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How can we cope with coastal erosion?

Committee on Governance, Civic Engagement and the Environment (Governance Committee)

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Summary

This report highlights the urgent need for new adaptation approaches to coastal erosion and management as sea levels continue to rise and extreme weather events become more frequent, fuelled by climate change. It is set in the context of a greater than ever understanding of how sea level rise is accelerating and how sea levels will rise faster in the future, driving long-term transformation of coastal landscapes and unavoidable land loss and affecting human rights to life, to private life and property.

Traditional coastal protection measures, such as sea walls and engineered barriers, often commissioned by local and regional authorities, are increasingly expensive and less likely to provide effective, long-term solutions as climate change impacts intensify. The report recommends reframing these measures as short-term protection measures while more sustainable, forward-looking responses are developed and deployed where practicable. Specifically, it emphasises that for most of Europe's coasts, planned retreat, by avoiding new development and by relocating existing assets, will often represent the most viable long-term management approach. This will involve restricting new development and relocating homes and businesses, services and infrastructure in vulnerable areas to more climate resilient places inland.

To achieve this, local and regional authorities must be ready to play a leading role in a multilevel governance and multi-sector approach. Successful adaptation requires awareness raising and community engagement, as well as technical and logistical expertise backed by adequate financial means. Transparent communication, inclusive adaptation planning, and sustained political support are essential. These measures facilitate community readiness and enable the transformative adjustments required to ensure coastal resilience.

1. L: Chamber of Local Authorities / R: Chamber of Regions
EPP/CCE: European People's Party Group in the Congress
SOC/G/PD: Group of Socialists, Greens and Progressive Democrats
ILDG: Independent and Liberal Democrat Group
ECR: European Conservatives and Reformists Group
PFE: Patriots for Europe Group
NR: Members not belonging to a political group of the Congress.

RESOLUTION 530 (2026)[2]

1. The Congress of Local and Regional Authorities of the Council of Europe ("the Congress") refers to:

a. the European Charter of Local Self-Government (ETS No. 122, "the Charter"), in particular its Articles 3, 4 and 9;

b. the Council of Europe Landscape Convention (ETS No. 176), as amended by the 2016 Protocol (CETS No. 219);

c. the Convention on the Conservation of European Wildlife and Natural Habitats (ETS No. 104, "the Bern Convention");

d. Congress Recommendation 536 (2025) "An additional protocol to the European Charter of Local Self-Government";

e. Congress Resolution 529 (2026) "Congress prioritities 2026-2031";

f. Congress Resolution 500 (2024) and Recommendation 510 (2024) "Local and regional responses to natural disasters and climate hazards: from risk preparedness to resilience";

g. Recommendation CM/Rec(2018)3 of the Committee of Ministers to member States on "Cultural heritage facing climate change: increasing resilience and promoting adaptation";

h. Congress Resolution 317 (2010) and Recommendation 298 (2010) "Coastal towns and cities tackling threats from the sea";

i. Resolution 2493 (2023) and Recommendation 2251 (2023) "Political strategies to prevent, prepare for and face the consequences of natural disasters" of the Parliamentary Assembly of the Council of Europe;

j. the Council of Europe Partial Agreement on the Co-operation Group for the Prevention of, Protection Against, and Organisation of Relief in Major Natural and Technological Disasters (EUR-OPA).

2. The Congress underlines that:

a. Europe's coasts are changing faster than expected, with scientific evidence predicting an acceleration of coastal erosion as a result of climate change, including more frequent and more intense storms;

b. future increased losses of homes, infrastructure and land, as well as landscape change, are unavoidable and will have a direct effect on the human rights to life, private life and property;

c. delaying action to address coastal erosion will increase costs and amplify social and economic disruptions, and risks limiting adaptation options in the future;

d. urgent policy solutions are required to reduce emissions and thereby slow the rate and reduce the amount of sea level rise;

e. effective multilevel governance is key to the success of coastal erosion adaptation strategies, with local and regional authorities playing a crucial role in their design and implementation;

f. while hard, sediment and ecosystem-based protection may be required in the short-term, especially in low-lying areas, planned retreat – avoiding new development and relocating existing assets – is the key element of anticipatory adaptation to and living resiliently with coastal erosion;

g. community involvement and transparent, inclusive planning as well as dedicated funding are essential to protect vulnerable communities, livelihoods and coastal heritage.

2 Debated and adopted by the Congress on 27 October 2026 (see document CG(2026)51-15, explanatory memorandum), co-rapporteurs: Anthony BUCHANAN, United Kingdom (L, ILDG) and Fanis SPANOS, Greece (R, EPP/CCE).

3. In light of the above, the Congress calls on the local and regional authorities of Council of Europe member States to:

a. regularly update coastal erosion risk maps and/or land use plans that make use of nationally produced coastal erosion risk maps and digital technology, recognising that sea level rise and an increasing number of intense weather events, fuelled by climate change, will result in an increase in coastal erosion on most European coasts in the coming years;

b. prepare protection and adaptation strategies based on sound professional analysis of the extent of coastal erosion and associated land loss that can be expected and what this means for the viability of homes, assets and infrastructure in the vicinity;

c. ensure that strategies take full account of the legal, logistical and financial implications of all possible measures, including in the medium to long-term;

d. prioritise in particular planned retreat – restricting development and relocating people and assets from vulnerable areas – as protection measures become less effective as sea levels rise and erosion increases, and in the knowledge that unplanned, emergency retreat made necessary by delay or inaction comes with a higher economic and social cost;

e. integrate buffer zones and no-build policies into spatial planning, and review them periodically based on sea level rise and erosion trends;

f. innovate with temporary land-use consents, dismountable buildings and assets, and nature-based solutions to maintain economic activity in advance of any planned relocation;

g. make full use of education and outreach initiatives to raise public awareness about the challenges and choices associated with anticipated coastal erosion and consult openly and extensively with residents and businesses affected in planning processes, including adaptation strategies, to take account of environmental needs and communities' ways of life, and build as much understanding and buy-in as possible for any decisions reached;

h. pursue all of this on the basis of a multilevel governance approach, in which municipalities and regions work together where appropriate and with national authorities that can ensure necessary legal frameworks and financial and other resources required, as well as seeking insights, expertise and funding from the European level.

4. The Congress calls on local and regional authorities and their national associations to take account of this resolution and the accompanying explanatory memorandum, on this specific issue. It also asks its statutory bodies to take the present resolution into account in their activities.

RECOMMENDATION 552 (2026)[3]

1. The Congress of Local and Regional Authorities of the Council of Europe ("the Congress") refers to:

a. the European Charter of Local Self-Government (ETS No.122, "the Charter"), in particular its Articles 3, 4 and 9;

b. the Council of Europe Landscape Convention (ETS No. 176), as amended by the 2016 Protocol (CETS No. 219);

c. the Convention on the Conservation of European Wildlife and Natural Habitats (ETS No.104, "the Bern Convention");

d. Congress Recommendation 536 (2025) "An additional protocol to the European Charter of Local Self-Government";

e. Congress Resolution 529 (2026) "Congress prioritities 2026-2031";

f. Congress Resolution 500 (2024) and Recommendation 510 (2024) "Local and regional responses to natural disasters and climate hazards: from risk preparedness to resilience";

g. Recommendation CM/Rec(2018)3 of the Committee of Ministers to member States on Cultural heritage facing climate change: increasing resilience and promoting adaptation;

h. Congress Resolution 317 (2010) and Recommendation 298 (2010) "Coastal towns and cities tackling threats from the sea";

i. Resolution 2493 (2023) and Recommendation 2251 (2023) "Political strategies to prevent, prepare for and face the consequences of natural disasters" of the Parliamentary Assembly of the Council of Europe;

j. the Council of Europe Partial Agreement on the Co-operation Group for the Prevention of, Protection Against, and Organisation of Relief in Major Natural and Technological Disasters (EUR-OPA).

2. The Congress underlines that:

a. Europe's coasts are changing faster than expected, with scientific evidence predicting an acceleration of coastal erosion as a result of climate change, including more frequent and more intense storms;

b. future increased losses of homes, infrastructure and land, as well as landscape change are unavoidable and will have a direct effect on the human rights to life, private life and property;

c. delaying action to address coastal erosion will increase costs and amplify social and economic disruptions, and risks limiting adaptation options in the future;

d. urgent policy solutions are required to reduce emissions and thereby slow and reduce sea level rise;

e. effective multilevel governance is key to the success of coastal erosion adaptation strategies, with local and regional authorities playing a crucial role in their design and implementation;

f. while hard, sediment and ecosystem-based protection may be required in the short-term, especially in low-lying areas, planned retreat – avoiding new development and relocating existing assets – is the key element of anticipatory adaptation to coastal erosion;

g. community involvement and transparent, inclusive planning as well as dedicated funding are essential to protect vulnerable communities, livelihoods and coastal heritage.

3. In the light of the above, the Congress calls on the Committee of Ministers to invite the respective national authorities of the member States of the Council of Europe to:

3 Debated and adopted by the Congress on 27 October 2026 (see document CG(2026)51-15, explanatory memorandum), co-rapporteurs: Anthony BUCHANAN, United Kingdom (L, ILDG) and Fanis SPANOS, Greece (R, EPP/CCE).

a. prioritise anticipatory adaptation strategies, notably restricting development and relocating people and structures from vulnerable areas (planned retreat), acknowledging that coastal erosion will accelerate on most European coasts in the coming years on a scale that will require a move away from reliance on protection measures;

b. establish and enforce timely, comprehensive and evidence-based adaptation policy frameworks, supported by regularly updated coastal erosion risk maps, and which take into account the long- and short-term costs and benefits associated with protection measures, unplanned (emergency) retreat and adaptation strategies including planned retreat, and systematically monitor and evaluate coastal hazards and strategies so that these can be adjusted as necessary;

c. work with local and regional authorities on the basis of a multilevel governance approach to ensure that national policy is informed by sub-national experience and that there is coherence between national and sub-national strategies, on the basis of their respective and shared responsibilities, including on retreat-related implications for planning, housing and utilities, transportation, business and all other relevant sectors;

d. create or strengthen existing legal policy instruments, including at the European level, strengthening coastal resilience and requiring retreat by avoidance and relocation;

e. develop and support national and European financial instruments, such as setback zones and no-build areas for planned avoidance and buy-out funds, relocation support, use of dismountable development and time-limited leases to facilitate planned relocation including spatial reorganisation, as well as enabling fair and applicable insurance coverage;

f. empower and adequately resource local and regional authorities – including through adequate staff resourcing, training, technical support and expertise – in order that they can play their part effectively in a multilevel governance approach to addressing the impact of coastal erosion;

g. implement educational initiatives across coastal and inland communities and all relevant sectors to raise awareness of anticipated coastal erosion, its impact on coastal communities and the need for adaptation including planned retreat and engage those audiences and others, including civil society, in any relevant consultations or strategy development;

h. foster international cooperation and partnerships with the European Union to promote coastal adaptation practices in Europe and beyond and contribute to and adopt relevant international standards, ensuring follow-up action.

EXPLANATORY MEMORANDUM

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INTRODUCTION[4]

1. It is now fifteen years since the Congress report, "Coastal towns and cities tackling threats from the sea", was adopted.[5] This called for a new risk culture and new governance practices within local and regional authorities to address growing coastal erosion and the unavoidable land loss that results. Since then, sea level rise (SLR) has accelerated, and damage caused by storm- and wave-induced coastal erosion and land loss has increased. This is set to continue, with far-reaching consequences for the individuals and communities affected and for every level of government, notably local and regional authorities. Acceptance of the new risk culture recommended in the previous report is therefore more urgent than ever. Policy choices should be made on that basis. As sub-national governments feel the immediate consequences most acutely, they must play a central and innovative role in addressing the problems.

2. Coastal communities are already facing significant impacts.[6] Homes, businesses and livelihoods, along with services and infrastructure are feeling the effects of higher sea levels in many Council of Europe member states. This will accelerate as along with increased coastal erosion along with the associated and more frequent flooding. All coastal cities and settlements worldwide will face "severe disruption to coastal ecosystems and livelihoods by 2100 and beyond", according to the shared socioeconomic pathways (SSPs) used to forecast future climate change impacts.[7]

3. Specifically, storm conditions cause higher water surges, magnifying the impact of increasing sea levels, and storms are increasing in number and intensity, while sediment supplies are decreasing. All of this leads to changing or "dynamic" landscapes. Erosion affects the entire coastal edge, including both natural landforms such as cliffs, beaches and dunes as well as engineered structures such as dykes and seawalls, which can be damaged, destroyed or overwhelmed. Storm surges in particular increase the impacts of erosion and flooding as sand dunes and dykes often breach, increasing the area flooded.[8]

4. Across the European Union and the United Kingdom, recent annualised damage costs associated with coastal flooding are between €1.2 billion to €1.4 billion.[9] These are predicted to rise to between €137 – €814 billion per year by 2100.[10] There is therefore both a strong social and economic imperative to avoid increasing the number of people and assets exposed.

5. Strategies to adapt and minimise the economic, social, ecological and landscape impacts of erosion have been given less priority than flooding, even though erosion affects both natural and coastal flood protection infrastructure and leads to land loss.

6. Consequently, progress on coastal adaptation has been slow. Rapid mitigation and urgent adaptation are essential to minimise economic and social losses but these must be stepped up to meet the challenges at a time when climate change is accelerating.

7. Unlike the past, data and evidence are now available to 'see the future' and experts and authorities can use this insight to act in anticipation of future storms and associated storm surges. To reduce the societal impacts of faster and more extensive land loss, a proactive, 'before the storm' response is needed.[11]

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4 The report was drafted with the contribution of Professor Larissa Naylor who also works at the University of Glasgow, Scotland, United Kingdom.

5 See Congress Resolution 317 (2010) and Recommendation 298 (2010) "Coastal towns and cities tackling threats from the sea".

6 Glavovi, B.C., R. Dawson, W. Chow, M. Garschagen, M. Haasnoot, C. Singh, and A. Thomas, (2022): "Cross-Chapter Paper 2: Cities and Settlements by the Sea". In: *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2163–2194.

7 Ibid. p. 2165.

8 Kiesel, J., Wolff, C., and Lorenz, M. (2024). "Brief communication: From modelling to reality – flood modelling gaps highlighted by a recent severe storm surge event along the German Baltic Sea coast". Natural Hazards and Earth System Sciences, 24(11), 3841–3849.

9 Vousdoukas, M. I., Mentaschi, L., Voukouvalas, E., Bianchi, A., Dottori, F., & Feyen, L. (2018). "Climatic and socioeconomic controls of future coastal flood risk in Europe". Nature Climate Change, 8(9), 776–780.

10 European Commission, Directorate-General for Maritime Affairs and Fisheries (2023). The EU Blue Economy Report, Publications Office of the European Union, Luxembourg, 2023, ISBN 978-92-68-03345-6, DOI:10.2771/7151.

11 Naylor, L. A., Brady, U., Quinn, T., Brown, K., & Anderies, J. M. (2019). "A multiscale analysis of social-ecological system robustness and vulnerability in Cornwall", UK. Regional Environmental Change, 19(7), 1835–1848.

8. Risk management measures typically include five strategies:
- advance: extending the coastline seaward through measures such as beach widening, land reclamation, or the construction of offshore wave barriers (also called breakwaters);
- protect (hard engineering): defending the existing coastline using structural measures such as seawalls, dykes, or rock revetments (also called rock armour);
- accommodate: adapting buildings and infrastructure to coexist with risk for example by elevating houses on stilts or adopting flood-resistant design;
- nature-based solutions: using or restoring natural systems to reduce coastal risk, such as dune restoration, wetland conservation, mangrove or saltmarsh enhancement, and beach nourishment that mimics natural processes;
- retreat: avoiding new development and in existing built-up areas facilitating the planned relocation of people and infrastructure away from high-risk areas.

9. The “accommodate” strategy is generally unsuitable for areas experiencing high rates of erosion, as land is lost. Advance (e.g. offshore breakwaters and land reclamation) and protective measures (e.g., sea walls, dikes, rock revetments) will likely remain necessary – especially in low-lying countries, including Denmark, the Netherlands, and those bordering the Baltic Sea. Nature-based approaches can, in some cases, hold or advance the existing coastal boundary, as observed in Belgium. However, all of these approaches are typically expensive, require ongoing maintenance and replacement.

10. Moreover, the Intergovernmental Panel on Climate Change (IPCC) states that protect and advance measures often “only delay impacts for a time, have increasing residual risk or perpetuate risk and create ongoing legacy effects and virtually certain property and ecosystem losses (high confidence).”[12] They thus ‘buy time’ to enable relocation to be planned and implemented.

11. The magnitude of the erosion threat has led some countries – including France, Portugal, the Netherlands, and the United Kingdom – to initiate the relocation of at-risk communities, infrastructure, and assets. This report underscores the importance of such “planned retreat” or relocation, which facilitates the landward migration of a) at-risk communities, infrastructure, and assets) and b) beaches and other coastal ecosystems as sea levels rise (often called managed realignment). Creating space on land for the landward migration of people and nature is integral to ensuring coastal erosion resilient coastal communities and landscapes.

12. This longer-term adaptive approach should be considered and implemented more urgently, by more national, local and regional authorities, now. This is because planned retreat – avoiding new development and relocating existing assets – will often be the only way to remove coastal erosion risks in the coming decades.[13]

13. Local and regional authorities are crucial in managing coastal erosion and landscape change as a land-based problem necessitating retreat, through proactive risk alleviation, urban and spatial planning and supporting affected people and businesses. Strong national and European political will, governance, finance, and technical support are essential for successful adaptation. Well-aligned and supportive multi-level governance approaches are required to coordinate efforts across impacted sectors, such as spatial planning, healthcare and education, and transportation, shipping and tourism.

14. France was chosen as a case study for this report because of its varied coastal landscapes and innovative approach to living with coastal erosion. Politically, France has shifted its priorities from coastal protection to coastal retreat. A Congress delegation, including a rapporteur and an expert, visited Paris in June 2025, meeting stakeholders at the national level, including from the Senate, National Assembly, National Coastline Committee, National Federation of Urban Planning Agencies (FNAU) and the Centre for Studies and Expertise on Risks, the Environment, Mobility and Planning (CEREMA). In November 2025, a second part of the visit took place in the French regions of Normandy and Nouvelle-Aquitaine, meeting local mayors, departments and regional representatives, experts and environmental associations and visiting sites affected by coastal erosion in the departments of Calvados, La Manche and Gironde.[14]

12 Le Cozannet, G., J. Lawrence, D.S. Schoeman, I. Adelekan, S.R. Cooley, B. Glavovic, M. Haasnoot, R. Harris, W. Kiessling, R.E. Kopp, A. Mukherji, P. Nunn, D. Piepenburg, D. Schmidt, C.T. Simmons, C. Singh, A. Slangen, and S. Supratid, (2022): “CrossChapter Box SLR | Sea Level Rise”. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 477–480, p. 43.
13 Intergovernmental Panel on Climate Change (herein, IPCC) (2023) Working Group II - Sixth Assessment Report. Factsheet Responding to Sea Level Rise.
14 See the programmes of study visits in appendix 3.

15. This report calls for a coordinated proactive approach, with local and regional authorities at the forefront, to urgently implement adaptations and lessen the societal harms and impacts of climate-change accelerated coastal erosion and landscape change. It acknowledges that planned retreat will require significant investment, but examines how to exploit the positive economic, social and ecological opportunities that urgent, proactive adaptation presents and points to the potential for long-term savings through effective adaptation now. It also outlines key enablers – factors that will make effective implementation possible – such as strong political will, effective governance structures and adequate financial resources, underpinning adaptation responses that can be deployed so that coastal countries can live more resiliently with dynamic, eroding coasts now and for generations to come.

1. CLIMATE CHANGE ACCELERATED COASTAL EROSION: SCIENTIFIC BASIS

16. The most recent Intergovernmental Panel on Climate Change (IPCC) cross-sector report on coastal cities and settlements conceptualises coastal risks in a changing climate in terms of: (1) climate change and geomorphic (landscape) hazards, (2) exposure and economic growth, (3) vulnerability and inequality, (4) adaptation responses and (5) enablers. This chapter addresses point 1; Chapter II addresses governance and legal obligations; Chapter III addresses points 2-3, Chapter IV addresses point 4 and Chapter V addresses point 5.

1.1. Accelerating coastal hazards

17. Coastal erosion and its impact on society and nature are the result of complex interactions between climate change hazards (including sea level rise, severe storms and storm surges which generate very high-water levels and wave heights) and human activities (such as reducing sediment supply). Global emissions are rapidly accelerating these hazards and coastal erosion, which, when combined with human exposure leads to coastal risks. The responses to these hazards can increase or reduce risks to people and assets.

18. Global mean sea levels rose faster in the last century (1.35 mm/year) than in any century in the past 3000 years (0.9-0.11 mm/year). Since 1971, sea level rise has been rapidly accelerating. The average rate of global sea level rise has nearly doubled between 2006 (e.g. 1971-2006 was 2 mm/year) and 2024 (2019-2024, to 4 mm/year).[15]

19. How much sea levels will rise depends on how much greenhouse gas emissions are reduced.[16] Current forecast suggests a rise of about 44 centimetres by 2100 and up to 1 metre by 2150 (Figure 1, SSP2-4.5, current emissions pledges).[17] Higher emissions could result in double these amounts (Figure 1, SSP5-8.5, high emissions), and if ice sheets melt quickly, rises of up to 5 metres by 2150 are possible (Figure 1, high-end storyline plausible worst case). Even if net zero emissions were achieved swiftly, sea levels will continue to rise. This is because there is a lag between emissions causing atmospheric warming and the oceans expanding causing sea level rise.

20. Sea levels vary across Europe. However, all of them are either equal to or greater than the global average, apart from the Black Sea, and the northern Baltic Sea where it is falling due to the land uplifting in response to the last glacial period.[18] Like elsewhere in the world, development, including the construction of buildings and the abstraction of groundwater are causing land to sink. Nearly half of Europe's coast is sinking (~1 mm/decade), with hotspots in urban areas, as well as the North Sea and the northern Italy.[19] This land lowering contributes to relative sea level rise, thereby increasing the exposure of people and assets to coastal erosion.

15 Forster, P.M. (2025). "Indicators of Global Climate Change 2024: annual update of key indicators of the state of the climate system and human influence". Earth Syst. Sci. Data, 17, 2641–2680.
16 Ibid. p. 42.
17 European Environment Agency. (2025). "Global and European sea level rise"
18 Copernicus. (2025). Climate indicators : Sea level
19 Thiéblemont, R., Le Cozannet, G., Nicholls, R. J., Rohmer, J., Wöppelmann, G., Raucoules, D., et al. (2024). "Assessing Current Coastal Subsidence at Continental Scale: Insights From Europe Using the European Ground Motion Service" . *Earth's Future*, 12.

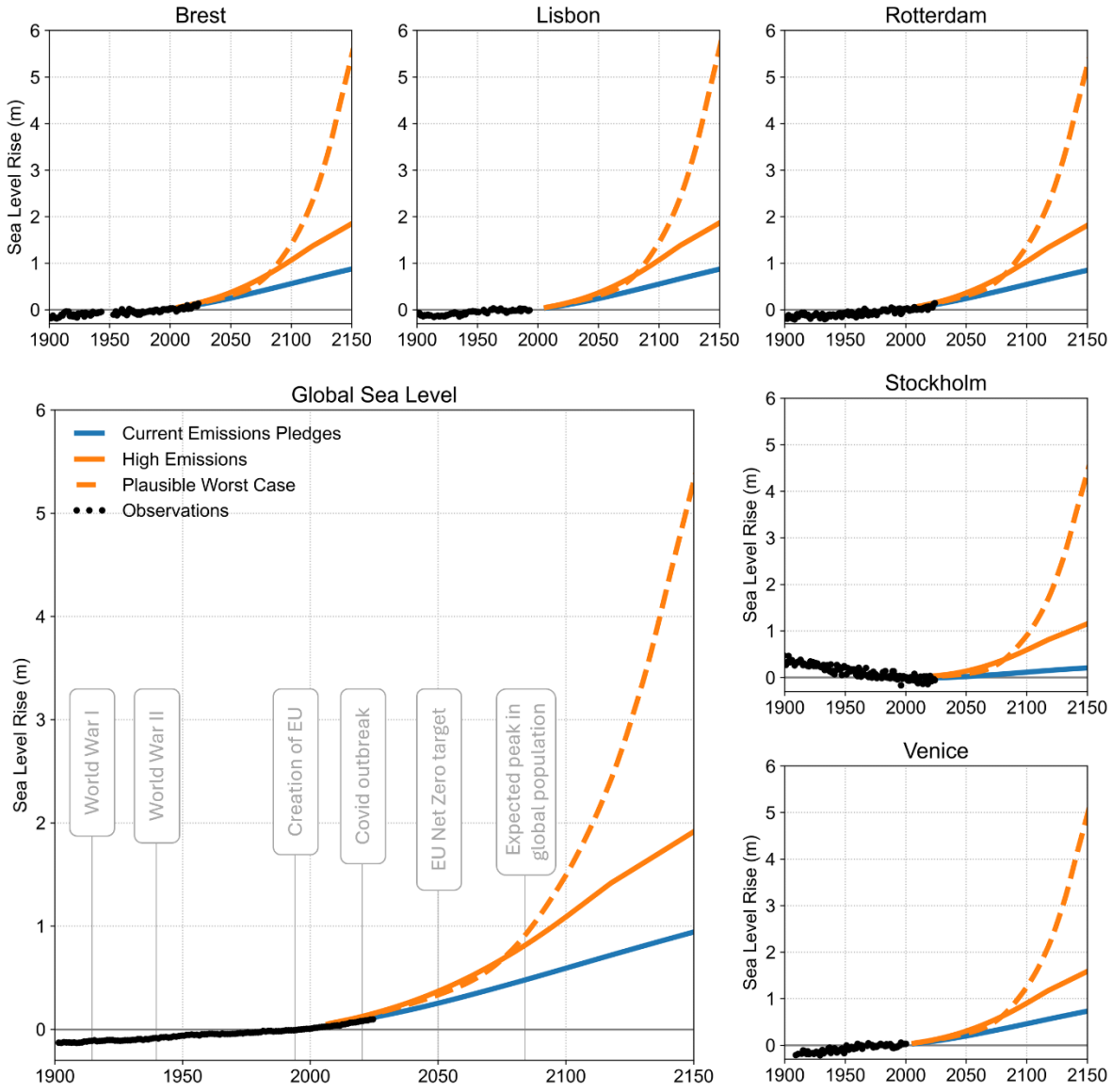


Figure 1: Sea level rise observations and projections globally and for five cities from Council of Europe member states; key world events are noted on the global sea level rise plot for context.
Source: UK Met Office, 2026.

21. Storms surges are already getting bigger and happening more often.[20] Historically rare events, with surges of 1 m or more above high tide level, occurred once per century. Projections indicate that they will occur 20-30 times more often by 2050 and annually by 2100.[21]

22. The weather is also getting more extreme. More intense and frequent storms have strong winds that push the sea further inland. For example, Storm Xynthia (2010) caused significant coastal erosion and flooding in western Europe, especially France, while Storm Goretti (2026) affected England (United Kingdom) and British Channel Islands, as well as France, Belgium, the Netherlands and Sweden and escalated into a weather bomb with a rare, red weather warning indicative of serious risk to life.

23. Due to human-accelerated climate change, there is a transition from comparative sea level stability into an era of rapid sea level rise and increased storminess. This shift increases human exposure and vulnerability to coastal erosion and associated landscape change.

20 IPCC, (2023): Sections. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 35-115.
21 IPCC. (2023). Working Group II - Sixth Assessment Report. Factsheet Responding to Sea Level Rise.

1.2. Coastal erosion and landscape responses to coastal climate change hazards

24. Landscapes change in response to sea level rise, storminess and sediment supply. Historically, during periods of higher sea level, the landscape looked quite different from today. There was less land. Saltmarshes, beaches and dunes were located further inland and low-lying landforms such as barrier beaches were submerged during extreme storms.[22] Looking forward, as erosion and sea level rise accelerate, these landforms will also gradually disappear in some areas and cliffs will erode more quickly, causing increased land loss.

25. This makes coping with coastal erosion in a changing climate much more challenging. It requires all levels of governance to shift their approach – from treating the coastline as a fixed boundary to seeing it as an eroding, dynamic landscape. The Netherlands[23] and Scotland (United Kingdom) are leading examples that highlight the dynamic nature of coasts in their policies and planning. Landscape changes and loss from erosion directly impact communities and businesses. Local and regional authorities have a key leadership role in helping communities live resiliently with increased erosion.

26. When the rate of sea level rise was half that of today, the most comprehensive European wide coastal dataset found that 25% of Europe's coast was already eroding, despite extensive protection measures like seawalls.[24] For example, in Catalonia (Spain), 50 m of beach width has been lost over the last 50 years. Also, Mediterranean islands are often particularly exposed. Across Europe, coastal erosion is already accelerating[25] and is expected to worsen as sea level rise accelerates. A 2026 pan-European dataset found 80% of Europe's low-elevation coast is at risk of future erosion.[26]

27. National and regional datasets of recent and future erosion risks are increasingly common Denmark, France, Italy and Portugal have produced them at the national level and, at regional level, Germany, the Netherlands and the United Kingdom (England, Scotland and Wales) have done the same. The most recent national data shows that 19% of mainland France's coasts – approximately 900 km – is receding, affecting more than 500 municipalities. Erosion impacts all types of coastal landforms, including hard rock cliffs (Figure 2).

28. Managing the impact of erosion on people and communities is fundamentally different from approaches used to manage flooding. Flood waters can often be controlled and communities often be accommodated, by remaining in place where buildings are adapted and repaired after storm damage. In contrast as coastal climate change hazards intensify, increased land loss and landscape change due to erosion are often unavoidable. Along eroding coasts, assets need to be moved to avoid being claimed by the sea.

a) Active cliff erosion, Port-en-Bessin-Huppain, Calvados, Normandy, France, affecting tourism	b) Continual dune erosion during 'normal' wave conditions 500 m along the coast from Plage des Cantines, France	c) Erosional waves at Plage des Cantines, Le Verdon-sur-Mer, Gironde, Nouvelle-Aquitaine, France	d) Historic WWII bunkers are laid to waste due to and losses from coastal erosion at Plage de l'Horizon in Lège-Cap -Ferret, Gironde, France
			

Figure 2. Active erosion of cliffs, dunes and beaches observed during 2025 study visit in France.

22 Mellet, C.L. et al. (2012). "Preservation of a drowned gravel barrier complex: A landscape evolution study from the north-eastern English Channel." *Marine Geology.* Volumes 315–318. Pages 115-131.
23 Ministry of Infrastructure and Water Management of the Netherlands. Dynamic Coastal Management
24 Eurosion,(2003) Living with coastal erosion in Europe
25 Moses, C., Chopra, T., Van Wingerden, E., Butterill, C., Humphries, A., Follows, S., Jones, L., Weil, M., & Van Heteren, S. (2025). "EMODnet Geology: pan-European assessment of coastal resilience and vulnerability". *Quarterly Journal of Engineering Geology and Hydrogeology*.
26 Hanson, S. E., Nicholls, R. J., Calkoen, F. R., Le Cozannet, G., and Luijendijk, A. P.: A geospatial database of coastal characteristics for erosion assessment of Europe's coastal floodplains, Nat. Hazards Earth Syst. Sci., 26, 1685–1703, https://doi.org/10.5194/nhess-26-1685-2026, 2026.

29. Past risk management approaches, including the use of seawalls to maintain the current position of the coastline, often counteract the natural processes by which natural landscapes adapt to sea level rise and increased storminess. Instead, effective management of climate-change accelerated coastal erosion requires a landscape scale, land-based management strategies that align with the dynamic response of coastal environments.

2. HOW IS THE COAST GOVERNED?

2.1. Legal obligations

30. The acceleration of coastal erosion poses a potential negative impact on several human rights protected by the European Convention on Human Rights (ETS No.5, "the Convention") and the European Social Charter (revised) (ETS No. 163, "the Social Charter"). These include: the right to life (Article 2 of the Convention), the right to respect for private and family life (Article 8 of the Convention), property rights (Article 1, Protocol 1 to the Convention), the right to protection of health (Article 11 of the Social Charter), the right to housing (Articles 16 and 31 of the Social Charter). Other relevant rights at risk are: the right to an effective remedy (Art. 13 of the Convention in conjunction with other rights), the right to freedom of movement (Article 2, Protocol 4 to the Convention), the right to safe working conditions (Art. 3 of the Social Charter), the right to participation (Article 10 of the Convention) and the principle of equality and non-discrimination.

31. The Congress of Local and Regional Authorities and other Council of Europe bodies, the jurisprudence of the European Court of Human Rights and, more recently, the Heads of Government and State of Council of Europe member states acknowledge the human-rights related impacts of climate change[27] and call to address those through both prevention and mitigation measures.

32. In its judgment in the case *Verein KlimaSeniorinnen Schweiz and Others v. Switzerland* (2024) the European Court of Human Rights introduced a new duty on states to adopt adequate measures to mitigate climate change. These measures should be supplemented by adaptation measures consistent with states' positive obligations.[28] Adaptation measures must be implemented effectively in accordance with the best available evidence in order to alleviate the most severe consequences of climate change.[29] Mitigation measures are required to reduce the rate and amount of climate change hazards, while adaptation measures are required to ensure that the rights to life, to private and family life and to property are respected for current and future generations.

33. The differential treatment of overseas territories with respect to adaptation funding and protection could raise legal and human rights concerns in the national contexts. For example, a legal case has been brought in the District Court of the Hague by residents of Bonaire and Greenpeace Netherlands against the Dutch government. The claim argues that the Caribbean Island of Bonaire, a special municipality of the Netherlands, does not receive the same level of funding or protection for coastal adaptation as the European Netherlands.[30] The plaintiffs are calling for faster climate mitigation and more robust adaptation measures and resources. This example illustrates an increased public scrutiny concerning equitable treatment in adaptation policies.

34. Furthermore, in July 2025, the International Court of Justice (ICJ) issued an advisory opinion recognising climate change as "*an existential problem of planetary proportions*" for humanity and asking states to protect affected populations, including the possibility of reparations for climate-related harm.

35. The Council of Europe's Convention on the conservation of European Wildlife and Natural Habitats (ETS No. 104, "Bern Convention") and Landscape Convention (ETS No. 176), as amended by the 2016 Protocol (CETS No. 219), create obligations for states relating to the protection of landscapes and natural habitats. These obligations are especially relevant in the context of coastal erosion and climate change. As sea levels rise, coastal landscapes will migrate landwards and will require space on land to maintain landscape protection and landscape quality. Making space for nature will help ensure natural coasts continue to provide risk reduction, cultural, social, and economic benefits.

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27 See the Reykjavík Declaration - United around our values adopted during the 4th Summit of Heads of State and Government of the Council of Europe in Reykjavík on 16-17 May 2023 and its Appendix V "The Council of Europe and the environment", Congress work on human rights and the environment , the case-law of the European Court on Human Rights on environment

28 European Court of Human Rights Verein KlimaSeniorinnen Schweiz and Others v Switzerland, no. 53600/20, Grand Chamber, 9 April 2024.

29 Ibid.

30 Margherita Capacci (2026) "Climate change: adaptation on trial, a first in Europe", JusticeInfo.Net.

36. The Congress promotes a safe and healthy environment and sustainable development as a prerequisite for the enjoyment of human rights. It advocates strengthening of the role of local and regional authorities in environmental decision-making. The Congress encourages a green reading of the European Charter of Local Self-Government and of its additional protocol on the right to participate in the affairs of a local authority.

2.2. Governance arrangements

37. Across the Council of Europe member states, governance of coastal areas involves multiple levels of government. At the European Union level, policy frameworks and funding are established to guide its member states. National and regional authorities are responsible for setting laws, developing strategies and often providing funding. Regional authorities typically produce risk maps and shoreline management plans, while local authorities plan retreat and maintain coastal protection and/or nature-based solutions. Some countries, notably in Scandinavia, have national coastal authorities or risk management agencies, such as in Denmark and Norway, that provide strategies, guidance, risk data and/or approvals.

38. Governance arrangements differ among countries. Thus, in Denmark, Norway and Sweden, decentralised systems grant local authorities more autonomy and responsibility, notably in land use planning and coastal protection. By contrast, governance in the Black and Adriatic Sea regions is much more centralised at the national level. Ministries of sustainable development, environment, water management and climate change typically assume primary responsibilities. In these cases, regional authorities play a more limited role, and local authorities are responsible for beach management and spatial and land use planning, which also involves planned retreat.

39. In EU Mediterranean countries, governance is more evenly distributed across national, regional and local levels. National authorities set laws and national ministries provide strategy. Regional authorities coordinate and implement national plans, including climate change adaptation measures. Non-EU Mediterranean countries have more centralised systems, with limited regional involvement. Like elsewhere in Europe, local authorities are responsible for beach management, land use planning and zoning, managing coastal erosion including planned retreat.

40. Management of coastal erosion on the ground is typically the responsibility of local authorities in the majority of Council of Europe member countries. Local authorities are often small and may lack sufficient financial and technical capacities to effectively manage costal erosion risks and adaptation measures. They play a central in coastal planning and adaptation, including retreat.

41. Given the land-based nature of coastal erosion and its impacts inland, more coordinated governance approaches are being adopted. For example, inter-municipal cooperation in France involves local authorities working collaboratively with the support of regional authorities and government agencies to design, agree upon and implement strategies for nature-based solutions and adaptation via coastal retreat.

42. Managing coastal erosion effectively requires a regional – or catchment scale – approach, addressing both the spatial reorganisation of land and the creation of climate resilient communities across municipal boundaries. This should be underpinned by strong, coordinated government local and regional governance arrangements to support implementation of this regional approach.

3. EXPOSURE AND VULNERABILITY ALONG A DYNAMIC COAST

3.1. Exposure of human assets on a dynamic coast

43. Throughout history, humans have settled in coastal regions, concentrating significant portions of the population, economic activities, and critical infrastructure there. This concentration increases societal vulnerability to coastal erosion. Coastal regions are major economic powerhouses, generating 40% of Europe's GDP and accounting for 75% of international exports.[31] Rapid European coastal population growth has occurred in the past 1.5 centuries. For example, in Vlissingen, in the Netherlands, urban growth, port development and increased tourism have driven coastal settlement.

31 Cortés Arbués, I. et al. (2024). Distribution of economic damages due to climate-driven sea-level rise across European regions and sectors. *Scientific Reports*.

44. By 2100, projections from Cerema – the French public agency supporting cities and regions in developing safer, more sustainable and climate-resilient territories – estimate that up to €86 billion in residential housing assets in France may be exposed to coastal erosion (based on an estimate of 450,000 homes affected). The overall financial impact, including public infrastructure, commercial properties, and networks, is projected to exceed €95 billion. The assets at risk include more than 500,000 buildings (of which 450,000 are homes), approximately 1,800 km of roads, 240 km of railways, over 300 wastewater treatment plants, 2,500 educational establishments and 275 hospitals. In the near term, 1,000 buildings are at risk by 2028, and more than 5,000 homes are expected to be affected by 2050.

45. Population density in mainland France's coastal zones is 2.5 times higher than the national average, with approximately 8 million people exposed to coastal erosion risk (6.4 million in metropolitan France and 1.6 million in overseas departments and regions). Eight percent of the national population is concentrated in just 1% of the national territory (the 1-kilometre coastal strip). On territories currently experiencing erosion, approximately 19% - 20% – the population is exposed, according to standard demographic measures. Since 1962, the coastal population has increased by 44%. Currently, about 20% of France's overseas territories are affected by erosion.[32] These figures reflect a growing risk to populations, infrastructure, housing, and economic activities in coastal areas (see Figure 3b). The French National Federation of Urban Planning Agencies (FNAU) highlights that coastal erosion constitutes a widespread and persistent challenge, which cannot be addressed as an isolated or short-term issue. Effective management of coastal erosion, therefore, requires comprehensive changes in strategies for development, resilience, and territorial restructuring.[33]

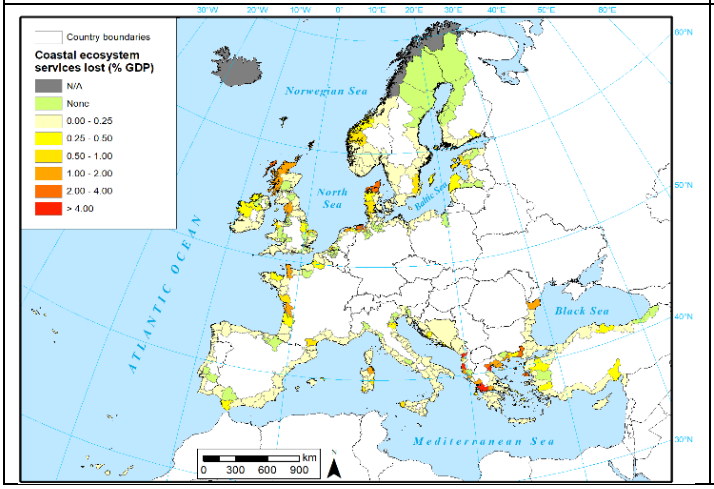
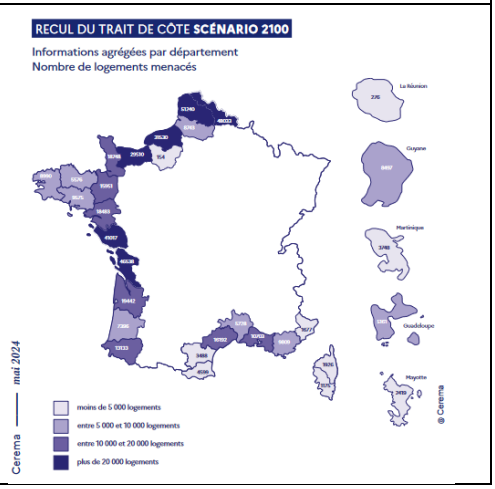
a) Relative loss of ecosystem services and damage costs €42 Millon/year are forecast for 2100.[34]	b) French map of predicted numbers of houses destroyed by 2100. Data source: Cerema
	

Figure 3. (a) European assets at risk and (b) estimated loss of homes lost in France.

46. European coastal communities and infrastructure were built during periods when sea levels and coastal landscapes were relatively stable, and erosion rates were comparatively low. This is no longer the case. Relocating populations and infrastructure away from high-risk areas will reduce risks to life and property. In addition, providing space on land for coastal landforms – such as beaches – to migrate inland supports the preservation of natural features and maintain their significant economic and livelihood benefits. For example, beaches in Greece provide considerable value to local communities and the broader economy.[35]

47. Regardless of the climate and socioeconomic scenarios used to forecast future climate change impacts, all coastal cities and settlements worldwide are expected to face "severe disruption to coastal ecosystems and livelihoods by 2100 and beyond."[36] A report by the Irish government found that

32 Cerema. (2021). Adapter les territoires littoraux au changement climatique : un Petit Essentiel du Cerema.
33 National Federation of Urban Planning Agencies (Fnau). (2025). Reply to the study visit questionnaire.
34 Paprotny, D., et al. (2021). "Future losses of ecosystem services due to coastal erosion in Europe". *Science of the Total Environment*, 760, Article 144310.
35 Karditsa, et al. (2024). "Is the Insular Coastal Tourism of Western Greece at Risk due to Climate Induced Sea Level Rise?" *Ocean & Coastal Management*, 107088.
36 Glavovic, B.C., R. Dawson, W. Chow, M. Garschagen, M. Haasnoot, C. Singh, and A. Thomas, (2022): "Cross-Chapter Paper 2: Cities and Settlements by the Sea". In: *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working

damages to buildings and infrastructure from coastal erosion is already substantial. Without adaptation, the report said these risks are projected to become critical by 2050 and catastrophic by 2100.[37]

48. Alongside rapid emissions reduction, the most effective way to reduce long-term societal risks from coastal erosion and erosion-related flooding is to avoiding development in high-risk areas and relocating people and assets away from the coast.[38] While these adaptation measures can be politically and socially challenging,[39] early action brings clear benefits. These include long-term cost savings, less damage to property and reduced risk of loss of life, and benefits include improved quality of life (with less fear of storm damage) and safeguarding essential ecosystems also benefits society.

3.2. Social vulnerability: implications and actions

49. Social vulnerability refers to the degree to which people and communities are exposed to harm. Those with higher social vulnerability are more likely to be adversely affected.[40] For the most vulnerable groups, adaptive capacity – including the ability to cope, recover and relocate is often limited. Key social factors shaping vulnerability include socioeconomic status, inequalities and social equity, community cohesion, public awareness, institutional capacity and governance.

50. In the coming decades, many erosion-affected communities will need to relocate. Societies and governments' adaptive capacity will determine whether this is unplanned or planned to minimise livelihood losses and capitalise on the economic opportunities that are possible. Social disadvantages between communities differ despite similar erosion risks (e.g. Scotland's Dynamic Coast[41]). Without addressing structural inequalities and providing European and national support, social vulnerability to erosion will intensify as damages, including loss of property and risk to life increase.

51. Local and regional authorities require strong political commitment and multilevel governance support to strengthen adaptive capacity and reduce social vulnerabilities among affected communities and businesses. Political will, financial resources and institutional capacities including staff training, expertise, and resources are needed, alongside effective coordination across sectors and levels of government.

52. Coastal climate change-driven hazards are expected to lead to human migration on an unprecedented scale. Global coastal migration is estimated this century to involve between 17 and 72 million people, with variability depending on future emissions' levels.[42] All Council of Europe member states with a coast will experience internal climate migration, whether this occurs in a planned or unplanned way. Protected urban areas are likely to be less impacted than unprotected urban and rural areas. This may increase social inequalities as only a limited number of densely populated areas will receive the long-term protection that governments and public-private financing can afford.

53. Inequalities are also likely to emerge between Council of Europe member countries based on their respective capacities to respond to climate-induced migration and coastal hazards. It is recommended that at the European national and subnational authorities recognise and prepare for this migration challenge.[43] Appropriate multilevel governance and financing arrangements are recommended to manage these changes fairly and protect human rights. Multilevel governance actors can draw on existing best practices in equitable and just approaches to disaster risk management.[44]

Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2163–2194.

37 Environmental Protection Agency. (2025).National Climate Change Risk Assessment . Main Report. EPA, Wexford, Ireland.

38 Intergovernmental Panel on Climate Change (2023), Working Group II Sixth Assessment Report. Factsheet Responding to Sea Level Rise.

39 Ibid.

40 IPCC. (2022). Glossary [Annex II]. In *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report (pp. 2897–2930) [Möller, V., van Diemen, R., Matthews, J. B. R., Méndez, C., Semenov, S., Fuglestvedt, J. S., Reisinger, A. (Eds.)]. Cambridge University Press.

41 Dunkley, R. A., et al. (2021). Dynamic Coast: Mapping Coastal Erosion Disadvantage in Scotland (CRW2017_08 Technical Report). Scotland's Centre of Expertise for Waters (CREW).

42 Lincke, D., & Hinkel, J. (2021). Coastal migration due to 21st century sea-level rise. Earth's Future, 9, e2020EF001965.

43 Siders, AR., et al. (2019). "The case for strategic and managed climate retreat." Science 365: 761-763.

44 Weerasinghe, S. et al., (2014). Planned Relocations, Disasters, and Climate Change: Consolidating Good Practices and Preparing for the Future. United Nations High Commissioner for Refugees.

54. Inclusive, well-planned co-designed retreat processes are essential for fostering community trust, acceptance and willingness to relocate to safer, more climate resilient areas.[45] Subnational authorities will play a key role supporting the relocating populations and those receiving coastal migrants, including adequate housing solutions and the provision of public services. Adequate capacity, training and funding are necessary to sustain these efforts. Strong political leadership is required to reframe coastal retreat as a supportive and proactive process enabling communities to migrate before unavoidable land loss from coastal erosion.

3.3. Economic rationale for a land-based approach to coping with coastal erosion

55. There is a strong case for the economic, social and ecological benefits of taking urgent action now to reduce the impacts of climate-change driven coastal erosion. Between 1980-2021 damage from all types of climate-related events exceeded EUR 560 billion (based on 2021 values) in the 27 EU Member States, with less than a third of these losses being insured.[46] Strong political leadership is therefore needed to collaborate with the public and private sectors in co-creating financial instruments that enable timely adaptation action.

56. Due to limited specific data on coastal erosion costs at European and global scales, estimates of coastal flood damage are commonly used as a proxy. Globally, without adaptation, expected annual damages from coastal flooding are projected to increase by a factor of 150 between 2010 and 2080.[47] The EU Blue Economy report[48] estimates that coastal flood losses currently cost €1.2 billion per year, rising to €137–814 billion per year by 2100 for the European Union area alone depending on emissions levels. By comparison, the annual adaptation cost for coastal flooding is estimated at €1.1–1.8 billion per year (2020–2100)[49], which is a small fraction of the projected damage costs.

57. The ongoing, episodic, spatially variable and incremental nature of erosion damage – often affecting a few houses at a time – means that while erosion is a regular problem, it does not typically result in the dramatic catastrophes seen with major flood or wind events. This makes costing the damages from coastal erosion more challenging.

58. Global damage costs related to sea level rise could be reduced by a factor of two to four through migration away from high-risk coastal areas.[50] While coastal migration can be economically sensible, it must be carefully managed to address social vulnerabilities and concerns about planned relocation, such as the loss of place attachment (as seen in Averio, Portugal).[51] Retreat strategies that actively involve communities in shaping the vision and outcomes are more socially and environmentally just. Local and regional authorities are often based placed to do this on account of both their competencies and their closer proximity to the communities that they represent.[52]

59. Early adaptation has been found to deliver strong economic benefits including reduced GDP losses, with advantages exceeding costs relatively quickly.[53] Figure 4 shows that adaptation is highly cost-effective. The European Environment Agency has warned that no adaptation or delayed adaptation is extremely costly and has called for the urgent acceleration of adaptation efforts.[54]

45 O'Donnell, T. (2022). "Managed retreat and planned relocation: a systematic literature review." Philosophical Transactions of the Royal Society B 377, no. 1854 (2022): 20210129.
46 European Environment Agency, 2023. “Assessing the costs and benefits of climate change adaptation".
47 Tiggeloven, T., et al. (2020). “Global-scale benefit–cost analysis of coastal flood adaptation to different flood risk drivers using structural measures”, *Nat. Hazards Earth Syst. Sci*., 20, 1025–1044.
48 European Commission, Directorate-General for Maritime Affairs and Fisheries (2023). The EU Blue Economy Report, Publications Office of the European Union, Luxembourg, 2023, ISBN 978-92-68-03345-6.
49 European Environment Agency (EEA) (2023). Assessing the costs and benefits of climate change adaptation.
50 Nicholls, R. J., et al. (2021). Global cost of 21st century sea-level rise can be lowered by factor two to four if local cost-benefit decisions also consider, next to protection, coastal migration as an adaptation option. Earth’s Future, 9(3), e2020EF001965.
51 Parreira N, Mouro C. (2023). “Living by the sea: place attachment, coastal risk perception, and eco-anxiety when coping with climate change”. *Front Psychol*.
52 Tubridy, F., et al. (2022). "Managed retreat and coastal climate change adaptation: The environmental justice implications and value of a coproduction approach."
53 Bachner, G., et al. (2022). “The macroeconomic effects of adapting to high-end sea-level rise via protection and migration”. Nat Commun 13, 5705.
54 European Environment Agency (EEA). (2023). “Assessing the costs and benefits of climate change adaptation”.

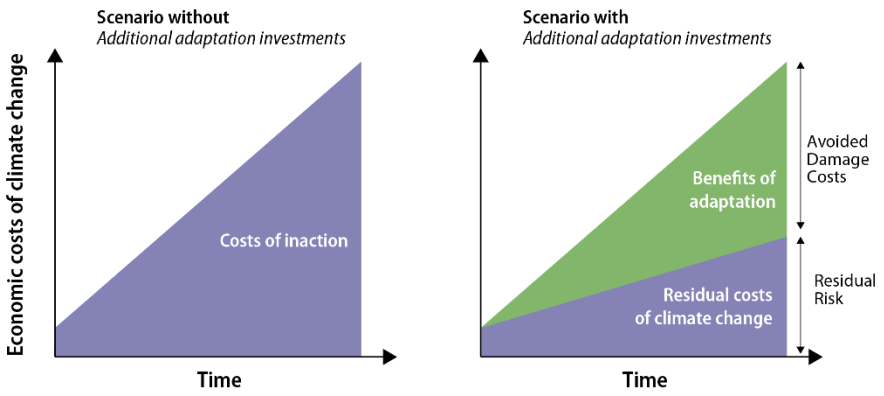


Figure 4. Schematic overview of the costs of inaction and benefits of adaptation.[55]

60. The Joint Research Commission's study on flood risk found that raising dykes is cost effective as an adaptation response to flooding in low-lying coasts such as in the North and Baltic seas. However, even with significant increases in dyke height, residual risks remain.[56] Extremely expensive tidal barriers such as the Maeslant barrier in the Netherlands can reduce flood risks but have limited effectiveness to reduce erosion on the majority of Europe's coasts.

61. In Europe, protection can be economically efficient in the short term, particularly over the next few decades. However, eventually the long-term costs of continued protection will normally outweigh the benefits of avoided damages, potentially resulting in a net economic loss in many countries.[57] There is also a risk of maladaptation, which involves negative impacts from an adaptation action, such as when the addition or modification of a protective seawall increases erosion risk in adjacent areas, or more people move into coastal areas increasing risks of making future changes difficult and costly.

62. Natural coastal landscapes provide significant economic and ecological value and are worth protecting by allowing them space to move inland. Across Europe, coastal ecosystems delivered an estimated 494 billion in ecosystem services in 2018.[58] In Scotland, nature currently protects approximately £14.5 billion in assets located within 50 m of the coast, compared to £5 billion protected by hard engineered structures.[59] Allowing landforms to migrate inland will help maintain their natural ability to reduce erosion risk.

63. The wider benefits of avoiding losses through adaptation are harder to quantify in monetary terms.[60] The lack of data on direct erosion damage costs, combined flood and erosion losses, and cost-benefit analyses of different adaptation options makes it difficult to compare protection measures with land-based alternatives such as planned retreat, which reduce exposure and vulnerability.

64. This evidence gap remains a barrier to shift from coastal protection to planned retreat, and risks delaying proactive planned retreat. It is essential to compare the full lifetime costs and benefits of continued protection and advance measures with those of retreat by avoidance and relocation at European, national and subnational levels.

65. Urgent adaptation is required to avoid the high economic costs of inaction. Adapting now will reduce social and economic damage costs while also capturing the economic social and ecological benefits that come from early adaption rather than delayed action.[61] More robust financial estimates of the costs associated with coastal erosion are needed to strengthen policy and support informed decision-making.

55 Ibid.
56 Vousdoukas, M.I., et al. (2020). "Economic motivation for raising coastal flood defenses in Europe". Nat Commun 11, 2119
57 Tiggeloven, T., et al. (2020). "Global-scale benefit–cost analysis of coastal flood adaptation to different flood risk drivers using structural measures", *Nat. Hazards Earth Syst. Sci*., 20, 1025–1044.
58 Paprotny, D., et al. (2021). "Future losses of ecosystem services due to coastal erosion in Europe". *Science of the Total Environment*, 760, Article 144310.
59 Rennie, A.F., et al. (2021) Dynamic Coast: The National Overview. Technical Report. Scotland's Centre of Expertise for Waters (CREW).
60 European Environment Agency (EEA). (2023). "Assessing the costs and benefits of climate change adaptation". Copenhagen.
61 Ibid.

4. ADAPTING TO COASTAL EROSION BY "MOVING AHEAD OF LAND LOSS"

66. There are growing numbers of national laws, regional and local policies, guidelines and plans supporting adaptation among Council of Europe member states. However, these remain relatively few and progress in adapting to rapidly accelerating coastal climate change hazards, including erosion, remains slow, globally.[62]

67. The implementation of practical adaptation measures has not kept pace with the escalating urgency of climate change hazards. This has resulted in a coastal adaptation implementation gap. Accelerating the implementation of practical adaptation actions will limit risks to people and property, helping to sustain economic well-being, livelihoods and ecosystem services.

4.1. Continued protection in vulnerable low-lying coastal regions

68. Traditionally, authorities and communities have managed coastal erosion by taking protective measures designed to hold coastline in place. These measures often rely on costly engineering and beach renourishment. Most of these actions have been reactive in nature and focussed primarily on protective works.[63] Protection measures such as breakwaters and seawalls have been commonplace, making them more familiar and readily accepted by politicians and communities. However, as erosion accelerates, the design life of these hard protective measures will shorten, increasing the need for costly repairs and replacements.

69. More recent innovations include large-scale sediment schemes such as the sand motors project in the Netherlands, Belgium and the United Kingdom. Additionally, nature-based solutions, such as dune restoration, are increasingly being used instead of hard protection across Europe. In low-lying countries such as the Netherlands, Denmark, Germany and Poland, as well as in large urban areas, the use of dykes and nature-based solutions such as dune restoration will likely continue. Nature-based solutions can replace or supplement hard protection measures, providing benefits and reducing costs, while slowing the rate of erosion.

70. Key EU strategies supporting this transition include the EU Biodiversity Strategy for 2030, which promotes the integration of natural processes into spatial planning, the Strategy on Adaptation to Climate Change, and the EU Floods Directive. Across EU member states, national coastal management laws and policies at all levels of governance – from national to local – encourage the adoption of ecosystem-based approaches to limit coastal erosion. Combined with financing from the EU, national governments, regional and local authorities, these policy frameworks have enabled the development of innovative sediment and nature-based solutions to address coastal erosion and flooding.

71. These solutions also provide broader benefits for nature, the economy and society, improving recreation and well-being. As a result, there has been a rapid transition from isolated case studies to widespread implementation by local and regional authorities. Projects such as the EU funded LIFE Adapta Blues initiative support mainstreaming of nature-based approaches.[64] Guidance, training and community awareness raising activities support their implementation. Similar EU- funded projects have been implemented in Greece,[65] Portugal,[66] in the Baltic Sea (Poland, Lithuania and Germany), Black Sea (Bulgaria, Romania) and North Sea (Sweden, Denmark, Germany, Netherlands, Belgium and France)[67] regions.

72. However, all forms of coastal protection and land advance will become increasingly unaffordable as sea level rise accelerates and coastal erosion quickens.[68] These rising costs also create opportunity losses, as finances, including from local and regional authorities, are diverted to less effective

62 Wannewitz, M., et al. (2024) "Progress and gaps in climate change adaptation in coastal cities across the globe". Nat Cities 1, 610–619.
63 IPCC. (2022). Responding to Sea Level Rise. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Pörtner, H.-O., et al. (eds.)]. Cambridge University Press.
64 de Moraes, R.P.L., Ricker, M., Mazarrasa, I.E., and Reguero, B.G. (2021). E.2: Review of European Case Studies for Coastal Nature-based Solutions for Climate Adaptation. LIFE ADAPTA BLUES Deliverable E2, LIFE18CCA/ES/001160.
65 European Commission. LIFE Public Database (2009-2013). Actions for the conservation of coastal dunes with Juniperus spp. in Crete and the South Aegean (Greece).
66 NBS EduWORLD, ReDuna - Restoration of S. João da CaparicaSand Dunes, Almada, Portugal.
67 MANABAS, (2025). Manabas Coast, EU Interreg funded project.
68 IPCC. (2022). Responding to Sea Level Rise. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Pörtner, H.-O., et al. (eds.)]. Cambridge University Press.

approaches. However, these methods will likely continue to have a place in dense urban and low-lying regions across Europe.

Adaptation pathways for managing coastal erosion

73. The IPCC recommends the adoption of an adaptation pathways approach.[69] These pathways are typically framed as a sequence of actions that ensure policy change when a future risk threshold is reached. This could be triggered by an extreme storm or when protection becomes unaffordable. In light of this, along eroding coasts where future land loss is unavoidable, land should be safeguarded now to allow for future retreat. Managing erosion is thus a land management issue. It requires planning over multiple political cycles. However, this proactive approach is not yet commonplace among Council of Europe member states.

74. Planned retreat (or relocation) is the most cost-effective, long-term adaptation option[70] (Figure 4). It is defined as a "proactive and coordinated effort to relocate people, infrastructure, and assets from hazardous areas and resettle them in safer locations."[71] Although it requires long lead times for implementation, it results in the lowest ongoing costs, minimal disruption, and the least damage to people and property. Therefore, planned relocation is recommended as the primary goal rather than a last resort.

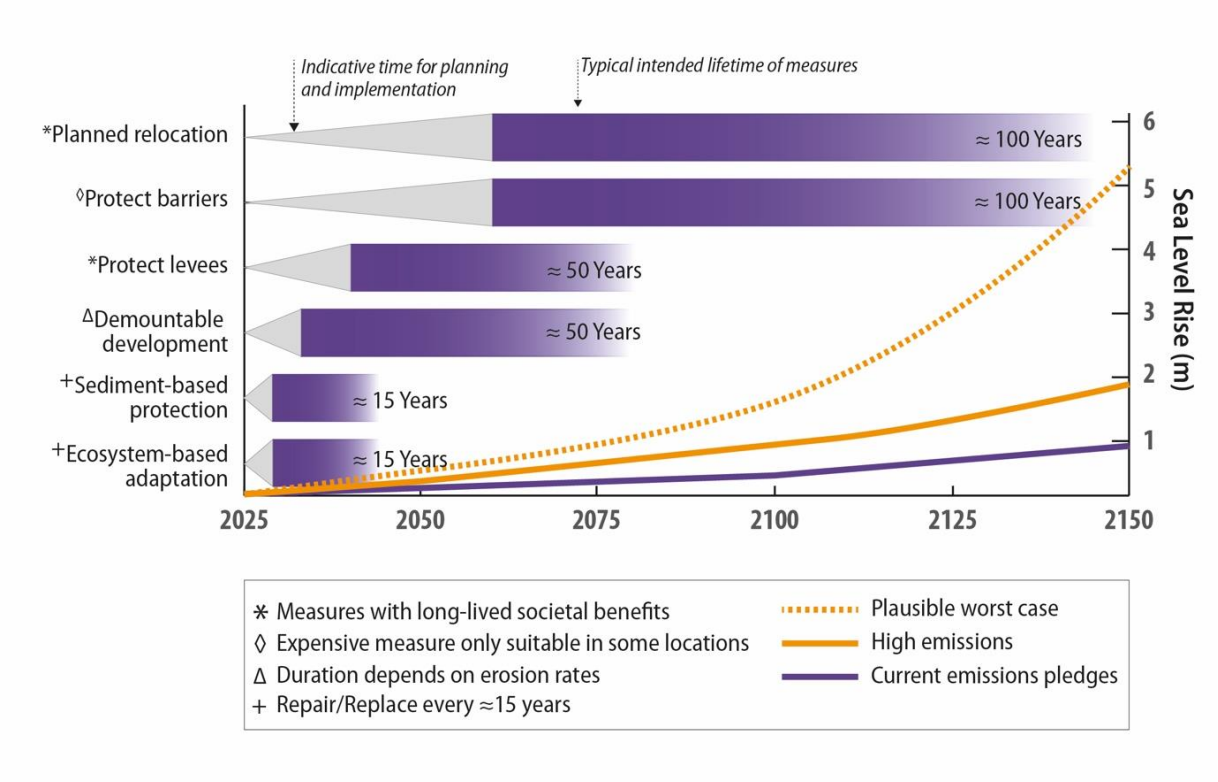


Figure 5. Typical timescales for implementing coastal adaptation options. Source: adaptation measures from IPCC[72], modified as adaptation responses for eroding coasts. Sea level rise data from Figure 1 (UK Met Office).

75. Effective adaptation requires retreating 'ahead of land loss'. This means relocating people and physical structures before the coast erodes and threatens the integrity of communities and infrastructure. Delaying adaptation increases the risk of unplanned retreat, such as when houses fall into the sea during storms, resulting in high economic and social costs.

69 Ibid.
70 Ibid.
71 Ajibade I.J. and Siders A.R. (2021). "Introduction: Climate change and planned retreat". In Global views on climate relocation and social justice: navigating retreat (pp. 1–16). Taylor and Francis.
72 IPCC. (2022). "Responding to Sea Level Rise". In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Pörtner, H.-O., et al. (eds.)]. Cambridge University Press.

4.2. Coastal risk management actions that 'buy time' for planned retreat

76. Planned relocation should be supported by shorter-term protection measures that combine hard (engineered), sediment-based and ecosystem-based approaches. This should take the form of a twin-track strategy involving: (1) retreat by avoiding new development and relocating communities and businesses and (2) targeted protection measures to reduce risks before the planned relocation of people and nature is carried out.[73] For example, in Soulac-sur-Mer, France, the localised sand motor initiative illustrates how recycling natural sand supplies within a coastal barrier system can sustain beaches, buying time to plan relocation. This twin-track approach is economically beneficial: projected GDP losses in Europe by 2050 are estimated to reach 4.5% by 2050 (with no adaptation) but less than 1% with combined protection and planned retreat.[74]

4.3. Making space for nature to reduce erosion risks

77. While hard engineering, sediment management and nature-based protection methods will continue to be used in low-lying regions, they work against, rather than with, the natural response of coastal landforms to accelerated sea level rise. The sustained use of sediment and nature-based protection measures is unlikely to be economically feasible across a large part of Europe.

78. There are growing numbers of examples of retreating coastal defences or assets to make space on land for nature, often on freshwater marshland or land used for agriculture. This process is often called managed realignment. For example, 20% of the 59 European nature-based coastal case studies involved landward retreat of the coast.[75] Planned retreat of coastal communities, infrastructure and assets is much less common.

79. Planned retreat of human assets and communities will also make space for nature to advance inland and continue to provide essential risk reduction, along with economic and social benefits. This approach is already being implemented in France, the Netherlands ("Room for the River" programme), Portugal and Spain. In Calafell, Catalonia, Spain urban dunes have been restored using sediment traps and by removing the promenade to make space for sand dunes. As a result, the dune height has increased, offering improved protection from coastal erosion[76]. In Soulac-sur-Mer, France, the 'Signal' apartment building was demolished and replaced with dunes, restoring the habitat to its natural state. Local and regional authorities have been central to these initiatives, exercising their competencies in spatial planning, adaptation strategy development, community engagement, and environmental management, with national or EU financial support.

4.4. Planned retreat via avoidance

80. Planned retreat of people and assets involves two primary methods: avoiding the increase of assets at risk and relocating existing assets inland. Governance instruments, such as laws and policies, supporting avoidance and planned relocation are limited across Europe. Many of the instruments that do exist are non-statutory and lack sufficient funding for effective implementation.

81. Avoidance policies – often called setback zones that restrict development – are much more prevalent than planned relocation policies. Many Council of Europe states, including France, the Netherlands, Spain, Denmark, Sweden, Finland, Ireland, Norway, Greece, Croatia, Türkiye[77] and Latvia, as well as England and Wales in the United Kingdom have national or regional policies and laws that restrict development in areas at risk of erosion, flooding and/or storm surges. Portugal, for example, has one of the most extensive avoidance zones: its Coastal Zone Management plans require a no-development zone extending 500 metres inland from the sea.[78] The Protocol on Integrated Coastal

73 Mach, K. J. and Siders, A. R. (2021) Reframing strategic, managed retreat for transformative climate adaptation. Science, 372, pp. 1294–1299.
74 Bachner, G., Lincke, D. and Hinkel, J. (2022). "The macroeconomic effects of adapting to high-end sea-level rise via protection and migration". Nat Commun 13, 5705.
75 de Moraes, R.P.L., Ricker, M., Mazarrasa, I.E., and Reguero, B.G. (2021). E.2: Review of European Case Studies for Coastal Nature-based Solutions for Climate Adaptation. LIFE ADAPTA BLUES Deliverable E2, LIFE18CCA/ES/001160.
76 Impetus, Story, ESCI (2024). Catalonia's innovative approach to combatting Coastal Erosion: A success story in Dune Restoration.
77 Türkiye. Coastal Law (1990). Official Gazette, No 3621.
78 APA – Agência Portuguesa do Ambiente (2024) Planos de Ordenamento da Orla Costeira. Coastal Zone Management Plans, Portugal.

Zone Management in the Mediterranean[79] mandates a minimum set-back of 100 metres from the winter waterline. This requirement aims to reduce the exposure of new assets to coastal hazards, including erosion, while providing space for coastal ecosystems to retreat inland.

82. When implemented equitably, laws and policies establishing avoidance zones play a crucial role in reducing the exposure of people and assets to known risks. Moreover, there are compelling economic, social and human rights arguments for avoidance: setback zones could reduce exposure of up to 50% of new developments by 2100.[80] The implementation of avoidance strategies is the responsibility of local and regional authorities, which must integrate avoidance into land-use, community resilience and economic plans.

83. In England (United Kingdom), areas designated for avoidance are identified as Coastal Change Management Areas (CCMAs) as part of the regional-scale shoreline management planning under the National Planning Policy Framework (NPPF4). Local authorities are responsible for incorporating CCMAs into local development plans, restricting inappropriate construction, facilitating the relocation of assets and people where necessary, and ensuring that any approved development in these areas is time-limited to reduce future risks to people.[81] These actions require the exercise of planning, permitting, and enforcement powers at the local level, as well as engagement with affected stakeholders to ensure transparent and effective implementation. Similarly, Irish policy specifies a significant role for local authorities, recommending that they avoid the replacement of new buildings and instead support and manage planned retreat in at risk areas.[82] Local and regional authorities are therefore key actors in operationalising national adaptation strategies, tailoring policy measures to the specific risk profiles and needs of their jurisdictions, and ensuring that adaptation and retreat are implemented in a socially equitable and context-sensitive manner.

84. Local level land use planning is responsible for adopting avoidance practices in policy and overseeing the implementation of avoidance measures. However, this presents challenges for local authorities, as avoidance policies may conflict with local needs for economic growth and housing, and could reduce future tax revenue. This makes it more difficult for local authorities to finance essential activities, including managing coastal erosion risks in their communities. These challenges highlight the need for a nationally supported approach to both avoidance and retreat processes, to prevent increased social inequalities and to help maintain the economic vitality of coastal communities.

4.5. Planned retreat via relocation

85. Legal and policy instruments supporting coastal retreat through relocation are beginning to emerge across Europe and its overseas territories. Among Council of Europe member states, only France, Ireland, Portugal, the Netherlands and the United Kingdom (Scotland, England and Wales) have laws or policies that mention or require planned relocation. In Portugal the new national Coastal Zone Management Programmes – recognise planned retreat as a coastal hazard adaptation measure, prioritising it where protection is ineffective or too expensive.[83] This new legislation is currently being implemented to support the planned retreat of urban areas.[84]

86. In France, the latest National Climate Change Action Plan (PNACC 3) calls for local and regional authorities to integrate coastal retreat measures into planning documents, including urban plans and spatial development frameworks. These authorities are responsible for reviewing and adapting local land use policies to redirect development away from vulnerable coastal areas and to facilitate the reorientation or relocation of existing assets and activities in line with ongoing coastal dynamics. Furthermore, the plan encourages local and regional implementation of ecosystem-based approaches for managing retreat and protecting coastal zones. This emphasis is reinforced by the National Biodiversity Strategy 2030, which assigns a central role to local and regional authorities in restoring and conserving coastal ecosystems, thereby strengthening resilience for both human populations and natural habitats.

79 Protocol on Integrated Coastal Zone Management in the Mediterranean (2009/89/EC). Official Journal of the European Union, L 34, 4 February 2009, pp. 19–28.
80 Wolff, C., Bonatz, H. & Vafeidis, A.T. (2023) “Setback zones can effectively reduce exposure to sea-level rise in Europe”. Sci Rep 13, 5515.
81 Ministry of Housing, Communities and Local Government. (2024). National Planning Policy Framework. United Kingdom Government, London.
82 Department of Housing, Local Government and Heritage and Office of Public Works. (2023). Recommendation 15: Developing management responses to coastal change (p.71).
83 Decreto-Lei n.º 159/2012, de 24 de julho, as amended by Decreto-Lei n.º 108/2023 (Portugal).
84 Pereira, M.A.G.A. (2021) “Requalificação da Zona Costeira de Cedovém e Pedrinhas: Relocalização do núcleo de restaurantes e habitações”. Dissertação de Mestrado em Arquitetura, Universidade da Beira Interior.

87. United Kingdom policies such as the Shoreline Management Plans (SMPs) in England and Wales, local and regional authority-led Coastal Change Management Areas (CCMAs) in England, and the new local authorities-led Coastal Change Adaptation Plans (CCAPs) in Scotland are non-statutory. These policies are supported by cross-referencing in statutory national planning policy frameworks and local development plans.

88. Although SMPs in England and Wales have recommended planned retreat as a policy in areas with high rates of coastal erosion for over 30 years, relocation remains largely reactive in practice. For example, emergency demolition and rehousing, as in the case of Hemsby in Norfolk, England, in 2026, was needed because planned retreat had not yet been implemented. There have been repeated calls for these non-statutory plans to be made statutory in order to strengthen the enabling conditions and to accelerate the implementation of planned retreat.[85] Houses, and infrastructure, including beach access points, car parks and roads are already being eroded. Recently, central government agencies have funded £66 million that supports local and regional authorities in delivering pilot projects to support communities transitioning to planned retreat in areas already experiencing high rates of erosion and land loss.

89. Increasingly, governments and their agencies are commissioning reports on planned retreat and/or are financing adaptation planning. In Ireland, a new report evaluates and identifies how planned relocations can be incorporated into coastal risk management approaches.[86] In Scotland (United Kingdom) the Scottish government has supported local authorities by providing initial funding for developing coastal change adaptation plans and case study pilots of awareness raising, use of nature-based solutions and anticipatory retreat (including upgrading of an inland road in anticipation of the need to decommission the coastal road). Further funding to support implementation has yet to be agreed.

90. There is also limited guidance and case studies on planned relocation. The Climate-ADAPT platform provides an overview of coastal retreat as an adaptation option,[87] and new European guidance specifically addresses this issue.[88] Planned retreat was also promoted in the EU-funded AdriAdapt project in Adriatic countries.[89] A new database has identified 44 case studies of planned retreat in response to inland and coastal flooding across 11 European countries. These include coastal retreat projects in Belgium, Denmark, France, Ireland, the Netherlands, Portugal and the United Kingdom.[90] Most of these efforts are local scale projects led by local and regional authorities and supported by EU, national, regional and local funds. The phenomenon of relocation is not new. The historical record shows that the entire town of Soulac-sur-Mer was buried under drifting sand from coastal sand dunes in the 1700s. The community migrated landwards, and a new village called Jeune Soulac was created, which still exists today. What is new is the current climate circumstances that are driving the need for this approach.

91. Local and regional authorities are leading the way in carrying out this planned retreat in their communities. Public funds (EU, national, regional and local) can be used to support relocation. This was the case in Faro, Portugal, where 49 houses have been demolished and affected residents have been relocated to purpose-built, government-funded rental accommodation.

92. Active planning for retreat is also underway in Portugal - in locations such as Paramos, Caminha - Espinho, Pedrinhas and Cedovém areas in Esposende. In the latter, 45 metres of land has been lost to erosion since 1958 and advanced planning for infrastructure withdrawal (houses, services and infrastructure) and population relocation is underway. The vacated space is expected to be used to re-naturalise beaches and dunes, ensuring they continue to provide economic, social and biodiversity value.[91] The plan is currently awaiting approval, after the final public consultation.[92] Although the project

85 Naylor, L. A., Brady, U., Quinn, T., Brown, K., & Anderies, J. M. (2019). “A multiscale analysis of social-ecological system robustness and vulnerability in Cornwall, UK”. *Regional Environmental Change*, 19(7), 1835–1848.
86 Farrell, E.J., (2026). “Managing Coastal Risks in Ireland: Towards strategies that integrate planned coastal relocations”. Climate Change Advisory Council Working Paper. Climate Change Advisory Council, McCumiskey House, Richview, Clonskeagh Road, Dublin 14, D14 YR62, Ireland. 74pp.
87 European Environment Agency, “Retreat from high-risk areas”. Climate-ADAPT – European Climate Adaptation Platform.
88 Ocean & Climate Platform, 2025, Managed Retreat: Preparing Coastal Cities for Sea Level Rise , Special Report, 29 pages.
89 Interreg Italy–Croatia Programme. ADRIADAPT – A Resilience Information Platform for Adriatic Cities and Towns.
90 Wolff, C. et al. 2025. Future. Wolff, C., Bade, F., & Kraan, C. (2025). Dataset of Managed Retreat Projects in Europe- Interactive Map and Supplementary Material [Dataset]. Zenodo.
91 Câmara Municipal de Esposende (2025). Projeto de Requalificação Ambiental e Valorização das Atividades Tradicionais em Pedrinhas e Cedovém – Memória Descritiva e Justificativa. (Esposende: Município de Esposende).
92 Município de Esposende, “Discussão Pública do Projeto Requalificação e Valorização de Pedrinhas Cedovém”.

was designed to promote multilevel coordination and public participation, research has shown that a lack of community and political support has slowed the process of approval and implementation.[93]

93. Fairbourne in Wales (United Kingdom) is one of the earliest examples in Europe of a planned retreat of an entire community due to erosion-enhanced flood risk and rising saltier groundwater. Full decommissioning is planned by 2054[94]; however, there has been strong opposition from residents, including legal challenges.[95]

94. Linear assets such as utilities (water, sewerage, internet) and transport (roads, railways, ports) networks pose particular challenges when planning retreat. Strong coordinated approaches to spatial planning are needed to ensure that space is made for the retreat of such assets, and where roads or railway assets connect to ferry ports, that points of failure on the transport network are carefully considered in the planning process. Local and regional authorities as spatial planners need to work closely with infrastructure and utility providers, to coordinate and harmonise planned retreat.

95. Despite being the most effective means of reducing long-term societal risks, planned relocation remains socially and politically contentious. Overcoming these barriers requires strong, coordinated multilevel governance that works closely with communities.

Maintaining economic activity before retreat plans are implemented

96. In order to manage land loss resulting from sea level rise and coastal erosion and to maintain economic vitality prior to planned relocation, France has introduced a legal mechanism known as the "*Bail Réel Adapté à l'Érosion Côtière* (BRAEC)".[96] This arrangement allows for time-bound permissions on shifting coastlines, enabling municipalities to grant temporary leases ranging from 10 to 99 years. The lease duration is aligned with the intended use and the "expected life" of the land. This innovative policy serves as a model that could be adopted by other Council of Europe Member states and implemented by local and regional authorities, with appropriate financial and legal support from national governments.

97. As part of planned retreat, Sweden is exploring flexible land use policies to support time-limited development.[97] Local and regional authorities can adopt this approach when planning for retreat, enabling ongoing economic and social activities prior to eventual relocation. For this approach to be widely implemented, changes would need to be made to local planning systems, the insurance sector, flood and erosion risk management finance formulas in some countries and there would need to be strong engagement with affected communities and businesses. This approach is included in England's (United Kingdom) most recent national planning policy.

98. The use of demountable buildings is an emerging area of innovation that enables economic activity before planned retreat is implemented. This is increasingly popular, with demountable beach cafes being set up across the Mediterranean and the Atlantic coast during the summer months. In France, local authorities are leading by example by replacing essential coastal assets, such as lifeguard stations and tourist transport with agile structures that can be moved back as the land erodes. In England (United Kingdom), holiday parks and cottages have been designed to move inland as erosion causes land loss, thus preserving business continuity and tourism revenue.

4.6. Planned retreat and risk to cultural heritage

99. Government agencies, local and regional authorities and charitable organisations responsible for culturally significant heritage assets with substantial tourism and economic value are increasingly recognising that such heritage assets may be lost as a result of coastal erosion. A notable example is the Pointe du Hoc site above Omaha beach, France where D-Day landings took place (Figure 6a). Since the end of the Second World War, half of the site has eroded. Cliff erosion is accelerating, putting

93 Dalla Fontana, M. (2025) 'Unpacking opposition to planned relocation: insight from Pedrinhas and Cedovém, Portugal', Regional Environmental Change, 25, article 77.
94 Natural Resources Wales. (2024). "Fairbourne Flood Risk Management – An overview".
95 Hilson, C., & Arnall, A. (2025)."Sea level rise, claims-making and managed retreat in Fairbourne, North Wales". *Climate Policy*, 25(6), 852–865.
96 French Government. (2022).Code de l'environnement : Sous-section 2 : Bail réel d'adaptation à l'érosion côtière. (Articles L321-18 à L321-33).
97 Göransson, G., et al. (2023) 'Opportunities for planned retreat and flexible land use in Sweden: Local, regional and national governance perspectives', Climate Risk Management, 100530.

the most significant cliff top bunkers at risk (Figure 6b). Against this background, protecting the bunkers through engineering measures is not considered viable.[98]

100. In this context, the organisation responsible for the site – the Monuments Commission – is adapting its heritage conservation strategy. As part of its anticipatory actions, the Commission has: 1) cordoned off historic bunkers that are no longer safe for tourists (Figure 6c); 2) used modern technologies (such as 3D scanning) and arts-based methods to document and preserve internationally important war artefacts, thereby maintaining historical continuity even if physical structures are lost to erosion; and 3) approved the relocation of the Ranger Monument from the cliff edge to a safer inland site (Figure 6d).

101. To support organisations in managing coastal erosion risks, the international network of Coastal Connections[99] has been established. This network facilitates sharing best practices and provides funding. It is important for local and regional authorities to work closely with these organisations to coordinate their approaches to managing coastal erosion, and to discuss strategies for maintaining the continuity of heritage sites – while 'living with erosion' – to sustain local livelihoods linked to jobs, tourism revenue, and community well-being. The key enablers include strong and imaginative leadership and recognition of the limited adaptation options, and often the inability of protection measures to halt cliff erosion.

(a) Pointe du Hoc



(b) D-Day landing bunker



(c) Cordon to prevent access to bunker



(d) Ranger monument that will be moved



Figure 6. Planned erosion and retreat of cultural heritage assets seen on the study visit at Pointe du Hoc, France

4 7. Planned retreat and creation of coastal erosion resilient urban regeneration projects

102. Regeneration projects in coastal areas present both challenges and opportunities for delivering climate resilient redevelopment that minimises future harm from coastal erosion and storm surges. It is essential to ensure that such projects do not become maladaptive by adding new development in areas of known risk. Locating new assets in these areas would increase the number of people exposed to hazards and escalate future damage costs. Changes in land-use policy serve as a key enabler, supporting both planned relocation and the avoidance of new at-risk assets through statutory, climate resilient local authority land-use planning and redevelopment.

103. In Scotland (United Kingdom), the Granton Waterfront[100] masterplan has been approved. It combines the retreat of existing light industrial areas, replacing them with a coastal park. The park will serve as a green and blue space buffer, with mixed-use development positioned further inland. One warehouse will remain within the planned park area on a 30-year lease. This warehouse has been re-purposed as an inclusive and creative community and economic hub[101] that will provide social and economic benefits to a deprived area of the city – until growing coastal erosion and flood hazards necessitate its removal.

104. Key enablers for this transformative, green-blue and climate resilient development include: i) bringing land into public ownership, ii) seeking technical advice from local council flood engineers and iii) collaborating with universities to gather evidence and iv) undertaking an environmental economics cost-benefit analysis[102]. All of these factors supported the granting of planning permission.

98 Adams, B. Superintendent of the American Battle Monuments Commission's Pointe du Hoc site. Congress study visit, 4th November 2025.
99 World Monuments Fund (2026). "World Monuments Fund Commits $7M in 2026 to Protect Global Heritage".
100 Granton Waterfront, City of Edinburgh. "A new coastal town for Scotland's capital city"
101 The Pitt, The Pitt Story.
102 Horton, B., et al. (2022). Granton Coastal Park: a high-level climate adaptation and environmental cost benefit assessment. Project Report. Environmental Policy Consulting and University of Glasgow.

105. Instead of prohibiting all development, active plans are moving forward for time-bound demountable development in the least at-risk areas. Demountable development is the recommended 'accommodate' measure to enable some development during the transition to coastal retreat via relocation. Demountable development is an emerging concept[103]. This approach enables economic value to be realised, while risks remain manageable. It fosters innovative planning consents and novel urban design principles. It also creates economic growth opportunities in new construction industries, including the use of modular, agile buildings with a light archaeological footprint. Denmark has some excellent examples of these forms of construction and demountable, semi-permanent urban design.

106. In Caen (France), planned re-development of a 34-hectare vacant and derelict land site was cancelled due to risks of coastal erosion and flooding. Instead, part of the site will be regenerated as demountable development. This will be carefully co-created with future residents and businesses, to ensure that the development is temporary nature. Future decommissioning, as early as 2060, is clear from the outset. The plan is to host student housing and start-up businesses, rather than creating long-term communities, to reduce place attachment.

107. Similarly, in Edinburgh Scotland (United Kingdom), local planning policy was changed to require a coastal buffer at Seafield.[104] Since the adoption of the 2030 City Plan in November 2024, the City of Edinburgh has undergone extensive consultation and stakeholder engagement processes to co-design a Place Brief and an award-winning masterplan[105] to re-develop the area (Figure 7) in a more climate resilient manner. The plan involves the planned relocation of existing light industry, to be replaced by a coastal buffer providing park and amenity space, as well as an improved walk and cycling route.

108. This project (Figure 7) is planned to protect the new development from coastal climate change hazards. It demonstrates how a change in local authority statutory policies can be swiftly implemented to support anticipatory, proactive coastal adaptation and more climate resilient redevelopment.



Figure 7. Seafield Masterplan.
Source: City of Edinburgh and N7 Architects.

4.8. Financial barriers limiting planned retreat and making space for nature

109. Despite progress towards planned retreat and making space for nature via managed realignments, faster and more effective retreat can only be achieved if barriers are reduced and enablers are strengthened. A major barrier remains the lack of sustained funding for ongoing planned retreat and challenges with insurance and risk framing. These issues have been identified by local and regional authorities in Portugal and the United Kingdom (England, Wales and Scotland).[106] This funding gap is evident in Portugal, where initial innovation and pilot projects have been supported by national funding; including compensation and provision of new government owned housing. Similarly, funding for coastal retreat (called coastal transitions) in England (United Kingdom) is improving but is still only available to support pilot programmes.

110. France has limited national and regional scale funding mechanisms to support planning and implementing retreat. At the national level, funding mechanisms include the Green Fund, engineering grants and Banque des Territories, all of which support projects addressing climate change, social and territorial cohesion. Regional tax levies and loan agencies support climate change resilience. However, these financial instruments are fragmented, limited in scope and insufficient to adequately address erosion risk.

103 Demountable development is called semi-permanent development, temporary urbanisms, light urbanism and/or design for disassembly.
104 City Plan 2030 Written Statement. November 2024. City of Edinburgh.
105 Edinburgh, the City of Edinburg Council, (2025). Seafield Place Brief and Masterplan Consultation.
106 Naylor, L.A., Edwards, D., Cotton, I., Dixon, D., Lacsny, A., Fradera, K., Hurst, M. and MacDonell, C. (2024) Coastal change adaptation – are we prepared? Research report. ClimateXChange.

111. Across Council of Europe member states there is currently no dedicated long-term, sustainable financing. Simplified and coordinated funding should be made available from the state, agencies, regions, and private sources. Integrated national financial strategies are urgently needed. Additionally, these sources should be used to ensure that local authorities have the resources they need to meet the aspects of this challenge for which they have competencies.

112. Currently, coherence between public and private financing and coastal risk management initiatives is lacking. The few financing schemes that exist rarely bring together different stakeholders, leading to fragmented projects. More integrated approaches would improve coordination, optimise resources and reduce the risk of maladaptive responses.

113. Insurance issues related to both property and hazards are a growing issue of concern. Several people interviewed during the Congress study visit in France reported that public and private assets in coastal areas are increasingly uninsurable, as insurers have withdrawn from the market. This restricts the ability of local authorities to generate revenue and support jobs, as seen with the lack of insurance for a proposed sailing club in Port-en-Bessin Normandy.

114. Also in France, coastal erosion is not classified as a natural disaster risk, so damages caused by erosion are ineligible for compensation under the natural disaster scheme (CatNat, or Barnier fund). This is because erosion is considered a known, predictable and foreseen risk. Only extreme storm damage may qualify for compensation, but even in these cases, storm-induced erosion is increasingly recognised as a foreseeable consequence. In the United Kingdom, FloodRE is an innovative, nationwide funding arrangement that provides post-flood insurance to affected properties. A similar arrangement is needed for coastal erosion.

115. Overall, current funding and post-storm insurance mechanisms are insufficient to support the widespread planning and implementation of relocation of people, assets and infrastructure and to make space on land for coastal landforms to adjust to sea level rise. This adaptation funding gap should be urgently addressed.

4.9. Social challenges and opportunities for implementing planned retreat

116. Planned retreat can be socially and politically challenging. Communities often have a strong emotional attachment to their physical place, where cultural and family histories are deeply intertwined with the local landscape. Broader social dynamics, such as differing social vulnerabilities, adaptive capacities, and intergenerational inequalities,[107] require careful consideration. Enabling conditions for successful planned retreat here also therefor inclusive community engagement.

117. Other factors are also impeding the widespread planned relocation of at-risk people and assets, as well as the creation of space for valuable coastal landforms. Strong local interests, particularly those of local residents, often lead to a preference for protective solutions – especially when public funding is anticipated. Scepticism about long-term climate change and erosion projections further complicates adaptation efforts. The subject remains controversial among the population, often perceived as a loss or a constraint, and it struggles to become a local priority. Short-term thinking – driven by electoral expectations or post-storm emergencies – also makes it difficult to implement long-term relocation.

118. The difficulty of mobilising support for non-immediate issues hinders acceptance of the urgent need to adapt to coastal erosion. Addressing this requires multilevel structures and arrangements that extend beyond short political timescales, as well as the adoption of wider spatial frameworks to support territorial reorganisation and facilitate effective relocation.

119. Inclusive, ongoing engagement with communities and businesses can also be critical to facilitate planning and implementation of coastal retreat, co-creating desirable, climate resilient futures for retreating communities and the inland communities receiving displaced people. Innovations in community engagement practices can help local and regional authorities build adaptive capacity and raise awareness of the significant benefits of planned retreat. This means ensuring that the decision-making process is transparent and actively seeking wide engagement from individuals, organisations

107 Glavovic, B.C., R. Dawson, W. Chow, M. Garschagen, M. Haasnoot, C. Singh, and A. Thomas, 2022: Cross-Chapter Paper 2: Cities and Settlements by the Sea. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2163–2194, doi:10.1017/9781009325844.019. Ibid, p. 2165.

and business so that there is a clear understanding of the challenges and choices that must be faced. This provides the greatest opportunity of ensuring agreement if not consensus. Local and regional authorities should be proactive in taking this approach through their communication channels, consultation procedures and other means.

120. Socially just relocation will require strong political commitment and coordinated multilevel governance.[108] Europe's coastal population growth will reverse in the 21st century and beyond, with increased migration inland creating new governance challenges. Local authorities affected by coastal erosion will need to collaborate closely with those in inland areas.

5. ENABLING FACTORS SUPPORTING PLANNED RETREAT

121. Strong enabling measures can shorten the lead-in time between agreement on planned relocation and its actual implementation. A recent systematic review has identified a range of key enablers for planning and implementing adaptation globally: proactive leadership; sufficient resourcing; adaptation knowledge and risk perception; multilevel coordination and institutional support; community engagement; and social capital.[109] Strong legal and regulatory structures that support adaptation planning and implementation such as those relating to public land ownership – which enables land swaps and loans – are additional important enablers. Using detailed insights gained in particular from the Congress study visit to France, and some other examples, this chapter illustrates the importance of various enablers.

5.1. Political will and government agency alignment

122. Proactive leadership is the most important enabler driving France to become a leading innovator in planned retreat. Storm Xynthia in 2010 exposed the limitations of coastal protection approaches and prompted a re-examination of traditional paradigms. In 2024, the Senate's flood risk information report – prepared in response to the 2023-2024 floods – urged a shift from "fighting risk" to "living with risk."[110] This change is reflected in the Climate and Resilience Law (2021), which for the first time in French legislation, acknowledges coastal erosion as inevitable.

123. During the Congress study visit to Paris (Figure 8), the Vice President of the French Senate, Members of Parliament, regional prefects and local mayors all expressed unified commitment to this vision. The Vice President of the Senate, and chair of the Senate study group on the Sea and Coastline, stated that past approaches that fight against the sea are no longer viable, and that a new approach is needed[111] The Chair of the National Coastline Committee (CNTC)[112] also emphasised the need for a new approach to coastal erosion – which should be considered as a challenge for the whole country, not just coastal areas and for which national financial instruments are needed to support adaptation. This illustrates robust and aligned political leadership dedicated to delivering planned retreat for both nature and people.

124. At the inter-municipality level, the territorial reconfiguration project in the community of municipalities, Coutances mer et bocage (comprising 48 municipalities), shares a similar vision of returning to a natural landscape - "living with the sea", "letting the nature back in" and "moving with the sea". France's Centre for Studies and Expertise on Risks, the Environment, Mobility and Urban Planning (Cerema) supports this political shift.[113] The Congress study visit to Calvados, La Manche (Normandy), and Gironde (Nouvelle-Aquitaine) clearly demonstrated strong agreement, coordination and active collaboration among politicians, national and regional technical agencies (such as FNAU and Cerema), and across all levels of government. This multilevel and cross-sector collaboration creates the enabling conditions necessary to implement the new approach of 'living resiliently with' coastal erosion risks and associated land loss.

108 IPCC. (2022). Responding to Sea Level Rise. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Pörtner, H.-O., et al. (eds.)]. Cambridge University Press.
109 Brullo, T., et al. (2024). "The enablers of adaptation: A systematic review". *npj Clim. Action* 3, 40.
110 French Senate. 2024. Information report No. 775 SENATE 2023 -2024 *Rapport d'information fait au nom de la commission de l'aménagement du territoire et du développement durable (1) et de la commission des finances (2) par la mission conjointe de contrôle relative aux inondations survenues en 2023 et au début de l'année 2024*
111 Didier Mandelli, Deputy Director of the French Senate, 17 June 2025, Congress study visit.
112 Sophie Panonacle, Member of Parliament for Gironde, Chair of the Bureau of National Council for the Sea and Coastlines (CNML), Chair of the National Coastline Committee.
113 Cerema. (2025). Cerema's response to the Congress questionnaire. Study visit to France.

(a) Didier Mandelli, Vice-president of the French Senate



(b) Sandrine Le Feur, President of the French National Assembly's Commission for Sustainable Development and Regional Planning



(c) Sophie Panonacle, Chair of the French National Coastline Committee



(d) Marie-Claude Jarrot, President and Sébastien Dupray, Technical Director of French CEREMA with Congress delegation



Figure 8. Photographs showing some of the meetings in Paris during the study visit. Sandro Weltin.

125. The existence of strong political will provides a robust foundation to adopt and champion the new approach to living with coastal erosion. This commitment is essential to create coordinated and well-aligned legal, institutional and operational arrangements that enable anticipatory adaptation. This paradigm shift to 'live well with erosion' by moving ahead of land loss is expected to reduce long-term risks, foster sustainable coastal development, and enhance the resilience of affected communities.

126. However, there remains a need for planning decisions to be less reactive. Even today, most planning decisions are made only after a disaster has already occurred and infrastructure is under threat. The gap between anticipatory action to reduce harm and the future moment when coastal hazards trigger erosion and land loss remains problematic. To address this challenge, local and regional authorities – in coordination with national government and relevant stakeholders – would benefit from establishing a multilevel governance framework which enables early agreement on the need for retreat and facilitates the adoption of a proactive, structured and gradual approach to relocation over time.

Financial Enablers

127. The Congress delegation heard that France's National Coastline Committee has made several long-term financial proposals that have yet to be adopted: 1) reforming the insurance framework to emphasise accountability and better access to information; 2) the creation of a national fund specifically for coastal erosion, to finance the purchase of threatened property, reconstruction work and local engineering; 3) withholding compensation for properties acquired with knowledge of the risk; 4) establishing targeted financial solidarity mechanisms – capped assistance for occupants of primary residences only (up to 70% of the market value, with a ceiling of €300,000) and; 5) adapting taxation, including increased transfer taxes to exposed areas, greater use of special equipment tax (TSE), and strengthened prerogatives for public land establishments (EPFs).

128. The delegation learned that senior political leaders in France, including the Deputy Director of the French Senate and Members of Parliament, have been actively generating ideas and introducing motions to develop innovative financing mechanisms for planned retreat, aiming to help coastal communities, businesses and industries adapt to changing coastal conditions. While financing mechanisms have been approved in both houses of parliament, a key amendment was overruled. Therefore, national level approval of a comprehensive financing arrangement is still required, despite strong political leadership.

129. Strong national support is essential, given the economic importance of the coast to national GDP, as well as the need to carefully address social vulnerabilities, justice and equity concerns as a means to ensure fair and just coastal adaptation for current and future generations. Harmonised multilevel governance is needed where the competencies from each level are used to deliver planned retreat.

5.2. Policy and legal instruments, multilevel cooperation

130. Laws and policies are important instruments that can support or require local and regional authorities in designing and implementing ecosystem-based adaptation and planned retreat. This can include explicit consideration of future generations' needs. Several Council of Europe member countries (Finland, Germany, Hungary, Italy, Latvia, Lithuania, Malta, United Kingdom (Scotland, Wales) and Spain (Balearic Islands), have ombudsman, laws or ministries for ensuring that decisions taken today consider the needs of future generations. This approach points the way to planned retreat.

131. In France, the National Strategy for the Sea and Coastline (latest version for 2024–2030) and the National Strategy for Integrated Coastline Management frame the national policy on coastal erosion and adaptation. The latest National Climate Change Action Plan (PNACC 3) includes a specific measure (No. 4) focused on protecting populations from the consequences of coastal erosion and spatially reorganising exposed territories. The National Coastline Committee (CNTC), a specialised committee of the National Council for the Sea and Coastal Areas, brings together key stakeholders – including elected representatives, experts, economic actors, and environmental organisations – and provides coordination and advisory support on matters relating to coastal erosion policy.

132. Legal requirements in France have recently been strengthened requiring local authorities to actively plan for coastal retreat. Notably, Law No. 2021-1104 of 22 August 2021 on combating climate change and strengthening resilience to its effects, also known as the Climate and Resilience Law, formally recognises coastal erosion and associated land loss as a planning issue. This law requires at-risk local authorities to adapt their urban planning and development policies. An increasing number of local authorities (currently 317) are included on this decree list.

133. Local authorities are required to include zoning for areas exposed to coastal retreat over the next 30 years and between 30 and 100 years in their urban planning documents, such as the local urban plan or equivalent document, or municipal map. Safeguards such as building restrictions and rights, including potential demolition obligations, alongside land management tools such as pre-emption, real-rights coastal adaptation leases and limited derogations will be put in place for areas identified within these time horizons.

134. However, the French National Federation of Urban Planning Agencies (FNAU) also notes that the legal framework is incomplete and sometimes ill-suited to operational realities on the ground.[114] This misalignment between legal requirements and practical implementation could be addressed by identifying and resolving policy conflicts, thereby reframing the policy environment to provide better support for planned relocation. While regulatory and technical tools such as zoning, land management and planning instruments, are more prevalent today, they are not always sufficiently operational or easily mobilised for the effective implementation of planned relocation.

135. Another instrument has been established in France to facilitate multilevel coordination mechanisms and provide institutional support from the national to the local level. The Partnership Development Project (PPA*, Projet Partenarial d'Aménagement*) is a contractual framework between the state and local authorities designed to guide long term spatial reorganisation. This includes measures for planned relocation, de-artificialisation and renaturation of coastal areas. For example, the PPA in Lacanau brings together a broad institutional partnership involving the municipality (as the political and operational leader), the state, the Nouvelle-Aquitaine Region, the Department of Gironde, the Public Land Establishment (EPF), the *Banque des Territoires* and the Bordeaux Aquitaine urban planning agency (a'urba), which plays a central role in engineering and implementing the anticipatory relocation strategy (see case studies below for practical details).

136. Despite significant advances in legal and policy instruments, and the development of tools and strategic guidelines to support and implement planned retreat, key barriers remain. These include: a) the lack of long-term financing arrangements for planned retreat, b) challenges with insurance and risk assessment, c) risk-averse culture, coastal erosion knowledge, expertise, and resourcing of local authority staff, and d) a lag between anticipatory actions and the avoidance of future damages – exacerbated by insufficient political and public acceptance of the scientific consensus that coastal erosion will rapidly accelerate due to climate change. These issues have also been identified by local authorities in Denmark, Portugal and the United Kingdom (England, Wales and Scotland).[115]

5.3. Regional spatial planning and multi-level governance

137. Effective management of coastal erosion and retreat is fundamentally a land-based issue. It is important to expand support units to include all relevant sectors and organisations involved in planned relocation. These include urban planning agencies, risk management bodies, transport and critical infrastructure leads and emergency response and resilience units. The Ter'Bessin project in Normandy region in France is an example of an inter-organisational, multilevel governance body established to

114 Fédération Nationale des Agences d'Urbanisme (2025). Adaptation 3 Océans – face aux changements climatiques: connaître, planifier, agir. *Publications de la FNAU.*
115 Naylor, L.A., Edwards, D., Cotton, I., Dixon, D., Lacsny, A., Fradera, K., Hurst, M. and MacDonell, C. (2024) Coastal change adaptation – are we prepared? Research report. ClimateXChange.

carry out spatial reorganisation. Projects are planned for 10-15 years, thereby extending beyond short-term political cycles and goals. Ter'Bessin acts as a negotiator, engaging non-coastal municipalities and supporting a whole-catchment approach. This enables more effective retreat and facilitates the internal climate migration from the coast to inland areas. The key enablers are planning beyond political timescales, knowledge brokering and effective multilevel governance coordination.

138. In the Mediterranean, the long-standing Priority Actions Programme/Regional Activity Centre (PAP/RAC),[116] established in 1977, has successfully promoted coastal management planning, capacity building, awareness raising and the practical implementation of strategies. A pan-European initiative focusing on coastal relocation in response to accelerating erosion and climate change hazards – modelled on such regional efforts – would further support local and regional authorities. Such an initiative could be led at the European level in coordination with national governments and stakeholder networks. This would facilitate knowledge exchange, harmonise best practices, coordinate technical and financial support, and provide a multilevel governance framework necessary for effective and equitable adaptation across Europe's diverse coastal regions.

139. During the Congress study visit to the Normandy region in France, insightful case studies illustrated the challenges that many low-lying coasts in Europe will face. Gouville-sur-Mer, in the La Manche department in Normandy provides an example of the significant shift required in the spatial scale of actions needed to manage coastal erosion risks, both now and in the future as sea levels rise further. This case also highlights the importance of multilevel governance and collaborative arrangements between municipalities and inter-municipalities for delivering planned retreat – not just of ecosystems and landforms, but also of people and assets.

140. Tourism, agriculture and mariculture are key drivers of the local economy there. The interactions between coastal and catchment activities are exemplified by the Isigny-Ste-Mère cooperative dairy farms, which export their products to 141 countries.[117] However, these farms produce excess nutrients that enter the ocean and impact another key industry: oyster production. In turn, rising salt levels in groundwater and erosion-enhanced coastal flooding have caused soil salinisation, affecting productivity. Both industries – along with campsites and beaches that support tourism – are at risk from sea level rise and coastal erosion.

141. The challenge here involves more than simply relocating the publicly owned campsite within the next 15 years. The site is currently protected by a combination of natural sand dunes, rock armour, and a polluted historic landfill. Ensuring water quality for oysters and relocating farming activities from vulnerable, low-lying land behind the eroding sand dunes are also important here. A key enabler here is spatial territorial reorganisation by inter-municipalities.

142. Efficient management of coastal erosion in this case, as others, requires the shared responsibility of local and regional authorities, ensuring the scale of territorial reorganisation required for climate resilient development planning. Cross-sectoral coordination within and between local and regional authorities is needed to plan and implement relocation, with land use planners working closely with coastal risk managers. It is particularly important to strengthen territorial coordination in order to address increased social vulnerabilities during planning and implementing of retreat.

143. This calls for a highly coordinated, socially just approach to spatial planning.

5.4. Organisational structure, technical expertise and staff resources

144. In England and Scotland (United Kingdom), seemingly simple changes to internal organisational processes in local authorities have helped make more climate resilient development decisions that better consider erosion and flood risks. Examples include co-situating planning and coastal risk management teams; incorporating risk and resilience teams into regeneration development planning to ensure risks are identified and considered at a very early stage of site-scale development planning.

145. The expertise and staffing levels of local authorities are currently insufficient to address the scale of the coastal erosion problem. Reinforcing human and financial resources of local authorities – while clearly defining the role of the state is necessary. Long-term technical support is also needed involving government agencies, other relevant organisations and engineering teams. Decision-support tools must be accessible. These changes would improve the ability of local authorities to implement adaptation.

116 Priority Actions Programme / Regional Activity Centre (PAP/RAC), "Who we are?".
117 Isigny Sainte-Mère Cooperative, "Our Cooperative".

146. Training, technical support and clarification of existing mechanisms are needed to help local authorities deliver planned retreat. In France, identified regional coastal technical pools and support groups are valuable resources for multi-level governance and inter-organisational collaboration. In England (United Kingdom), regional coastal support units such as Coastal Partners in the south, provide similar support, while in Scotland (United Kingdom), the appointment of regional technical advisors has been recommended to support local authority staff with coastal erosion issues.[118] Sufficient resources are needed to train local authorities and enable support from regional technical agencies to help raise public awareness about the substantial and growing risk of coastal erosion and land loss.

5.5. Evidence, information sharing and awareness raising

147. Across Council of Europe member states there have been increasing numbers of national, regional and local government initiatives to provide evidence of coastal erosion rates and future risks, and to share information and raise awareness of coastal erosion risks with affected communities. Mechanisms for sharing best practices, such as the newly established European-wide Ocean Rise & Coastal Resilience Coalition (ORCR), will enhance the capacity of local and regional authorities to translate national guidelines into operational projects. Overall, these arrangements would improve enabling conditions to accelerate planning and implementation of coastal retreat.

148. Scientific data and technology supporting local monitoring, are essential for understanding accelerating erosion risks and the scale of land loss and required planned retreat. Regional coastal erosion monitoring programmes such as those in England and Wales, and regional climate bodies, such as IPCC Normandy and coastal observatories – grouped within the RNOTC in France (*Réseau National des Observatoires du Trait de Côte*, or National Network of Shoreline Observatories) – also play a central role in providing evidence, supporting awareness on current and growing long-term coastal hazards accelerated by climate-change, and empowering and evidence-based decision-making.

149. Innovative approaches to raising public awareness are needed to highlight the growing risks to society and livelihoods, and to build support for relocation in areas at high risk of coastal erosion. Targeted communication campaigns, combining local testimonials with scientific data – such as those used in studies on coastal retreat – anchor the debate in reality and local contexts. Creative, arts-based approaches such as the ‘La Mer Monte’ initiative in Normandy in France and similar initiatives in Denmark, Sweden, Norway, Ireland and Scotland (United Kingdom) are effective in raising public awareness on coastal climate change and erosion risks, including among children. Citizen science approaches are increasingly being used to help people ‘see’ coastal change using Coast Snaps (which allow repeated mobile phone photographs capturing beach change) and a new coastal erosion reporter which is an interactive map where people can provide evidence of coastal erosion around Scotland. Serious games are also being created including a new science-led Minecraft Education game called CoastCraft which allows school children to design and test different coastal retreat options.

150. Over the past 50 years, the Conservatoire du Littoral in France, has supported the use of nature-based solutions to manage coastal erosion. This approach is further supported by the National Coastline Committee, which brings together the relevant ministries, local and regional elected officials, public institutions, urban planning agencies and experts. The Committee provides: a) a forum for multi-stakeholder dialogue; b) support for local authorities; c) knowledge sharing and development and d) financing mechanisms.

151. Local and regional authorities are well-placed to facilitate dialogue among actors with complementary competencies, pool expertise, and maintain a shared medium to long-term vision. This collaborative approach is essential for supporting an effective delivery of planned retreat.

5.6. French case studies that illustrate implementation of planned retreat

152. A growing number of operational initiatives – not just pilot schemes – are anticipating and implementing planned relocation across France and its overseas territories. For example, in Miquelon (Saint-Pierre-et-Miquelon), local authorities have launched a strategy to relocate homes most exposed to climate change hazards. Similarly, in Tréffiagat (Finistère) seven homes threatened by coastal erosion are currently being demolished.

118 Naylor, L.A., Edwards, D., Cotton, I., Dixon, D., Lacsny, A., Fradera, K., Hurst, M. and MacDonell, C. (2024) Coastal change adaptation – are we prepared? Research report. Climate Change.

153. Between 1997 and 2014, 13 storms in the Mediterranean caused extensive damage, triggering the staged retreat of assets, combined with the use of ecosystem-based approaches. Such strategies can be used together to minimise risks to exposed transport infrastructure and tourism assets. For example, the main road across the Sète du Marseillan beach-barrier system was badly damaged, causing disruption to agricultural and tourism business continuity. Since 2003, a series of sequential actions have been implemented, including the restoration of the beach – dune system (2003-2005), the construction of a replacement road further inland (2007-2008), additional dune restoration (2008-2009), the dismantling of the old road, and its conversion into a cycle path. This was followed by the completion of the new road infrastructure.

154. Later, between 2013 and 2019, innovative offshore, subtidal sand 'geotubes' were installed to reduce wave exposure at the coastal edge. Due to this subtidal engineering, waves now break offshore.[119] These interventions are designed to last 30 years, and with ongoing dune and geotube maintenance, they will likely continue to provide resilience and risk alleviation beyond this period – until higher sea levels cause the barrier system to breach.[120] At that stage, further landscape change would require a complete relocation of assets. Critical enablers included storm events as catalysts, strong regional and local governance arrangements; coordinated EU, national, regional and local co-financing.

155. Quiberville-sur-Mer, a small municipality in Calvados in Normandy, France was one of the first to implement anticipatory retreat, by relocating a public campsite with an investment of €9 million. This was before the Green Fund and *Banque des Territoires* were created, and the Normandy Land Development Agency refused to provide a loan for purchasing land away from coastal erosion-prone areas. The rationale for retreat was to secure jobs and preserve the economically vital tourist industry, which would have been lost to erosion had the campsite remained in place. The new public campsite is now privately managed and the municipality's revenue has increased by 25%. The key enablers in this case were strong political will, willingness to innovate and public ownership.

156. The planned retreat took 25 years to achieve. According to the mayor, three factors would help to accelerate the widespread implementation of planned retreat: 1) education and awareness raising, 2) fostering national solidarity in acknowledging the risks of coastal erosion to livelihoods, 3) establishing appropriate national financial instruments to fund the relocation of primary residences.

157. Plage de l'Horizon in Lège-Cap-Ferret, Gironde, is a major planned retreat project (€2.6 million) financially supported by the EU, the state, the Green Fund, the Region Nouvelle Aquitaine and the Gironde department. This area supports a large tourism economy of national significance. Rapid dune erosion (8-10 metres per year) and unplanned asset loss, such as the seaward terminus of a key tourist transport railway, underscored the need for intervention (Figure 9). Sufficient funding and high rates of erosion, having already caused economic damage, were significant enablers in this case.

158. The new design included the future retreat of the railway and dismountable assets (Figure a-b), including the lifeguard station. It also included the restoration of sand dunes to slow the rate of erosion as well as improvements to the public amenities along the railway line, using green infrastructure, such as dune vegetation. The key enablers are agile infrastructure that can retreat landwards as erosion accelerates, thereby reducing future damage as well as increased public awareness of future planned retreat and adaptation to land loss.

159. Strong collaboration between the region, the Member of Parliament, the Mayor, the municipality and local business and communities was pivotal in implementing the project Their relationships with residents and businesses secured robust local community support. Importantly, acceptance of future coastal retreat was considered from the outset, with the end goal of planned retreat factored into the design, both for infrastructure and assets. The project also incorporated eco-system-based solutions to slow erosion, enhance biodiversity and public amenities and reconnect people with natural coastal dynamics. Although the funding requirement was high, this project demonstrates the fundamental need for financial support from the state and the EU to facilitate the transition to 'living with land loss', while optimising economic and social wellbeing during the interim period. Key enablers included effective multilevel governance and community engagement.

119 See Sète Agglopôle Méditerranée (2026). "The Fight Against Erosion: The Lido of Sète to Marseillan" and ADRIADAPT Case Study Webpage "Coastal Protection and Managed Retreat of the Coastal Road between Sète and Marseillan, France."
120 Ibid.

a) Demountable lifeguard station



b) new terminus of summer railway transporting people to the beach



c) Ecosystem-based dune restoration to improve short-term resilience



d) Mayor of Lège-Cap-Ferret with oyster farmer and contractor reworking beach sand to improve dune resilience.



e) Chair of the National Coastline Committee and Mayor of Lège-Cap-Ferret with Congress delegation



f) improved, nature-based public walkway



Figure 9. Innovative planned retreat in Lège-Cap-Ferret, Gironde, France.

CONCLUSIONS

160. Coastal erosion in a changing climate presents significant risks to human settlements and human rights, infrastructure and economies, and natural ecosystems. Land loss resulting from erosion of all coastal landforms is already occurring across Council of Europe coastal member states and will accelerate during this century, with local and regional authorities facing the immediate impact of an issue that affects every level of government.

161. Local and regional authorities typically have responsibility for essential community services including local and regional planning, local housing (especially social) provision, local services (schools, hospitals, roads, waste) all of which are at risk in along eroding coasts. It is in these local areas where the impacts will be felt most acutely. Sub-national authorities must therefore be willing and equipped to play a leading role in the multilevel governance approach that is vital to addressing coastal erosion effectively.

162. Coping with erosion differs from addressing other coastal hazards, as there is less uncertainty about future outcomes and long lead-in times are required to implement socially just land-based retreat. This makes it both possible and urgent to act now. Protection measures will remain a part of the policy response depending on the situation facing individual communities, especially in low-lying countries. However, it is important now to move towards relocating people and assets before land loss causes otherwise unavoidable and significant damage to people's lives and, property, as well as infrastructure. Long-term planned retreat goals should take precedence over short-term political objectives. Governments, communities and businesses must prepare for adaptation.

163. A paradigm shift in coastal risk management is necessary to transition from coastal protection to strategic, land-based retreat. This approach will provide long-term resilience to accelerating coastal erosion. Doing so would also make space on land for nature – beaches, dunes and saltmarshes – so they can continue to provide wellbeing, economic and flood risk reduction benefits to society. This shift requires strong political will. National as well as subnational authorities are strongly encouraged to consider positive, existing examples that can be found in France, Portugal and other countries.

164. Practical, anticipatory adaptation must include socially just funding mechanisms, insurance and legal provisions for buy-outs, and spatial reorganisation of land use. Again, this will require effective and coordinated action from all levels of government.

165. Adaptation must go beyond reactive measures and embrace an anticipatory, proactive approach. Severe storms have been key catalysts in France and Portugal that have prompted a political shift and increasing social acceptance of the need for a fundamentally different approach to living with rapidly accelerating coastal erosion, rising sea levels and increased storm surges and storminess. The question is not if, but when, the next storm will hit. Effective planned retreat enables communities to adapt ahead of future storms, further erosion and resulting land loss. This should be done in the fullest possible consultation with local people, in processes most often led by subnational authorities.

166. Adaptation strategies should be socially just, environmentally sustainable and support the development of climate-resilient communities. This is the right approach for the long-term.

Appendix 1. Summary of key enablers supporting planned retreat

Key governance challenges identified by the IPCC	Critical enablers for C&S to address coastal hazard risk by the IPCC	Examples in the Report	Report Section
Complexity: Climate change compounds non-climatic hazard risks facing coastal C&S in interconnected, dynamic and emergent ways for which there are no simple solutions.	Draw on multiple knowledge systems to co-design and co-produce more acceptable, effective and enduring responses.	Edinburgh (Scotland, UK), Gouville-sur-Mer, Soulac-sur-Mer, Lacanau (France).	Chapters IV and V
	Build governance capacity to tackle complex problems.	Gouville-sur-Mer, Lacanau Océan (France)	Chapters IV and V
Time horizon and uncertainty: The future is uncertain, but climate change will continue for generations and cannot be addressed by short-term (e.g., 1–10 years) responses alone.	Adopt a long-term view but take action now. Keep options open to adjust responses as climate risk escalates.	Retreat as starting point; France	Chapter V
	Avoid new development commitments in exposed locations.	Various examples including Edinburgh, (Scotland, UK), England (UK), Caen (France)	Chapter IV.4;
	Enable managed retreat in most at-risk locations by anticipatory actions (e.g., secure funds, legal provisions for buy-outs, resettlement, etc.).	Various examples in Portugal, United Kingdom, Netherlands; France	Chapter IV.5; Chapter V.4
Cross-scale and cross-domain coordination: Decisions bound by jurisdictional and sectoral boundaries fail to address linkages within and between coastal ecosystems and C&S facing interconnected climate-change-compounded impacts and risk.	Develop networks and linkages within and between governance scales and levels across policy domains and sectors to improve coordination, build trust, and legitimate decisions.	Multiple examples	Chapters IV and V
	Build shared understanding and enable locally appropriate responses through experimentation, innovation, and social learning.	Chapter V	Chapters IV and V
Equity and social vulnerability: Climate change compounds everyday inequity and vulnerability in coastal C&S, making it difficult to disentangle and address social drivers and root causes of risk.	Recognise political realities and prioritise vulnerability, justice and equity concerns to enable just, impactful and enduring outcomes.	Multiple examples	Chapters IV and V

	Strengthen community capabilities to respond to coastal hazard risk, using external assistance and government support if necessary.	Ireland	Chapter IV
Social conflict: Coastal C&S will be the focal point of contending views about appropriate climate responses, and face the challenge of avoiding destructive conflict and realising its productive potential.	Design and facilitate tailor-made participation processes, involving stakeholders early and consistently. Create safe arenas of engagement for inclusive, informed and meaningful deliberation and collaborative problem-solving.	England (UK), the Netherlands, Portugal and France	Chapter IV
	Create safe arenas of engagement for inclusive, informed and meaningful deliberation and collaborative problem-solving.	Lacanau(France)	Appendix 2
Key governance factors and triggers identified by the report author	**Critical enablers for C&S to address coastal hazard risk**	**Examples in the Report**	**Report Section**
Providing business continuity to support jobs and livelihoods whilst retreat is being planned and implemented	Time bound consents and agile, demountable assets	Lacanau (France), Sweden, Mediterranean, Edinburgh (Scotland, UK);	Chapter IV; Appendix 2
Organisational Structure and Processes	Involving LA coastal risk managers and emergency response teams to work with the planning department to help ensure site scale regeneration and development projects are away from zones of coastal erosion risk	England and Scotland (UK)	Chapter IV
Change in approach to living with coastal erosion risks	Paradigm shift from coastal protection to living with coastal erosion and allowing loss of assets	France	Chapter V
Storms as catalysts	for changes in political will, approaches to erosion (from protect to retreat) and public awareness and acceptance for planned retreat. In future a 'before the storm and land loss' approach is recommended.	France and Portugal	Chapters IV and V

Appendix 2. Case Study of Lacanau Océan, Gironde, France

167. In Lacanau Océan, Gironde, a major storm in 2014 served as the catalyst for planned relocation efforts. The storm caused a sudden dune retreat of 15 – 25 m. Land loss reached as far inland as had been forecast for 2040 – 26 years earlier than expected. The beach is currently eroding at a rate of 1-2 metres per year. This process is lowering the beach, intensifying wave action, and increasing the risk of its disappearance within 10 years without coastal adaptation. A local – regional authority partnership had been mapping future risks and exploring retreat options five years before the 2014 storm. This pre-storm multi-level governance work proved pivotal, as the local authority already had an adaptation plan in place and was prepared to respond. The Head of the GEMAPI (Management of Aquatic Environments and Flood Prevention) department responsible for coastal erosion indicated that the State risk prevention plan that was in place before 2013-2014 storms proved totally obsolete when the storms happened.[121]

168. This led to a political and cultural shift, prompting a significant change in coastal erosion management. According to their anticipatory plan, the local authority decided not to reinstall hard protection defences after the storm, triggering a shift in their approach to managing coastal erosion. Additionally, between 2012 and 2015, Lacanau took part in a national experiment on coastal climate change adaptation, which explored scenarios for coastal management in 2050 and 2100. While this did not involve physical changes, it introduced participatory processes into local urban planning and opened up dialogue on relocation and adaptive design.[122]

169. Lacanau has adopted an anticipatory, planned retreat strategy, characterised by gradual and strategic withdrawal. The aim is not to intervene abruptly, but to schedule the relocation of endangered functions – particularly those in the public domain – over time. The prospective scenarios developed by the Bordeaux Aquitaine urban planning agency a'urba have helped identify fallback areas behind the dunes and informed a spatial reorganisation plan that accounts for both community land use and ecological constraints.

170. While relocation of housing, businesses, infrastructure and people within the wide 1 km coastal strip (covering 25 hectares) has not yet begun, active planning and ongoing community discussions are underway to ensure future relocation aligns with land and ecological constraints. Efforts are also focused on establishing the necessary land tools and frameworks, and on providing future generations with the space and options to decide on the best course of action. This approach reflects a commitment to intergenerational justice in relation to planned retreat.

171. Continued protection with rock armour (6–8-tonne rocks) along the seafront, together with dune restoration, is being used as a medium-term measure to address erosion until around 2050. The structures will have to stay and be maintained whilst long-term relocation plans are implemented. To manage short-term measures (between now and 2050), Lacanau adopted a Local Coastal Strip Management Strategy (2016 - 2022) that applied to a 1 km coastal strip extending 250 metres inland. This strategy created a specific coastal zone in which all new construction must be temporary and reversible, and identified “no-regret” relocation actions such as moving car parks, the surf centre, and the lifeguard station away from high-risk areas.[123] [124]

172. Semi-permanent development in Lacanau has been implemented in stages since 2016 and is being reinforced under both the Ocean City 2030 Project and the longer-term Ocean City 2050 vision. This approach is guided by the principles of modularity, reversibility, greening, relocation, and sobriety in developments and interventions.[125]” Dune restoration using ecosystem-based adaptation and modular transitional spaces has already taken place, including the installation of dry toilets, a demountable lifeguard station, and easily demountable public realm assets. More are planned to enhance resilience and usability across seasonal variations while demonstrator buildings – dismountable and reversible – have been installed to showcase innovative approaches to adaptive architecture.[126, 127]

121 Vincent Mazeiraud, Head of GEMAPI department, Congress study visit, 6 November 2025.
122 Rocle, N. and Salles, D. (2018). “Pioneers but not guinea pigs”: Experimenting with climate change adaptation in French coastal areas’, Policy Sciences, 51(2), pp.231-247.
123 Ville de Lacanau (2022) "Gestion du risque érosion à Lacanau: où en sommes-nous? Bilan concerté et enseignements de la stratégie locale de gestion de la bande côtière 2016-2022. "
124 Ville de Lacanau (n.d.) The local strategy for the management of the coastal strip - Lacanau.
125 Ville de Lacanau (n.d.) Ocean City 2050 - Lacanau.
126 Ville de Lacanau (n.d.) Ocean City 2050 - Lacanau.
127 Ville de Lacanau (2022) Réunion publique: Réaménagement Front de Mer Ortal.

173. Alongside the structural works which create improved public realm, a series of highly successful measures have been introduced to extend the tourism season. These include co-working spaces for digital nomads and a building dedicated to hosting cultural events. By tracking hotel stays and car parking usage, the local authority has been able to evidence the extension of the summer season (July/August, when the population reaches 100,000) to cover spring to autumn, using the semi-permanent public works facilitating this short-term tourism growth. The finance and governance arrangements for this transformative approach involve the local authority working more closely across the three urban conurbations that comprise Lacanau.

174. The two inland conurbations are not at risk of coastal erosion and have been identified as the planned relocation sites. Regional authorities have provided technical expertise and are collaborating with local authorities on coastal risk management, sustainable development, transportation and awareness raising. Integrating coastal erosion management with these broader responsibilities will enable more effective delivery of intergenerationally just and climate-resilient development pathways.

175. Further support comes from structural local finance and governance mechanisms. Firstly, the inter-municipality (*Communauté de communes Médoc Atlantique*) managed GEMAPI property tax levy (~40/€ per inhabitant per year) specifically dedicated for coastal erosion and flooding. This flat rate levy is applied across 20 km, ensuring inland communities also contribute, although the funding remains insufficient. Additional support comes from regional, national and EU funding sources. Secondly, a PPA (Project Partnership Agreement) commits the multi-level governance team to delivering a 10-15-year programme of work. This extends project planning and implementation beyond political cycles, enhancing Lacanau's ability to plan for community retreat and interim steps.

Appendix 3. Programme of the study visits

STUDY VISIT TO FRANCE OF THE CONGRESS OF LOCAL AND REGIONAL AUTHORITIES OF THE COUNCIL OF EUROPE

IN THE FRAMEWORK OF THE REPORT ON "HOW CAN WE COPE WITH COASTAL EROSION"

Paris (16-17 June 2025)

PROGRAMME

Congress delegation:

Rapporteur:

Mr Anthony BUCHANAN	Rapporteur Chamber of Local Authorities, ILDG[128] Member of the Congress Governance Committee Councillor of East Renfrewshire, United Kingdom

Congress Spokesperson on Environment and Climate change:

Ms Meropi-Spyridoula YDRAIOU	Chamber of Local Authorities, EPP/CCE[128] Member of the Congress Monitoring Committee Municipal Councillor of Corfu, Greece

Congress Secretariat:

Mr Euan RODDIN	Head of the Statutory Activities Division of the Congress
Mr Roman CHLAPAK	Secretary to the Governance Committee of the Congress

Expert:

Ms Larissa NAYLOR	Independent Expert (United Kingdom) School of Geographical and Earth Sciences University of Glasgow

Photographer:

Mr Sandro WELTIN	Council of Europe

Monday, 16 June 2025

CEREMA – Centre for Studies and Expertise on Risks, the Environment, Mobility and Planning (*Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement*)

Ms Marie-Claude JARROT, President and Mayor of *Montceau-les-Mines*

Mr Sébastien DUPRAY, Technical Director

FNAU – National Federation of Urban Planning Agencies (*Fédération nationale des agences d'Urbanismes*)

Ms Brigitte BARIOL-MATHAIS, Déléguée Générale

Ms Carla DONCESCU, Chargée de mission

CNTC – National Coastline Committee (*Comité national du trait de côte*)

Ms Sophie PANONACLE, President and Deputy of Gironde (8th circonscription)

128 EPP/CCE: European People's Party Group in the Congress
SOC/G/PD: Group of Socialists, Greens and Progressive Democrats
ILDG: Independent Liberal and Democratic Group
ECR: European Conservatives and Reformists Group
PFE: Patriots for Europe Group
NR: Member not belonging to any political group in the Congress

Tuesday, 17 June 2025

SENATE / *SENAT*

Mr Didier MANDELLI, Vice-President of the Senate and First Vice-President of the Commission for regional planning and sustainable development, President of the study group on 'Sea and coastline', Senator of *Vendée*

NATIONAL ASSEMBLY / *ASSEMBLEE NATIONALE*

COMMISSION FOR SUSTAINABLE DEVELOPMENT AND REGIONAL PLANNING
(*Commission du développement durable et de l'aménagement du territoire*)

Ms Sandrine LE FEUR, President of the Commission, Deputy of *Finistère*

STUDY VISIT TO FRANCE
OF THE CONGRESS OF LOCAL AND REGIONAL AUTHORITIES
OF THE COUNCIL OF EUROPE

IN THE FRAMEWORK OF THE REPORT ON
"HOW CAN WE COPE WITH COASTAL EROSION"

2nd part, Normandy and Nouvelle-Aquitaine (3-6 November 2025)

PROGRAMME

Congress delegation:

Rapporteur:

Mr Anthony BUCHANAN	Rapporteur Chamber of Local Authorities, ILDG [129] Member of the Congress Governance Committee Councillor of East Renfrewshire, United Kingdom

Congress Secretariat:

Mr Euan RODDIN	Head of the Statutory Activities Division of the Congress
Mr Roman CHLAPAK	Secretary to the Governance Committee of the Congress

Expert:

Ms Larissa NAYLOR	Expert (United Kingdom) School of Geographical and Earth Sciences University of Glasgow

Photographer:

Mr Sandro WELTIN	Council of Europe

Monday, 3 November 2025
Normandy (Calvados)

Mr Jean-Léonce DUPONT, President of Calvados General Council

Mr Jean-François BLOC, Vice-President of Normandy Region, Regional councillor

Ms Mélanie LEPOULTIER, Chair of the French delegation to the Congress,
Deputy Permanent Rapporteur for Human Rights

Mr Gilles GAL, General Director, Normandy Public Land Agency (EPFN)

Mr Jean Philippe DESLANDES, Normandy Coastal Delegate, Coastal Conservation Agency

Mr Tony DUROZIER, Project Manager, Adapto LIFE – Estuary of Orne

Mr Emmanuel RENARD, Chairman of the Metropolitan hub "*Caen Normandie Métropole*",
Vice-President responsible for Planning and Land Use, Urban community of Caen la Mer, Municipal councillor of Caen

Port-en-Bessin-Huppain, rencontres sur sites touchés par l'érosion côtière et rencontre presse :

M. Christophe VAN ROYE, Mayor of Port-en-Bessin-Huppain

M. Stéphane WOLF, President of Ter'Bessin, intermunicipal association for sustainable land use planning, bringing together three intermunicipal communities in the Bessin region (Seulles Terre et Mer, Bayeux Intercom et Isigny Omaha Intercom)

Visit of Géfosse-Fontenay, sites affected by coastal erosion (accompanied by Ter'Bessin)

Visit of Pointe du Hoc, WWII bunkers threatened by coastal erosion, guided by a representative of the *American Battle Monuments Commission (ABMC)*

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Tuesday 4 November 2025
Normandy (La Manche)

Mr Jacky BIDOT, President of the Community Coutances mer et bocage (regrouping 48 municipalities in the central western part of la Manche)

Mr Julien MINICONI, Sub-Prefect for the District of Coutances

Mr François LEGRAS, Mayor of Gouville-sur-Mer

Mr Etienne d'ANGLEJAN, Project Manager, Coastal resilience, adaptation and territorial reconfiguration

Exchange with elected representatives of Agon Coutainville and Blainville-sur-Mer

Visits to sites affected by coastal erosion in Gouville-sur-Mer with presentation of the protection measures implemented and reconstruction projects:
- protective structures built around the dune cordon, known as soft protection measures, which include fascines installed by the local council in partnership with volunteers *(rue des Cabines near la cale de Linverville)*
- in the north two sites scheduled for relocation as part of the costal restoration project *(rue du Beau Rivage).*

Mr Denis LEFEBVRE, Chair of the Association for the protection of the west coast Cotentin (ADTCOC), Chair of Denneville Plage Trade Union Association

Ms Valérie NOUVEL, Vice-President of La Manche Department, Chair of the Committee Nature and Infrastructure

Wednesday 5 November 2025
Nouvelle-Aquitaine (Gironde)

Ms Laurence ROUÈDE, Vice-President Regional of the Council of Nouvelle-Aquitaine, President of Public Land Agency of Nouvelle-Aquitaine

Mr Arnaud GUEGUEN, Director of Environnement, Region Nouvelle-Aquitaine

Mr Camille ANDRÉ, Coastal Project Manager, Region Nouvelle-Aquitaine

Ms Alizée ANGELINI, Deputy Head of the Mediation and Environmental Education Service, Gironde Department

Mr Nicolas BERNON, Coast Observatory of Nouvelle-Aquitaine

Mr Vincent MAZEIRAUD, Head of the GEMAPI department

Mr Frédéric BOUDEAU, General Director, Community of Municipalities, Médoc Atlantique

Mr Benoît DUVERGER and Mr Henri VALLET, Association for the protection of Soulac-sur-Mer against marine erosion (APSEM)

Soulac-sur-Mer: visits of 4 sites affected by coastal erosion:
- The breakwaters at Les Cantines (northern part of Soulac-sur-Mer), an example of past effective protective structures that now require maintenance
- The 'Barriquand' groyne at Soulac-sur-Mer's central beach, demonstrating the effectiveness of the work carried out in 2014/2015
- The southern beach of Soulac-sur-Mer, which will undergo a major beach replenishment operation in April/May 2026
- The village of L'Amélie, south of the town of Soulac-sur-Mer, whose protection must be completed within the next two or three years.

Mr Xavier PINTAT, Mayor of Soulac-sur-Mer, Chair of the Community of municipalities Médoc Atlantique

Thursday 6 November 2025
Nouvelle-Aquitaine (Gironde)

Mr Laurent PEYRONDET, Mayor of Lacanau, Vice-Chair of the Community of Municipalities Médoc Atlantique, Chairman of the Médoc Atlantique Tourist Office, Chairman of the Urban Planning, Sustainable Development and Economic Development Committee, Chairman of the Single-Purpose Association for the Surveillance of Gironde Beaches and Lakes
Ms Alizée VALAT, Director of Communication
Ms Eléonore GENEAU, Head of Coastal and Sustainable Development

Lège-Cap-Ferret: Field meetings, visit of the site Horizon, on the ocean front of Cap Ferret; visit of the site Mimbeau on the inner façade of the Arcachon Basin.

Mr Philippe de GONNEVILLE, Mayor of Lège-Cap-Ferret, Department councillor, Member of the committee n° 11 « Environmental protection - Risk management», Member of the committee n° 17 « Mobility»
Ms Sophie PANONACLE, Member of Parliament for Gironde, Chair of the Bureau of National Council for the Sea and Coastlines (CNML), Chair of the National Coastline Committee
Mr Benoît BARTHEROTTE, Chair of the Association for the Defence of Cap Ferret Point (ADPCF)

Appendix 4. Awareness raising video on coastal erosion

