provided by REA (01 August 2025). Notes: Horizon Europe (2021-2027) is still ongoing as of the preparation of this report. Additional details on the approach are in Annex 4.

In Horizon Europe (2021-2027), the pattern captured by the dataset is more diversified across themes. Mission Restore our Ocean, and Waters captures the largest share of EU spending in research and innovation for coastal communities: over EUR 154 million in EU contribution. While spending related to climate action and adaptation remains a significant area of investment (just over EUR 55 million ⁽¹⁷⁵⁾), new categories appear prominently, including biodiversity and

⁽¹⁷³⁾ These keywords were based on coastal and marine issues (e.g. coastal communities, island tourism, blue economy, fisheries, marine renewable energy, marine biodiversity, sea level rise) combined with cross-cutting themes (e.g. climate change, innovation, nature conservation, community-led local development, regional authorities). The full list of keywords is available in Annex 4.

⁽¹⁷⁴⁾ The dataset shows proposal requested grant and proposal budget. The proposal requested grant represents the EU funding requested by and awarded to the project and is therefore taken to be equivalent to the EU contribution.

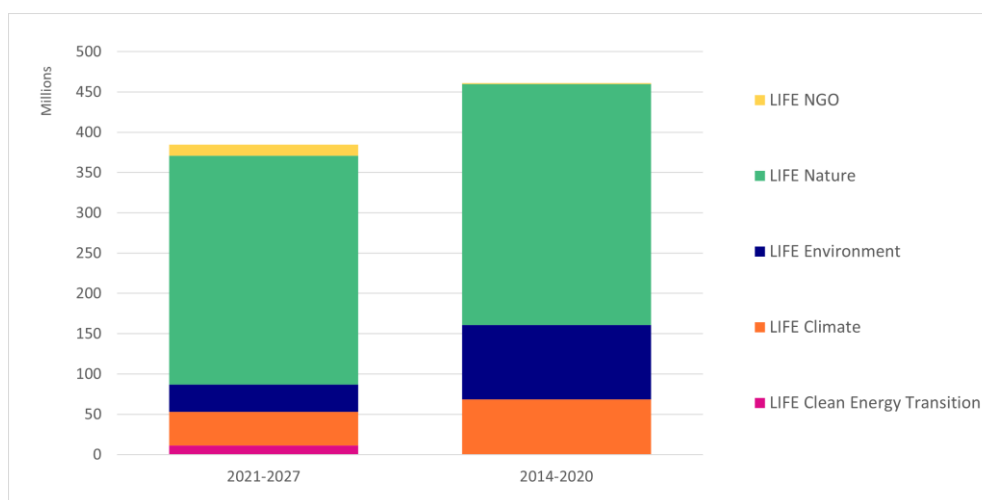
ecosystems (EUR 42 million), circular economy and environment (EUR 26 million), and governance and community engagement (EUR 15 million). By contrast, sustainable food systems and agriculture play a minor role (EUR 6 million).

Under Horizon 2020 (2014-2020), the focus of research and innovation relevant to coastal communities was strongly concentrated on Blue Growth and the Sustainable Blue Economy, with funding of more than EUR 164 million. This emphasis reflects how the programme framed coastal and marine research in terms of the oceans' economic and scientific potential. Alongside this, climate action and adaptation (EUR 76 million) and sustainable food systems and agriculture (EUR 27 million) also featured.

5.2.5. Programme for the Environment and Climate Action (LIFE)

To quantify LIFE Programme support for coastal communities, data from the CINEA dashboard ⁽¹⁷⁶⁾ were screened and filtered for the 2014-2020 and 2021-2027 periods ⁽¹⁷⁷⁾. In total, 274 LIFE projects were identified as relevant to coastal communities, comprising 174 projects from 2014–2020 and 100 projects from 2021–2027, although the latter does not provide a full picture as the current period is still ongoing. 2021–2027, although the latter does not provide a full picture as the current period is still ongoing.

Figure 29 – LIFE Programme 2021-2027 and 2014-2020 contributions to projects supporting coastal communities (EUR)



Source: Own estimations based on dataset downloaded from the [CINEA dashboard](#). The 2021-2027 programme is still on-going as of preparation of this report.

⁽¹⁷⁶⁾ [CINEA public dashboard](#) (download date 14 August 2025).

⁽¹⁷⁷⁾ Given the substantial number of projects (over 2,200) and the absence of geographic tagging in the dataset, a keyword approach was used to identify projects of direct relevance to coastal and island territories. Additional details on this approach including the keywords used are presented in Annex 4.

LIFE Nature consistently represents the largest stream of funding, accounting for EUR 298.8 million in 2014-2020 and EUR 284 million in 2021-2027. Even though funding for the ongoing period is not yet fully allocated, this reflects sustained investment in Natura 2000 management and the conservation of coastal habitats. LIFE Environment accounted for EUR 92.4 million in 2014-2020 and EUR 33.7 million in 2021-2027, covering marine litter removal, pollution remediation, water quality improvement, and circular economy projects. LIFE Climate contributed EUR 68.5 million in 2014-2020 and EUR 42.0 million in 2021-2027, for projects such as blue carbon initiatives in wetlands and seagrass meadows, and adaptation measures supporting fisheries, tourism, and flood risk reduction.

LIFE Clean Energy Transition is new to the 2021-2027 programme and contributes EUR 11.2 million for renewable energy initiatives in coastal regions. LIFE NGO projects appear in both periods, with EUR 1.2 million attributed in 2014-2020 and EUR 13.7 million in 2021–2027, reflecting a stronger role for civil society organisations in coastal-relevant initiatives over time.

5.2.6. Territorially targeted EU funding for coastal communities

An essential element of shared management funds is the possibility to provide support that is territorially targeted. This additional approach ⁽¹⁷⁸⁾ is based on territorial dimensions rather than at the level of intervention fields/types or themes ⁽¹⁷⁹⁾. It should be noted that the territorial dimensions also cover ESF/ESF+ funding, which has not been covered in the previous Cohesion Policy funds analysis based on Intervention Fields.

In the 2021-2027 MFF, interventions funded under **Cohesion Policy funds** can cover specific territories, including those relevant for coastal communities ⁽¹⁸⁰⁾. Considering **planned allocations**, the territory-based support from CF, ERDF, JTF, Interreg, and ESF+ for coastal areas amounts to **EUR 5.3 billion of EU support**. In addition to these, the **EMFAF** also shows **planned support**

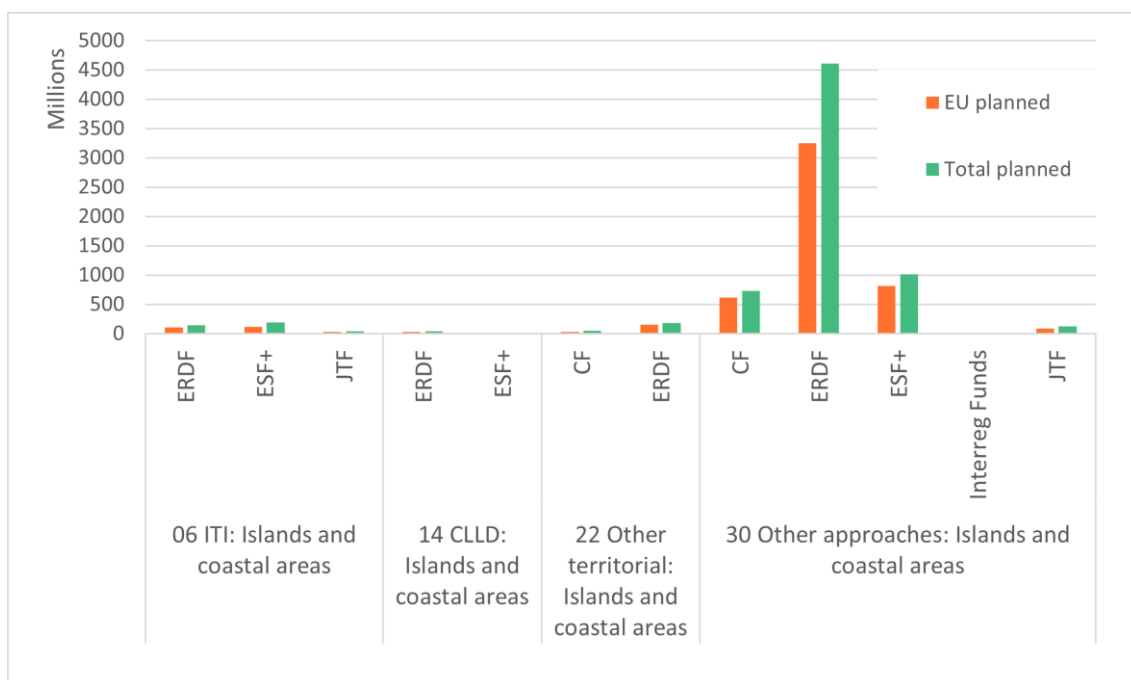
⁽¹⁷⁸⁾ This analysis excludes territorially targeted funding in the land-locked Member States: AU, CZ, HU, LU, and SK. Additional details on the data and assumptions used are in Annex 4.

⁽¹⁷⁹⁾ These values cannot be aggregated to avoid any risks of double-counting; as explained on the [webpage for the data in the Cohesion Open Data Platform](#).

⁽¹⁸⁰⁾ These cover Integrated Territorial Investment (ITI) 6: Islands and coastal areas; CLLD 14: Islands and coastal areas; 22 Other Territorial: Islands and coastal Areas; and 30 Other approaches: Islands and Coastal Areas. Source: [CPR Regulation](#). See Table 3 of Annex 1 of the Regulation.

specifically for CLLDs ^(181;182). The **planned EU support to CLLDs under EMFAF amounts to EUR 516 million**. Combining Cohesion Policy funding and EMFAF territorial-based support, the overall planned support for coastal communities in the 2021-2027 MFF amounts to around EUR 5.78 billion of EU contribution and nearly EUR 8 billion in total funding.

Figure 30 – Planned allocations for coastal communities from EMFAF, CF, ERDF, Interreg, ESF+, and JTF in 2021-2027 MFF based on territorial dimensions (EUR million)



Source: Own estimates based on [Cohesion Open Data Platform](#), ‘2021-2027 Planned finances detailed (categorisation, multi funds)’, dataset from 2 October 2025. Notes: AT, CZ, HU, LU and SK are excluded from the analysis. The results cannot be aggregated with the values estimated from the Intervention Fields-based Cohesion Policy funds analysis nor with the EMFAF Types of Intervention-based analysis. The 2021-2027 period is still ongoing as of preparation of this report, therefore the EUR values for this MFF reflect planned amounts up to 02 October 2025. For details on the analysis and results, see Annex 4.

⁽¹⁸¹⁾ These Community-led Local Development or CLLD support are covered by the following Types of Intervention: TOI 13 CLLD preparation actions; TOI 14 CLLD implementation of strategy; TOI 15 CLLD running costs and animation.

⁽¹⁸²⁾ The numbers for EMFAF CLLD support in the ‘2021-2027 Planned finances detailed (categorisation, multi funds)’ dataset (Type of Intervention (TOI)-based analysis) is slightly different to those presented in the ‘2021-2027 Finances Detailed Planned vs Implemented (timeseries)’ dataset (territory-based analysis). Across the two datasets, the difference is about EUR 1.7 million for the planned total amount and about EUR 1.2 million for the planned EU amount.

In the 2014-2020 MFF funding datasets, the territorial delivery mechanism “**CLLD**”⁽¹⁸³⁾ is present for the CF, ERDF, and ESF in the 2014-2020 MFF^(184;185). Even though these are not specifically tagged as “coastal” or “island” and therefore likely to overestimate the CLLD-based support allocated to coastal communities, **the CF, ERDF, and ESF have planned EU contributions of EUR 728 million towards CLLD in the 2014-2020 period.**

5.3. Examples of how EU support enables coastal communities

This section showcases examples of ongoing and completed projects that demonstrate how EU support has enabled coastal and island communities to address the pressures outlined in Section 3 while strengthening their existing capacities discussed in Section 4. The selection is illustrative rather than exhaustive and spans different funds, geographies, and delivery stages. More in-depth information on these project examples, as well as additional project examples, is provided in Annex 4 of this report.

Climate change, pressures on ecosystems, and impacts of increased urbanisation

- **SARCC: Sustainable and Resilient Coastal Cities**^(186;187;188) (Interreg 2 Seas 2014–2020 (ERDF)): promoted a shift towards nature-based coastal defences by piloting stakeholder co-created solutions such as vegetated dunes, tidal marshes, and living shorelines in Belgium, the Netherlands, France and the UK.
- **Reefy**⁽¹⁸⁹⁾ (EMFAF via BlueInvest): private Dutch start-up, developing low-carbon, biodiversity-enhancing wave breakers. In 2023, a consortium installed the Rotterdam Reef, which was integrated into Rotterdam’s “Green Gate” regeneration programme⁽¹⁹⁰⁾.

⁽¹⁸³⁾ Community-led Local Development

⁽¹⁸⁴⁾ [ESIF 2014-2020 categorisation ERDF-ESF-CF planned vs implemented](#)

⁽¹⁸⁵⁾ There are no specific territorial delivery mechanisms specific for coastal areas or a CLLD intervention type reported in the EMFF datasets for the 2014-2020 MFF ([ESIF 2014-2020 FINANCES PLANNED DETAILS](#), and [ESIF 2014-2020 Finance Implementation Details](#)).

⁽¹⁸⁶⁾ <https://www.sarcc.eu/>

⁽¹⁸⁷⁾ <https://keep.eu/projects/21692/Sustainable-and-Resilient-C-EN/>

⁽¹⁸⁸⁾ <https://www.gov.uk/government/publications/newlyn-coastal-research-and-development-project>

⁽¹⁸⁹⁾ <https://reefy.nl/>

⁽¹⁹⁰⁾ <https://www.rotterdaminnovationcity.com/the-rotterdam-reef/>

- **AdaptEst: Implementation of national climate change adaptation activities in Estonia** ^(191;192) (LIFE Strategic Integrated Project): national scale climate adaptation in Estonia, integrating multiple EU funds ⁽¹⁹³⁾ to deliver large-scale ecosystem restoration and climate adaptation actions, including climate databases, early warning tools, and sectoral guidelines.
- **AQUABRAVA** ^(194;195) (LEADER EAFRD): Gotland Island (Sweden) project addressing groundwater scarcity through community-led wetland creation. Built 8 wetlands/ponds (10 hectares) that recharged aquifers, improved farm water access during droughts, and reduced Baltic Sea nutrient pollution.

Economic dependence on key sectors, and socio-economic challenges in rural and remote areas

- **Light in the Dark: Increasing resilience in rural and coastal tourism in the northern Baltic Sea Region by developing off-season experiences** ^(196;197) (Interreg Baltic Sea Region): expected to generate new business opportunities for entrepreneurs outside the peak season, increase cooperation between local actors, and increase visibility of underutilised local assets.
- **Pelagic fisheries support scheme in Ireland** ⁽¹⁹⁸⁾ (Brexit Adjustment Reserve): was designed to support owners of refrigerated seawater pelagic vessels and other authorised vessels that target mackerel affected by Brexit-induced mackerel quota losses. The initiative aimed to stabilise the fleet segment and support longer-term restructuring, sustainability efforts, and resilience in Ireland's pelagic fisheries sector.
- **FISH4FISH – FISH chitinolytic biowastes FOR FISH active and sustainable packaging material** ^(199;200) (EMFF): demonstrated how fisheries by-products ⁽²⁰¹⁾ can be transformed into high-value products. In

⁽¹⁹¹⁾ <https://webgate.ec.europa.eu/life/publicWebsite/project/LIFE21-IPC-EE-LIFE-SIP-AdaptEst-101069566/implementation-of-national-climate-change-adaptation-activities-in-estonia#>

⁽¹⁹²⁾ <https://lifeadapttest.ee/et>

⁽¹⁹³⁾ In addition to funds from the LIFE Programme, this project also benefits from funds from the EAFRD, EFRD, the Cohesion Fund and the Recovery and Resilience Facility.

⁽¹⁹⁴⁾ https://eu-cap-network.ec.europa.eu/good-practice/water-preservation-project-aquabrava_en#section--resources;tab_id=overview

⁽¹⁹⁵⁾ https://eu-cap-network.ec.europa.eu/sites/default/files/2023-06/gp_se_aquabrava_78_web.pdf

⁽¹⁹⁶⁾ <https://interreg-baltic.eu/project/light-in-the-dark/>

⁽¹⁹⁷⁾ <https://keep.eu/projects/29134/Light-in-the-Dark-Increasin-EN/>

⁽¹⁹⁸⁾ <https://bim.ie/wp-content/uploads/2023/10/1-IP-Pelagic-Fisheries-Support-Scheme-2023-Final-State-Aid-Approved-Oct-23.pdf>

⁽¹⁹⁹⁾ https://cinea.ec.europa.eu/featured-projects/fish4fish_en

⁽²⁰⁰⁾ <https://fish4fish.dbcf.unisi.it/>

⁽²⁰¹⁾ For example: fish scales, crab, lobster, and shrimp shells.

addition to its technological results, the project provided training and market insights to help smaller firms explore new value chains.

- **C-FAARER: Community-driven Farming for the Atlantic and Arctic Regenerative Economies and Regions** ⁽²⁰²⁾ (Horizon Europe Mission Restore our Ocean and Waters): promotes diversification in Atlantic and Arctic coastal regions by piloting regenerative seaweed and shellfish farming alongside traditional fisheries.

Innovation and skills gaps

- **T3N-BSB: Transnational Technology Transfer Network for the Black Sea Basin** ^(203;204;205) (Interreg NEXT Black Sea Basin Programme): addresses innovation gaps across the Black Sea region by creating a transnational technology transfer network linking universities, research institutions, and SMEs.
- **European Institute of Innovation and Technology Regional Innovation Scheme (EIT RIS)** ⁽²⁰⁶⁾ (Horizon Europe / EIT): extends EIT support to regions with weaker innovation ecosystems. In the blue economy, supported ventures include Aeronas (Latvia), which develops offshore wind maintenance drones, and KOA Biotech (Spain), which creates pathogen detection tools for aquaculture.
- **Atlantic InnoBlue Communities (ATLIC)** ^(207;208) (Interreg Atlantic Area 2021–2027 (ERDF)): aims to counter youth outmigration by giving young people more opportunities to participate in the blue economy.

Critical infrastructures and inter-connectivity

- **Installation of gas & water cleaning system for the upgrade of the Atlantic Arch** ⁽²⁰⁹⁾ (CEF-Transport): installed innovative pollution control

⁽²⁰²⁾ <https://www.c-faarer.eu/>

⁽²⁰³⁾ [https://t3nbsb.net/about-](https://t3nbsb.net/about-2/#activities#:~:text=%23%23%20%20,Technology%20Transfer%20in%20BSB%20Countries)

[2/#activities#:~:text=%23%23%20%20,Technology%20Transfer%20in%20BSB%20Countries](https://t3nbsb.net/about-2/#activities#:~:text=%23%23%20%20,Technology%20Transfer%20in%20BSB%20Countries)

⁽²⁰⁴⁾ <https://blacksea-cbc.net/interreg-next-bsb-2021-2027/projects/bsb00264#:~:text=The%20project%20aims%20to%20enhance,in%20the%20technology%20transfer%20ecosystem>

⁽²⁰⁵⁾ <https://ardek.sakarya.edu.tr/en/icerik/23299/116526/black-sea-basin#:~:text=In%20addition%20to%20Turkey%2C%20the,Giresun%2C%20Rize%2C%20Artvin%2C%20and%20G%C3%BCm%C3%BC%C5%9Fhane>

⁽²⁰⁶⁾ <https://eit-ris.eu/>

⁽²⁰⁷⁾ <https://atlic.eu/en/>

⁽²⁰⁸⁾ <https://lecolededesign.com/en/la-une/school-commits-blue-economy-partner-european-atlic->

[project#:~:text=The%20Atlantic%20InnoBlue%20Communities%20project,sustainable%20development%20goals%20by%202030](https://lecolededesign.com/en/la-une/school-commits-blue-economy-partner-european-atlic-project#:~:text=The%20Atlantic%20InnoBlue%20Communities%20project,sustainable%20development%20goals%20by%202030)

⁽²⁰⁹⁾ https://ec.europa.eu/assets/cinea/project_fiches/cef/cef_transport/2014-EU-TM-0724-W.pdf

systems for ship exhaust and water on ferries and freight vessels operating between Ireland, France and the United Kingdom, and improved port efficiency by developing an electronic data exchange system to streamline communication between port authorities and ship operators.

- **Electricity interconnection in the Bay of Biscay between Gatica (Spain) and Cubnezais (France)** ⁽²¹⁰⁾ (CEF- Energy): will establish the first submarine interconnection between France and Spain, increasing cross-border energy exchange capacity and enhancing the safety, stability and quality of electricity supply.
- **Constanța Nord – Medgidia Sud 400 kV power line** ^(211;212) (Modernisation Fund): funded by the equivalent of EUR 23 million from the Modernisation Fund, this infrastructure strengthens Romania’s grid resilience and supports the evacuation of renewable energy, particularly wind power from the Dobrogea coastal region.

Coastal financing and investment

- **Malta InvestEU national compartment for SME financing** ⁽²¹³⁾ (ERDF blended with InvestEU and EIB): Malta provided EUR 30 million of ERDF to its national InvestEU compartment, with the contribution expected to generate around EUR 150 million in new loans for SMEs, including firms in maritime and coastal tourism.
- **InvestEU Blue Economy equity instrument** ⁽²¹⁴⁾ (EMFAF combined with InvestEU): combined EMFAF and InvestEU resources to mobilise up to EUR 500 million in public funding and leverage around EUR 1.5 billion in total investment. Its implementation includes targeted vehicles such as **Growth Blue Fund I** ^(215;216) (EUR 50 million, operating in Portugal and Spain), which plans to invest in 8 to 12 SMEs in offshore energy, aquaculture and port infrastructure, and the **Blue Revolution Fund** ⁽²¹⁷⁾ (EUR 20 million) managed by HatchBlue ⁽²¹⁸⁾.

⁽²¹⁰⁾ <https://www.inelfe.eu/en/projects/bay-biscay>

⁽²¹¹⁾ <https://energyindustryreview.com/power/transelectrica-starts-400-kv-constanta-nord-medgidia-sud-ohl-construction/>

⁽²¹²⁾ <https://www.modernisationfund.eu/wp-content/uploads/2023/06/RO-MF-Annual-Report-2022.pdf>

⁽²¹³⁾ <https://www.eif.org/InvestEU/news/2024/investeu-first-operation-under-the-new-facility-set-up-by-the-government-of-malta-and-eif.htm>

⁽²¹⁴⁾ https://www.eif.org/what_we_do/equity/news/2022/commission-and-eif-agree-to-mobilize-500-million-with-new-equity-initiative-for-blue-economy.htm

⁽²¹⁵⁾ https://investeu.europa.eu/investeu-operations-0/investeu-operations-list/growth-blue-fund-i_en

⁽²¹⁶⁾ https://www.eif.org/what_we_do/resources/news/2023/portugal-blue-commits-to-growth-blue-i.htm?utm

⁽²¹⁷⁾ <https://www.eif.org/InvestEU/news/2024/eif-supports-blue-revolution-fund-in-boosting-sustainable-aquaculture-investments-backed-by-the-investeu-programme.htm>

⁽²¹⁸⁾ <https://www.hatch.blue/>

6. Conclusions, takeaways and recommendations for enhanced coastal resilience

6.1. Conclusions and takeaways

The conclusions and takeaways emerged from this study are reported in this section, with a clear reference to each Section of the report. They provide the basis for our recommendations (Chapter 6.2).

Coastal communities and their characteristics (Section 2)

The characterisation exercise shows that coastal communities possess a set of **structural assets** that differentiate them from inland areas and underpin their socio-economic importance for the EU. These assets emerge from available data on environment, demographics, economic performance, and sectoral specialisation:

- **From an environmental perspective, EU coastal communities are situated in exceptionally diverse natural assets**, including 39 different coastal habitat types and representing 15% of the over 27.000 Natura 2000 sites across the EU. The geographical position of coastal settlements at the land–sea interface gives them access to **unique renewable resources** (wind, wave, tidal, algae biomass) and **ecosystemic services** relevant for the green and blue transitions.
- **Crucially, coastal communities represent a non-negligible portion of EU population and territories.** They in fact span 22 EU Member States, counting over 90.4 million people at LAU level (22% of Member States' population) and over 160 million at the NUTS-3 level (40%). Extending across 68,000 kilometres of coastlines and over 500,000 km² of associated coastal zones, they also represent approximately 14% of the total EU territory.
- These communities also show **high population density levels** and **continued attractiveness**: population growth in post-COVID years increased more rapidly along coasts than inland, and many coastal regions maintain **younger age profiles** than inland averages.
- Coastal regions are also characterised by their **strategic economic weight** and **above-average performance** (when compared to inland regions). These regions generate €6.76 trillion GDP, representing almost 38% of EU GDP. In 13 Member States, GDP per capita is higher in coastal areas, reflecting the concentration of dynamic economic activities (trade, logistics, services, blue economy sectors). The tertiary sector dominates

coastal economies (72% of GVA), supporting diverse service-based value chains including tourism, logistics, specialised maritime services, and digital sectors.

- Moreover, coastal communities count on **blue economy specialisation as a distinctive asset**. Coastal areas provide the territorial, human, and environmental basis for “blue economy” sectors, which together amount to €263 billion and 4.9 million jobs across the EU. With over 1,200 ports, including 329 TEN-T core/comprehensive ports, coastal communities act as gateways for global and intra-EU trade. Moreover, coastal tourism represents a major economic asset at EU level: 42% of all EU bed capacity is located in coastal municipalities, and 63.5% of all nights spent across the EU are concentrated in coastal regions (NUTS 3). Moreover, from the 20 areas concentrating the highest number of nights spent for the sector across the EU, 65% of them are coastal, and 92% of those are coastal cities.
- Coastal regions also show **high innovation and competitiveness potential**, having experienced faster innovation growth (+14%) than inland regions (+10%) in recent years, and outperforming regions in both Regional Competitiveness Index (RCI) innovation scores and growth rates in 2022. Emerging sectors with high growth and innovation intensity, creating knowledge-intensive jobs, include the **blue biotechnology** (showing strong SME development), **marine renewable energy**, **desalination**, and dual-use autonomous systems, among others.

While those “distinct” patterns and assets should indeed be highlighted, the study findings clearly point to the fact that EU coastal communities are **largely heterogeneous** with respect to their environmental conditions, settlement types, demographics, and socio-economic performance. This should be considered when shaping policies aimed at supporting coastal areas. Outcomes are strongly shaped by national contexts, the presence of urban centres on the coast, and broader development trends, not only by “coastality” itself. Firstly, **coastal communities' performances** vary depending on:

- The degree of urbanisation, as each **settlement type** influences the specific challenges and opportunities, they are likely to encounter. Rural coastal areas represent the vast majority (69.5% of total coastal LAUs), followed by those located in smaller towns (23%). The remaining 7.5% of coastal areas within larger urban settlements tend to present broader opportunities, consistent with findings that coastal cities act as key drivers of growth within the EU blue economy.
- Their **level of remoteness** and the **degree of interconnection** with other regions and territories (including with land areas in the case of islands), or conversely on the extent to which areas are geographically isolated.

- The overall **socioeconomic conditions of the region or country**, including national income levels, economic diversification, labour market structures, and the extent of social protection systems, also strongly shape coastal communities' performance. As a result, similar coastal settings can display markedly different outcomes depending on the socioeconomic context in which they are embedded.

More generally, but importantly, the study finds that the **substantial lack of harmonised socio-economic data at local level across the EU is preventing a more comprehensive understanding of coastal communities' specificities and the analysis of their performance over time**. This gap partially hinders the EU's ability to monitor the wider performance and situation in EU coastal communities.

Needs and challenges (Section 3)

Diversity of coastal territories means that vulnerability is not evenly distributed. The study's findings allowed us to identify categories of coastal areas with **higher structural vulnerability**, based on demographics, territorial typology, economic structure, and environmental exposure:

- **Rural coastal LAUs (5,819 areas) and coastal areas located in remote regions (2085 LAUs) account for 13% and 3.3% of the EU coastal population, respectively, but face significant structural disadvantages.** Indeed, urban coastal regions continue to attract working-age residents and families, but remote and rural regions are projected to decline in population by up to -0.46% per year, with intermediate and near-urban rural areas also shrinking. This demographic split increases the cost and complexity of healthcare and social care delivery, constrains labour supply for key sectors (from tourism to fisheries and aquaculture), and reduces the capacity to absorb shocks (e.g., extreme weather or sudden demand swings).
- **At the same time, population concentration in urban coastal areas located in high-exposure zones pose systemic risks to coastal communities, assets, and ecosystems.** Coastal cities across the EU now concentrate over 52 million residents and a high share of critical assets in zones increasingly exposed to sea-level rise, extreme sea levels, and storm surges. Parallel urban sprawl and land take ($\approx 250,000$ km² of artificial surfaces; 4.4% of EU territory) are eroding dune systems, wetlands, and other natural buffers. This spatial concentration magnifies the impacts of coastal flooding and erosion, already affects $\sim 100,000$ people annually and causes €1.4bn/year in losses. Risks are projected to escalate as marine heatwaves intensify, sea surface temperatures continue to rise (with different scenarios estimating from 2°C increases (SSP1-2.6) up to 6°C (under the SSP2-8.5) by 2100), and a range of 27 to 40% of sandy coasts continue to erode.

Beyond coastal typology-specific vulnerabilities, more **cross-cutting challenges and opportunities** for coastal communities have been identified:

- **The blue economy provides a strategic opportunity for coastal communities – but only if managed sustainably.** Coastal tourism continues to be the largest contributor to the EU maritime economy, attracting millions of visitors and generating significant revenue. However, its current model, marked by high intensity and sharp seasonality, creates vulnerabilities that can undermine coastal resilience. Coastal regions and islands where over 70% of overnight stays occur in just three months risk facing infrastructure saturation, environmental stress, and economic volatility. If these dynamics are not addressed, some communities may risk being locked into a cycle of precarious seasonal employment and housing pressures. Fisheries remain a vital pillar of the blue economy, supporting local livelihoods while aligning with sustainability goals. Emerging sectors such as offshore renewable energy, blue biotechnology, and sustainable aquaculture further expand the opportunity space, if skills gaps and spatial conflicts are managed proactively.
- **Urgent need to accelerate innovation potentials in order to ensure a fully competitive and sustainable local blue economy for thriving and resilient coastal communities** – coastal communities are at the core of the blue economy value-chain, and as such are essential in achieving the broader goal of the EU to promote local blue economy sectors that are sustainable and competitive. But when confronted with the required transformational innovations, coastal communities face difficulties which depend on a number of local dynamics (e.g. industrial obsolescence, lack of adequate workforces due to an ageing population, limited access to sustainable and impact financing, poor availability of innovative sectoral skills, lack of conducive policy frameworks, ability to manage space scarcity and address potential conflicts in its use). Coastal communities should therefore be supported in adopting sustainable innovation and research, adapting their local socio-economic activities to remain competitive while protecting, preserving, and regenerating the valuable local coastal and marine ecosystem they exploit to generate local resources.
- **Cooperation with inland territories exist but could be strengthened to maximise the response to shared challenges.** Potential synergies between coastal and inland areas could be further exploited to ensure more resilient territories across the EU, avoid duplication of interventions, and address common challenges, including pollution and human-induced effects transported through rivers to coastal areas, with negative impacts on affected communities. Cooperation would also allow to strengthen mutually relevant blue economy value chains through greater innovation,

diversification, and sustainability, and address induced pressures for coastal communities due to unsustainable patterns from inland territories.

- **Acceleration over time of the above-mentioned pressures and related challenges**, notably due to a growing scale and acceleration of the external and internal factors causing such challenges – hence requiring constant reassessment and upscaling of local responses.

Capacity of coastal actors and effective cooperation at various levels (Section 4)

Our study also finds that coastal communities' **resilience strongly depends on their ability to address the above-mentioned challenges over time:**

- **An essential element is the ability of coastal communities to preserve and protect “local capital” (natural, social, economic and financial).** At the same time, they must diversify and innovate local activities and value chains. This should go hand in hand with ensuring local welfare, respecting local traditions, and preserving coastal and marine ecosystems.
- **At policy level, risk assessment and management, integrated spatial planning and ecosystem preservation emerge as critical aspects to be considered for ensuring resilient coastal communities.** Policy capacity in implementing responses to local challenges areas is essential, in the context of aggravating climate change scenarios, a growing complex multi-use of coastal and marine space, as well as the scaling-up of defence as a priority sector across EU sea basins (strongly impacting coastal areas and as such requiring planning and co-management).
- **Coastal communities' response capacity is also largely shaped by the specific features of their local governance systems, and the dynamism of the functional relations amongst coastal communities' members.** Local governance systems are, in fact, structuring the relations amongst local institutions and key actors, allowing sound interactions and formal/informal relations with other territorial and national institutions. Local governance systems are essential enablers for accessing the knowledge, innovation and financial resources needed to pilot and scale-up more resilient practices for coastal communities. Importantly, they also allow for informal relations amongst communities' members – as well as with communities sharing similar interests or purposes – and as such ensure collective actions in addressing local relevant challenges. In this respect, valuable experiences related to the co-management of natural resources can be further capitalised.
- **As shown by the cross analysis of case studies, civic participation and broader citizen engagement play a pivotal complementary role**

in strengthening these local governance systems. By creating structured and accessible avenues for residents to contribute to dialogue, decision-making and co-design processes, coastal communities can tap into local knowledge, enhance social legitimacy, and foster shared ownership of resilience strategies. Robust citizen engagement also reinforces trust among community members and institutions, supports the emergence of grassroots innovations, and ensures that governance arrangements remain inclusive and responsive to evolving local needs.

Available and accessible financial support (Section 5)

- **Access to sustainable public and private financing contributes to the capacity of coastal communities to adapt to the diverse local challenges and therefore to their resilience and prosperity.** It allows local actors to innovate, diversify their economies, and respond proactively to environmental and socio-economic challenges. EU funds can play an important supporting role in this. However, local capacity to identify, access, and effectively deploy available EU funding is necessary. While EU support for coastal communities is substantial – estimated at **EUR 7.48 billion of planned EU contributions in the 2021-2027 MFF directly attributable** ⁽²¹⁹⁾ **plus EUR 19.90 billion in broader support** ⁽²²⁰⁾ – a potential important gap lies in the local institutional capacity to navigate multiple EU funding programmes and translate EU resources into locally relevant solutions. The case studies have demonstrated that the ‘place-based approach’ ensures that financial allocation decisions are made by actors who understand coastal communities’ specific needs, challenges, and priorities. However, this only works when local intermediaries (such as FLAGs, regional development agencies, and experienced local authorities) have the knowledge and capacity to broker between EU funding mechanisms and community requirements.
- **Alignment of EU programming and local strategies targeting coastal communities is also not always optimal.** While cities benefit from R&D investments, research institutions, skilled labour, and broader regional Smart Specialisation Strategies, some communities lack both physical access to research facilities and digital connectivity, as well as the information and capacity to effectively utilise available EU funding programmes, resulting in missed opportunities for coastal communities to

⁽²¹⁹⁾ This estimate is associated with EU planned contributions from the EMFAF and Cohesion Policy Funds. This reflects Cohesion Policy intervention fields that are considered unique to coastal communities. See Section 5.2 and Annex 4 of this report for detailed methodology and assumptions.

⁽²²⁰⁾ Includes Cohesion Policy climate/nature/tourism interventions, Horizon coastal research projects, and LIFE environmental programmes with coastal relevance. See Section 5.2 and Annex 4 of this report for detailed methodology and assumptions.

foster innovation. Similarly, climate resilience support is fragmented across multiple programmes, limiting the development and funding of integrated strategies and actions that combine local knowledge with broader regional planning for effective climate preparedness.

- **Opportunities to blend public EU funding with private investment remain largely underexploited.** Access to and direct engagement with local innovation hubs, technical assistance, and cross-sectoral networks ensure that innovative projects are not only conceived but also efficiently deployed and scaled up through dedicated financing and investments. Good practices at Member State-level, like Malta's ERDF–InvestEU blending and Portugal's InvestEU Growth Blue Fund I blending, illustrate the potential for more integrated use of funds. However, engagement with private finance and investments often remains a goal rather than a consolidated practice, and one of the obstacles to the full resilience of coastal communities and their ability to address challenges and opportunities over time.

Overall coherence in policy support at various levels (Section 5)

Finally, **despite the relevance of coastal areas for local and EU economies, including for the conservation of valuable marine and coastal ecosystems, the policy vision and support for coastal communities remains fragmented across sectors and governance levels** (subnational, national and EU). This in turn is limiting the overall visibility of coastal communities across the EU and the pivotal role they play in addressing EU challenges and supporting EU ambitions:

- **National and regional strategies across EU Member States, as reviewed through case studies,** provide support to blue-economy activities and to the protection of coastal and marine ecosystems. Nevertheless, these frameworks tend to prioritise sectoral activities and specific policies instead of cross-cutting approaches that address multiple dimensions of coastal community resilience.
- **Initiatives led by DG MARE, most notably the Fisheries Local Action Groups (FLAGs),** historically targeted fisheries communities and have gradually expanded to consider links with other blue-economy sectors. Similarly, Local Action Groups (LAGs) tend to concentrate on rural areas within coastal regions, usually without adopting a broader perspective that encompasses coastal communities in urban settings. While both instruments are effective within their respective remits, greater coordination between FLAGs and LAGs could better serve the full range of coastal communities and reduce the risk of fragmented or overlapping interventions.
- **Smart Specialisation Strategies (S3) under EU regional policy can incorporate maritime and coastal priorities.** However, their scope

extends well beyond coastal areas, and as strategies focused on regional economic competitiveness and innovation, they are not specifically designed to address the broader needs of coastal communities as beyond blue economy sectors.

- **At EU level, regional cooperation frameworks, such as the Sea Basin Strategies and Macro-Regional Strategies**, do not explicitly target coastal communities in their strategic documents, aside from limited references to fisheries communities.

6.2. Recommendations

This section presents recommendations stemming from the research undertaken in the context of this study. To the extent possible, the research team formulated these recommendations as specific, actionable and feasible. These three aspects of the recommendations are at times limited given the uncertainty around the future orientation of the EU policy landscape and changes in the orientation of the current and future MFFs. These recommendations reflect the views of the research team based on information at their hand at the time this report was prepared, including through consultations held at the EU and Case Study levels.

These recommendations are addressed to the European Commission in general, but also to Member States and sub-national actors where specified. Each set of recommendations builds on the analysis provided in this study, the main conclusions and takeaways discussed earlier in this section, as well as the discussions held with relevant stakeholders as part of the Case Studies and (online) Workshops. Recommendations are, therefore, addressing the main areas of takeaways as summarised in the conclusions of this report (Chapter 6.1).

Notably, **recommendations are structured into “actionable” items**: short-term – i.e. more immediate implementation in the current EU policy context and Multiannual Financial Framework (MFF) 2021-2027; longer-term – i.e. with greater potential complexity and requiring substantial coordination towards the MFF 2028-2034 (by fully recognising that this process is still at a proposal stage and therefore potentially still subjected to changes, adjustments and modifications).

Table 10 – Recommendations

RECOMMENDATION 1: Ensure a better understanding of coastal communities by addressing the persisting data gaps on blue economy sectors at local level and strengthening the existing monitoring systems at EU level ⁽²²¹⁾.

This would include i) harmonisation of existing data collection systems at the local / territorial levels; ii) integration emerging local/territorial data in the EU Blue Economy Observatory; and iii) production/dissemination of periodical reports on coastal communities as part of the broader publications foreseen.

Short-term actions

- **Consider using the definition of coastal communities as proposed in this report as a basis for future policy work in this area**, including the relevant role of “functional communities” as drivers for coastal communities' performance, as well as by reflecting the different characteristics, needs and challenges of rural vs urban coastal communities (discussed in Chapter 2).
- **Maximise the access to local socio-economic data**, particularly for blue economy sectors (see details in Chapter 2), by exploiting the potentials of existing EU initiatives (e.g. Blue Economy Observatory (BEO), EMODnet and Digital Twin of the Ocean (DTO)) and improving the existing cooperation between DG MARE, DG REGIO, DG AGRI (e.g. Rural Observatory), DG RTD and Eurostat through a new dedicated working group aimed at sharing data and identifying future joint areas of work.
- **Collect and disseminate examples and case studies** to illustrate relevant challenges, needs and good practices for EU coastal communities, and conduct future statistical analysis studies to further assess the role of coastal communities in fostering regional development.
- **Build on the existing practices and tools that deal with local-level data, drawing from a wide range of projects and initiatives supported by the EU.** Valuable information on coastal communities is gathered by EU-funded projects at EU level and across the different EU sea basins (including by building on the examples mentioned in this report and Case Studies). These should be systematically mapped with the support of CINEA and other relevant EU Agencies. For example, assess relevant outputs of EU-funded projects targeting coastal areas (e.g. the INTERREG-funded project DEDUCE has developed guidelines on indicators related to sustainable coastal development) ⁽²²²⁾. Similarly, consider existing initiatives for measuring local challenges (e.g. ASTM International has launched a global standard for quantifying and mapping the impact of climate change at local level) ⁽²²³⁾.

Long-term actions

- **Launch a pilot project** to operationalise data collection and synergies with local and territorial systems (including through Artificial Intelligence and DTO) and aggregate local datasets into EU-wide monitoring and reporting systems – at the same time consider how to incorporate “coastal” data (at LAU level) in territorial analyses done by ESPON or EUROSTAT more systematically.

⁽²²¹⁾ Issues indicated in the Terms of Reference: (i) *developing an operational definition of coastal communities suitable for policy-purposes and monitoring their development within the EU*; (ii) *enhancing data collection and monitoring systems to track coastal communities' developments*.

⁽²²²⁾ https://www.vliz.be/projects/deduce/PDF-NewsLetter/indicators_guidelines.pdf

⁽²²³⁾ <https://www.astm.org/news/climate-mapping-standard-aims-make-climate-local>

- **Launch a pilot project** to explore the potential of working with National Statistical Institutes to map and collect existing local data (e.g. from local statistical datasets at NUTS 2 and NUTS 3 level) and assess the potential for analysis and harmonisation of such data into EU-wide reports.
- **Work with Member States to identify, assess and promote best practices** in reducing reporting burden while increasing data availability by enhancing modern technology for data reporting and collection. Such engagement should ideally result into the integration of coastal specific indicators and data collection routines as part of the Eurostat workplan. Other alternatives could be also discussed and tested – for example on how to harmonise existing relevant datasets at the MS and sub-national level, exploit existing local data to be possibly aggregated at the higher (EU) level, etc.
- **Include systematic data collection/sharing requirements as part of future EU financing programmes**, to better identify robust baselines for assessing the needs and objectives to be addressed.

RECOMMENDATION 2: Build on the successes of EU ‘place-based’ approaches (such as FLAGS and CLLD) to inform future EU financing set-ups, maximise multi-fund use and define relevant policy, by ensuring a duly engagement of coastal communities in identifying their relevant needs and priorities ⁽²²⁴⁾.

This is particularly relevant for the future National and Regional Partnerships Plans, but possibly also for coastal-related financing in the future Competitiveness Fund (and Global Europe for non-MS), as well as relevant maritime policy (e.g. including MSP requirements as emerging from the future Ocean Pact).

Short-term actions

- **Ensure greater visibility and dissemination** of successful practices in EU support to coastal communities regarding place-based transformation ⁽²²⁵⁾, integrated multi-funding territorial approach ⁽²²⁶⁾ and Community-Led Local Development (CLLD) as part of EU Programmes (e.g. EMFAF, Cohesion Policy, Rural Policy, EARDF, LEADER, LIFE, ESF+).
- **Collect lessons from the above-mentioned success cases** to (i) inform future EU programmes in the new MFF, (ii) support capacity of local actors, beneficiaries and managing authorities when promoting CLLD and ‘place-based’ mechanism in supporting coastal communities, and (iii) facilitate knowledge transfer between sub-national actors with successful multi-fund implementers at various scales.

Long-term actions

- **As part of the ex-ante analysis of future EU funds, ensure that sub-national actors are duly engaged by reflecting the specific characteristics and needs of rural, urban and remote coastal territories.** Ensure bottom-up consultations when designing financial support that targets the needs and priorities of coastal communities and islands, and when designing sub-national contributions to address the potential fragmentation of financial support across a variety of policies and financing programmes – e.g. across EU DGs and MS Ministries –targeting coastal communities directly (e.g. fishery policy) and indirectly (e.g. rural policy).

⁽²²⁴⁾ Issues indicated in the Terms of Reference: (v) *addressing the challenges coastal communities face and meeting their evolving needs*; (vii) *enhancing access to and the effectiveness of EU funding in supporting coastal communities*.

⁽²²⁵⁾ https://place-based-innovation.ec.europa.eu/index_en

⁽²²⁶⁾ https://ccre-cemr.org/wp-content/uploads/2024/04/230124_EN_analysis_ITI_CLLD_final.pdf

- **Make sure that future National and Regional Partnership Plans and relevant maritime policies (including MSP and the future Ocean Act) and funding instruments emerging from the MFF are duly addressing the needs and challenges of coastal communities.** Further details should be defined once the future MFF is stabilised.
- **Address the support to coastal communities as part of future INTERREG Programmes** – including MS and non-MS countries – as to foster financial support for cross-sea basin cooperation, so that coastal communities across the EU can engage with those in other acceding and neighbouring countries within and across a common EU sea basin.

RECOMMENDATION 3: Maximise support to coastal communities through greater use of blending, such as Public Private Partnership (PPP), and impact finance ⁽²²⁷⁾.

Including through dedicated access to finance, knowledge, skills and matchmaking with innovation partners at EU and territorial levels.

Short-term actions

- **Ensure thorough dissemination and visibility of EIB initiatives** ⁽²²⁸⁾ as well as other relevant EU initiatives (e.g. EU Mission Ocean CSAs) aimed at scaling-up innovation at the coastal community level initiatives, as good practices to be further adopted by coastal communities and local actors.
- **Support the full awareness and capacity among local initiatives (e.g. LAGs/FLAGs) in coastal areas** in understanding and promoting blending and multi-fund access opportunities at the local level.
- **Consider additional technical assistance for National and Regional Authorities** (e.g. in cooperation with EIB, and/or DG REFORM, but possibly also other schemes available under the new MFF) in the development of relevant blending mechanisms, including technical assistance programmes like JASPERS for cross-fund application support.
- **Assess the successful practice of blending and/or synergies** amongst most relevant EU funds for coastal communities (e.g. EMFAF, Cohesion Policy, Rural Policy, EARDF, LEADER, LIFE, ESF+) – and what lessons for greater blending/synergies can be transferred in the future MFF.

Long-term actions

- **Maximise cooperation, synergies and blending** of funding across DGs (e.g. MARE, AGRI, REGIO) to streamline the future EU financial support to coastal communities, with improved accessibility and cross-funding synergies.
- **Streamline blending of EU grants and EIB Funds for coastal communities and incentivise ‘Coastal Community Resilience and Development Funds’** including local finance – foundations, impact investors, Public-Private Partnerships, etc. Such funds could build on current good practices discussed under Chapter 5 of this report (including the Malta ERDF Invest EU Fund, the Portugal Blue Fund, both involving EIB support, as well as the experience of EIB in other policy areas such as the Urban Development Funds promoted through JESSICA ⁽²²⁹⁾). The funds could build on different streams of financing

⁽²²⁷⁾ Issues indicated in the Terms of Reference: *(vii) enhancing access to and the effectiveness of EU funding in supporting coastal communities.*

⁽²²⁸⁾ e.g. Jasper, Jesica, Elena, Jasmine

⁽²²⁹⁾ Page 13 (Urban Development Fund) as reference https://ieep.eu/wp-content/uploads/2022/12/Mobilising_private_investment_for_climate_action_in_the_EU_-_IEEP_report.pdf

available under the future MFF, as well as additional sub-national and private funds, EIB resources, etc. – to finance the Coastal Community Strategies under Recommendation 2.

- **MS and Territorial Authorities to engage systematically with networks of philanthropists, impact investors, guarantee institutions** and other financing actors when planning their national and sub-national funds and policy support to ensure joint actions and maximise impact financing in support of coastal communities.
- **Strengthen the role of LEADER** ⁽²³⁰⁾ and **FAMENET** ⁽²³¹⁾ in engaging with technical assistance programmes like JASPERS/JESSICA and foster the capacity of local actors/initiatives to support multi-fund/blending financing approaches for addressing coastal communities' needs and challenges.
- **Establish coordinated application processes** that facilitate LAGs/FLAGS' – or similar place-based and community-led future support – access to multiple funds for integrated coastal community development projects and strengthen local capacity including by sharing good practices in multi-fund utilisation.
- **Include specific incentives for impact financing actors** to invest in areas of relevant needs and challenges for coastal communities, as a requirement for dedicated EU guarantees provided to private investors.
- **Further promote the role of innovation procurement** ⁽²³²⁾ to support the financing of innovative solutions addressing relevant challenges for coastal communities, including through the procurement role envisioned under Mission Ocean CSAs, the de-risking measures by the EIB ⁽²³³⁾, etc.

RECOMMENDATION 4: Ensure that the EU support (direct and co-managed) for a competitive blue economy is also duly addressing economic justice, gender balance, access to quality jobs, respect to local identities and values, as well as safety and security at coastal communities level, by engaging with coastal communities members ⁽²³⁴⁾ involved in relevant local sectors/activities ⁽²³⁵⁾.

Actors in 'functional' coastal communities can play a greater role in innovating and diversifying local blue economy sectors, but also in promoting greater actions in areas related to blue skills, research, ocean literacy, ecosystem preservation, impact financing, etc.

Short-term actions

- **Maximise the incentive for the collection, analysis, and dissemination of good practices** (e.g., projects, initiatives, policies) in supporting a sustainable and competitive blue economy for resilient coastal communities – e.g., through

⁽²³⁰⁾ <https://elard.eu/leader-clld/>

⁽²³¹⁾ https://oceans-and-fisheries.ec.europa.eu/funding/famenet_en

⁽²³²⁾ https://research-and-innovation.ec.europa.eu/strategy/support-policy-making/shaping-eu-research-and-innovation-policy/new-european-innovation-agenda/innovation-procurement_en

⁽²³³⁾ https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/new-financial-products-derisk-innovation-procurement-2024-07-03_en

⁽²³⁴⁾ These include operating across value-chains in support to local blue economy sectors (i.e. ports, tourism hot-spots, etc), financing communities, but also other shared activities in non-strictly economic critical areas (e.g. blue skills, ocean literacy, ecosystem preservation), etc. Such relations might also go beyond coastal areas and involved broader agents in rural areas or other in-land regions and/or international partners.

⁽²³⁵⁾ Issues indicated in the Terms of Reference: (v) *addressing the challenges coastal communities face and meeting their evolving needs*; (vi) *addressing climate change adaptation challenges specific to coastal communities*; (viii) *identifying strategies to attract and diversify economic activities, as well as fostering innovative business models*.

dedicated sections/stories promoted by the Blue Economy Observatory, Sea Basin Strategies, Mission Ocean Common Support Action, etc.

- **Expand and reinforce the direct engagement of EU community-led actions** (e.g. FLAGs and LAGs acting in coastal areas) with relevant “functional” communities (ports, clusters, etc.), to promote greater innovation and diversification of local blue economy activities towards greater resilience of coastal areas – e.g. by supporting innovative activities, pilot projects and transformational change.

Long-term actions

- **Fully empower local actors in key local economic value-chains across blue economy sectors, and activities for ecosystem protection, education, investments, etc., as drivers for sustainable, competitive and resilient coastal areas.** This should include targeted financial support to “functional” communities, as well as different coastal communities in rural, urban and remote areas, to promote access to relevant knowledge and innovation, which are vital for local blue economy activities, while ensuring safety and protection of coastal areas.
- **Make inclusive spatial planning the basis for local investment plans** at (coastal) community level and aimed at fulfilling such needs through the involvement of communities members, businesses and financing actors and doing so by identifying enabling actions to address spatial tensions, as well as coastal threats, while assessing local infrastructural and financial needs to support a fully competitive and sustainable economy across EU coastal areas.
- **Fully recognise the strategic relevance of coastal protection and the role of Nature-based Solutions (NbS)** in ensuring safe and secure coastal areas and resilient coastal communities – this implies fully supporting the capacities of local authorities and public procurers to better understand NbS as viable alternative to current practices, with further details discussed as part of the Dutch case study (CS 2, Annex 2) on this subject.
- **Maximise the potentials of defence dual use** for coastal communities in the context of the EU Security Strategy – e.g. in terms of innovation, skills, technological development and access to finance in addressing relevant challenges – including smart monitoring, coastal protection and development of innovative clusters via public-private financing, with further details available as part of the Polish Case Study (CS 6, Annex 2) on this subject.
- **Ensure that future support is offered by the EU towards the competitiveness of its blue economy sectors, while fully addressing economic justice, gender balance, access to quality jobs for coastal community** – both for traditional sectors such as fisheries/aquaculture, coastal tourism, maritime transport, as well as more innovative sectors such as renewable energy, biotechnologies, etc. – by addressing the needs and resilience of coastal communities, fostering greater local socio-economic returns, fully empowering local communities and respecting cultural values.
- **Ensure greater capacity of coastal communities**, through financial support to vocational education, access to (and transfer of) skills and sustainable innovation, ocean literacy, as well as youth empowerment at the coastal community level – while ensuring that ex-ante evaluation of future financial support includes an assessment of the actual preservation of cultural values.
- **Consider strengthening synergies among relevant EU strategies** at the (sub) sea-basin level (e.g., Sea Basin Strategies, Macro-Regional Strategies, Mission Ocean Lighthouses), with clearer commitments on the concrete actions

each strategy can advance to support competitive, sustainable, and resilient coastal communities.

RECOMMENDATION 5: Support an effective governance for coastal communities by addressing institutional fragmentations and fostering a greater capacity of community actors to act jointly in supporting coastal resilience ⁽²³⁶⁾.

Strengthen the ability of local communities and relevant governance structures to i) engage with territorial/national authorities, as well as the above-mentioned “functional communities”; ii) ensure a better understanding of relevant challenges and needs; and iii) foster local collective actions in addressing those in a thorough engagement with citizens, researchers, businesses and financial actors in coastal communities.

Short-term actions

Systematically collect and disseminate ⁽²³⁷⁾ good practices in “multi-level” ⁽²³⁸⁾ and “poly-centric” ⁽²³⁹⁾ governance across the EU, as examples of distributed leadership in enabling sustainable innovation and change at the coastal level, for a greater resilience of coastal communities – an example of such practices is offered in the Pays de Brest Case Study (CS 4, Annex 2).

Long-term actions

- **Ensure the thorough engagement of local actors in coastal communities** – as discussed in Recommendation 4 – by Member States and territorial authorities, when assessing the effectiveness of existing governance structures in the engagement of coastal communities and when identifying specific measures aimed at supporting their relevant needs and priorities.
- **Explore how DG REFORM can provide a more systemic support to coastal (multi-level) governance** and a stronger capacity of local (formal/informal) institutions and actors – as discussed in Recommendation 4 – to support local engagement in the definition of policy priorities, financing and investment plans.
- **Build on the lessons learned and results achieved by community-led actions** – e.g. FLAGs/LAGs ⁽²⁴⁰⁾ – to strengthen their longer-term sustainability in support of local governance structures, and further engage with local coastal actors beyond fisheries, hence ensuring a continuity in the engagement with coastal communities beyond time-bound EU-funded projects (e.g. Pays de Brest case study (CS 4, Annex 2) is a good example in this respect).

⁽²³⁶⁾ Issues indicated in the Terms of Reference: *(iii) strategies for the EU in initiating and promoting effective local governance models to address challenges related to economic diversification and resilience building; (iv) strengthening local stakeholder engagement.*

⁽²³⁷⁾ Via Blue Observatories, Sea Basin Strategies, Macro Regions, Mission Ocean CSAs, etc.

⁽²³⁸⁾ ‘Multi-level governance’ is a common term in EU policy and refers to the practice of addressing valuable policy decisions – and related actions – at various levels: including local, sub-national and international/EU. The smooth cooperation amongst one or more of such various levels ensures a sound decision/action, and when it comes to coastal communities the involvement and cooperation of all such levels is often relevant to achieve lasting results.

⁽²³⁹⁾ ‘Poly-centric governance’ is a lesser-known term describing the cooperation between actors at the same territorial level, in a context where decisions are taken by the spontaneous cooperation of different agencies acting towards a joint purpose. In the context of coastal communities, public and private actors can jointly cooperate towards the common goal of achieving full coastal resilience, without necessarily reflecting specific hyperarchies of roles.

⁽²⁴⁰⁾ <https://webgate.ec.europa.eu/circabc-ewpp/d/d/workspace/SpacesStore/77d87c8e-d0a4-453a-aa86-68266b4f0848/download>

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