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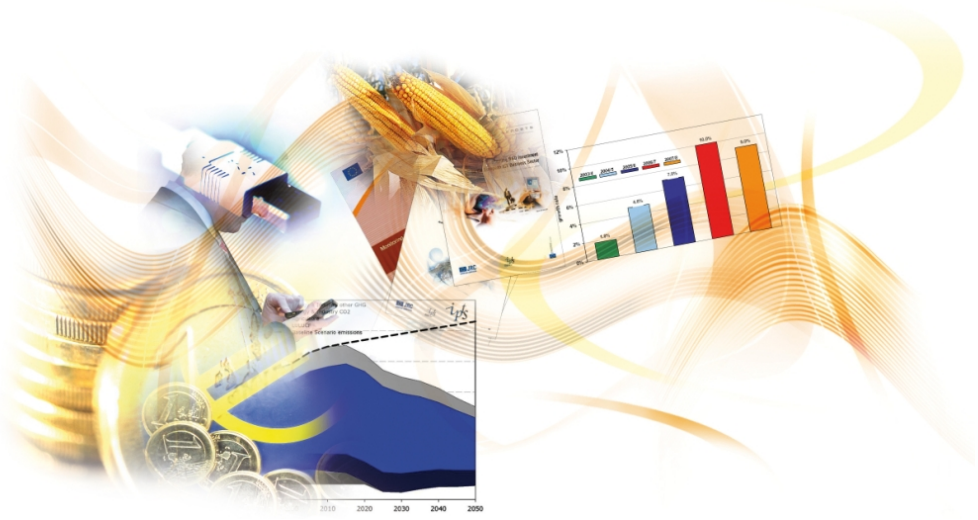
Dr Julie A. Richards & Prof Robert J. Nicholls



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Impacts of climate change in coastal systems in Europe. PESETA-Coastal Systems study

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Preface

The main objective of the PESETA (Projection of Economic impacts of climate change in Sectors of the European Union based on boTtom-up Analysis) project is to contribute to a better understanding of the possible physical and economic effects induced by climate change in Europe over the 21st century. PESETA studies the following impact categories: agriculture, river basin floods, coastal systems, tourism, and human health.

This research project has followed an innovative, integrated approach combining high resolution climate and sectoral impact models with comprehensive economic models, able to provide estimates of the impacts for alternative climate futures. The project estimates the impacts for large geographical regions of Europe.

The Joint Research Centre (JRC) has financed the project and has played a key role in the conception and execution of the project. Two JRC institutes, the Institute for Prospective Technological Studies (IPTS) and the Institute for Environment and Sustainability (IES), contributed to this study. The JRC-IPTS coordinated the project and the JRC-IES made the river floods impact assessment. The integration of the market impacts under a common economic framework was made at JRC-IPTS using the GEM-E3 model.

The final report of the PESETA project (please visit http://peseta.jrc.ec.europa.eu/) is accompanied by a series of technical publications. This report presents in detail the coastal physical impact assessment, methodology and results.

Antonio Soria

Acting Head of Unit
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Executive Summary

Results of the physical impacts and adaptation cost assessment of sea-level rise for the European Union are presented for the A2 and B2 SRES socio-economic storylines and for a range of plausible sea-level rise scenarios, using data from the ECHAM4 and HADCM3 Global Climate Models (GCMs) models. In addition, to better understand the sensitivity of the results to the magnitude of sea-level rise, the full IPCC (2001) range of sea level rise predictions and scenarios of no climate change have also been modelled. These results are all derived using the global Dynamic Interactive Vulnerability Assessment (DIVA) tool for assessing regional to global coastal impacts and adaptation.

Both the physical and economic impacts of sea-level rise increase with time for both the A2 and B2 storylines, especially under scenarios of high sea-level rise. Without adaptation, significant impacts and therefore damages are apparent. Significant populations are threatened with displacement by flooding and coastal erosion. An exploratory adaptation analysis using standard protection measures of dike construction and beach nourishment, where benefit-cost analysis suggests this is the optimum response, reduces these impacts significantly. While adaptation in Europe is likely to be much more diverse than these two smple options, these results demonstrate the significant benefits of protection, and more generally suggest that widespread adaptation to sustain human coastal activities would be prudent. Moreover, under these protection assumptions, coastal ecosystems are significantly reduced in area, especially under the high sea-level rise scenario and climate change raises significant challenges for wider coastal management in Europe, even if human uses in the coastal zone are protected.

1. Introduction

The potential effects of rising sea-levels on coastal regions and the high vulnerability of the coastal zone due to the concentration of natural and socio-economic resources highlight the need for regional to global assessments of these effects and how the potential to adapt (MCLEAN *et al.* 2001). The objective of this coastal assessment is to estimate the physical impacts of climate change on coastal systems in the European Union and to monetise them. Two global scenarios have been selected from the IPCC's Special Report on Emissions Scenarios (SRES): the A2 and B2 scenario storylines (NAKICENOVIC and SWART 2000). This choice partly covers the range of uncertainty associated with the driving forces of global emissions: demographic change, economic development and technological change. In the A2 scenario, where the storyline focus is on national enterprise, global greenhouse gas emissions are assumed to increase more significantly leading to approximately a tripling of average CO_2 concentrations by the end of this century compared to the pre-industrial concentration. The B2 storyline focuses on local stewardship and results in approximately a doubling of the atmospheric CO_2 concentration, so climate change is smaller. More background information on the PESETA study is given in Annex 2. The final report of the PESETA project is available at the Institute for Prospective Technological Studies (JRC-IPTS) website (please visit http://peseta.jrc.ec.europa.eu/) (Ciscar *et al.*, 2009). Both scenarios were downscaled to the European nation scale for use in this project.

The analysis has been undertaken using the Dynamic and Interactive Vulnerability Assessment (DIVA) Tool, produced by the EU-funded DINAS-COAST Project (Dynamic and Interactive Assessment of National, Regional and Global Vulnerability of Coastal Zones to Climate Change and Sea-Level Rise) (DINAS-COAST Consortium, 2006). This is an integrated impact-adaptation model, allowing the interaction between a series of biophysical and socio-economic modules to assess impacts of sea-level rise. The DIVA model provides a new and unique perspective on the impacts of sea-level rise, with results available from national to global scales, as well as for up to 2,000 sub-national administrative units.

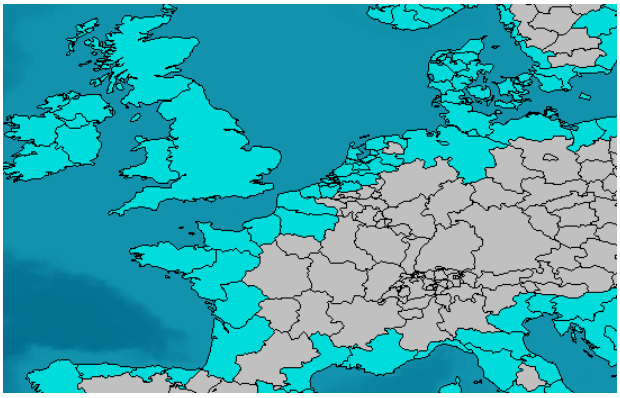
A major weakness of earlier studies is that they only examine a subset of the physical consequences of sea-level rise, whereas DIVA allows all the major direct impacts of sea-level rise to be quantitatively evaluated in physical terms. These include (i) direct impacts on erosion, (ii) increased flood risk and inundation, (iii) coastal wetland loss and change, and (iv) salinisation. Adaptation is an explicit part of the model and the benefits of a range of

homogenous adaptation options can be explored together with their costs, including options from no protection to total protection, together with an estimate of the economically-optimal response using cost-benefit analysis.

For the PESETA project, DIVA has been restricted to the 22 European countries with coasts, listed below. Figure 1 shows the administrative units within DIVA for part of Europe; in total there are 140 administrative units used for the PESETA analysis. Territories of European countries that are not considered part of the European Union or are outside Europe were excluded from the analysis and are listed in italics.

1. Belgium,
2. Bulgaria,
3. Croatia,
4. Denmark (Greenland, Faeroes),
5. Estonia,
6. Finland,
7. France (Juan de Nova Island, Wallis & Futuna, Glorioso Island, Territory near Wallis & Futuna, French Southern Territories, St Pierre & Miquelon, St Johns),
8. Germany,
9. Greece,
10. Ireland,
11. Italy,
12. Latvia,
13. Lithuania,
14. Malta,
15. Netherlands,
16. Poland,
17. Portugal,
18. Romania,
19. Slovenia,
20. Spain,
21. Sweden,
22. United Kingdom (Gibraltar, Isle of Man, Guernsey, Jersey, Polynesia, Cayman Islands, Pitcairn Islands, Turks & Caicos, Virgin Islands, Anguilla, St Kitts & Nevis, Falkland Islands, South Georgia, Saint Helena, British Indian Ocean Territory).

Figure 1. Administrative units in north-west Europe within the DIVA 1.0 model



2. Data / Methodology

2.1. The DIVA model

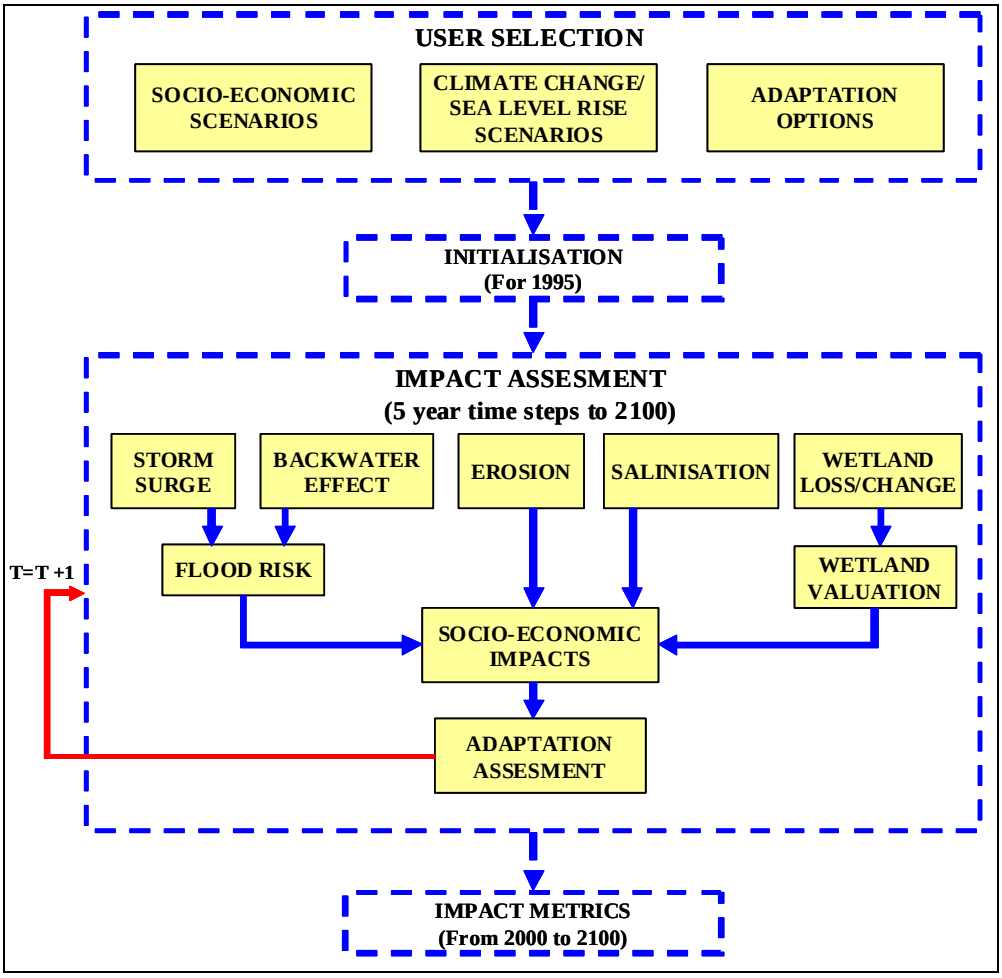
The DIVA methodology was developed during the DINAS-COAST project which built on earlier work such as the Global Vulnerability Assessment (HOOZEMANS *et al.* 1993) and projects which drew on it (e.g. NICHOLLS and TOL 2006). It developed a new global database of physical and socio-economic parameters around the world's coasts with a base year of 1995 (MCFADDEN *et al.* 2007), (Vafeidis et al., accepted). Impacts are described by a series of linked impacts and adaptation algorithms which can be acsessed through a Graphic User Interface (GUI) (DINAS-COAST CONSORTIUM 2006; HINKEL 2005; HINKEL and KLEIN 2007). DIVA was designed to assess impact and vulnerability of the coastal zone at regional to global scales and is driven by a set of internally consistent 'mid-term' (until 2100) scenarios of sea-level rise and consistent socio-economic drivers change (population, GDP, etc). The database includes data on physical, ecological and socio-economic characteristics of the coast at various resolutions. All the data in the DIVA database are referenced to linear coastal segments and are expressed as attributes of five main geographic features: (a) coastline segments, (b) administrative units, (c) countries, (d) rivers, (e) tidal basins (MCFADDEN *et al.* 2007; VAFEIDIS *et al.* 2004; 2007). This gives a fundamentally different vector-based data structure compared to the more common raster datasets used in global studies and allows for the evaluation of a range of response options in both physical and monetary terms. The segments are coupled to integrated modules which assess impacts under user-selected climate change, socio-economic and possible adaptation scenarios. While DIVA contains a set of purpose-developed climate change scenarios, any scenario can be integrated into the model with calculations repeated over five year time steps up to a timescale of 100 years (HINKEL and KLEIN 2007; NICHOLLS *et al.* 2007a). For the PESETA analysis, scenarios consistent with PESETA were used, as outline below.

DIVA operates at the level of the individual linear coastal segments, which are considered to behave independently. The database contains over 80 parameters for each variable length segment which are utilised, as required, in the following modules:

- Internal Drivers (includes the socio-economic scenarios)
- Relative Sea-Level Rise
- River Effect
- Wetland Change
- Flooding
- Wetland Valuation
- Indirect Erosion
- Total Erosion
- Tourism
- Costing and Adaptation.

Each of the integrated modules are run to calculate the impacts of sea-level rise on coastal systems, including direct coastal erosion, coastal flood impacts, changes in wetlands, and flood effects in rivers; the model is initialised for the year 1995 (baseline results) and first model results are provided for the year 2000. Changes are then evaluated in terms of socio-economic impacts and their monetary costs which, for example, include translating land losses into monetary values. A range of adaptation options can then be considered, with the adaptation measures influencing the results operating in the next time step and thereafter. Mitigation of climate change is not explicitly considered, but the benefits of mitigation can be evaluated by using climate change and socio—economic scenarios that are consistent with given mitigation policies. Physical impacts and monetary damages and adaptation costs are direct outputs of the DIVA model. The module linkages are shown in Figure 2.

Figure 2. ***Schematic of module linkages in the DIVA tool. The socio-economic impact and adaptation assessment are considered in one module: Costing and Adaptation***



Socio-economic impacts, both direct and indirect, are assessed through the costing and adaptation module. This module implements adaptation measures based on preset or user-defined decision rules, and these measures then influence the calculations of the physical effects and socio-economic impacts of the next time step. The costing and adaptation module computes the economic impacts of sea-level rise, including the effects of the selected adaptation options. Assessed impacts include land lost due to erosion and flooding, wetland lost, flood risks, salinity intrusion and forced migration. The costing and adaptation module also controls a range of possible adaptation responses: (1) raising flood dikes; (2) beach nourishment (to counter beach erosion); and (3) wetland nourishment (to counter losses of coastal wetlands). This allows the coupled behaviour of natural and human systems to be explored in more detail, giving more realistic estimates of impacts, costs and adaptation for a range of unmitigated and mitigated sea-level rise scenarios (NICHOLLS *et al.* 2007b). In this analysis, adaptation costs include dike building and beach nourishment with the decisions on adaptation being based on cost-benefit analysis. In Europe, adaptation is widespread under benefit-cost analysis, reflecting the large economic values located in many coastal zones.

Example outputs of the model are numbers of people flooded, net area of wetlands lost, the area of land lost and protection costs. More details of the cost-benefit analysis carried out within the costing and adaptation module is contained in Appendix A.

2.2. Climate Change Scenarios Considered in the PESETA Analysis

Within DIVA the climate model of intermediate complexity CLIMBER–2 (GANOPOLSKI *et al.* 2001; PETOUKHOV *et al.* 2000), is used to produce a set of internally consistent "mid-term" (until 2100) scenarios of sea-level rise. However, for consistency across the PESETA project, CLIMBER-2 scenarios have been replaced with ECHAM4 and HADCM3 GCM results for low, medium and high scenarios of sea-level rise (GORDON *et al.* 2000; ROECKNER *et al.* 1996). In addition, a no climate change scenario has been included where sea-level rise and temperature change have been excluded from the model. This enables the changes due to the socio-economic scenarios to be separated from the climate change signal.

The global sea-level rise figures used within this analysis are shown in Table 1. The outputs of the ECHAM4 and HADCM3 GCMs are also compared to the low and high IPCC sea-level rise figures (CHURCH *et al.* 2001). The IPCC Third Assessment Report (TAR) high and low scenarios encompass the full range of uncertainty in sea-level rise projections (IPCC 2001), excluding uncertainties due to ice sheet instability and melting in Antarctica.

Table 1. ***Global sea-level rise for low, medium and high climate sensitivities, at 2100, for the A2 and B2 SRES storylines and associated greenhouse gas emissions***

Global Climate Model	**ECHAM4**		**HADCM3**		**IPCC TAR**
Socio-Economic Scenario	A2	B2	A2	B2	A2/B2
Sea-Level Rise Scenario					
Low (cm)	29.2	22.6	25.3	19.4	9
Medium (cm)	43.8	36.7	40.8	34.1	
High (cm)	58.5	50.8	56.4	48.8	88

Figure 3. ***Sea-level rise for each of the emission scenarios and climate models used within the PESETA analysis***

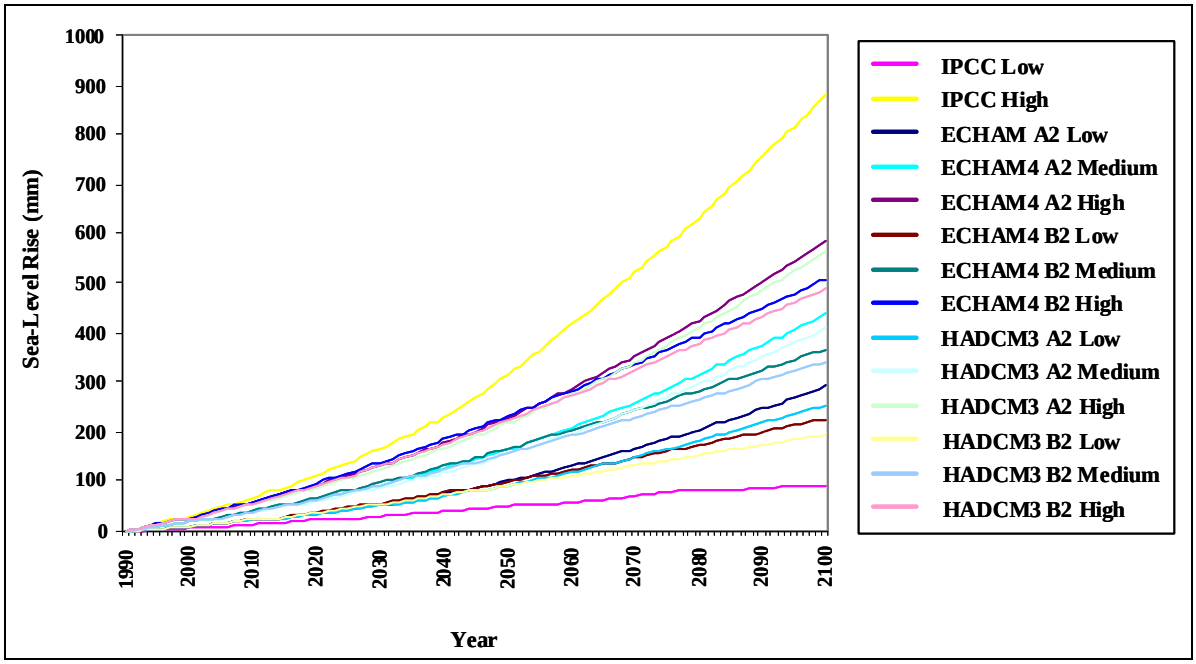
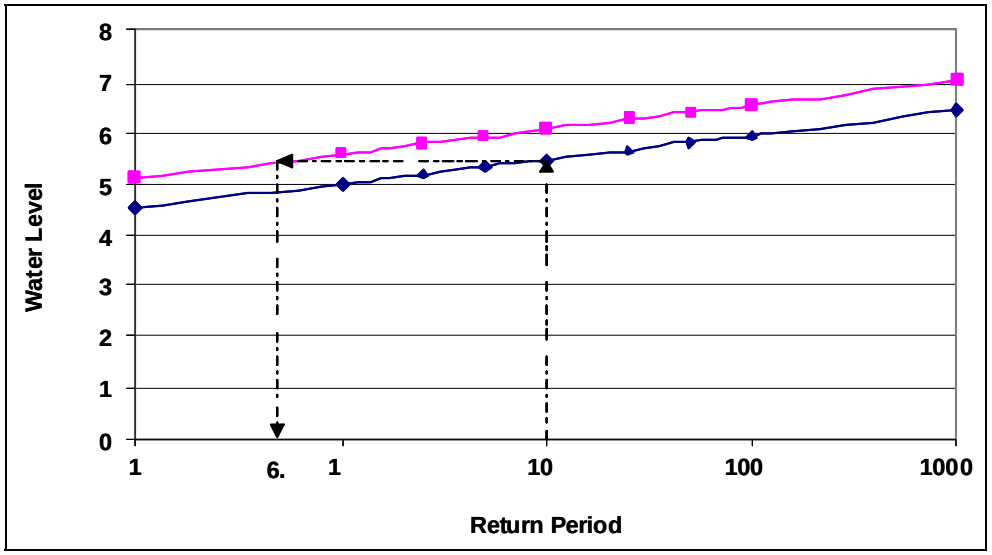


Figure 3 displays modelled predictions of sea-level rise from 1990 to 2100, for each GCM and SRES storyline. For both climate models, sea-level rise is lower for the B2 than A2 storyline, reflecting the lower greenhouse gas emissions.. The HADCM3 model consistently predicts lower sea-level rise than the ECHAM4 model, with increasing divergence over time. This reflects the increasing uncertainty in the sea-level rise projections as the timescale gets longer.

An uncertainty analysis based on sea-level rise has also been carried out through the modelling of the IPCC range of sea-level rise scenarios, of 9 and 88 cm sea-level rise by 2100 (Church et al., 2001).

Total relative sea-level rise is calculated for each coastal segment using the SRES global sea-level rise scenarios, the glacio-isostatic adjustment estimated by Peltier's (1999) geophysical model and deltaic subsidence, where appropriate (e.g. the Rhone, Po and Ebro deltas). Therefore, where climate change is excluded from the scenario, a change in relative sea-level rise due to latter two factors is still included but this effect is relatively small in most locations around Europe.

Figure 4. ***Example of the Reduction in flood return period with an increase in sea level, where sea-level rise is represented as an increase in water level***



The DIVA model also considers changes in extreme water levels by combining current extreme water levels (characterised by return periods from 1 in 1 year to 1 in 1,000 year) with relative sea-level rise to determine the change in return period (Figure 4).

2.3. Socio-Economic and Adaptation Scenarios Considered in the PESETA Analysis

Land use in the coastal zone is the major determinant of the monetary aspect of the DIVA model. Monetarised dryland losses are based on the assumption that this is agricultural land and are therefore minimum estimates of the land value. For coastal wetlands, saltmarsh and unvegetised tidal flats are analysed; losses are monetarised wetland loss is specified using the wetland valuation methods of BRANDER *et al* (2003). These are based on a meta-analysis of the wetland valuation literature and consider wetland type, size, location, national GDP/capita and population density. In addition, the flooding module within DIVA calculates the potentially flooded area of low-lying coastal areas due to the combined effects of extreme water levels produced by storms and sea-level rise, taking into account the effect of any flood defences (which are treated as sea dikes). These are then translated into three population parameters;

- People in the hazard zone (PHZ): the number of people living below the 1 in 1,000 year event who are potentially at risk of coastal flooding.
- People at risk (PAR): the number of people who actually experience flooding in an average year, which is a function of PHZ and the standard of protection.
- People to respond (PTR): the number of people flooded annually or more frequently. This has been taken as a crude measure of those people who will need to respond in some manner to the high frequency of flooding.

The economic impact on these populations is then estimated using a simple depth-damage curve.

The costing and adaptation module computes the economic impacts of sea-level rise and determines the level of adaptation. Impacts valued are land lost to erosion and flooding, wetland lost and change, flood risks, salinity intrusion and forced migration. The adaptation methods and costs assessed in PESETA are the raising of flood dykes and the application of beach nourishment, thereby concentrating on flood and erosion risk management, respectively. It is recognised that these are only examples of possible adaptation options (representing protection options) and a range of accommodation and planned retreat options are also available and increasingly considered within coastal management (KLEIN *et al.* 2001). However, the hard flood defence option of raising dike heights is a method that is currently widely-used across Europe. The use of nourishment to reduce beach erosion is also a current, sustainable option that is commonly applied across Europe, where the use of beach fill and re-nourishment is on the increase (HANSON *et al.* 2002). While active planned retreat is an adaptation response that is not considered explicitly in the DIVA model, areas that are not protected are, by implication, areas that experience retreat. The types of adaptation considered in DIVA are normally public-funded and the coast is generally seen as a public good; hence all adaptation costs are considered to be public investments. Thus DIVA could be seen as a model that trades-off protection versus retreat (cf. FANKHAUSER 1995).

The specific adaptation assessment options used are shown in Table 2. These focus on reducing flood risk through the construction and increase in height of flood defence dikes and reducing beach erosion through nourishment (placing of additional sand onto existing beach areas). (Wetland nourishment is excluded from the study as this is not currently a common management strategy.) It is assumed that the adaptation takes place where it is economically optimum, as determined by cost-benefit analysis. Adaptation is applied after one time step (i.e. with a 5-year lag), which is stylised compared to practise, but meaningful when it is considered that adaptation is spread across a country.

Table 2. Adaptation options considered in the PESETA analysis

No Adaptation	No increase in flood defence dike heights from baseline No beach nourishment.
Adaptation – based on cost benefit analysis	Increase in flood defence dike heights. Application of beach nourishment.

The model is global in design rather than Europe focussed and factors such as the costs of dike construction and beach nourishment vary between countries. As part of PESETA, beach nourishment costs have been updated using data from a variety of sources within Europe. Standard costs for beach nourishment within DIVA (set at default values of 1995 US$5, 6, 9 per m^3, for plentiful, medium and low conditions of sediment supply respectively) appear too low for the costs experienced within Europe. NICHOLLS *et al* (1995) found through a survey of present and projected unit beach fill costs, that the costs of beach fill sand to be 1995 US$ /m^3, based on assumption of locally-available supplies of suitable sand. However, this price is sensitive to the availability of sand and rises rapidly due to transport distance between borrow and nourishment sites; volume and sand properties. For example, in the UK, costs are low as £4.5 ($8.5) have been experienced where material dredged locally from a channel has been used (Harlow, *pers comm.*). In all cases there is an additional, fixed cost for example, for the mobilization of equipment and a variable cost of placement, which depends more on the volume of the beach fill (Sanchez-Arcilla, *pers comm.*).

Table 3. Summary of costs for beach nourishmentused to inform the PESETA analysis

Country	**Price per m^3 sand (1995 US$)**	**Source**
US	$5	Nicholls *et al* 1995
Netherlands	$6 - 7	Nicholls *et al* 1995
Netherlands	$7.6 - 11.4	Stive, *pers comm*
Spain	$5.1 - 10.2	Sanchez-Arcilla, *pers comm*
UK	$22.8	MAFF/Defra, 1999

With consideration of the costs identified in Table 3, it was concluded that 1995 US$5/m^3 represents a reasonable minimum cost where sand is plentiful and for this assessment Europe-specific beach nourishment costs were entered as US$5/m^3 for areas of plentiful sand, a mid-range figure of US$10/m^3, and a low supply area figure of US$15/m^3.

National dike costs are taken from Hoozemans *et al* (1993) updated to 1995 values. These are based on thhe international experience of Delft Hydraulics.

Other costs are also calculated within DIVA, including those related to increased river flooding in the lower reaches of rivers subject to the influence of sea level and the construction of river dikes. However, these are only a minimal portion of total damage and adaptation costs and, although included as part of total damages are not considered in depth here.

The costs of the two adaptation options (increase in flood defence heights and beach nourishment) were not considered to change over the timescale of the assessment, based on the reasonable assumption that these technologies are mature. DIVA produces economic results in 1995 US dollars, and in order to make the results European relevant the costs of damages and adaptation have been converted to millions of Euros per year (conversion using the International Monetary Fund currency archive from the IMF website - http://www.imf.org/external/np/fin/rates/param_rms_mth.cfm).

2.4. Uncertainties

There are many sources of uncertainty that should be considered when interpreting the results of this type of analysis. As the impacts are highly dependent on the magnitude of sea-level rise, the widely recognised uncertainties regarding climate models and the prediction of sea-level rise should be taken into account (e.g. NICHOLLS and LOWE 2004). The high and low impacts based on the IPCC scenarios give the likely range of this effect. In addition, while DIVA has greatly improved spatial resolution compared to earlier analyses, availability and quality of coastal data at the European scale still presents some problems. The scale of the analysis based on the coastal segments remains quite coarse as the response for a given segment is unlikely to be uniform. Secondly, single adaptation options are a caricature of

adaptation as a wider variety and combination of measures are potentially available. However, the two adaptation approaches used within this analysis are well understood options and provide a meaningful sense of how adaptation could influence impacts and the costs. Thirdly, how land use will evolve to the year 2085 is not considered in this assessment (it is assumed that the current coastal land use pattern is maintained with new coastal residents and infrastructure inflating the current pattern). Given the growing concentration of human assets in the coastal zone, agricultural land may not be available in coastal areas and the monetary value of land loss may be much higher than estimated by DIVA

The cost of adaptation is also uncertain. It is assumed that dikes are a mature technology and so prices will rise with inflation. However, a large demand for dikes may impact on prices via the availability of the materials, plant and expertise required to build them. Similarly, for beach nourishment limited sand resources, or a potential demand for sand resources exceeding existing supply and limited experience with the application of beach nourishment could all cause a rise in nourishment costs that is not considered here. A more systematic assessment of dike and nourishment costs through the 21st Century under different demand scenarios would benefit future coastal analyses.

While beyond the scope of the PESETA analysis, in the future a sensitivity analysis of DIVA would be prudent.

3. Physical Impact Assessment Results

The results of the coastal systems physical impact assessment are presented in Appendix C as EU level aggregated results. The results for individual European countries, all parameters and each scenario are given in Appendix C. Each of the sea-level rise scenarios in Table 1 were investigated for each SRES storyline. The IPCC high value in conjunction with a 'no sea-level rise' scenario cover the range of results that can be expected over the timescales modelled and represent the significant uncertainty in future sea-level rise predictions (even if the greenhouse gas emissions are known). The foremost physical impacts modelled within DIVA and discussed here are:

- land loss due to submergence (area with a flood return period of 1 in 1 year) and erosion,
- wetland loss,
- change in average flood protection level
- number of people actually flooded each year

It is apparent from the results that impacts are generally higher for the A2 storyline for all models. This is due to both the higher rates of sea-level rise (Table 1, Figure 4) and the larger increase in population used within this storyline. It is also clear that adaptation has a significant impact of the results for each parameter under investigation.

Without adaptation, land loss due to both submergence and erosion increases over time and is higher for an increased rate of sea-level rise (Figure 5). These losses are substantially reduced with cost-benefit adaptation (see Appendix B Tables 1 –18) with annual land loss due to submergence potentially being reduced by two or three orders of magnitude (2080s, high sea-level rise, both A2 and B2). Annual land loss due to erosion is notably less than submergence, but is still observed to decrease with adaptation. Wetland losses also increase with higher rates of sea-level rise and over time (Figure 6).

Figure 5. ***Comparison of DIVA outputs for land loss in the EU under the A2 storyline without adaptation***

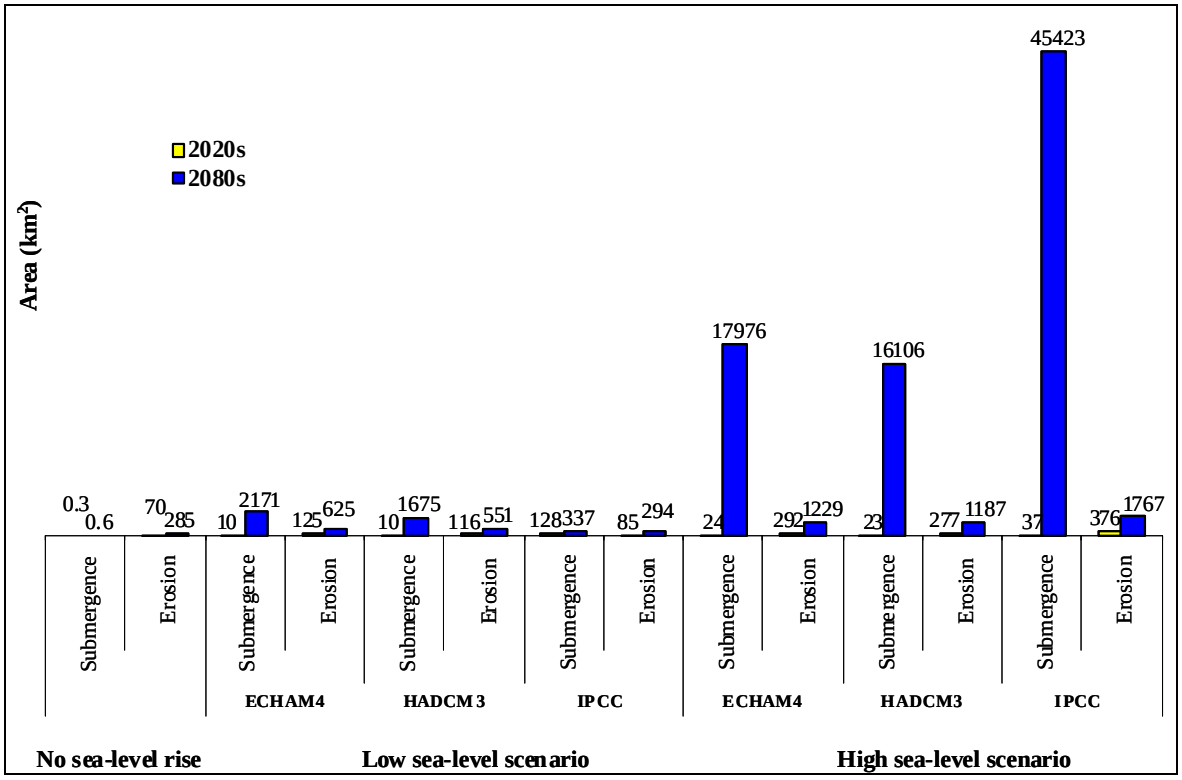


Figure 6. ***Comparison of DIVA outputs for total intertidal loss in the EU under the A2 storyline without adaptation***

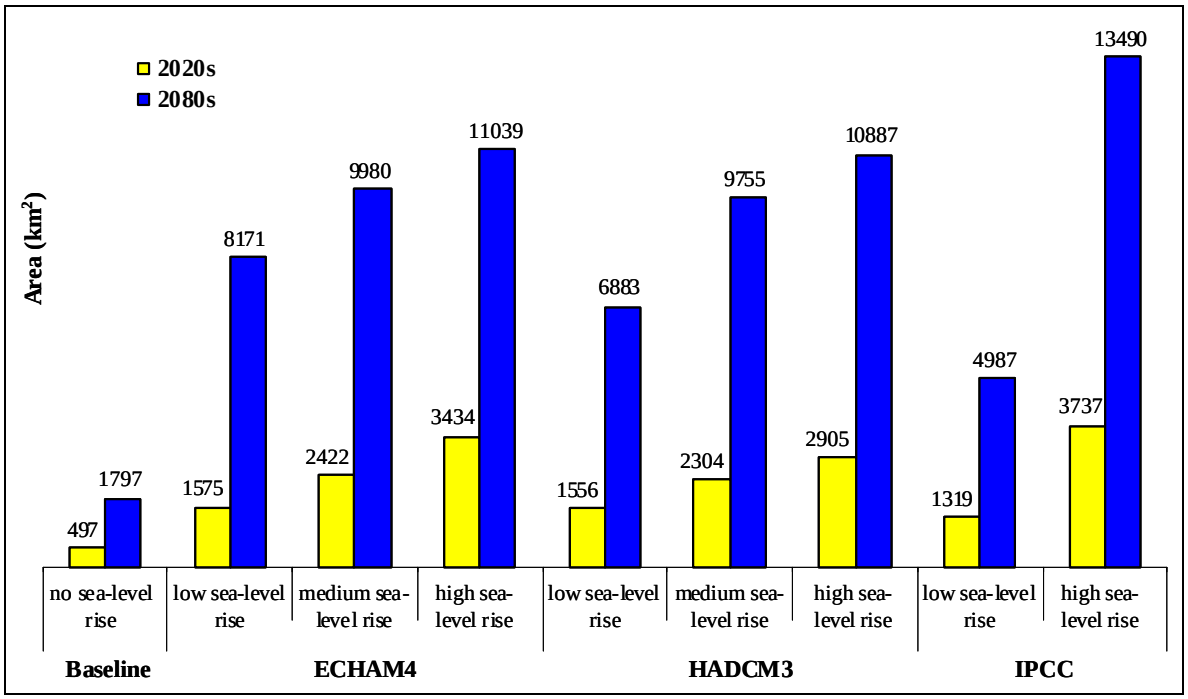
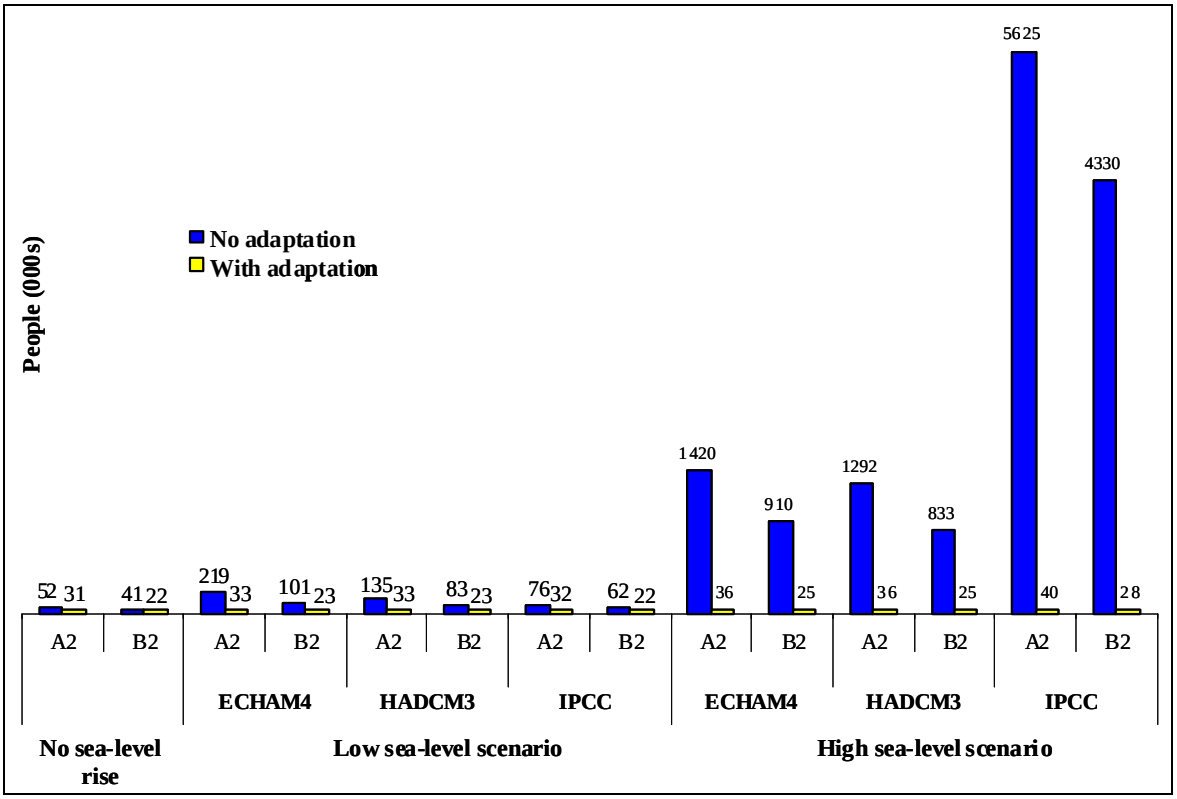


Figure 7. ***Comparison of DIVA estimates of the number of people flooded in the EU with and without adaptation by 2080s***



The number of people actually flooded also increases over time (Figures 8 a and b) and with increasing sea level (Figure 8 c) if no adaptation is undertaken. While countries with the highest numbers correspond to those with either substantial areas of coastal plain or high population figures, the increase in people flooded is largely due to the change in flood protection levels. These are reduced as sea-level rise increases over time (see Figure X) with a consequent increase in the annual numbers of people actually flooded.

Figure 7 also indicates that the magnitude of sea-level rise also has a large impact on the numbers of people flooded. Under the A2 scenario (Figure 8c) increases in the numbers of people flooded per year can be seen for large areas of Greece and Latvia when compared to the B2 scenario (Figure 8b). Also, the A2 (ECHAM4) low sea-level rise scenario for the 2080s results in 2.2 x 10^5 people flooded per year, whereas high sea-level rise results in 1.4 x 10^6 people flooded per year.

However, when adaptation is taken into account, the numbers of people flooded are significantly reduced and are relatively consistent across the sea-level scenarios (Figure 8c). Average protection levels increase over time under both the A2 and B2 storylines. Under the A2 scenario with adaptation, the number of people actually flooded remains relatively stable

over time as increased protection is offset by increasing coastal population (i.e. exposure). Under a B2 scenario including adaptation, the number of people flooded falls as the population is similar for the 2020s and 2080s, having peaked in the 2050s and subsequently fallen (ARNELL *et al.* 2004).

Figure 8a. ***Baseline results for people actually flooded (thousands/year) across Europe***

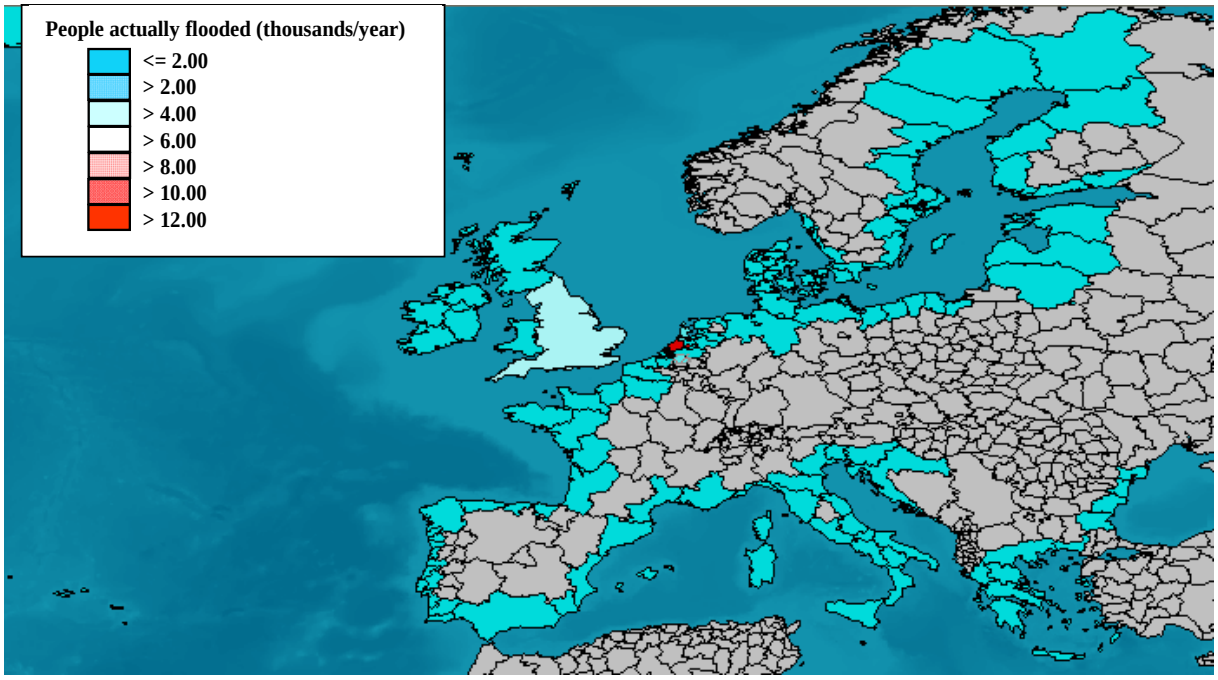


Figure 8b. ***People actually flooded (thousands/year) across Europe, for the B2 scenario, 2080s (ECHAM4), without adaptation***

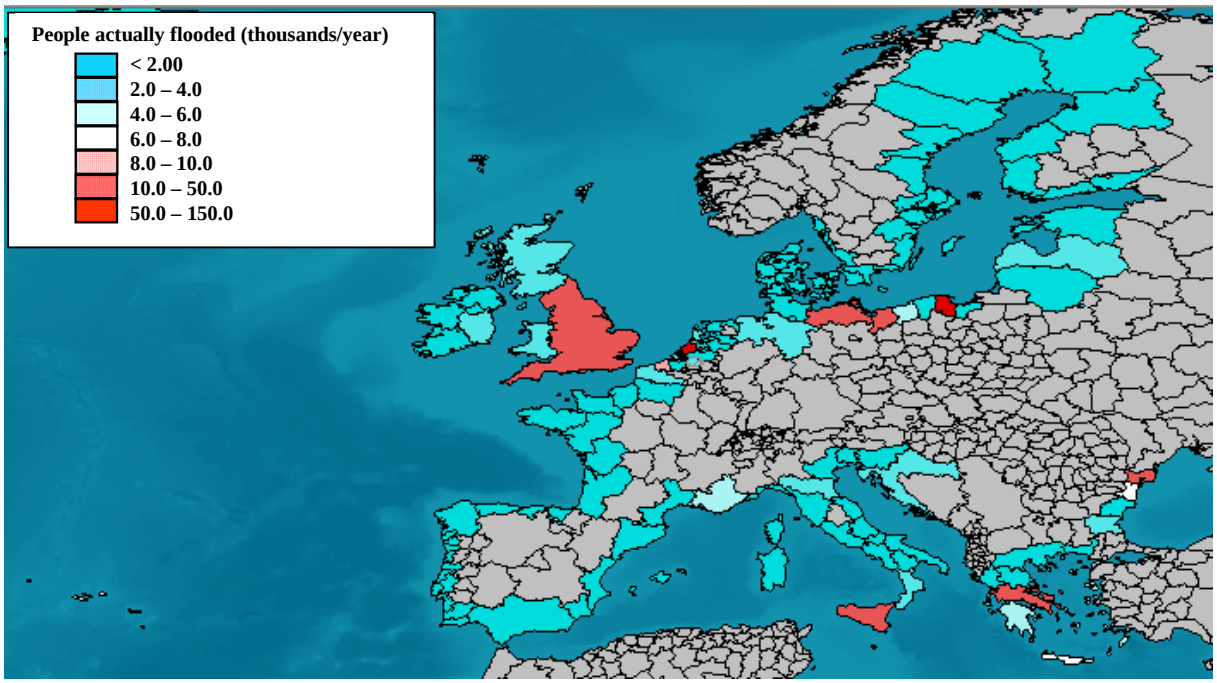
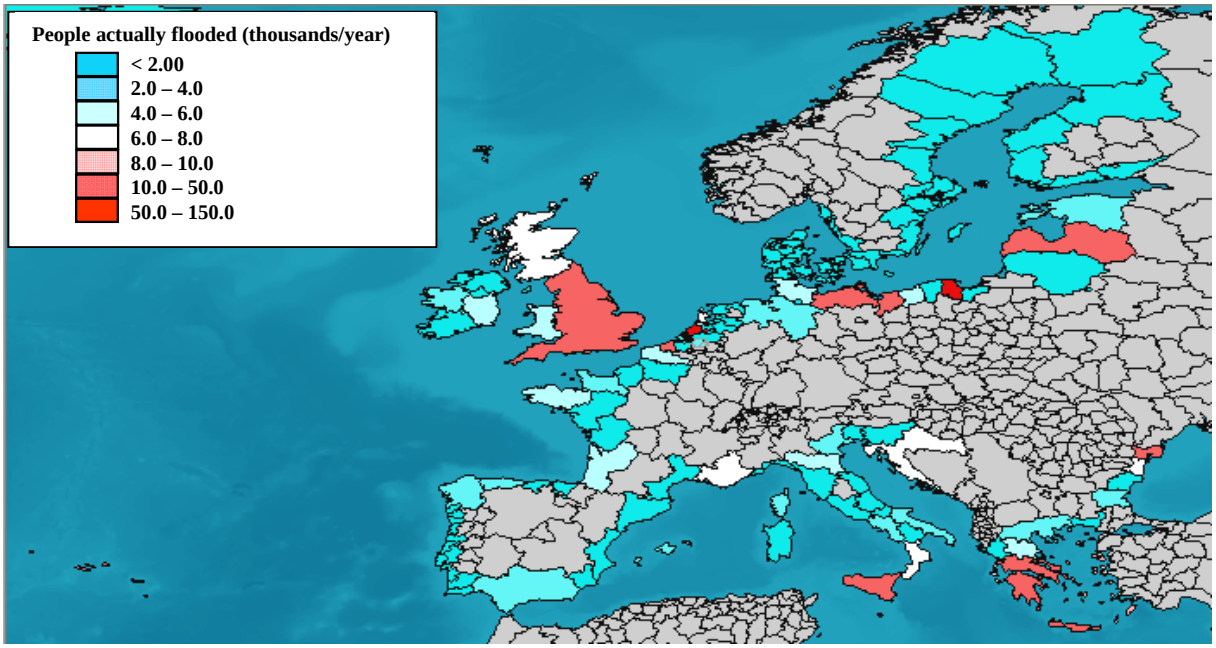


Figure 8c. ***People actually flooded (thousands/year) across Europe, for the A2 scenario, 2080s (ECHAM4), without adaptation***



4. Economic Impact Assessment Results

Tabular results of the economic impact assessment carried out using the DIVA Costing and Adaptation module can be found in Appendix C with national results for the 22 European Union countries in Appendix D.

The economic costs are based on a number of parameters, including population and GDP/capita and have been divided into three main categories;

- total residual damage costs (sea flood costs, salinity intrusion costs and migration costs, where migration is due to both submergence and erosion),
- adaptation costs (sea dike costs and beach nourishment costs), and
- net benefit of adaptation (residual damages without adaptation minus residual damages with adaptation and adaptation costs).

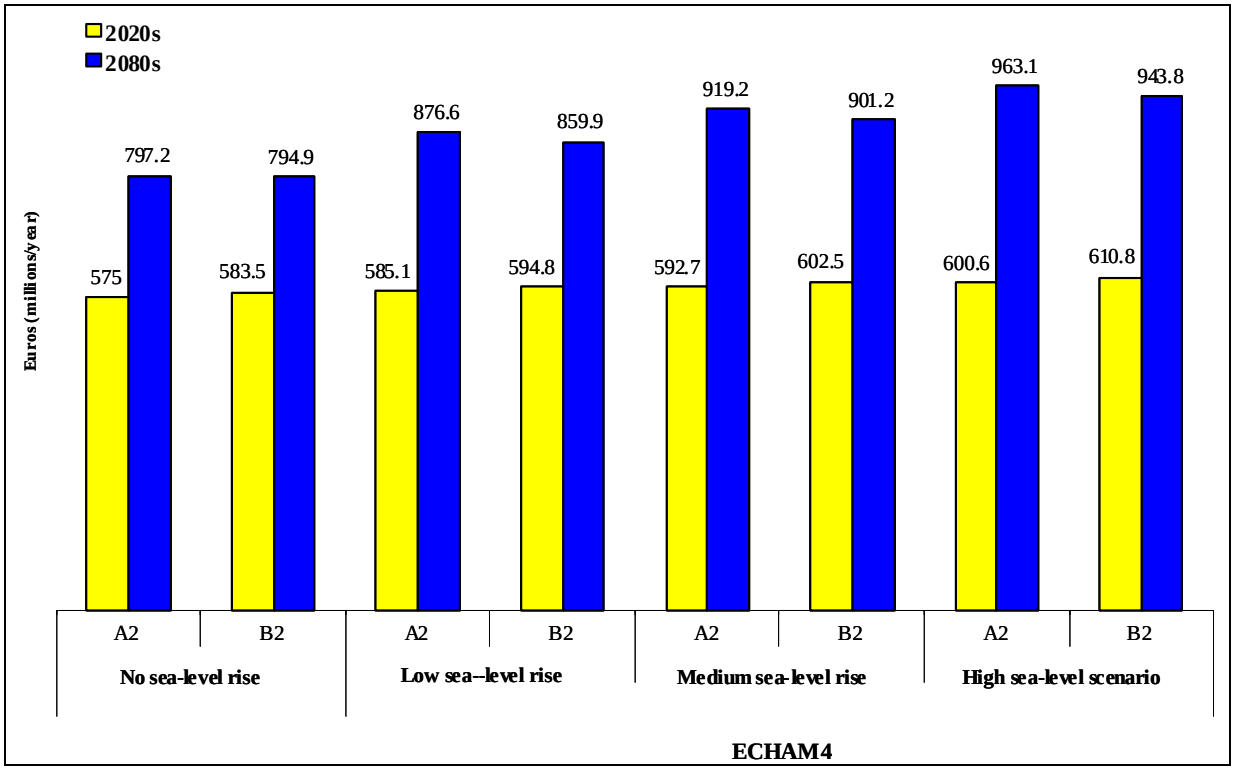
The total costs of sea-level rise under each scenario have been calculated by subtracting the costs of adaptation under the scenario without any climate change, from the costs of adaptation under each sea-level rise scenario (Table 4). The costs increase over time from the 2020s to the 2080s, with increasing sea-level rise, and range from about €0 million/year in the 2020s under the lowest sea-level rise scenario, to about €2.3 billion/year by the 2080s under the highest scenario.

Table 4. ***Annual Costs of Sea-Level Rise in the EU (millions €/year) (1995 values)***

Sea-Level Rise Scenario	A2		B2	
	2020s	2080s	2020s	2080s
IPCC Low	41.4	-8.9	41.5	-11.8
IPCC High	803.8	2319.5	806.8	2349.7
ECHAM4 Low	175.4	635.4	237.3	361.3
ECHAM4 Medium	356.2	1012.3	391.8	706.8
ECHAM4 High	563.5	1428.7	607.8	1051.2
HADCM3 Low	144.8	518.2	206.5	245.7
HADCM3 Medium	322.3	905.6	387	629.4
HADCM3 High	526.7	1381.5	597.8	1005.2

Salinity intrusion costs are calculated for selected rivers and deltas. As, no adaptation to salinity intrusion is included within DIVA, these costs are constant with or without adaptation measures. Salinity intrusion costs increase with sea-level rise and over time and are greater under the A2 storyline, as would be expected (Figure 9).

Figure 9. ***Annual costs of damages due to salinity intrusion costs in the EU under ECHAM4 GCM inputs***



Total residual damage costs increase over time from the baseline in 1995 to the 2080s (Figure 10). Damage costs for the high rate of sea-level rise for the 2080s are substantially higher than for a low rate of sea-level rise and both are substantially reduced if adaptation is undertaken. Costs of people migrating due to land loss through submergence and erosion are also substantially increased under a high rate of sea-level rise, assuming no adaptation, and increase over time. When benefit-cost adaptation options are included, this displacement of people becomes a minor impact, showing the important benefit of adaptation to coastal populations under rising sea levels. It is important to note that the high sea-level rise costs without adaptation shown in Figure 10 are exaggerated by IPCC sea-level values used which translate into high costs as a result of sea flooding.

Figure 10. Averaged annual total residual costs due to sea-level rise in the EU for the 2080s

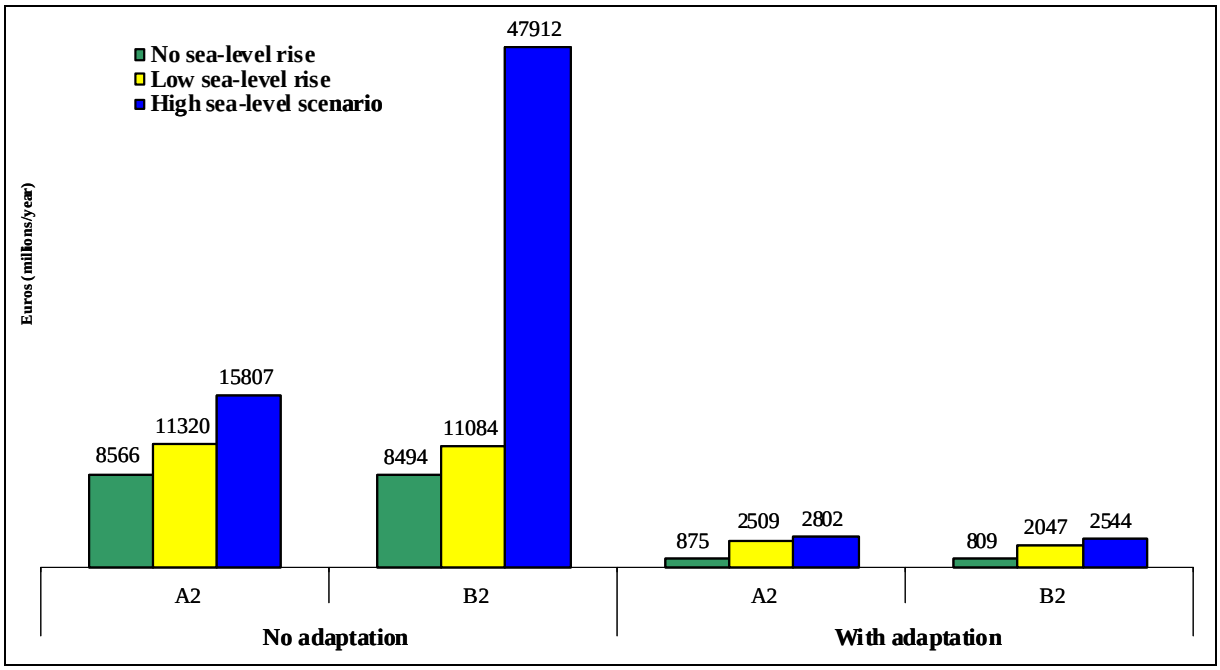
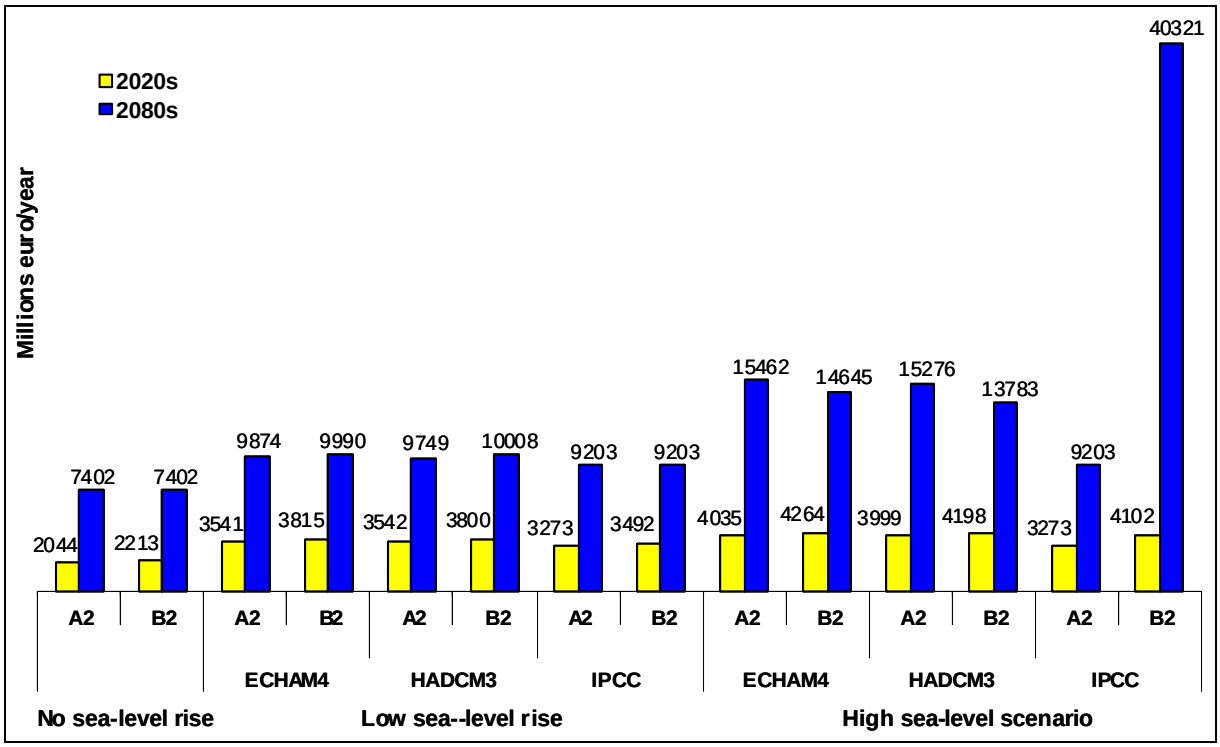


Figure 11. Net annual benefit of adaptation to sea-level rise in the EU (millions €/year)



Although adaptation costs increase over time, this analysis suggests that the net benefits of adaptation are substantial even in the 2020s (Figure 11 and tables in Appendix D).

5. Discussion and Conclusions

This analysis has provided the first quantitative assessment of the impacts of sea-level rise for Europe, including the benefits of adaptation, and costings. As such it is a substantial improvement over earlier assessments of Europe which had to be more qualitative in nature (KUNDZEWICZ *et al.* 2001; NICHOLLS 2000). The results show that while Europe is potentially highly threatened by sea-level rise, adaptation (in the form of the two protection options considered) can greatly reduce these impacts to levels which appear manageable. Importantly, there are almost immediate benefits of such adaptation, and this analysis suggests that widespread adaptation to sea-level rise across Europe would be prudent.

While the adaptation options considered in DIVA are realistic they are not comprehensive, and the PESETA analysis should not be seen to endorse these approaches. For example, there is increasing interest in combining hard protection with other, more sustainable techniques, such as the creation of flood storage areas and selective managed realignment. Systematic retreat of the coastline could be applied to flood and erosion risk areas and also as an adaptation to increasing pressure on wetlands from development and sea-level rise.

From both the physical and economic impact results, it can clearly be seen that adaptation significantly reduces total residual damage costs over time, and by the 2080s under all climate and socio-economic scenarios, the net benefit of adaptation increases substantially, indicating that adaptation reduces total costs by several times over. Importantly, while the results without adaptation show the large impact potentially, the results suggest that realistic levels of adaptation will avoid widespread human impacts, including worst case coastal abandonment, which is possible without adaptation. Hence, the results show the importance in Europe of considering adaptation when assessing the effects of climate change in coastal areas through the 21st Century and beyond.

However, ecosystem losses are not avoided as illustrated earlier and this represents a major challenge for the response to climate change in Europe as discussed by Nicholls and Klein (2005), among others. Finding an appropriate balance between protection of human use of the coast (as adaptation means in this DIVA analysis) and making space for coastal wetlands (by retreat), and/or developing new methods for widespread nourishing of wetlands in situ (as a new method of conservation) represents a strategic challenge for coastal management at the European scale. This has important implications for the EU Habitat and Bird Directives and is being addressed as an issue in the EU-funded BRANCH project (www.thebranchproject.org.uk). Further European scale analyses, combine with selected, detailed case studies could shed much more insight on these issues.

It is apparent from the results for both storylines and across the different rates of sea-level rise, that the adoption of adaptation measures reduces the damage costs related to both sea flooding and migration significantly.

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Appendix A. Data and Parameters for Scenarios and Cost-Benefit Analysis methodology (adapted from Tol, 2005).

Data and parameters

1. Income per capita

Currently the income per capita data within DIVA is from the IMAGE2.2 17 region implementation of SRES scenarios (IMAGE Team, 2002). The regional growth rates are assumed to apply homogeneously to the countries within the region, with the exception of rich countries in poor regions, the exception is valid for Hong Kong, Singapore, Macau, Taiwan and several Caribbean countries.

2. Gini coefficient

This measures income inequality; the lower the number, the more equal the distribution of income. Gini coefficients for various countries are taken from the WRI Database (WRI, 2002). The Gini coefficient ranges from 0 to 100, with larger values denoting greater inequality.

3. Literacy

Literacy is a standard indicator for the level of education. The percentages of literate people for various countries are taken from the WRI Database (WRI, 2002).

4. Corruption

The corruption index for various countries is taken from Kaufmann *et al*. (1999). The index ranges from -2.5 to 5.5, with lower values denoting more corruption.

5. Democracy

The democracy index for various countries is taken fom the Polity IV project (Marshall & Jaggers, 2003). The index ranges from 0 to 10, with higher values denoting more democracy, that is, a higher involvement of the population in decision-making.

6. Economic freedom

The index of economic freedom for various countries is taken from the Heritage Foundation (2003). It measures the extent to which the government regulates the market. The index ranges from 1 to 5, with higher values denoting less freedom.

For parameters 3 to 7, the elasticity for each parameter is used to extrapolate current value to future value.

7. Land use

Land sue scenarios were taken from the IMAGE Team (2002). The scenarios give dominant land use in a 0.5 x 0.5 degree grid. From this, the dominant land use in a coastal segment was derived.

Cost-Benefit Analysis Methodology

The cost-benefit analysis is carried out within the costing and adaptation module with the DIVA model, and this assesses the costs of sea-level rise to society and the reaction of society to sea-level rise.

1. Costs:

The value of drylands occupied by humans is assumed to be the agricultural land value, as it is assumed that agricultural land has the lowest value of managed lands and that this land will be lost first. If land for housing or industry is to be permanently inundated, it is assumed that the area lost will be replaced through the use of agricultural land.

Sea flood damages are calculated using the flooded area, the maximum flood depth and the probability of the flood occurring. The costs are calculated linearly along the coast, for each coastal segment.

River flood damages use the same parameters as for sea floods, however, the length of backwater effect up the river is used, rather than length of coast.

Salinisation through intrusion of salt into the ground or surface water used for agriculture, can reduce the yield, and increase costs of agricultural production, (DIVA assumes that halophytes are a saturated niche market) and therefore a decrease in the value of the land. It is assumed that saline agricultural land is half as valuable as is non-saline land.

Migration costs are related to the number of people forced to migrate, calculated from the coastal area permanently flooded times the population density of that area. The value per migrant is three times the per capita income of the country of origin.

2. Adaptation costs:

The standard of coastal protection can be defined as the design return period of protection measures. The benefits of protection depend on the per capita income. The costs depend on the surge height (which determines the requirement for dike height) as well as per capita income and sea-level rise. Optimal protection results from equating marginal costs and benefits. National dike building costs are taken from Hoozemans et al. (1993). Eight cultural and socio-economic factors are also included, which affect the perceived benefits of protection, and hence form a set of indicators measuring the relative risk aversion of each country. Optimal protection is a function of the indicators of relative risk aversion and coastal protection (determined by return period height). The cultural and socio-economic factors which determine risk are per capita income, Gini coefficient, democracy, corruption, economic freedom and literacy (see Appendix B). Other variables (e.g. religion, political stability) were found to be insignificant, in terms of predicting risk aversion.

Sea flood dikes are constructed along the entire coast of the coastal segment. Height of river flood dikes is determined by the requirement to incorporate the backwater effect of the interaction of rivers and the sea. The effect is stronger at the mouth of the river than further inland, and the module assumes rivers have a linear slope, indicating that the increase in river flood height falls linearly. River dikes are built along the length of the river influenced by backwater effect (due to sea-level rise).

Nourishment requirements are calculated using the Bruun Rule, modified to include beach nourishment. The rule states that erosion is a linear function of sea-level rise and beach nourishment and implies that the marginal benefits of beach nourishment are constant; for each cubic metre of additional sand supply the same additional amount of land area is protected from erosion. Land value is assumed to be constant, and the costs of beach nourishment are linear with the amount of sand supply. If the cost (per cubic metre of sand) of beach nourishment is greater than the marginal benefit (i.e. the value of the land protected from erosion per cubic metre of sand supplied), there will be no nourishment. If the cost is less than the benefit, nourishment is assumed to fully offset erosion. The nourishment costs are assumed to be practically constant over time, and the costs are the same in all countries, as the technology is universal and nourishment companies are generally multinationals. However, nourishment costs depend on the availability of sand, and onshore nourishment is more expensive than foreshore nourishment.

The benefits of nourishment are determined by the presence of tourists. If there are no tourists the land value is assumed to be that of agricultural land and the cheaper underwater shore nourishment technique is used, where sand is placed in hallow water and brought onshore by waves. If tourists use the beach, the nourishment will be a more expensive beach nourishment and the land value is given by 65% of the number of tourists times 25% of the expenditure per tourist divided by the area below the 1000 year storm surge height. It is assumed that if the temperature of the hottest month is below 15ºC, there will be no beach tourism, which has implications for Europe by the 2020s and 2080s.

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Appendix B. EC Physical impacts results by SRES storyline, sea-level scenario and adaptation options

Table B1. ***EU Aggregated Results for ECHAM4 A2 Physical Impacts, Low Sea-level Rise, for the 2020s and 2080s***

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.03	10.4	124.6	1574.6	212	47.7
	2080s	0.20	2171.3	625.4	8170.5	83	219.3
Cost-Benefit Adaptation	2020s	0.03	10.4	87.5	1574.6	1047	33.1
	2080s	0.20	43.0	414.7	8170.5	1874	33.3

Table B2. ***EU Aggregated Results for ECHAM4 A2 Physical Impacts, Medium Sea-level Rise, for the 2020s and 2080s***

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.06	17.1	208.2	2422.0	181	50.1
	2080s	0.32	9723.9	931.7	9980.4	46	673.7
Cost-Benefit Adaptation	2020s	0.06	17.1	143.6	2422.0	1030	33.7
	2080s	0.32	59.9	612.2	9980.4	1782	34.7

Table B 3. ***EU Aggregated Results for ECHAM4 A2 Physical Impacts, High Sea-level Rise, for the 2020s and 2080s***

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.09	23.8	292.1	3434.0	153	54.3
	2080s	0.43	17975.5	1229.0	11039.0	29	1420.1
Cost-Benefit Adaptation	2020s	0.09	23.8	200.3	3101.4	1012	34.3
	2080s	0.43	75.5	790.4	11039.0	1700	35.9

Table 4. ***EU Aggregated Results for HADCM3 A2 Physical Impacts, Low Sea-level Rise, for the 2020s and 2080s***

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.03	9.5	116.3	1556.0	214	47.5
	2080s	0.18	1675.0	551.1	6882.8	96	134.5
Cost-Benefit Adaptation	2020s	0.03	9.5	82.3	1554.2	1049	33.1
	2080s	0.18	38.0	366.1	7526.2	1897	33.1

Table B5. ***EU Aggregated Results for HADCM3 A2 Physical Impacts, Medium Sea-level Rise, for the 2020s and 2080s***

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.06	16.1	197.6	2303.9	185	49.8
	2080s	0.30	8208.4	876.1	9754.6	51	602.1
Cost-Benefit Adaptation	2020s	0.06	16.1	136.8	2303.9	1032	33.6
	2080s	0.30	56.4	576.4	9754.6	1796.8	34.3

Table B6. ***EU Aggregated Results for HADCM3 A2 Physical Impacts, High Sea-level Rise, for the 2020s and 2080s***

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.09	22.7	277.2	2905.4	158	53.2
	2080s	0.42	16106.4	1186.8	10887.0	31	1291.6
Cost-Benefit Adaptation	2020s	0.09	22.7	190.9	2905.4	1015	34.3
	2080s	0.42	73.4	765.0	10887.0	1710	35.9

Table B7. ***EU Aggregated Results for ECHAM4 B2 Physical Impacts, Low Sea-level Rise, for the 2020s and 2080s***

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.04	10.8	130.6	1644.9	207	44.4
	2080s	0.16	3002.6	516.1	7209.5	103	101.1
Cost-Benefit Adaptation	2020s	0.04	10.8	91.1	1644.9	1167	30.4
	2080s	0.16	34.5	336.7	7209.5	2668	23.1

Table B8. ***EU Aggregated Results for ECHAM4 B2 Physical Impacts, Medium Sea-level Rise, for the 2020s and 2080s***

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.07	17.9	217.3	2474.6	177	46.8
	2080s	0.28	6274.6	821.1	9432.9	56	404.9
Cost-Benefit Adaptation	2020s	0.07	17.9	148.9	2472.6	1148	30.8
	2080s	0.28	51.2	535.4	9432.9	2550	24.0

Table B9. ***EU Aggregated Results for ECHAM4 B2 Physical Impacts, High Sea-level Rise, for the 2020s and 2080s***

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.10	24.9	304.0	3247.4	149	50.7
	2080s	0.39	12980.4	1114.7	10851.9	34	909.7
Cost-Benefit Adaptation	2020s	0.10	24.9	206.8	3247.4	1128	31.3
	2080s	0.39	66.7	719.6	10851.9	2445	24.8

Table B10. EU Aggregated Results for HADCM3 B2 Physical Impacts, Low Sea-level Rise, for the 2020s and 2080s

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.03	10.0	122.5	1601.4	210	44.5
	2080s	0.14	29.6	451.7	6286.6	117	83.2
Cost-Benefit Adaptation	2020s	0.03	10.0	85.5	1601.4	1169	30.2
	2080s	0.14	29.6	296.3	6286.6	2696	22.9

Table B11. EU Aggregated Results for HADCM3 B2 Physical Impacts, Medium Sea-level Rise, for the 2020s and 2080s

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.06	16.9	207.4	2431.4	180	46.7
	2080s	0.26	3870.6	772.0	9092.8	61	386.5
Cost-Benefit Adaptation	2020s	0.06	16.9	142.2	2431.4	1150	30.7
	2080s	0.26	48.1	503.9	9092.8	2568	23.8

Table B12. EU Aggregated Results for HADCM3 B2 Physical Impacts, High Sea-level Rise, for the 2020s and 2080s

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.09	24.0	291.0	3114.8	153	50.5
	2080s	0.38	11939.7	1075.1	10687.5	36	833.1
Cost-Benefit Adaptation	2020s	0.09	24.0	198.9	3114.8	1131	31.3
	2080s	0.38	64.7	696.5	10687.5	2458	24.7

Table B13. EU Aggregated Results for IPCC A2 Physical Impacts, Lowest Sea-level Rise, for the 2020s and 2080s

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.02	128.4	84.8	1318.6	231	45.7
	2080s	0.06	336.6	293.9	4987.2	177	76.4
Cost-Benefit Adaptation	2020s	0.02	128.4	64.5	1318.6	1057	32.7
	2080s	0.06	336.6	218.9	4987.2	2007	31.5

Table B14. EU Aggregated Results for IPCC A2 Physical Impacts, Highest Sea-level Rise, for the 2020s and 2080s

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.12	37.3	375.7	3736.5	131	57.5
	2080s	0.67	45423.2	1766.6	13489.6	10	5624.9
Cost-Benefit Adaptation	2020s	0.12	31.9	256.5	3736.5	997	35.5
	2080s	0.67	105.5	1137.1	13489.6	1561	39.6

Table B15. EU Aggregated Results for IPCC B2 Physical Impacts, Lowest Sea-level Rise, for the 2020s and 2080s

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.02	128.4	84.8	1317.3	230	42.5
	2080s	0.06	336.6	293.9	4987.2	177	61.5
Cost-Benefit Adaptation	2020s	0.02	128.4	64.5	1317.3	1181	29.7
	2080s	0.06	336.6	218	4987.2	2787	22.4

Table B16. EU Aggregated Results for IPCC B2 Physical Impacts, Highest Sea-level Rise, for the 2020s and 2080s

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0.12	37.3	375.7	3736.5	131	53.5
	2080s	0.67	45423.2	1766.6	13489.6	10	4330.4
Cost-Benefit Adaptation	2020s	0.12	31.9	256.3	3736.5	1115	31.8
	2080s	0.67	105.5	1134.5	13489.6	2211	28.0

Table B17. EU Aggregated Results for A2 Physical Impacts, No Sea-level Rise, for the 2020s and 2080s

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0	0.3	70.1	497.2	250	44.3
	2080s	-0.02	0.6	285.1	1796.8	242	52.3
Cost-Benefit Adaptation	2020s	0	0.3	56.5	497.2	1069	32.4
	2080s	-0.02	0.6	207.5	1796.8	2080	30.7

Table B18. EU Aggregated Results for B2 Physical Impacts, No Sea-level Rise, for the 2020s and 2080s

Adaptation Scenario	Timeslice	Relative Sea-level Rise (m) for Europe	Land loss submergence (km^2 from baseline)	Land loss erosion (km^2 from baseline)	Net loss of wetland (km^2 from baseline)	Average flood protection level (return period in years)	People actually flooded (thousands per year)
Baseline	1995	0	0	0.41	0	253	35.7
No Adaptation	2020s	0	0.3	70.1	497.2	250	41.3
	2080s	-0.02	0.6	285.1	1796.8	242	40.7
Cost-Benefit Adaptation	2020s	0	0.3	56.5	497.2	1194	29.2
	2080s	-0.02	0.6	203.5	1796.8	2872	21.9

Appendix C. EC Economic impacts results by SRES storyline, sea-level scenario and adaptation options

Table C1. ***EU Aggregated Results for ECHAM4 A2 Economic Impacts, Low Sea-level Rise (millions €/year) (1995 values)***

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**5369.2**	4779.1	585.1	0	**0**	0	-
Adaptation	2080s	**11917.7**	10844.3	876.6	173.7	**0**	0	-
Cost-Benefit	2020s	**1442.8**	856.0	585.1	0	**385.0**	268.9	**3541.4**
Adaptation	2080s	**1120.3**	238.2	876.6	2.1	**923.7**	497.3	**9873.7**

Table C2. ***EU Aggregated Results for ECHAM4 A2 Economic Impacts, Medium Sea-level Rise (millions €/year) (1995 values)***

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**5966.5**	5376.8	592.7	0	**0**	0	-
Adaptation	2080s	**13796.3**	12176.6	919.2	668.3	**0**	0	-
Cost-Benefit	2020s	**1539.3**	944.3	592.7	0	**565.8**	367.6	**3861.4**
Adaptation	2080s	**1275.7**	341.0	919.2	10.7	**1300.6**	680.4	**11220.0**

Table C3. ***EU Aggregated Results for ECHAM4 A2 Economic Impacts, High Sea-level Rise (millions €/year) (1995 values)***

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**6439.7**	5831.7	600.6	0	**0**	0	-
Adaptation	2080s	**18632.3**	14791.9	963.1	2834.8	**0**	0	-
Cost-Benefit	2020s	**1631.2**	1027.8	600.6	0	**773.1**	487.6	**4035.4**
Adaptation	2080s	**1453.5**	472.0	963.1	12.8	**1717.0**	847.8	**15461.8**

Table C4. ***EU Aggregated Results for HADCM3 A2 Economic Impacts, Low Sea-level Rise (millions €/year) (1995 values)***

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**5322.0**	4732.6	584.6	0	**0**	0	-
Adaptation	2080s	**11635.6**	10740.6	867.1	6.9	**0**	0	-
Cost-Benefit	2020s	**1425.3**	839.1	584.6	0	**354.4**	249.7	**3542.3**
Adaptation	2080s	**1080.3**	208.1	867.1	2.1	**806.5**	436.5	**9748.8**

Table C5. ***EU Aggregated Results for HADCM3 A2 Economic Impacts, Medium Sea-level Rise (millions €/year) (1995 values)***

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	**-**
No	2020s	**5899.5**	5302.0	591.7	0	**0**	0	**-**
Adaptation	2080s	**13156.8**	11814.9	911.7	399.9	**0**	0	**-**
Cost-Benefit	2020s	**1521.2**	927.4	591.7	0	**531.9**	347.7	**3846.4**
Adaptation	2080s	**1236.1**	309.4	911.7	10.7	**1193.9**	619.8	**10726.8**

Table C6. ***EU Aggregated Results for HADCM3 A2 Economic Impacts, High Sea-level Rise (millions €/year) (1995 values)***

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	**-**
No	2020s	**6287.0**	5680.8	599.0	0	**0**	0	**-**
Adaptation	2080s	**18380.4**	14354.0	957.3	3027.9	**0**	0	**-**
Cost-Benefit	2020s	**1552.0**	950.3	599.0	0	**736.3**	46704	**3998.7**
Adaptation	2080s	**1434.3**	458.8	957.3	12.8	**1669.8**	826.1	**15276.3**

Table C7. ***EU Aggregated Results for ECHAM4 B2 Economic Impacts, Low Sea-level Rise (millions €/year) (1995 values)***

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	**-**
No	2020s	**5625.7**	5025.4	594.8	0	**0**	0	**-**
Adaptation	2080s	**11525.8**	10604.3	859.9	42.5	**0**	0	**-**
Cost-Benefit	2020s	**1310.0**	713.5	594.8	0	**500.4**	360.7	**3815.3**
Adaptation	2080s	**891.5**	26.8	859.9	2.5	**644.5**	328.5	**9989.8**

Table C8. ***EU Aggregated Results for ECHAM4 B2 Economic Impacts, Medium Sea-level Rise (millions €/year) (1995 values)***

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	**-**
No	2020s	**6171.2**	5562.3	602.5	0	**0**	0	**-**
Adaptation	2080s	**12532.4**	11346.3	901.2	257.5	**0**	0	**-**
Cost-Benefit	2020s	**1402.6**	798.1	602.5	0	**654.9**	440.8	**4113.7**
Adaptation	2080s	**960.0**	44.3	901.2	11.1	**990.0**	490.0	**10582.4**

Table C9. ***EU Aggregated Results for ECHAM4 B2 Economic Impacts, High Sea-level Rise (millions €/year) (1995 values)***

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	**-**
No	2020s	**6664.4**	6045.8	610.8	0	**0**	0	**-**
Adaptation	2080s	**17020.0**	13581.0	943.8	2458.3	**0**	0	**-**
Cost-Benefit	2020s	**1530.0**	916.6	610.8	0	**870.9**	561.2	**4263.5**
Adaptation	2080s	**1040.4**	78.6	943.8	13.6	**1334.4**	633.4	**14645.2**

Table C10. EU Aggregated Results for HADCM3 B2 Economic Impacts, Low Sea-level Rise (millions €/year) (1995 values)

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**5562.9**	4963.4	594.3	0	**0**	0	-
Adaptation	2080s	**11411.9**	10540.4	851.1	3.0	**0**	0	-
Cost-Benefit	2020s	**1293.3**	697.4	594.3	0	**469.6**	341.5	**3800.0**
Adaptation	2080s	**875.2**	22.2	851.1	0	**528.9**	268.9	**10007.8**

Table C11. EU Aggregated Results for HADCM3 B2 Economic Impacts, Medium Sea-level Rise (millions €/year) (1995 values)

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**6137.5**	5529.4	601.8	0	**0**	0	-
Adaptation	2080s	**12246.0**	11083.7	894.5	241.8	**0**	0	-
Cost-Benefit	2020s	**1400.3**	796.5	601.8	0	**650.1**	440.8	**4087.1**
Adaptation	2080s	**939.2**	39.0	894.5	2.5	**912.6**	449.5	**10394.2**

Table C12. EU Aggregated Results for HADCM3 B2 Economic Impacts, High Sea-level Rise (millions €/year) (1995 values)

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**6585.1**	5968.0	609.5	0	**0**	0	-
Adaptation	2080s	**16097.3**	13257.3	938.5	27.6	**0**	0	-
Cost-Benefit	2020s	**1526.1**	914.0	609.5	0	**860.9**	560.9	**4198.1**
Adaptation	2080s	**1026.3**	72.5	938.5	11.5	**1288.4**	612.9	**13782.6**

Table C13. EU Aggregated Results for IPCC A2 Economic Impacts, Lowest Sea-level Rise (millions €/year) (1995 values)

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**4895.1**	4310.4	580.7	0	**0**	0	-
Adaptation	2080s	**10406.9**	9566.3	825.9	2.1	**0**	0	-
Cost-Benefit	2020s	**1371.3**	789.3	580.7	0	**251.0**	193.1	**3272.8**
Adaptation	2080s	**924.7**	95.6	825.9	2.1	**279.4**	162.3	**9202.8**

Table C14. EU Aggregated Results for IPCC A2 Economic Impacts, Highest Sea-level Rise (millions €/year) (1995 values)

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**6636.8**	6020.4	607.5	0.3	**0**	0	-
Adaptation	2080s	**44605.6**	18242.5	1053.3	25242.6	**0**	0	-
Cost-Benefit	2020s	**1727.2**	1116.1	607.5	0.2	**1013.4**	628.3	**3896.2**
Adaptation	2080s	**2241.6**	1159.3	1053.3	20.1	**2607.8**	1356.9	**39756.2**

Table C15. EU Aggregated Results for IPCC B2 Economic Impacts, Lowest Sea-level Rise (millions €/year) (1995 values)

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**5020.4**	4426.9	589.3	0	**0**	0	-
Adaptation	2080s	**10315.5**	9477.0	823.5	2.5	**0**	0	-
Cost-Benefit	2020s	**1223.6**	633.2	589.3	0	**304.6**	246.4	**3492.2**
Adaptation	2080s	**841.0**	14.0	823.5	2.5	**271.4**	153.5	**9203.1**

Table C16. EU Aggregated Results for IPCC B2 Economic Impacts, Highest Sea-level Rise (millions €/year) (1995 values)

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**6809.8**	6184.2	616.5	0.3	**0**	0	-
Adaptation	2080s	**44384.6**	18085.2	1050.2	25183.0	**0**	0	-
Cost-Benefit	2020s	**1638.3**	1017.5	616.5	0.3	**1069.9**	681.7	**4101.6**
Adaptation	2080s	**1430.5**	350.5	1050.2	21.3	**2632.9**	1348.4	**40321.2**

Table C17. EU Aggregated Results for A2 Economic Impacts, No Sea-level Rise (millions €/year) (1995 values)

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**3560.1**	2981.2	575.0	0	**0**	0	-
Adaptation	2080s	**8565.5**	7756.1	797.2	2.1	**0**	0	-
Cost-Benefit	2020s	**1306.7**	730.4	575.0	0	**209.6**	146.1	**2043.8**
Adaptation	2080s	**875.4**	75.1	797.2	2.1	**288.3**	115.2	**7401.8**

Table C18. EU Aggregated Results for B2 Economic Impacts, No Sea-level Rise (millions €/year) (1995 values)

Adaptation Scenario	Timeslice	Total residual damage costs	Sea Flood Costs	Salinity Intrusion Costs	Migration (due to land loss) costs	Adaptation Costs	Sea dike costs	Net Benefit of Adaptation
	1995	**1756.4**	1159.6	588.3	0	**0**	0	-
No	2020s	**3649.6**	3062.2	583.5	0	**0**	0	-
Adaptation	2080s	**8493.5**	7686.1	794.9	2.5	**0**	0	-
Cost-Benefit	2020s	**1174.2**	589.6	583.5	0	**263.1**	199.4	**2213.2**
Adaptation	2080s	**808.8**	10.4	794.9	2.5	**283.2**	106.2	**7401.5**

Appendix D. National Results by SRES storyline, sea-level scenario and adaptation options.

List of Tables

Table D1. Baseline (1995) results by country

Locations	Parameters																		
	Total adaptation costs	Beach nourishment costs	Length of the coast	Total residual damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average protection level	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood Costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	thousands/ year	km^2	thousands	year	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	348.7	0.01	0	0.02	0	0	6.3	3.44	6602.51	2757.23	303	0.01	0.00	0	348.6	476.1
Bulgaria	0	0	326.3	0.1	0.00	0	0.00	0	0	0.0	0.04	210.98	23.44	181	0.00	0.00	0	0.1	2.2
Croatia	0	0	2263.0	0.1	0.00	0	0.00	0	0	0.0	0.03	446.14	19.33	140	0.00	0.00	0	0.1	342.0
Denmark	0	0	4954.3	5.8	0.00	0	0.02	0	0	0.0	1.90	9470.65	918.64	33	0.00	0.00	0	3.6	3769.6
Estonia	0	0	1907.4	0.1	0.00	0	0.03	0	0	0.0	0.01	857.92	11.42	141	0.00	0.00	0	0.1	1026.2
Finland	0	0	3790.4	1.3	0.00	0	0.00	0	0	0.0	0.18	4570.37	251.56	386	-0.01	0.00	0	1.3	695.6
France	0	0	4655.8	253.2	0.01	0	0.04	0	0	12.4	1.96	14613.56	1918.56	265	0.00	135.85	0	117.4	3907.0
Germany	0	0	2729.6	428.1	0.02	0	0.06	0	0	0.3	2.23	21093.65	2144.55	324	0.00	274.78	0	153.3	4153.6
Greece	0	0	7809.5	2.4	0.00	0	0.00	0	0	2.0	0.31	3912.13	225.62	310	0.00	0.00	0	2.4	384.6
Ireland	0	0	3435.1	18.6	0.00	0	0.00	0	0	0.0	0.45	4557.62	519.28	272	0.00	0.00	0	18.6	250.0
Italy	0	0	5767.0	8.5	0.04	0	0.06	0	0	9.6	1.49	10679.58	1975.61	504	0.00	5.84	0	2.6	408.6
Latvia	0	0	654.7	1.1	0.00	0	0.00	0	0	0.0	0.13	594.27	117.35	153	0.00	0.00	0	1.1	30.1
Lithuania	0	0	209.1	0.1	0.00	0	0.01	0	0	0.0	0.01	65.12	8.82	85	0.00	0.00	0	0.1	44.1
Malta	0	0	75.6	0.0	0.00	0	0.00	0	0	0.0	0.02	29.39	26.12	440	0.00	0.00	0	0.0	0.0
Netherlands	0	0	2024.4	469.3	0.08	0	0.15	0	0	6.3	15.99	32430.19	18976.08	290	0.00	164.94	0	302.3	839.8
Poland	0	0	979.8	5.5	0.00	0	0.01	0	0	1.5	0.69	3373.98	329.58	116	0.00	3.59	0	1.9	93.4
Portugal	0	0	1896.0	6.2	0.00	0	0.00	0	0	0.0	0.26	1386.77	212.65	200	0.00	0.00	0	6.2	781.3
Romania	0	0	420.1	0.3	0.00	0	0.00	0	0	28.7	0.61	3580.63	89.88	89	0.00	0.00	0	0.3	2485.7
Slovenia	0	0	28.7	0.0	0.00	0	0.00	0	0	0.0	0.00	5.47	1.14	336	0.00	0.00	0	0.0	0.3
Spain	0	0	4967.8	15.3	0.00	0	0.01	0	0	0.2	0.73	2730.27	788.38	334	0.00	0.92	0	14.4	1328.0
Sweden	0	0	7076.7	2.2	0.00	0	0.00	0	0	0.0	0.39	11148.96	559.44	428	-0.01	0.00	0	2.2	917.3
United Kingdom	0	0	12458.2	189.5	0.00	0	0.00	0	0	8.5	4.85	20513.35	4917.26	245	0.00	2.32	0	183.0	4492.0

Table D2. Results by country, for the ECHAM4 A2, low sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																			
	Total adaptation costs	Beach Nourishment costs	Length of the coast	Total residual damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal Floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity Intrusion costs	Sea dike costs	Sea flood costs	Total Wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	thousands/ year	km^2	Thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	569.2	0.0	0.0	0.0	0	0	40.8	3.9	6655.3	3131.4	262	0	0.0	0.09	0.0	0	569.2	441.6
Bulgaria	0	0	326.3	0.2	0.0	0.0	0.0	0	0	0.4	0.1	219.2	25.6	132	0	0.0	0.04	0.0	0	0.2	1.7
Croatia	0	0	2263.0	0.2	0.0	0.0	0.0	0	0	61.2	0.3	456.9	21.8	101	0	0.0	0.03	0.0	0	0.2	280.8
Denmark	0	0	4954.4	13.7	0.0	0.0	0.7	0	0	100.6	0.7	9523.0	1039.2	28	0	0.0	0.02	0.0	0	13.7	2016.8
Estonia	0	0	1907.4	0.2	0.0	0.0	0.1	0	0	109.8	0.0	861.8	13.1	129	0	0.0	0.01	0.0	0	0.2	916.4
Finland	0	0	3790.4	1.8	0.0	0.0	0.0	0	0	0.9	0.2	4572.3	282.8	381	0	0.0	-0.04	0.0	0	1.8	694.7
France	0	0	4655.8	399.4	0.3	0.3	0.3	0	0	299.4	2.4	14763.1	2183.2	219	0	0.0	0.04	146.7	0	252.4	3602.6
Germany	0	0	2729.6	486.4	0.2	0.0	0.6	0	0	176.0	2.6	21239.7	2423.3	282	0	0.1	0.04	242.5	0	243.5	3977.8
Greece	0	0	7809.5	4.3	0.0	0.2	0.0	0	0	62.6	0.4	4095.8	264.5	222	0	0.0	0.04	0.0	0	4.3	324.0
Ireland	0	0	3435.1	25.1	0.0	0.0	0.0	0	0	16.0	0.5	4567.5	584.6	237	0	0.0	0.03	0.0	0	25.1	234.1
Italy	0	0	5767.0	47.2	0.3	0.0	0.3	0	0	78.9	2.7	10877.9	2266.8	403	0	0.0	0.04	6.4	0	40.5	339.3
Latvia	0	0	654.7	1.8	0.0	0.0	0.0	0	0	3.3	0.1	595.6	134.5	136	0	0.0	0.02	0.0	0	1.8	26.8
Lithuania	0	0	209.1	0.1	0.0	0.0	0.0	0	0	4.8	0.0	65.3	10.1	76	0	0.0	0.02	0.0	0	0.1	39.3
Malta	0	0	75.6	0.4	0.0	0.0	0.0	0	0	0.0	0.0	31.2	31.2	326	0	0.0	0.04	0.0	0	0.4	0.0
Netherlands	0	0	2024.4	3211.4	0.3	0.0	0.6	0	0	45.7	21.4	32474.0	21347.5	261	0	3.4	0.06	181.2	0	3026.5	800.4
Poland	0	0	979.8	9.1	0.0	0.0	0.0	0	0	23.3	4.0	3429.6	353.2	78	0	0.0	0.05	4.7	0	4.5	71.6
Portugal	0	0	1896.0	8.4	0.0	0.0	0.1	0	0	49.7	0.3	1397.4	240.5	157	0	0.0	0.03	0.0	0	8.4	731.6
Romania	0	0	420.1	0.8	0.0	0.0	0.1	0	0	190.9	0.7	3811.6	97.5	56	0	0.0	0.07	0.0	0	0.8	2323.5
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.2	263	0	0.0	0.04	0.0	0	0.1	0.2
Spain	0	0	4967.8	31.6	0.0	0.0	0.1	0	0	68.1	0.9	2750.6	892.8	274	0	0.1	0.03	1.0	0	30.4	1260.0
Sweden	0	0	7076.7	2.9	0.0	0.0	0.0	0	0	2.9	0.4	11153.7	629.1	421	0	0.0	-0.03	0.0	0	2.9	914.4
United Kingdom	0	0	12458.2	554.8	0.1	0.0	0.1	0	0	239.3	5.9	20590.3	5543.1	212	0	0.0	0.03	2.6	0	552.1	3673.3

Table D3. Results by country, for the ECHAM4 A2, low sea-level rise scenario for the 2080s, with no adaptation

	Parameters																				
Locations	**Total adaptation costs**	**Beach nourishment costs**	**Length of the coast**	**Total residual damage costs**	**Land loss costs**	**Land loss (submergence)**	**Net land loss (erosion)**	**Migration (due to land loss)**	**Migration (due to land loss) costs**	**Net loss of wetland area**	**People actually flooded**	**Coastal Floodplain area**	**Coastal floodplain population**	**Average protection level**	**River dike costs**	**River flood costs**	**Relative sea-level change (since 1995)**	**Salinity intrusion costs**	**Sea dike costs**	**Sea flood costs**	**Total wetland area**
	Millions €/yr	**Millions €/yr**	**km**	**Millions €/yr**	**Millions €/yr**	**km²/yr**	**km²/yr**	**Thousands people/yr**	**Millions €/yr**	**km²**	**thousands/ year**	**km²**	**thousands**	**year**	**Millions €/yr**	**Millions €/yr**	**m**	**Millions €/yr**	**Millions €/yr**	**Millions €/yr**	**km²**
Belgium	0	0	130.2	1031.0	0.1	0.0	0.1	0.0	0	149.0	4.6	6825.9	3713.5	143	0	0.0	0.4	0	0	1030.9	333.5
Bulgaria	0	0	326.3	1.4	0.0	0.0	0.0	0.0	0	1.2	1.3	239.0	26.6	13	0	0.0	0.2	0	0	1.4	1.0
Croatia	0	0	2263.0	1.4	0.0	0.0	0.0	0.0	0	223.0	2.2	477.5	23.1	7	0	0.0	0.2	0	0	1.4	119.0
Denmark	0	0	4954.4	110.3	0.2	29.5	2.3	0.0	0	659.8	1.2	9799.0	1231.5	11	0	0.0	0.2	0	0	110.2	1457.6
Estonia	0	0	1907.4	4.8	0.1	0.0	0.8	0.0	2.1	578.9	0.2	900.8	21.3	42	0	0.0	0.1	0	0	2.7	447.3
Finland	0	0	3790.4	20.5	0.0	0.0	0.0	0.0	0	293.1	0.3	4596.6	326.5	312	0	0.0	0.0	0	0	20.5	402.5
France	0	0	4655.8	733.6	1.2	0.3	0.8	0.0	0	1266.7	9.8	15324.4	2595.0	76	0	0.5	0.2	215.1	0	516.9	2635.3
Germany	0	0	2729.6	970.5	1.1	0.0	2.1	0.0	0	1245.9	15.4	21831.1	2851.2	135	0	1.2	0.2	363.0	0	605.2	2907.9
Greece	0	0	7809.5	15.7	0.0	0.5	0.1	0.0	0	254.0	22.1	4739.1	343.7	20	0	0.0	0.2	0.0	0	15.7	132.5
Ireland	0	0	3435.1	127.6	0.0	0.0	0.1	0.0	0	65.7	2.4	4619.9	678.3	87	0	0.0	0.2	0	0	127.6	184.3
Italy	0	0	5767.0	535.9	0.7	0.0	0.7	0.0	0	290.1	10.8	11668.9	2824.0	110	0	0.2	0.2	9.8	0	525.1	128.1
Latvia	0	0	654.7	22.9	0.0	0.0	0.0	0.0	0	17.1	2.2	605.2	212.5	39	0	0.0	0.2	0	0	22.9	13.0
Lithuania	0	0	209.1	1.4	0.0	0.0	0.2	0.0	0	21.4	0.2	67.0	16.6	29	0	0.0	0.2	0	0	1.3	22.7
Malta	0	0	75.6	1.6	0.0	0.0	0.0	0.0	0	0.0	0.6	39.4	45.1	43	0	0.0	0.2	0	0	1.6	0.0
Netherlands	0	0	2024.4	6649.4	1.0	0.0	1.6	0.0	0	308.4	26.4	32632.2	24601.9	164	0	15.5	0.3	273.3	0	6359.7	537.7
Poland	0	0	979.8	175.7	0.0	11.8	0.0	5.0	138.5	68.9	78.2	3642.7	367.1	9	0	0.0	0.3	9.9	0	27.3	26.0
Portugal	0	0	1896.0	17.6	0.1	0.0	0.3	0.0	0	248.3	6.5	1449.2	285.6	39	0	0.0	0.2	0.0	0	17.5	533.0
Romania	0	0	420.1	38.2	0.0	95.0	0.3	1.2	33.2	904.0	16.2	4603.2	104.6	5	0	0.0	0.3	0	0	5.0	1610.4
Slovenia	0	0	28.7	0.3	0.0	0.0	0.0	0.0	0	0.2	0.0	5.9	1.2	45	0	0.0	0.2	0	0	0.3	0.1
Spain	0	0	4967.8	112.0	0.2	0.0	0.2	0.0	0	404.8	5.8	2839.8	1063.1	76	0	0.4	0.2	1.5	0	110.0	923.4
Sweden	0	0	7076.7	35.2	0.0	0.0	0.0	0.0	0	66.2	0.6	11208.8	728.4	329	0	0.0	0.0	0	0	35.2	851.0
United Kingdom	0	0	12458.2	1310.5	0.5	0.0	0.2	0.0	0	1103.8	12.1	20924.4	6462.8	81	0	0.1	0.2	4.0	0	1305.9	2808.8

Table D4. Results by country, for the ECHAM4 A2, medium sea-level rise scenario for the 2020s, with no adaptation

Locations	Total adaptation costs	Beach nourishment costs	Length of the coast	Total Residual damage costs	Land Loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People Actually flooded	Coastal floodplain area	Coastal floodplain population	Average protection level	River Dike costs	River Flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea Flood costs	Total wetland area
	Parameters																				
	Millions €/yr	Millions €/yr	km	millions €/yr	millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2/yr	thousands/ year	km^2/yr	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2/yr
Belgium	0	0	130.2	572.0	0.0	0.0	0.0	0	0	41.4	3.9	6672.7	3142.0	246	0	0.0	0.1	0.0	0	572.0	441.1
Bulgaria	0	0	326.3	0.2	0.0	0.0	0.0	0	0	0.5	0.1	225.2	26.4	101	0	0.0	0.1	0.0	0	0.2	1.7
Croatia	0	0	2263.0	0.3	0.0	0.0	0.0	0	0	108.2	0.3	461.0	22.2	74	0	0.0	0.1	0.0	0	0.3	233.8
Denmark	0	0	4954.4	26.0	0.5	0.0	1.2	0	0	184.1	0.8	9580.8	1046.7	24	0	0.0	0.1	0.0	0	25.6	1933.3
Estonia	0	0	1907.4	0.2	0.0	0.0	0.2	0	0	172.0	0.2	871.3	13.3	104	0	0.0	0.0	0.0	0	0.2	854.2
Finland	0	0	3790.4	4.1	0.0	0.0	0.0	0	0	78.3	0.2	4577.9	283.2	363	0	0.0	0.0	0.0	0	4.1	617.3
France	0	0	4655.8	420.5	0.2	0.4	0.5	0	0	429.9	2.5	14855.4	2187.1	189	0	0.1	0.1	149.0	0	271.3	3486.9
Germany	0	0	2729.6	497.6	0.3	0.0	1.0	0	0	346.9	2.7	21329.5	2433.5	253	0	0.2	0.1	245.5	0	251.6	3806.9
Greece	0	0	7809.5	4.5	0.0	0.3	0.0	0	0	118.7	0.4	4223.2	272.2	170	0	0.0	0.1	0.0	0	4.5	267.8
Ireland	0	0	3435.1	65.4	0.0	0.0	0.1	0	0	16.0	0.6	4577.8	585.9	202	0	0.0	0.1	0.0	0	65.3	234.1
Italy	0	0	5767.0	203.8	0.3	0.0	0.5	0	0	120.4	2.9	10978.4	2292.5	339	0	0.0	0.1	6.5	0	197.0	297.8
Latvia	0	0	654.7	1.8	0.0	0.0	0.0	0	0	5.1	0.3	597.8	135.0	109	0	0.0	0.0	0.0	0	1.8	24.9
Lithuania	0	0	209.1	0.1	0.0	0.0	0.1	0	0	7.6	0.0	65.6	10.3	64	0	0.0	0.0	0.0	0	0.1	36.5
Malta	0	0	75.6	0.5	0.0	0.0	0.0	0	0	0.0	0.0	32.5	32.4	259	0	0.0	0.1	0.0	0	0.5	0.0
Netherlands	0	0	2024.4	3390.8	0.4	0.0	0.8	0	0	93.5	21.6	32491.2	21357.2	246	0	3.8	0.1	183.4	0	3203.4	752.6
Poland	0	0	979.8	9.8	0.0	0.0	0.0	0	0	28.0	4.0	3456.5	356.2	59	0	0.0	0.1	4.7	0	5.1	66.9
Portugal	0	0	1896.0	8.6	0.0	0.0	0.1	0	0	93.7	0.6	1406.5	242.0	125	0	0.0	0.1	0.0	0	8.5	687.6
Romania	0	0	420.1	0.8	0.0	0.1	0.1	0	0	191.2	1.4	3889.8	98.5	43	0	0.0	0.1	0.0	0	0.8	2323.2
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.1	0.0	5.6	1.2	209	0	0.0	0.1	0.0	0	0.1	0.2
Spain	0	0	4967.8	47.2	0.1	0.0	0.1	0	0	128.8	1.0	2766.4	898.9	225	0	0.1	0.1	1.0	0	46.0	1199.4
Sweden	0	0	7076.7	4.6	0.0	0.0	0.0	0	0	18.5	0.5	11166.6	630.4	397	0	0.0	0.0	0.0	0	4.6	898.8
United Kingdom	0	0	12458.2	707.6	0.0	0.0	0.1	0	0	239.3	6.2	20645.7	5557.9	181	0	0.0	0.1	2.6	0	704.9	3673.3

Table D5. Results by country, for the ECHAM4 A2, medium sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																			
	Total adaptation costs	Beach nourishment costs	Length of the coast	Total Residual damage costs	Land Loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People Actually flooded	Coastal floodplain area	Coastal floodplain population	Average protection level	River Dike costs	River Flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea Flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	millions €/yr	millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2/yr	thousands/ year	km^2/yr	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2/yr
Belgium	0	0	130.2	1101.0	0.1	0.0	0.1	0.0	0	149.3	16.0	6882.7	3749.8	105	0	0.0	0.5	0.0	0	1100.9	333.1
Bulgaria	0	0	326.3	8.3	0.0	4.0	0.0	0.1	6.3	1.3	4.3	242.4	27.2	1	0	0.0	0.3	0.0	0	2.0	0.8
Croatia	0	0	2263.0	30.0	0.0	13.0	0.0	0.8	28.2	277.9	7.1	489.6	24.4	1	0	0.0	0.3	0.0	0	1.8	64.1
Denmark	0	0	4954.4	285.4	1.7	0.0	3.5	0.0	0	760.0	4.2	9999.7	1257.4	5	0	0.0	0.3	0.0	0	283.7	1357.4
Estonia	0	0	1907.4	5.6	0.1	0.0	1.3	0.0	2.1	755.9	2.4	935.4	22.2	9	0	0.0	0.3	0.0	0	3.4	270.3
Finland	0	0	3790.4	72.9	0.0	0.0	0.0	0.0	0	438.6	0.3	4626.6	328.7	250	0	0.0	0.1	0.0	0	72.9	257.0
France	0	0	4655.8	844.4	0.7	0.3	1.2	0.0	0	1599.3	33.5	15597.8	2629.8	35	0	1.0	0.3	227.9	0	614.8	2311.4
Germany	0	0	2729.6	1031.9	1.6	0.0	3.0	0.1	8.7	1429.6	26.5	22156.5	2893.8	78	0	1.9	0.3	379.6	0	640.2	2724.2
Greece	0	0	7809.5	448.9	0.0	123.3	0.1	10.5	425.4	319.8	93.2	4954.8	355.7	2	0	0.0	0.3	0.0	0	23.5	66.7
Ireland	0	0	3435.1	170.3	0.1	0.0	0.2	0.0	0	82.1	8.6	4656.4	683.8	31	0	0.0	0.3	0.0	0	170.2	168.0
Italy	0	0	5767.0	620.6	0.9	0.0	0.9	0.0	0	325.7	41.4	12101.6	2957.9	38	0	0.4	0.3	10.3	0	609.0	92.5
Latvia	0	0	654.7	27.2	0.0	0.0	0.1	0.0	0	22.3	22.1	616.2	216.0	7	0	0.0	0.3	0.0	0	27.1	7.7
Lithuania	0	0	209.1	1.8	0.1	0.0	0.3	0.0	0	29.7	0.7	68.7	17.1	9	0	0.0	0.3	0.0	0	1.7	14.4
Malta	0	0	75.6	2.6	0.0	0.0	0.0	0.0	0	0.0	5.8	43.0	49.3	2	0	0.0	0.3	0.0	0	2.6	0.0
Netherlands	0	0	2024.4	7124.3	1.3	0.0	2.2	0.1	6.2	346.3	188.1	32700.8	24646.7	126	0	20.7	0.4	285.1	0	6810.9	499.8
Poland	0	0	979.8	151.1	0.0	16.2	0.1	3.7	108.8	77.4	96.7	3747.8	378.4	1	0	0.1	0.4	10.3	0	32.0	17.5
Portugal	0	0	1896.0	76.4	0.2	13.9	0.4	2.3	53.4	303.7	29.1	1487.0	292.5	18	0	0.0	0.3	0.0	0	22.8	477.6
Romania	0	0	420.1	35.8	0.0	63.4	0.3	1.0	29.2	1059.8	23.3	4873.3	108.4	1	0	0.0	0.4	0.0	0	6.5	1454.6
Slovenia	0	0	28.7	0.4	0.0	0.0	0.0	0.0	0	0.2	0.1	6.1	1.3	4	0	0.0	0.3	0.0	0	0.4	0.1
Spain	0	0	4967.8	149.4	0.2	0.1	0.3	0.0	0	493.4	18.9	2921.0	1091.7	27	0	0.6	0.3	1.6	0	147.0	834.8
Sweden	0	0	7076.7	126.6	0.0	0.0	0.0	0.0	0	100.8	1.6	11286.4	736.2	233	0	0.0	0.1	0.0	0	126.5	816.5
United Kingdom	0	0	12458.2	1481.6	0.2	0.0	0.3	0.0	0	1407.3	49.8	21138.7	6529.7	34	0	0.3	0.3	4.4	0	1476.6	2505.3

Table D6. Results by country, for the ECHAM4 A2, high sea-level rise scenario for the 2020s, with no adaptation

	Parameters																			
Locations	**Total adaptation costs**	**Beach nourishment costs**	**Length of the coast**	**Total Residual damage costs**	**Land Loss costs**	**Land loss (submergence)**	**Net land loss (erosion)**	**Migration (due to land loss)**	**Migration (due to land loss) costs**	**Net loss of wetland area**	**People Actually flooded**	**Coastal floodplain area**	**Coastal floodplain population**	**Average protection level**	**River Dike costs**	**River Flood costs**	**Relative sea-level change (since 1995)**	**Salinity intrusion costs**	**Sea dike costs**	**Sea Flood costs**	**Total wetland area**
	Millions €/yr	**Millions €/yr**	**km**	**millions €/yr**	**millions €/yr**	**km²/yr**	**km²/yr**	**Thousands people/yr**	**Millions €/yr**	**km²/yr**	**thousands/ year**	**km²/yr**	**thousands**	**year**	**Millions €/yr**	**Millions €/yr**	**m**	**Millions €/yr**	**Millions €/yr**	**Millions €/yr**	**km²/yr**
Belgium	0	0	130.2	574.9	0.0	0.0	0.0	0	0	41.4	3.9	6690.5	3153.0	230	0	0.0	0.1	0.0	0	574.8	441.1
Bulgaria	0	0	326.3	0.3	0.0	0.0	0.0	0	0	0.5	0.4	228.9	26.6	75	0	0.0	0.1	0.0	0	0.3	1.7
Croatia	0	0	2263.0	0.3	0.0	0.0	0.0	0	0	115.8	0.3	471.3	23.6	52	0	0.0	0.1	0.0	0	0.3	226.2
Denmark	0	0	4954.4	56.4	0.7	0.0	1.9	0	0	212.5	0.9	9637.1	1054.3	20	0	0.0	0.1	0.0	0	55.7	3348.1
Estonia	0	0	1907.4	0.3	0.0	0.0	0.4	0	0	257.3	0.2	881.4	13.4	82	0	0.0	0.1	0.0	0	0.2	768.9
Finland	0	0	3790.4	10.7	0.0	0.0	0.0	0	0	135.6	0.2	4585.3	283.7	342	0	0.0	0.0	0.0	0	10.7	560.0
France	0	0	4655.8	430.0	0.3	0.5	0.7	0	0	506.9	2.6	14953.6	2210.4	161	0	0.1	0.1	151.4	0	278.3	3409.4
Germany	0	0	2729.6	573.9	0.5	0.0	1.4	0	0	411.4	2.8	21424.7	2444.2	225	0	0.3	0.1	248.6	0	324.6	3742.5
Greece	0	0	7809.5	4.8	0.0	0.4	0.0	0	0	118.7	1.5	4340.0	278.2	125	0	0.0	0.1	0.0	0	4.8	267.8
Ireland	0	0	3435.1	70.9	0.0	0.0	0.1	0	0	20.0	0.6	4588.2	587.2	169	0	0.0	0.1	0.0	0	70.9	230.0
Italy	0	0	5767.0	258.4	0.4	0.0	0.6	0	0	140.0	3.0	11085.4	2319.6	280	0	0.0	0.1	6.6	0	251.3	278.2
Latvia	0	0	654.7	1.9	0.0	0.0	0.0	0	0	7.6	1.4	600.3	135.6	85	0	0.0	0.1	0.0	0	1.9	22.5
Lithuania	0	0	209.1	0.1	0.0	0.0	0.1	0	0	11.7	0.1	65.9	10.4	53	0	0.0	0.1	0.0	0	0.1	32.4
Malta	0	0	75.6	0.5	0.0	0.0	0.0	0	0	0.0	0.0	33.7	33.7	201	0	0.0	0.1	0.0	0	0.5	0.0
Netherlands	0	0	2024.4	3621.9	0.5	0.0	1.1	0	0	101.0	21.8	32512.9	21367.9	231	0	4.1	0.1	185.5	0	3431.7	745.1
Poland	0	0	979.8	10.4	0.0	0.0	0.0	0	0	40.8	4.2	3486.5	359.4	43	0	0.0	0.1	4.8	0	5.6	54.1
Portugal	0	0	1896.0	8.8	0.0	0.0	0.2	0	0	112.5	0.8	1417.4	243.6	97	0	0.0	0.1	0.0	0	8.8	668.8
Romania	0	0	420.1	1.0	0.0	0.1	0.1	0	0	301.7	1.9	3970.1	99.6	31	0	0.0	0.1	0.0	0	1.0	2212.7
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.1	0.0	5.7	1.2	162	0	0.0	0.1	0.0	0	0.1	0.2
Spain	0	0	4967.8	50.5	0.1	0.0	0.2	0	0	161.7	1.1	2784.0	905.3	183	0	0.1	0.1	1.0	0	49.3	1166.5
Sweden	0	0	7076.7	12.7	0.0	0.0	0.0	0	0	31.9	0.5	11185.0	632.1	363	0	0.0	0.0	0.0	0	12.7	885.4
United Kingdom	0	0	12458.2	750.9	0.1	0.0	0.2	0	0	372.4	6.2	20702.6	5573.4	153	0	0.0	0.1	2.7	0	748.1	4007.7

Table D7. Results by country, for the ECHAM4 A2, high sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																			
	Total adaptation costs	Beach nourishment costs	Length of the coast	Total Residual damage costs	Land Loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People Actually flooded	Coastal floodplain area	Coastal floodplain population	Average protection level	River Dike costs	River Flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea Flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	millions €/yr	millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2/yr	thousands/ year	km^2/yr	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2/yr
Belgium	0	0	130.2	1208.7	0.1	0.0	0.1	0.0	0	149.3	17.4	6940.0	3786.4	75	0	0.0	0.6	0	0	1208.6	333.1
Bulgaria	0	0	326.3	69.3	0.0	8.0	0.0	1.6	66.9	1.5	12.2	245.9	27.8	1	0	0.0	0.5	0	0	2.4	0.6
Croatia	0	0	2263.0	32.1	0.0	10.3	0.0	0.8	29.8	296.7	10.9	507.8	26.7	1	0	0.0	0.4	0	0	2.3	45.3
Denmark	0	0	4954.4	359.5	2.2	0.0	4.5	0.0	0	863.1	11.0	10202.8	1283.8	3	0	0.0	0.4	0	0	357.2	2220.0
Estonia	0	0	1907.4	32.1	0.2	3.2	1.6	0.4	27.7	828.1	5.4	971.8	23.1	1	0	0.0	0.4	0	0	4.3	198.1
Finland	0	0	3790.4	81.7	0.0	0.0	0.0	0.0	0	542.3	1.0	4666.1	331.4	193	0	0.0	0.2	0	0	81.7	153.3
France	0	0	4655.8	1394.7	0.9	17.0	1.5	3.7	377.2	1794.1	112.9	15829.3	2667.8	15	0	1.7	0.5	241.2	0	773.7	2115.6
Germany	0	0	2729.6	1468.3	2.0	74.6	3.7	4.4	307.4	1529.8	94.3	22475.6	2934.0	41	0	2.9	0.5	396.6	0	759.4	2624.0
Greece	0	0	7809.5	503.9	0.0	113.5	0.1	11.7	474.2	337.2	159.4	5100.5	363.5	1	0	0.0	0.5	0	0	29.6	49.4
Ireland	0	0	3435.1	224.0	0.1	1.8	0.2	0.0	3.2	93.6	59.1	4693.0	689.3	8	0	0.0	0.4	0	0	220.7	156.5
Italy	0	0	5767.0	1347.7	1.0	17.5	1.1	9.8	659.7	360.4	178.2	12518.6	3082.3	15	0	0.5	0.5	10.9	0	675.6	57.8
Latvia	0	0	654.7	91.2	0.0	7.7	0.1	0.9	56.1	24.4	34.5	631.8	221.2	1	0	0.0	0.4	0	0	35.1	5.7
Lithuania	0	0	209.1	2.2	0.1	0.0	0.4	0.0	0	33.9	1.8	70.6	17.7	1	0	0.0	0.4	0	0	2.1	10.2
Malta	0	0	75.6	157.3	0.0	2.1	0.0	3.8	154.0	0.0	20.2	43.1	49.4	1	0	0.0	0.5	0	0	3.3	0.0
Netherlands	0	0	2024.4	8707.8	1.7	0.0	2.7	0.1	6.2	351.1	211.4	32757.4	24670.3	95	0	26.6	0.5	297.3	0	8375.9	495.0
Poland	0	0	979.8	454.7	0.0	104.3	0.1	11.1	408.2	86.9	158.6	3859.7	390.3	1	0	0.1	0.5	10.7	0	35.7	8.0
Portugal	0	0	1896.0	30.1	0.3	5.9	0.5	0.0	1.9	318.7	36.2	1526.8	299.4	8	0	0.0	0.4	0	0	27.9	462.6
Romania	0	0	420.1	112.7	0.0	63.9	0.4	3.8	105.2	1177.2	46.8	5063.0	112.1	1	0	0.0	0.5	0	0	7.5	1337.2
Slovenia	0	0	28.7	0.5	0.0	0.3	0.0	0.0	0	0.2	0.6	6.3	1.3	1	0	0.0	0.5	0	0	0.5	0.0
Spain	0	0	4967.8	337.3	0.3	19.7	0.4	2.0	149.4	525.7	90.4	3015.9	1121.7	9	0	0.9	0.4	1.7	0	185.1	802.4
Sweden	0	0	7076.7	157.9	0.0	0.0	0.0	0.0	0	126.4	4.5	11399.0	745.5	153	0	0.0	0.2	0	0	157.8	790.8
United Kingdom	0	0	12458.2	1858.8	0.3	1.4	0.4	5.2	7.8	1598.1	153.4	21352.7	6597.1	14	0	0.6	0.4	4.8	0	1845.3	2520.9

Table D8. Results by country, for the ECHAM4 A2, low sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	thousands/ year	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	1.6	0.1	130.2	140.5	0.0	0.0	0.0	0	0	40.8	2.9	6655.3	3131.4	1021	0.0	0.0	0.1	0.0	1.5	140.5	441.6
Bulgaria	1.1	0.0	326.3	0.2	0.0	0.0	0.0	0	0	0.4	0.0	219.2	25.6	493	0.0	0.0	0.0	0.0	1.1	0.2	1.7
Croatia	8.5	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	61.2	0.0	456.9	21.8	311	0.0	0.0	0.0	0.0	8.5	0.2	280.8
Denmark	34.6	10.6	4954.4	0.4	0.0	0.0	0.6	0	0	100.6	0.6	9523.0	1039.2	130	0.0	0.0	0.0	0.0	23.9	0.4	2016.8
Estonia	14.1	0.0	1907.4	0.2	0.0	0.0	0.1	0	0	109.8	0.0	861.8	13.1	262	0.0	0.0	0.0	0.0	14.1	0.2	916.4
Finland	6.1	0.0	3790.4	0.4	0.0	0.0	0.0	0	0	0.9	0.2	4572.3	282.8	1806	0.0	0.0	0.0	0.0	6.1	0.4	694.7
France	47.0	29.3	4655.8	239.9	0.2	0.3	0.1	0	0	299.4	2.0	14763.1	2173.7	1217	0.3	0.0	0.0	146.7	17.4	93.0	3602.6
Germany	41.4	22.8	2729.6	408.7	0.2	0.0	0.5	0	0	176.0	2.4	21239.7	2423.3	1187	0.8	0.0	0.0	242.5	17.9	166.0	3977.8
Greece	15.4	1.1	7809.5	1.7	0.0	0.2	0.0	0	0	62.6	0.3	4095.8	264.5	1043	0.0	0.0	0.0	0.0	14.3	1.7	324.0
Ireland	19.8	3.1	3435.1	20.3	0.0	0.0	0.0	0	0	16.0	0.5	4567.5	584.6	799	0.0	0.0	0.0	0.0	16.7	20.3	234.1
Italy	23.3	4.5	5767.0	6.7	0.2	0.0	0.3	0	0	78.9	1.5	10877.9	2266.8	3657	0.1	0.0	0.0	6.4	18.8	0.0	339.3
Latvia	5.0	0.3	654.7	1.8	0.0	0.0	0.0	0	0	3.3	0.1	595.6	134.5	301	0.0	0.0	0.0	0.0	4.6	1.8	26.8
Lithuania	1.7	0.3	209.1	0.1	0.0	0.0	0.0	0	0	4.8	0.0	65.3	10.1	150	0.0	0.0	0.0	0.0	1.4	0.1	39.3
Malta	0.2	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	31.2	31.2	2339	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Netherlands	44.5	23.6	2024.4	534.5	0.2	0.0	0.3	0	0	45.7	16.0	32474.0	21347.5	1039	0.3	0.8	0.1	181.2	20.5	352.3	800.4
Poland	8.9	0.0	979.8	8.5	0.0	0.0	0.0	0	0	23.3	0.4	3429.6	353.2	237	0.1	0.0	0.0	4.7	8.8	3.8	71.6
Portugal	8.3	5.0	1896.0	6.1	0.0	0.0	0.0	0	0	49.7	0.3	1397.4	240.5	425	0.0	0.0	0.0	0.0	3.3	6.1	731.6
Romania	4.3	0.0	420.1	0.7	0.0	0.0	0.1	0	0	190.9	0.2	3811.6	97.5	174	0.0	0.0	0.1	0.0	4.3	0.7	2323.5
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.2	1797	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Spain	16.3	5.7	4967.8	9.8	0.0	0.0	0.0	0	0	68.1	0.7	2750.6	892.8	1444	0.1	0.0	0.0	1.0	10.6	8.8	1260.0
Sweden	8.8	0.3	7076.7	0.0	0.0	0.0	0.0	0	0	2.9	0.4	11153.7	629.1	2363	0.0	0.0	0.0	0.0	8.6	0.0	914.4
United Kingdom	74.0	7.9	12458.2	62.1	0.0	0.0	0.0	0	0	239.3	4.5	20590.3	5543.1	849	0.0	0.0	0.0	2.6	66.1	59.5	3673.3

Table D9. Results by country, for the ECHAM4 A2, low sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	thousands/ year	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	2.2	0.1	130.2	0.3	0.1	0.0	0.1	0	0.0	149.0	2.8	6825.9	3713.5	1555	0.0	0.0	0.4	0.0	2.1	0.2	333.5
Bulgaria	1.6	0.0	326.3	0.1	0.0	0.0	0.0	0	0.0	1.2	0.0	239.0	26.6	1539	0.0	0.0	0.2	0.0	1.6	0.1	1.0
Croatia	12.7	0.0	2263.0	0.8	0.0	0.0	0.0	0	0.0	223.0	0.0	477.5	23.1	1006	0.0	0.0	0.2	0.0	12.7	0.8	119.0
Denmark	92.9	47.0	4954.4	0.0	0.0	0.0	1.9	0	0.0	659.8	0.6	9799.0	1231.5	188	0.0	0.0	0.2	0.0	45.9	0.0	1457.6
Estonia	22.7	0.0	1907.4	2.7	0.1	0.0	0.8	0	2.1	578.9	0.0	900.8	21.3	1515	0.0	0.0	0.1	0.0	22.7	0.5	447.3
Finland	10.6	0.0	3790.4	0.0	0.0	0.0	0.0	0	0.0	293.1	0.2	4596.6	326.5	2752	0.0	0.0	0.0	0.0	10.6	0.0	402.5
France	127.6	95.6	4655.8	266.1	1.0	0.3	0.2	0	0.0	1266.7	2.0	15324.4	2584.1	1723	0.5	0.0	0.2	215.1	31.6	50.1	2635.3
Germany	143.2	111.0	2729.6	366.4	0.7	0.0	1.4	0	0.0	1245.9	2.2	21831.1	2851.2	1732	1.3	0.0	0.2	363.0	30.9	2.6	2907.9
Greece	33.3	2.9	7809.5	3.0	0.0	0.5	0.0	0	0.0	254.0	0.3	4739.1	343.7	1377	0.0	0.0	0.2	0.0	30.4	3.0	132.5
Ireland	39.2	3.6	3435.1	13.8	0.0	0.0	0.1	0	0.0	65.7	0.5	4619.9	678.3	1212	0.0	0.0	0.2	0.0	35.6	13.8	184.3
Italy	53.2	16.3	5767.0	10.3	0.5	0.0	0.4	0	0.0	290.1	1.7	11668.9	2824.0	4689	0.1	0.0	0.2	9.8	36.8	0.0	128.1
Latvia	8.9	1.3	654.7	0.0	0.0	0.0	0.0	0	0.0	17.1	0.2	605.2	212.5	1734	0.0	0.0	0.2	0.0	7.6	0.0	13.0
Lithuania	3.2	1.2	209.1	0.1	0.0	0.0	0.2	0	0.0	21.4	0.0	67.0	16.6	868	0.0	0.0	0.2	0.0	2.0	0.0	22.7
Malta	0.3	0.0	75.6	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	39.4	45.1	3043	0.0	0.0	0.2	0.0	0.3	0.0	0.0
Netherlands	101.3	72.8	2024.4	393.2	0.6	0.0	0.8	0	0.0	308.4	16.2	32632.2	24601.9	1574	0.5	0.1	0.3	273.3	28.0	119.3	537.7
Poland	11.9	0.0	979.8	24.7	0.0	0.0	0.0	0	0.0	68.9	0.4	3642.7	367.1	764	0.1	0.0	0.3	9.9	11.8	14.8	26.0
Portugal	28.4	21.5	1896.0	11.3	0.1	0.0	0.1	0	0.0	248.3	0.3	1449.2	285.6	631	0.0	0.0	0.2	0.0	6.9	11.2	533.0
Romania	5.4	0.0	420.1	1.8	0.0	0.1	0.3	0	0.0	904.0	0.1	4603.2	104.6	552	0.0	0.0	0.3	0.0	5.4	1.7	1610.4
Slovenia	0.2	0.0	28.7	0.0	0.0	0.0	0.0	0	0.0	0.2	0.0	5.9	1.2	5876	0.0	0.0	0.2	0.0	0.2	0.0	0.1
Spain	49.7	27.3	4967.8	8.6	0.0	0.0	0.0	0	0.0	404.8	0.8	2839.8	1063.1	2076	0.1	0.0	0.2	1.5	22.3	7.1	923.4
Sweden	19.3	0.7	7076.7	0.0	0.0	0.0	0.0	0	0.0	66.2	0.4	11208.8	728.4	3549	0.0	0.0	0.0	0.0	18.6	0.0	851.0
United Kingdom	155.9	22.4	12458.2	17.3	0.2	0.0	0.1	0	0.0	1103.8	4.5	20924.4	6462.8	1274	0.0	0.0	0.2	4.0	133.4	13.1	2808.8

Table D10. Results by country, for the ECHAM4 A2, medium sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	thousands/ year	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	1.9	0.1	130.2	174.9	0.0	0.0	0.0	0	0	41.4	2.9	6672.7	3142.0	1018	0.0	0.0	0.1	0.0	1.8	174.9	441.1
Bulgaria	1.4	0.0	326.3	0.2	0.0	0.0	0.0	0	0	0.5	0.0	225.2	26.4	482	0.0	0.0	0.1	0.0	1.4	0.2	1.7
Croatia	11.0	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	108.2	0.0	461.0	22.2	305	0.0	0.0	0.1	0.0	11.0	0.2	233.8
Denmark	51.9	18.5	4954.4	1.2	0.4	0.0	1.1	0	0	184.1	0.6	9580.8	1046.7	128	0.0	0.0	0.1	0.0	33.3	0.8	1933.3
Estonia	17.9	0.0	1907.4	0.2	0.0	0.0	0.2	0	0	172.0	0.0	871.3	13.3	258	0.0	0.0	0.0	0.0	17.9	0.2	854.2
Finland	8.1	0.0	3790.4	0.4	0.0	0.0	0.0	0	0	78.3	0.2	4577.9	283.2	1794	0.0	0.0	0.0	0.0	8.1	0.4	617.3
France	72.7	48.9	4655.8	257.0	0.1	0.4	0.1	0	0	429.9	2.0	14855.4	2196.5	1197	0.3	0.0	0.1	149.0	23.4	108.0	3486.9
Germany	66.5	42.0	2729.6	420.9	0.3	0.0	0.7	0	0	346.9	2.4	21329.5	2433.5	1173	1.0	0.0	0.1	245.5	23.5	175.2	3806.9
Greece	22.5	1.8	7809.5	2.9	0.0	0.3	0.0	0	0	118.7	0.3	4223.2	272.2	1012	0.0	0.0	0.1	0.0	20.7	2.9	267.8
Ireland	29.5	4.9	3435.1	21.7	0.0	0.0	0.0	0	0	16.0	0.5	4577.8	585.9	794	0.0	0.0	0.1	0.0	24.6	21.7	234.1
Italy	33.3	7.1	5767.0	6.8	0.3	0.0	0.3	0	0	120.4	1.5	10978.4	2292.5	3545	0.1	0.0	0.1	6.5	26.2	0.0	297.8
Latvia	6.6	0.7	654.7	1.8	0.0	0.0	0.0	0	0	5.1	0.1	597.8	135.0	297	0.0	0.0	0.0	0.0	5.9	1.8	24.9
Lithuania	2.3	0.7	209.1	0.1	0.0	0.0	0.1	0	0	7.6	0.0	65.6	10.3	148	0.0	0.0	0.0	0.0	1.7	0.1	36.5
Malta	0.2	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	32.5	32.4	2266	0.0	0.0	0.1	0.0	0.2	0.0	0.0
Netherlands	61.2	36.5	2024.4	542.3	0.3	0.0	0.4	0	0	93.5	16.2	32491.2	21357.2	1034	0.4	0.9	0.1	183.4	24.3	357.9	752.6
Poland	10.9	0.0	979.8	8.6	0.0	0.0	0.0	0	0	28.0	0.4	3456.5	356.2	233	0.1	0.0	0.1	4.7	10.8	3.9	66.9
Portugal	13.8	9.0	1896.0	6.6	0.0	0.0	0.1	0	0	93.7	0.3	1406.5	242.0	421	0.0	0.0	0.1	0.0	4.8	6.6	687.6
Romania	5.1	0.0	420.1	0.7	0.0	0.1	0.1	0	0	191.2	0.2	3889.8	98.5	171	0.0	0.0	0.1	0.0	5.1	0.7	2323.2
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.1	0.0	5.6	1.2	1768	0.0	0.0	0.1	0.0	0.1	0.0	0.2
Spain	26.3	10.8	4967.8	10.9	0.0	0.0	0.0	0	0	128.8	0.8	2766.4	898.9	1422	0.1	0.0	0.1	1.0	15.4	9.9	1199.4
Sweden	13.1	0.5	7076.7	0.0	0.0	0.0	0.0	0	0	18.5	0.4	11166.6	630.4	2343	0.0	0.0	0.0	0.0	12.6	0.0	898.8
United Kingdom	109.4	14.9	12458.2	81.7	0.0	0.0	0.0	0	0	239.3	4.6	20645.7	5557.9	843	0.0	0.0	0.1	2.6	94.6	79.1	3673.3

Table D11. Results by country, for the ECHAM4 A2, medium sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	thousands/ year	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	2.7	0.1	130.2	0.3	0.1	0.0	0.1	0.0	0.0	149.3	2.8	6882.7	3749.8	1538	0.0	0.0	0.5	0.0	2.5	0.3	333.1
Bulgaria	2.2	0.0	326.3	0.2	0.0	0.0	0.0	0.0	0.0	1.3	0.0	242.4	27.2	1430	0.0	0.0	0.3	0.0	2.2	0.2	0.8
Croatia	17.2	0.0	2263.0	0.9	0.0	0.0	0.0	0.0	0.0	277.9	0.0	489.6	24.4	949	0.0	0.0	0.3	0.0	17.2	0.9	64.1
Denmark	131.6	68.4	4954.4	1.5	1.5	0.0	2.9	0.0	0.0	760.0	0.7	9999.7	1257.4	180	0.0	0.0	0.3	0.0	63.2	0.0	1357.4
Estonia	29.7	0.0	1907.4	3.2	0.1	0.0	1.3	0.0	2.1	755.9	0.0	935.4	22.2	1445	0.0	0.0	0.3	0.0	29.7	1.0	270.3
Finland	15.1	0.0	3790.4	0.0	0.0	0.0	0.0	0.0	0.0	438.6	0.2	4626.6	328.7	2676	0.0	0.0	0.1	0.0	15.1	0.0	257.0
France	181.1	137.9	4655.8	304.6	0.2	0.3	0.3	0.0	0.0	1599.3	2.2	15597.8	2640.8	1648	0.6	0.0	0.3	227.9	42.5	76.5	2311.4
Germany	209.7	166.8	2729.6	404.1	1.0	0.0	1.9	0.1	8.7	1429.6	2.4	22156.5	2893.8	1667	1.6	0.0	0.3	379.6	41.2	14.9	2724.2
Greece	46.4	4.2	7809.5	8.4	0.0	0.7	0.0	0.0	0.0	319.8	0.4	4954.8	355.7	1265	0.0	0.0	0.3	0.0	42.2	8.4	66.7
Ireland	54.7	4.9	3435.1	17.6	0.0	0.0	0.1	0.0	0.0	82.1	0.5	4656.4	683.8	1186	0.0	0.0	0.3	0.0	49.9	17.6	168.0
Italy	73.6	23.0	5767.0	10.9	0.6	0.0	0.5	0.0	0.0	325.7	1.8	12101.6	2957.9	4348	0.1	0.0	0.3	10.3	50.5	0.0	92.5
Latvia	12.0	2.0	654.7	0.2	0.0	0.0	0.0	0.0	0.0	22.3	0.2	616.2	216.0	1653	0.0	0.0	0.3	0.0	10.0	0.2	7.7
Lithuania	4.4	1.9	209.1	0.1	0.0	0.0	0.3	0.0	0.0	29.7	0.0	68.7	17.1	833	0.0	0.0	0.3	0.0	2.6	0.0	14.4
Malta	0.5	0.0	75.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.0	49.3	2781	0.0	0.0	0.3	0.0	0.5	0.0	0.0
Netherlands	138.3	102.8	2024.4	445.2	0.9	0.0	1.1	0.0	0.0	346.3	16.6	32700.8	24646.7	1548	0.6	0.1	0.4	285.1	34.9	159.1	499.8
Poland	15.6	0.0	979.8	26.0	0.0	0.0	0.1	0.0	0.0	77.4	0.4	3747.8	378.4	728	0.1	0.0	0.4	10.3	15.4	15.8	17.5
Portugal	43.0	33.4	1896.0	11.9	0.2	0.0	0.2	0.0	0.0	303.7	0.3	1487.0	292.5	611	0.0	0.0	0.3	0.0	9.5	11.7	477.6
Romania	6.9	0.0	420.1	3.2	0.0	0.0	0.3	0.0	0.0	1059.8	0.1	4873.3	108.4	523	0.0	0.0	0.4	0.0	6.9	3.2	1454.6
Slovenia	0.2	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	6.1	1.3	5573	0.0	0.0	0.3	0.0	0.2	0.0	0.1
Spain	71.8	40.6	4967.8	11.5	0.0	0.1	0.0	0.0	0.0	493.4	0.8	2921.0	1091.7	1974	0.1	0.0	0.3	1.6	31.0	9.9	834.8
Sweden	29.3	0.8	7076.7	0.0	0.0	0.0	0.0	0.0	0.0	100.8	0.4	11286.4	736.2	3400	0.0	0.0	0.1	0.0	28.5	0.0	816.5
United Kingdom	215.0	30.1	12458.2	25.9	0.1	0.0	0.1	0.0	0.0	1407.3	4.8	21138.7	6529.7	1240	0.0	0.0	0.3	4.4	184.8	21.4	2505.3

Table D12. Results by country, for the ECHAM4 A2, high sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	2.2	0.1	130.2	196.9	0.0	0.0	0.0	0	0	41.4	3.0	6690.5	3153.0	1015	0.0	0.0	0.1	0.0	2.1	196.9	441.1
Bulgaria	1.8	0.0	326.3	0.2	0.0	0.0	0.0	0	0	0.5	0.0	228.9	26.6	470	0.0	0.0	0.1	0.0	1.8	0.2	1.7
Croatia	14.0	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	115.8	0.0	471.3	23.6	300	0.0	0.0	0.1	0.0	14.0	0.2	226.2
Denmark	72.2	27.6	4954.4	1.6	0.6	0.0	1.7	0	0	212.5	0.6	9637.1	1054.3	126	0.0	0.0	0.1	0.0	44.7	1.0	1904.9
Estonia	22.5	0.0	1907.4	0.2	0.0	0.0	0.4	0	0	257.3	0.0	881.4	13.4	255	0.0	0.0	0.1	0.0	22.5	0.2	768.9
Finland	10.9	0.0	3790.4	0.4	0.0	0.0	0.0	0	0	135.6	0.2	4585.3	283.7	1781	0.0	0.0	0.0	0.0	10.9	0.4	560.0
France	96.5	65.4	4655.8	275.3	0.1	0.5	0.2	0	0	506.9	2.1	14953.6	2200.9	1178	0.4	0.0	0.1	151.4	30.7	123.9	3395.1
Germany	93.0	61.4	2729.6	433.7	0.4	0.0	1.0	0	0	411.4	2.5	21424.7	2444.2	1159	1.2	0.0	0.1	248.6	30.4	184.7	3742.5
Greece	31.1	2.6	7809.5	4.2	0.0	0.4	0.0	0	0	118.7	0.4	4340.0	278.2	982	0.0	0.0	0.1	0.0	28.4	4.2	267.8
Ireland	41.0	6.9	3435.1	24.0	0.0	0.0	0.0	0	0	20.0	0.5	4588.2	587.2	789	0.0	0.0	0.1	0.0	34.1	24.0	230.0
Italy	45.5	10.4	5767.0	7.0	0.3	0.0	0.4	0	0	140.0	1.6	11085.4	2319.6	3437	0.1	0.0	0.1	6.6	35.0	0.0	278.2
Latvia	8.7	1.2	654.7	1.8	0.0	0.0	0.0	0	0	7.6	0.1	600.3	135.6	293	0.0	0.0	0.1	0.0	7.5	1.8	22.5
Lithuania	3.1	1.1	209.1	0.1	0.0	0.0	0.1	0	0	11.7	0.0	65.9	10.4	146	0.0	0.0	0.1	0.0	2.0	0.1	32.4
Malta	0.3	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	33.7	33.7	2196	0.0	0.0	0.1	0.0	0.3	0.0	0.0
Netherlands	80.6	51.3	2024.4	550.0	0.4	0.0	0.6	0	0	101.0	16.4	32512.9	21367.9	1030	0.5	0.9	0.1	185.5	28.9	363.2	745.1
Poland	13.3	0.0	979.8	8.7	0.0	0.0	0.0	0	0	40.8	0.4	3486.5	359.4	230	0.1	0.0	0.1	4.8	13.2	3.9	54.1
Portugal	20.2	13.6	1896.0	7.9	0.0	0.0	0.1	0	0	112.5	0.3	1417.4	243.6	417	0.0	0.0	0.1	0.0	6.6	7.9	668.8
Romania	6.0	0.0	420.1	0.7	0.0	0.1	0.1	0	0	301.7	0.2	3970.1	99.6	168	0.0	0.0	0.1	0.0	6.0	0.7	2212.7
Slovenia	0.2	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.1	0.0	5.7	1.2	1740	0.0	0.0	0.1	0.0	0.2	0.0	0.2
Spain	37.3	16.1	4967.8	13.0	0.0	0.0	0.0	0	0	161.7	0.8	2784.0	905.3	1400	0.1	0.0	0.1	1.0	21.2	12.0	1166.5
Sweden	19.2	0.7	7076.7	0.0	0.0	0.0	0.0	0	0	31.9	0.4	11185.0	632.1	2313	0.0	0.0	0.0	0.0	18.5	0.0	885.4
United Kingdom	153.5	24.8	12458.2	105.1	0.0	0.0	0.0	0	0	372.4	4.8	20702.6	5573.4	836	0.0	0.0	0.1	2.7	128.7	102.4	3540.1

Table D13. Results by country, for the ECHAM4 A2, high sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	3.1	0.2	130.2	11.2	0.1	0.0	0.1	0.0	0.0	149.3	2.9	6940.0	3786.4	1522	0.0	0.0	0.6	0.0	3.0	11.1	333.1
Bulgaria	2.7	0.0	326.3	1.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	245.9	27.8	1338	0.0	0.0	0.5	0.0	2.7	1.0	0.6
Croatia	21.2	0.0	2263.0	1.1	0.0	0.0	0.0	0.0	0.0	296.7	0.0	507.8	26.7	899	0.0	0.0	0.4	0.0	21.2	1.1	45.3
Denmark	169.9	91.3	4954.4	1.9	1.9	0.0	3.7	0.0	0.0	863.1	0.7	10202.8	1283.8	172	0.0	0.0	0.4	0.0	78.6	0.0	1254.2
Estonia	36.0	0.0	1907.4	5.8	0.2	0.0	1.6	0.1	4.1	828.1	0.0	971.8	23.1	1383	0.0	0.0	0.4	0.0	36.0	1.5	198.1
Finland	21.3	0.0	3790.4	0.0	0.0	0.0	0.0	0.0	0.0	542.3	0.2	4666.1	331.4	2599	0.0	0.0	0.2	0.0	21.3	0.0	153.3
France	257.6	204.6	4655.8	346.4	0.3	0.1	0.4	0.0	0.0	1794.1	2.2	15829.3	2667.8	1577	0.8	0.0	0.5	241.2	52.2	104.9	2107.9
Germany	273.8	221.3	2729.6	457.3	1.2	0.0	2.2	0.1	8.7	1529.8	2.5	22475.6	2934.0	1609	2.0	0.0	0.5	396.6	50.5	50.9	2624.0
Greece	58.9	6.2	7809.5	13.3	0.0	0.8	0.0	0.0	0.0	337.2	0.4	5100.5	363.5	1173	0.0	0.0	0.5	0.0	52.7	13.3	49.4
Ireland	69.5	6.9	3435.1	21.8	0.0	0.0	0.1	0.0	0.0	93.6	0.5	4693.0	689.3	1161	0.0	0.0	0.4	0.0	62.5	21.8	156.5
Italy	93.3	30.4	5767.0	11.5	0.6	0.0	0.5	0.0	0.0	360.4	2.0	12518.6	3082.3	4052	0.1	0.0	0.5	10.9	62.7	0.0	57.8
Latvia	14.7	2.6	654.7	2.3	0.0	0.0	0.0	0.0	0.0	24.4	0.2	631.8	221.2	1581	0.0	0.0	0.4	0.0	12.1	2.3	5.7
Lithuania	5.5	2.4	209.1	0.1	0.1	0.0	0.4	0.0	0.0	33.9	0.0	70.6	17.7	801	0.0	0.0	0.4	0.0	3.0	0.1	10.2
Malta	0.6	0.0	75.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.1	49.4	2567	0.0	0.0	0.5	0.0	0.6	0.0	0.0
Netherlands	174.2	132.6	2024.4	479.8	1.0	0.0	1.3	0.0	0.0	351.1	17.0	32757.4	24670.3	1524	0.7	0.1	0.5	297.3	41.0	181.4	495.0
Poland	18.8	0.0	979.8	27.4	0.0	0.0	0.1	0.0	0.0	86.9	0.4	3859.7	390.3	695	0.2	0.0	0.5	10.7	18.7	16.7	8.0
Portugal	86.8	74.9	1896.0	12.3	0.0	0.0	0.0	0.0	0.0	318.7	0.4	1526.8	299.4	592	0.0	0.0	0.4	0.0	11.9	12.3	462.6
Romania	8.2	0.0	420.1	3.6	0.0	0.0	0.4	0.0	0.0	1177.2	0.1	5063.0	112.1	497	0.0	0.0	0.5	0.0	8.2	3.5	1337.2
Slovenia	0.3	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	6.3	1.3	5303	0.0	0.0	0.5	0.0	0.3	0.0	0.0
Spain	92.2	53.2	4967.8	14.0	0.0	0.0	0.0	0.0	0.0	525.7	0.9	3015.9	1121.7	1884	0.2	0.0	0.4	1.7	38.8	12.3	802.4
Sweden	40.5	1.1	7076.7	0.0	0.0	0.0	0.0	0.0	0.0	126.4	0.4	11399.0	745.5	3259	0.0	0.0	0.2	0.0	39.4	0.0	790.8
United Kingdom	268.2	37.6	12458.2	42.8	0.1	0.0	0.1	0.0	0.0	1598.1	5.0	21352.7	6597.1	1209	0.1	0.0	0.4	4.8	230.5	37.9	2314.4

Table D14. Results by country, for the ECHAM4 B2, low sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																			
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	584.8	0.0	0.0	0.0	0	0	40.9	3.6	6657.7	2917.6	260	0	0.0	0.1	0.0	0	584.8	441.5
Bulgaria	0	0	326.3	0.2	0.0	0.0	0.0	0	0	0.4	0.1	220.1	24.1	127	0	0.0	0.0	0.0	0	0.2	1.7
Croatia	0	0	2263.0	0.3	0.0	0.0	0.0	0	0	71.8	0.3	457.5	20.4	97	0	0.0	0.0	0.0	0	0.3	270.2
Denmark	0	0	4954.4	15.6	0.3	0.0	0.9	0	0	102.4	0.7	9530.1	968.7	27	0	0.0	0.0	0.0	0	15.3	2015.0
Estonia	0	0	1907.4	0.2	0.0	0.0	0.1	0	0	110.0	0.0	863.0	11.7	125	0	0.0	0.0	0.0	0	0.2	916.2
Finland	0	0	3790.4	1.8	0.0	0.0	0.0	0	0	0.9	0.2	4572.9	263.4	379	0	0.0	0.0	0.0	0	1.8	694.7
France	0	0	4655.8	410.9	0.1	0.4	0.3	0	0	320.4	2.3	14775.7	2026.1	215	0	0.0	0.0	149.0	0	261.7	3581.6
Germany	0	0	2729.6	498.6	0.3	0.0	0.7	0	0	178.4	2.4	21251.8	2258.0	278	0	0.2	0.0	246.4	0	251.8	3975.4
Greece	0	0	7809.5	4.4	0.0	0.2	0.0	0	0	73.7	0.3	4113.1	247.3	214	0	0.0	0.0	0.0	0	4.4	312.9
Ireland	0	0	3435.1	25.9	0.0	0.0	0.0	0	0	16.0	0.5	4568.9	544.6	232	0	0.0	0.0	0.0	0	25.9	234.1
Italy	0	0	5767.0	93.6	0.3	0.0	0.4	0	0	83.0	2.5	10891.5	2114.3	394	0	0.0	0.0	6.5	0	86.8	335.2
Latvia	0	0	654.7	2.2	0.0	0.0	0.0	0	0	3.3	0.1	595.9	119.5	132	0	0.0	0.0	0.0	0	2.1	26.8
Lithuania	0	0	209.1	0.1	0.0	0.0	0.0	0	0	4.8	0.0	65.3	9.0	74	0	0.0	0.0	0.0	0	0.1	39.3
Malta	0	0	75.6	0.4	0.0	0.0	0.0	0	0	0.0	0.0	31.4	29.2	316	0	0.0	0.0	0.0	0	0.4	0.0
Netherlands	0	0	2024.4	3332.0	0.3	0.0	0.7	0	0	56.2	19.9	32476.3	19881.6	259	0	3.6	0.1	184.1	0	3144.1	789.9
Poland	0	0	979.8	10.7	0.0	0.0	0.0	0	0	23.3	3.7	3433.3	330.9	75	0	0.0	0.1	5.2	0	5.5	71.6
Portugal	0	0	1896.0	8.7	0.0	0.0	0.1	0	0	51.7	0.3	1398.6	224.2	152	0	0.0	0.0	0.0	0	8.7	729.6
Romania	0	0	420.1	0.9	0.0	0.1	0.1	0	0	190.9	0.6	3822.3	91.3	54	0	0.0	0.1	0.0	0	0.9	2323.5
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.1	0.0	5.5	1.1	255	0	0.0	0.0	0.0	0	0.1	0.2
Spain	0	0	4967.8	36.3	0.0	0.0	0.1	0	0	73.2	0.9	2752.9	832.3	267	0	0.1	0.0	1.0	0	35.2	1255.0
Sweden	0	0	7076.7	3.1	0.0	0.0	0.0	0	0	4.3	0.4	11155.0	586.0	419	0	0.0	0.0	0.0	0	3.1	913.0
United Kingdom	0	0	12458.2	594.7	0.0	0.0	0.1	0	0	239.3	5.4	20597.9	5164.1	208	0	0.0	0.0	2.6	0	592.0	3673.3

Table D15. Results by country, for the ECHAM4 B2, low sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	1013.4	0.0	0.0	0.0	0.0	0.0	149.0	3.5	6806.5	2850.0	158	0	0.0	0.3	0.0	0	1013.3	333.4
Bulgaria	0	0	326.3	1.9	0.0	0.0	0.0	0.0	0.0	1.2	0.6	237.8	23.3	25	0	0.0	0.2	0.0	0	1.9	1.0
Croatia	0	0	2263.0	1.9	0.0	0.0	0.0	0.0	0.0	227.0	1.7	473.4	20.0	16	0	0.0	0.2	0.0	0	1.9	115.0
Denmark	0	0	4954.4	98.8	0.7	0.0	1.5	0.0	0.0	631.0	0.9	9732.4	941.6	14	0	0.0	0.1	0.0	0	98.1	1486.4
Estonia	0	0	1907.4	5.5	0.1	0.0	0.6	0.0	2.5	493.8	0.1	889.1	11.1	62	0	0.0	0.1	0.0	0	3.0	532.5
Finland	0	0	3790.4	17.8	0.0	0.0	0.0	0.0	0.0	207.6	0.2	4587.9	250.9	336	0	0.0	-0.1	0.0	0	17.8	488.0
France	0	0	4655.8	704.2	0.3	0.5	0.5	0.0	0.0	1114.5	4.4	15221.7	1976.3	97	0	0.3	0.2	209.5	0	494.0	2787.5
Germany	0	0	2729.6	948.1	0.8	0.0	1.7	0.0	0.0	1180.2	11.4	21721.1	2184.2	160	0	0.9	0.2	355.4	0	590.9	2973.6
Greece	0	0	7809.5	13.6	0.0	0.3	0.0	0.0	0.0	246.3	3.4	4634.6	260.1	40	0	0.0	0.2	0.0	0	13.6	140.3
Ireland	0	0	3435.1	122.5	0.0	0.0	0.1	0.0	0.0	52.1	1.2	4607.2	520.8	116	0	0.0	0.1	0.0	0	122.5	198.0
Italy	0	0	5767.0	495.3	0.6	0.0	0.6	0.0	0.0	283.7	7.4	11524.8	2140.9	151	0	0.2	0.2	9.6	0	485.0	134.5
Latvia	0	0	654.7	24.3	0.0	0.0	0.0	0.0	0.0	14.7	1.2	602.6	111.3	60	0	0.0	0.1	0.0	0	24.2	15.4
Lithuania	0	0	209.1	1.4	0.0	0.0	0.2	0.0	0.0	20.0	0.1	66.4	8.6	39	0	0.0	0.1	0.0	0	1.4	24.1
Malta	0	0	75.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.4	37.7	33.3	75	0	0.0	0.2	0.0	0	1.3	0.0
Netherlands	0	0	2024.4	6551.9	0.7	0.0	1.2	0.0	0.0	315.2	19.8	32609.3	18932.7	179	0	13.7	0.3	267.7	0	6269.8	530.9
Poland	0	0	979.8	54.4	0.0	1.0	0.0	0.1	3.0	62.5	28.1	3607.0	320.8	15	0	0.0	0.2	12.3	0	39.1	32.3
Portugal	0	0	1896.0	16.3	0.1	0.0	0.2	0.0	0.0	232.7	2.0	1436.6	218.1	54	0	0.0	0.2	0.0	0	16.2	548.6
Romania	0	0	420.1	44.4	0.0	239.1	0.2	0.7	37.0	705.8	5.8	4498.8	91.2	8	0	0.0	0.3	0.0	0	7.4	1808.6
Slovenia	0	0	28.7	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.0	5.8	1.1	75	0	0.0	0.2	0.0	0	0.4	0.1
Spain	0	0	4967.8	105.4	0.1	0.0	0.2	0.0	0.0	385.3	1.7	2819.1	811.5	106	0	0.3	0.2	1.5	0	103.5	942.9
Sweden	0	0	7076.7	24.4	0.0	0.0	0.0	0.0	0.0	44.0	0.5	11187.7	559.0	366	0	0.0	0.0	0.0	0	24.4	873.3
United Kingdom	0	0	12458.2	1278.5	0.1	0.0	0.1	0.0	0.0	842.8	6.7	20850.7	4958.9	105	0	0.1	0.1	3.9	0	1274.5	3069.8

Table D16. Results by country, for the ECHAM4 B2, medium sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	587.7	0.0	0.0	0.0	0	0	41.4	3.6	6675.1	2927.5	244	0	0.0	0.1	0.0	0	587.6	441.1
Bulgaria	0	0	326.3	0.3	0.0	0.0	0.0	0	0	0.5	0.1	225.7	24.7	97	0	0.0	0.1	0.0	0	0.3	1.7
Croatia	0	0	2263.0	0.3	0.0	0.0	0.0	0	0	108.2	0.3	461.6	20.8	71	0	0.0	0.1	0.0	0	0.3	233.8
Denmark	0	0	4954.4	29.8	0.5	0.0	1.3	0	0	184.8	0.8	9588.0	975.7	23	0	0.0	0.1	0.0	0	29.2	1932.6
Estonia	0	0	1907.4	0.3	0.0	0.0	0.3	0	0	195.9	0.1	872.5	11.8	101	0	0.0	0.0	0.0	0	0.3	830.3
Finland	0	0	3790.4	4.7	0.0	0.0	0.0	0	0	78.5	0.2	4578.8	263.8	360	0	0.0	0.0	0.0	0	4.7	617.1
France	0	0	4655.8	432.4	0.2	0.4	0.5	0	0	433.5	2.3	14868.1	2047.3	185	0	0.1	0.1	151.4	0	280.8	3468.5
Germany	0	0	2729.6	508.9	0.4	0.0	1.1	0	0	347.1	2.5	21341.6	2267.5	249	0	0.2	0.1	249.4	0	258.9	3806.7
Greece	0	0	7809.5	4.7	0.0	0.3	0.0	0	0	118.7	0.4	4239.1	254.2	163	0	0.0	0.1	0.0	0	4.7	267.8
Ireland	0	0	3435.1	70.9	0.0	0.0	0.1	0	0	16.0	0.6	4579.1	545.8	197	0	0.0	0.1	0.0	0	70.9	234.1
Italy	0	0	5767.0	219.2	0.4	0.0	0.5	0	0	127.1	2.7	10992.1	2138.2	330	0	0.0	0.1	6.6	0	212.1	291.1
Latvia	0	0	654.7	2.2	0.0	0.0	0.0	0	0	5.8	0.3	598.1	119.9	106	0	0.0	0.0	0.0	0	2.2	24.3
Lithuania	0	0	209.1	0.2	0.0	0.0	0.1	0	0	9.7	0.0	65.6	9.1	62	0	0.0	0.1	0.0	0	0.1	34.4
Malta	0	0	75.6	0.5	0.0	0.0	0.0	0	0	0.0	0.0	32.6	30.3	251	0	0.0	0.1	0.0	0	0.5	0.0
Netherlands	0	0	2024.4	3492.8	0.4	0.0	0.9	0	0	93.5	20.1	32493.5	19890.6	244	0	3.9	0.1	186.2	0	3302.3	752.6
Poland	0	0	979.8	11.5	0.0	0.0	0.0	0	0	32.5	3.7	3460.2	333.7	57	0	0.0	0.1	5.2	0	6.2	62.4
Portugal	0	0	1896.0	8.8	0.0	0.0	0.2	0	0	94.9	0.5	1407.8	225.6	121	0	0.0	0.1	0.0	0	8.8	686.4
Romania	0	0	420.1	1.0	0.0	0.1	0.1	0	0	191.2	1.3	3900.5	92.3	41	0	0.0	0.1	0.0	0	1.0	2323.2
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.1	0.0	5.6	1.1	202	0	0.0	0.1	0.0	0	0.1	0.2
Spain	0	0	4967.8	49.1	0.1	0.0	0.1	0	0	136.8	0.9	2768.5	837.9	219	0	0.1	0.1	1.0	0	47.9	1191.4
Sweden	0	0	7076.7	6.4	0.0	0.0	0.0	0	0	19.4	0.5	11168.8	587.3	393	0	0.0	0.0	0.0	0	6.4	897.9
United Kingdom	0	0	12458.2	739.6	0.1	0.0	0.1	0	0	239.3	5.7	20653.3	5177.8	177	0	0.0	0.1	2.7	0	736.9	3673.3

Table D17. Results by country, for the ECHAM4 B2, medium sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	1054.7	0.0	0.0	0.1	0.0	0.0	149.3	12.3	6862.3	2877.5	118	0	0.0	0.4	0.0	0	1054.7	333.1
Bulgaria	0	0	326.3	2.8	0.0	0.0	0.0	0.0	0.0	1.2	3.1	241.2	23.8	2	0	0.0	0.3	0.0	0	2.8	1.0
Croatia	0	0	2263.0	6.4	0.0	2.4	0.0	0.1	3.8	243.9	2.8	485.2	21.1	1	0	0.0	0.3	0.0	0	2.6	98.1
Denmark	0	0	4954.4	199.4	1.2	0.0	2.5	0.0	0.0	733.0	1.8	9929.4	961.2	7	0	0.0	0.2	0.0	0	198.1	1384.4
Estonia	0	0	1907.4	6.4	0.1	0.0	1.1	0.0	2.5	650.9	0.7	923.2	11.5	17	0	0.0	0.2	0.0	0	3.8	375.3
Finland	0	0	3790.4	67.6	0.0	0.0	0.0	0.0	0.0	417.6	0.3	4614.4	252.4	271	0	0.0	0.1	0.0	0	67.6	278.0
France	0	0	4655.8	791.3	0.5	0.3	0.9	0.0	0.0	1448.2	18.5	15502.5	2013.2	46	0	0.8	0.3	221.9	0	568.1	2453.8
Germany	0	0	2729.6	1000.7	1.3	0.0	2.5	0.1	8.6	1395.0	14.6	22039.6	2217.0	96	0	1.6	0.3	371.4	0	617.8	2758.8
Greece	0	0	7809.5	21.6	0.0	2.3	0.1	0.0	0.7	276.0	32.5	4887.4	270.9	4	0	0.0	0.3	0.0	0	20.9	110.6
Ireland	0	0	3435.1	144.5	0.0	0.0	0.1	0.0	0.0	78.3	5.5	4643.4	525.0	47	0	0.0	0.3	0.0	0	144.5	171.7
Italy	0	0	5767.0	587.3	0.7	0.0	0.7	0.0	0.0	313.4	24.9	11946.6	2240.6	57	0	0.3	0.3	10.1	0	576.1	104.8
Latvia	0	0	654.7	31.4	0.0	0.0	0.0	0.0	0.0	19.2	2.7	611.3	112.9	15	0	0.0	0.2	0.0	0	31.3	10.9
Lithuania	0	0	209.1	2.0	0.0	0.0	0.3	0.0	0.0	25.9	0.1	68.0	8.9	14	0	0.0	0.2	0.0	0	2.0	18.2
Malta	0	0	75.6	2.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	42.5	37.5	9	0	0.0	0.3	0.0	0	2.0	0.0
Netherlands	0	0	2024.4	6682.2	1.0	0.0	1.7	0.0	0.0	346.3	141.9	32676.3	18966.6	139	0	18.5	0.4	279.2	0	6383.6	499.8
Poland	0	0	979.8	243.2	0.0	17.3	0.0	3.6	182.4	74.1	77.7	3709.6	330.6	2	0	0.1	0.3	12.8	0	47.9	20.8
Portugal	0	0	1896.0	34.7	0.1	9.7	0.3	0.5	14.1	299.1	10.0	1473.5	223.4	23	0	0.0	0.3	0.0	0	20.5	482.2
Romania	0	0	420.1	55.1	0.0	62.9	0.3	0.9	45.5	1058.5	20.5	4799.2	94.6	1	0	0.0	0.4	0.0	0	9.5	1455.9
Slovenia	0	0	28.7	0.6	0.0	0.0	0.0	0.0	0.0	0.2	0.1	6.0	1.1	12	0	0.0	0.3	0.0	0	0.6	0.1
Spain	0	0	4967.8	135.6	0.2	0.0	0.3	0.0	0.0	480.1	8.2	2888.4	832.6	39	0	0.5	0.3	1.5	0	133.4	848.1
Sweden	0	0	7076.7	88.3	0.0	0.0	0.0	0.0	0.0	94.2	0.7	11251.7	564.5	265	0	0.0	0.1	0.0	0	88.3	823.1
United Kingdom	0	0	12458.2	1374.8	0.1	0.0	0.2	0.0	0.0	1328.3	21.7	21061.9	5009.6	47	0	0.3	0.3	4.3	0	1370.2	2584.2

Table D18. Results by country, for the ECHAM4 B2, high sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	590.7	0.0	0.0	0.1	0	0	41.4	3.7	6693.5	2938.0	227	0	0.0	0.2	0.0	0	590.7	441.1
Bulgaria	0	0	326.3	0.3	0.0	0.0	0.0	0	0	0.5	0.3	229.5	25.0	71	0	0.0	0.1	0.0	0	0.3	1.7
Croatia	0	0	2263.0	0.4	0.0	0.0	0.0	0	0	115.8	0.3	472.0	22.2	48	0	0.0	0.1	0.0	0	0.4	226.2
Denmark	0	0	4954.4	49.7	0.8	0.0	2.0	0	0	212.5	0.9	9646.1	983.0	19	0	0.0	0.1	0.0	0	49.0	1904.9
Estonia	0	0	1907.4	0.3	0.0	0.0	0.4	0	0	257.3	0.1	882.9	11.9	79	0	0.0	0.1	0.0	0	0.3	768.9
Finland	0	0	3790.4	11.8	0.0	0.0	0.0	0	0	149.9	0.2	4586.7	264.3	339	0	0.0	0.0	0.0	0	11.8	545.7
France	0	0	4655.8	439.8	0.3	0.5	0.7	0	0	538.4	2.4	14969.3	2051.7	157	0	0.1	0.1	153.9	0	285.5	3363.6
Germany	0	0	2729.6	593.9	0.5	0.0	1.4	0	0	411.4	2.6	21439.8	2277.8	221	0	0.3	0.1	252.6	0	340.5	3742.5
Greece	0	0	7809.5	5.1	0.0	0.5	0.1	0	0	119.6	1.5	4359.1	260.0	118	0	0.0	0.1	0.0	0	5.0	266.9
Ireland	0	0	3435.1	72.9	0.0	0.0	0.1	0	0	23.9	0.6	4589.9	547.0	164	0	0.0	0.1	0.0	0	72.9	226.1
Italy	0	0	5767.0	269.4	0.5	0.0	0.6	0	0	140.6	2.8	11102.3	2164.2	271	0	0.0	0.1	6.7	0	262.2	277.6
Latvia	0	0	654.7	2.3	0.0	0.0	0.0	0	0	7.6	1.3	600.6	120.4	81	0	0.0	0.1	0.0	0	2.3	22.5
Lithuania	0	0	209.1	0.2	0.0	0.0	0.1	0	0	11.7	0.0	65.9	9.2	51	0	0.0	0.1	0.0	0	0.1	32.4
Malta	0	0	75.6	0.5	0.0	0.0	0.0	0	0	0.0	0.0	34.0	31.6	192	0	0.0	0.1	0.0	0	0.5	0.0
Netherlands	0	0	2024.4	3776.7	0.5	0.0	1.2	0	0	101.0	20.3	32515.8	19900.9	229	0	4.3	0.1	188.5	0	3583.4	745.1
Poland	0	0	979.8	12.1	0.0	0.0	0.0	0	0	40.8	3.9	3491.1	336.7	41	0	0.0	0.1	5.3	0	6.8	54.1
Portugal	0	0	1896.0	9.1	0.1	0.0	0.2	0	0	112.5	0.8	1419.0	227.1	93	0	0.0	0.1	0.0	0	9.1	668.8
Romania	0	0	420.1	1.2	0.0	0.1	0.1	0	0	335.1	1.8	3983.5	93.3	30	0	0.0	0.1	0.0	0	1.2	2179.3
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.1	0.0	5.7	1.2	154	0	0.0	0.1	0.0	0	0.1	0.2
Spain	0	0	4967.8	52.0	0.1	0.0	0.2	0	0	162.1	1.0	2786.6	844.1	176	0	0.1	0.1	1.0	0	50.8	1166.1
Sweden	0	0	7076.7	15.7	0.0	0.0	0.0	0	0	34.2	0.5	11189.0	589.0	358	0	0.0	0.0	0.0	0	15.7	883.1
United Kingdom	0	0	12458.2	760.2	0.1	0.0	0.2	0	0	431.1	5.8	20712.0	5192.8	148	0	0.0	0.1	2.7	0	757.4	3481.4

Table D19. Results by country, for the ECHAM4 B2, high sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	1154.4	0.0	0.0	0.1	0.0	0.0	149.3	12.3	6918.6	2905.1	85	0	0.0	0.6	0.0	0	1154.4	333.1
Bulgaria	0	0	326.3	67.9	0.0	6.2	0.0	0.9	64.5	1.4	10.5	244.6	24.4	1	0	0.0	0.4	0.0	0	3.5	0.8
Croatia	0	0	2263.0	35.0	0.0	7.5	0.0	0.5	31.6	296.7	8.0	503.2	23.2	1	0	0.0	0.4	0.0	0	3.4	45.3
Denmark	0	0	4954.4	307.5	1.7	0.0	3.4	0.0	0.0	786.8	5.3	10126.5	980.9	4	0	0.0	0.4	0.0	0	305.8	1330.6
Estonia	0	0	1907.4	53.8	0.2	4.0	1.5	0.3	48.6	807.2	2.8	957.4	12.0	2	0	0.0	0.3	0.0	0	5.0	219.0
Finland	0	0	3790.4	74.7	0.0	0.0	0.0	0.0	0.0	463.8	0.4	4648.7	254.3	216	0	0.0	0.2	0.0	0	74.7	231.8
France	0	0	4655.8	940.8	0.7	0.2	1.1	0.0	0.0	1805.9	47.2	15746.1	2043.6	21	0	1.4	0.4	234.8	0	703.9	2096.1
Germany	0	0	2729.6	1478.0	1.7	97.4	3.3	4.4	393.6	1491.0	62.6	22360.7	2248.1	53	0	2.5	0.4	387.9	0	692.3	2662.9
Greece	0	0	7809.5	547.2	0.0	120.8	0.1	10.0	520.1	340.6	114.8	5050.9	278.0	1	0	0.0	0.4	0.0	0	27.1	46.0
Ireland	0	0	3435.1	208.5	0.0	0.0	0.1	0.0	0.0	96.1	17.8	4679.3	529.2	14	0	0.0	0.4	0.0	0	208.4	153.9
Italy	0	0	5767.0	1214.8	0.8	10.8	0.9	6.5	563.9	338.6	112.3	12365.6	2338.4	20	0	0.5	0.4	10.6	0	639.0	79.6
Latvia	0	0	654.7	42.5	0.0	0.0	0.1	0.0	0.0	23.8	11.7	625.4	115.1	1	0	0.0	0.3	0.0	0	42.5	6.3
Lithuania	0	0	209.1	2.4	0.0	0.0	0.4	0.0	0.0	32.7	0.9	69.8	9.2	3	0	0.0	0.4	0.0	0	2.4	11.4
Malta	0	0	75.6	79.0	0.0	1.4	0.0	1.5	76.1	0.0	14.7	43.1	38.0	1	0	0.0	0.4	0.0	0	2.9	0.0
Netherlands	0	0	2024.4	7969.0	1.2	0.0	2.3	0.0	6.1	351.1	158.4	32738.5	18990.5	106	0	24.1	0.5	291.0	0	7646.5	495.0
Poland	0	0	979.8	616.9	0.0	97.7	0.1	8.6	550.0	81.5	136.2	3818.7	340.8	1	0	0.1	0.5	13.3	0	53.4	13.4
Portugal	0	0	1896.0	26.1	0.2	4.8	0.4	0.0	0.0	318.7	24.6	1512.3	228.6	11	0	0.0	0.4	0.0	0	25.9	462.6
Romania	0	0	420.1	173.5	0.0	61.3	0.4	3.3	162.4	1195.4	40.6	4993.3	97.8	1	0	0.0	0.5	0.0	0	11.0	1319.0
Slovenia	0	0	28.7	0.8	0.0	0.1	0.0	0.0	0.0	0.2	0.2	6.3	1.2	0	0	0.0	0.4	0.0	0	0.8	0.0
Spain	0	0	4967.8	213.1	0.2	7.2	0.4	0.5	41.4	527.3	53.6	2980.6	855.1	14	0	0.7	0.4	1.6	0	169.1	800.8
Sweden	0	0	7076.7	146.2	0.0	0.0	0.0	0.0	0.0	110.1	1.9	11354.0	571.4	183	0	0.0	0.2	0.0	0	146.1	807.2
United Kingdom	0	0	12458.2	1668.1	0.2	0.6	0.3	0.0	0.0	1633.8	73.0	21272.7	5060.5	19	0	0.5	0.4	4.6	0	1662.7	2278.7

Table D20. Results by country, for the ECHAM4 B2, low sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	2.0	0.1	130.2	56.2	0.0	0.0	0.0	0	0	40.9	2.7	6657.7	2917.6	1108	0	0	0.1	0	1.9	56.1	441.5
Bulgaria	1.5	0.0	326.3	0.2	0.0	0.0	0.0	0	0	0.4	0.0	220.1	24.1	628	0	0	0.0	0	1.5	0.2	1.7
Croatia	12.1	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	71.8	0.0	457.5	20.4	396	0	0	0.0	0	12.1	0.2	270.2
Denmark	44.9	12.8	4954.4	0.4	0.3	0.0	0.8	0	0	102.4	0.5	9530.1	968.7	141	0	0	0.0	0	32.1	0.1	2015.0
Estonia	21.2	0.0	1907.4	0.2	0.0	0.0	0.1	0	0	110.0	0.0	863.0	11.7	346	0	0	0.0	0	21.2	0.2	916.2
Finland	8.6	0.0	3790.4	0.3	0.0	0.0	0.0	0	0	0.9	0.2	4572.9	263.4	1960	0	0	0.0	0	8.6	0.3	694.7
France	58.2	35.5	4655.8	230.6	0.1	0.4	0.1	0	0	320.4	1.8	14775.7	2026.1	1319	0.3	0.0	0.0	149.0	22.4	81.5	3581.6
Germany	50.0	25.8	2729.6	401.7	0.2	0.0	0.5	0	0	178.4	2.2	21251.8	2258.0	1287	1.0	0.0	0.0	246.4	23.2	155.1	3975.4
Greece	19.6	1.4	7809.5	1.7	0.0	0.2	0.0	0	0	73.7	0.3	4113.1	247.3	1127	0.0	0.0	0.0	0.0	18.2	1.7	312.9
Ireland	26.7	4.1	3435.1	17.7	0.0	0.0	0.0	0	0	16.0	0.4	4568.9	544.6	867	0	0	0.0	0	22.6	17.7	234.1
Italy	29.7	5.6	5767.0	6.8	0.2	0.0	0.3	0	0	83.0	1.4	10891.5	2114.3	3934	0.1	0	0.0	6.5	24.0	0.0	335.2
Latvia	7.4	0.5	654.7	2.1	0.0	0.0	0.0	0	0	3.3	0.1	595.9	119.5	397	0.0	0.0	0.0	0.0	6.9	2.1	26.8
Lithuania	2.5	0.5	209.1	0.1	0.0	0.0	0.0	0	0	4.8	0.0	65.3	9.0	198	0	0	0.0	0	2.0	0.1	39.3
Malta	0.2	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	31.4	29.2	2529	0	0	0.0	0	0.2	0.0	0.0
Netherlands	54.3	27.7	2024.4	518.4	0.2	0.0	0.4	0	0	56.2	14.7	32476.3	19881.6	1127	0.4	0.6	0.1	184.1	26.2	333.5	789.9
Poland	12.2	0.0	979.8	9.7	0.0	0.0	0.0	0	0	23.3	0.4	3433.3	330.9	301	0.1	0.0	0.1	5.2	12.1	4.6	71.6
Portugal	10.6	6.2	1896.0	6.3	0.0	0.0	0.1	0	0	51.7	0.3	1398.6	224.2	461	0.0	0.0	0.0	0	4.4	6.3	729.6
Romania	5.9	0.0	420.1	0.8	0.0	0.1	0.1	0	0	190.9	0.2	3822.3	91.3	221	0	0	0.1	0	5.9	0.8	2323.5
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.1	0.0	5.5	1.1	2288	0	0	0.0	0	0.1	0.0	0.2
Spain	20.7	6.7	4967.8	9.6	0.0	0.0	0.0	0	0	73.2	0.7	2752.9	832.3	1565	0.1	0.0	0.0	1.0	13.9	8.6	1255.0
Sweden	12.5	0.4	7076.7	0.0	0.0	0.0	0.0	0	0	4.3	0.3	11155.0	586.0	2564	0	0	0.0	0	12.1	0.0	913.0
United Kingdom	99.5	10.7	12458.2	46.9	0.0	0.0	0.0	0	0	239.3	4.2	20597.9	5164.1	921	0.0	0	0.0	2.6	88.8	44.3	3673.3

Table D21. Results by country, for the ECHAM4 B2, low sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	1.7	0.1	130.2	0.0	0.0	0.0	0.0	0.0	0.0	149.0	1.9	6806.5	2850.0	1892	0.0	0.0	0.3	0.0	1.6	0.0	333.4
Bulgaria	1.0	0.0	326.3	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	237.8	23.3	2737	0.0	0.0	0.2	0.0	1.0	0.0	1.0
Croatia	7.7	0.0	2263.0	0.0	0.0	0.0	0.0	0.0	0.0	227.0	0.0	473.4	20.0	1778	0.0	0.0	0.2	0.0	7.7	0.0	115.0
Denmark	67.8	37.5	4954.4	0.6	0.6	0.0	1.1	0.0	0.0	631.0	0.5	9732.4	941.6	231	0.0	0.0	0.1	0.0	30.3	0.0	1486.4
Estonia	14.8	0.0	1907.4	2.6	0.1	0.0	0.6	0.0	2.5	493.8	0.0	889.1	11.1	3151	0.0	0.0	0.1	0.0	14.8	0.0	532.5
Finland	6.9	0.0	3790.4	0.0	0.0	0.0	0.0	0.0	0.0	207.6	0.1	4587.9	250.9	3365	0.0	0.0	-0.1	0.0	6.9	0.0	488.0
France	89.0	67.1	4655.8	220.5	0.1	0.2	0.2	0.0	0.0	1114.5	1.4	15221.7	1976.3	2079	0.3	0.0	0.2	209.5	21.7	10.9	2787.5
Germany	108.4	86.0	2729.6	355.9	0.5	0.0	1.1	0.0	0.0	1180.2	1.5	21721.1	2184.2	2129	0.9	0.0	0.2	355.4	21.5	0.0	2973.6
Greece	21.7	1.8	7809.5	0.2	0.0	0.3	0.0	0.0	0.0	246.3	0.2	4634.6	260.1	1723	0.0	0.0	0.2	0.0	19.9	0.2	140.3
Ireland	27.3	4.6	3435.1	2.2	0.0	0.0	0.0	0.0	0.0	52.1	0.3	4607.2	520.8	1480	0.0	0.0	0.1	0.0	22.7	2.2	198.0
Italy	35.1	10.4	5767.0	10.0	0.4	0.0	0.4	0.0	0.0	283.7	1.2	11524.8	2140.9	5723	0.1	0.0	0.2	9.6	24.6	0.0	134.5
Latvia	5.7	0.7	654.7	0.0	0.0	0.0	0.0	0.0	0.0	14.7	0.1	602.6	111.3	3609	0.0	0.0	0.1	0.0	5.0	0.0	15.4
Lithuania	2.0	0.7	209.1	0.0	0.0	0.0	0.2	0.0	0.0	20.0	0.0	66.4	8.6	1803	0.0	0.0	0.1	0.0	1.4	0.0	24.1
Malta	0.2	0.0	75.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	33.3	3816	0.0	0.0	0.2	0.0	0.2	0.0	0.0
Netherlands	75.5	53.6	2024.4	268.4	0.5	0.0	0.6	0.0	0.0	315.2	11.3	32609.3	18932.7	1919	0.4	0.0	0.3	267.7	21.5	0.3	530.9
Poland	8.7	1.0	979.8	12.8	0.0	0.0	0.0	0.0	0.0	62.5	0.3	3607.0	320.8	1347	0.1	0.0	0.2	12.3	7.6	0.5	32.3
Portugal	18.4	13.9	1896.0	8.9	0.0	0.0	0.1	0.0	0.0	232.7	0.2	1436.6	218.1	774	0.0	0.0	0.2	0.0	4.5	8.8	548.6
Romania	3.6	0.0	420.1	2.1	0.0	0.1	0.2	0.0	0.0	705.8	0.1	4498.8	91.2	975	0.0	0.0	0.3	0.0	3.6	2.1	1808.6
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	5.8	1.1	9711	0.0	0.0	0.2	0.0	0.1	0.0	0.1
Spain	33.8	19.3	4967.8	2.1	0.0	0.0	0.0	0.0	0.0	385.3	0.5	2819.1	811.5	2563	0.1	0.0	0.2	1.5	14.5	0.6	942.9
Sweden	11.0	0.5	7076.7	0.0	0.0	0.0	0.0	0.0	0.0	44.0	0.3	11187.7	559.0	4337	0.0	0.0	0.0	0.0	10.5	0.0	873.3
United Kingdom	104.0	17.1	12458.2	5.2	0.0	0.0	0.0	0.0	0.0	842.8	3.2	20850.7	4958.9	1559	0.0	0.0	0.1	3.9	86.9	1.4	3069.8

Table D22. Results by country, for the ECHAM4 B2, medium sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	2.2	0.1	130.2	90.6	0.0	0.0	0.0	0	0	41.4	2.7	6675.1	2927.5	1105	0.0	0.0	0.1	0.0	2.1	90.6	441.1
Bulgaria	1.8	0.0	326.3	0.3	0.0	0.0	0.0	0	0	0.5	0.0	225.7	24.7	613	0.0	0.0	0.1	0.0	1.8	0.3	1.7
Croatia	14.1	0.0	2263.0	0.3	0.0	0.0	0.0	0	0	108.2	0.0	461.6	20.8	389	0.0	0.0	0.1	0.0	14.1	0.3	233.8
Denmark	59.8	20.1	4954.4	0.6	0.4	0.0	1.2	0	0	184.8	0.5	9588.0	975.7	139	0.0	0.0	0.1	0.0	39.7	0.2	1932.6
Estonia	24.3	0.0	1907.4	0.3	0.0	0.0	0.3	0	0	195.9	0.0	872.5	11.8	341	0.0	0.0	0.0	0.0	24.3	0.2	830.3
Finland	10.5	0.0	3790.4	0.3	0.0	0.0	0.0	0	0	78.5	0.2	4578.8	263.8	1947	0.0	0.0	0.0	0.0	10.5	0.3	617.1
France	80.1	52.4	4655.8	242.7	0.1	0.4	0.1	0	0	436.2	1.9	14868.1	2038.4	1297	0.4	0.0	0.1	151.4	27.2	91.3	3468.5
Germany	73.7	44.8	2729.6	416.2	0.3	0.0	0.8	0	0	347.1	2.2	21341.6	2267.5	1272	1.1	0.0	0.1	249.4	27.8	166.5	3806.7
Greece	25.3	1.9	7809.5	2.6	0.0	0.3	0.0	0	0	118.7	0.3	4239.1	254.2	1094	0.0	0.0	0.1	0.0	23.4	2.6	267.8
Ireland	34.9	6.0	3435.1	20.8	0.0	0.0	0.0	0	0	16.0	0.4	4579.1	545.8	862	0.0	0.0	0.1	0.0	28.9	20.8	234.1
Italy	37.9	7.9	5767.0	6.9	0.3	0.0	0.4	0	0	127.1	1.4	10992.1	2138.2	3822	0.1	0.0	0.1	6.6	29.9	0.0	291.1
Latvia	8.7	0.8	654.7	2.2	0.0	0.0	0.0	0	0	5.8	0.1	598.1	119.9	392	0.0	0.0	0.0	0.0	8.0	2.2	24.3
Lithuania	3.0	0.7	209.1	0.1	0.0	0.0	0.1	0	0	9.7	0.0	65.6	9.1	195	0.0	0.0	0.1	0.0	2.3	0.1	34.4
Malta	0.3	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	32.6	30.3	2450	0.0	0.0	0.1	0.0	0.3	0.0	0.0
Netherlands	68.5	38.8	2024.4	535.3	0.3	0.0	0.5	0	0	93.5	14.8	32493.5	19890.6	1122	0.5	0.6	0.1	186.2	29.2	348.2	752.6
Poland	13.8	0.0	979.8	9.9	0.0	0.0	0.0	0	0	32.5	0.4	3460.2	333.7	297	0.1	0.0	0.1	5.2	13.7	4.7	62.4
Portugal	15.4	9.8	1896.0	6.4	0.0	0.0	0.1	0	0	94.9	0.3	1407.8	225.6	456	0.0	0.0	0.1	0.0	5.6	6.3	686.4
Romania	6.5	0.0	420.1	0.8	0.0	0.1	0.1	0	0	191.2	0.2	3900.5	92.3	217	0.0	0.0	0.1	0.0	6.5	0.8	2323.2
Slovenia	0.2	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.1	0.0	5.6	1.1	2252	0.0	0.0	0.1	0.0	0.2	0.0	0.2
Spain	29.5	11.6	4967.8	10.2	0.0	0.0	0.0	0	0	136.8	0.7	2768.5	837.9	1541	0.1	0.0	0.1	1.0	17.8	9.1	1191.4
Sweden	16.7	0.5	7076.7	0.0	0.0	0.0	0.0	0	0	19.4	0.3	11168.8	587.3	2540	0.0	0.0	0.0	0.0	16.1	0.0	897.9
United Kingdom	127.9	16.3	12458.2	56.2	0.0	0.0	0.0	0	0	239.3	4.2	20653.3	5177.8	914	0.0	0.0	0.1	2.7	111.6	53.6	3673.3

Table D23. Results by country, for the ECHAM4 B2, medium sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	2.1	0.1	130.2	0.0	0.0	0.0	0.1	0.0	0.0	149.3	2.0	6862.3	2877.5	1872	0.0	0.0	0.4	0.0	2.0	0.0	333.1
Bulgaria	1.5	0.0	326.3	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	241.2	23.8	2540	0.0	0.0	0.3	0.0	1.5	0.0	1.0
Croatia	11.6	0.0	2263.0	0.1	0.0	0.0	0.0	0.0	0.0	243.9	0.0	485.2	21.1	1676	0.0	0.0	0.3	0.0	11.6	0.1	98.1
Denmark	102.5	56.8	4954.4	1.0	1.0	0.0	2.0	0.0	0.0	733.0	0.5	9929.4	961.2	221	0.0	0.0	0.2	0.0	45.6	0.0	1384.4
Estonia	21.0	0.0	1907.4	2.6	0.1	0.0	1.1	0.0	2.5	650.9	0.0	923.2	11.5	3006	0.0	0.0	0.2	0.0	21.0	0.0	375.3
Finland	10.6	0.0	3790.4	0.0	0.0	0.0	0.0	0.0	0.0	417.6	0.1	4614.4	252.4	3277	0.0	0.0	0.1	0.0	10.6	0.0	278.0
France	137.6	105.7	4655.8	238.8	0.2	0.3	0.3	0.0	0.0	1455.6	1.4	15502.5	2013.2	1998	0.5	0.0	0.3	221.9	31.3	16.6	2453.8
Germany	172.5	140.6	2729.6	381.2	0.8	0.0	1.6	0.1	8.6	1395.0	1.6	22039.6	2217.0	2048	1.3	0.0	0.3	371.4	30.7	0.4	2758.8
Greece	33.3	2.9	7809.5	1.4	0.0	0.5	0.0	0.0	0.0	276.0	0.2	4887.4	270.9	1578	0.0	0.0	0.3	0.0	30.4	1.4	110.6
Ireland	41.4	6.0	3435.1	5.0	0.0	0.0	0.0	0.0	0.0	78.3	0.4	4643.4	525.0	1449	0.0	0.0	0.3	0.0	35.4	4.9	171.7
Italy	53.6	16.7	5767.0	10.6	0.5	0.0	0.4	0.0	0.0	313.4	1.2	11946.6	2240.6	5291	0.1	0.0	0.3	10.1	36.8	0.0	104.8
Latvia	8.4	1.3	654.7	0.0	0.0	0.0	0.0	0.0	0.0	19.2	0.1	611.3	112.9	3439	0.0	0.0	0.2	0.0	7.1	0.0	10.9
Lithuania	3.1	1.2	209.1	0.0	0.0	0.0	0.3	0.0	0.0	25.9	0.0	68.0	8.9	1729	0.0	0.0	0.2	0.0	1.8	0.0	18.2
Malta	0.3	0.0	75.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	37.5	3477	0.0	0.0	0.3	0.0	0.3	0.0	0.0
Netherlands	110.2	82.0	2024.4	281.2	0.7	0.0	0.9	0.0	0.0	346.3	11.6	32676.3	18966.6	1888	0.5	0.0	0.4	279.2	27.6	1.3	499.8
Poland	10.9	0.0	979.8	14.5	0.0	0.0	0.0	0.0	0.0	74.1	0.3	3709.6	330.6	1282	0.1	0.0	0.3	12.8	10.8	1.7	20.8
Portugal	30.9	24.1	1896.0	10.5	0.1	0.0	0.1	0.0	0.0	299.1	0.3	1473.5	223.4	749	0.0	0.0	0.3	0.0	6.8	10.5	482.2
Romania	4.9	0.0	420.1	2.4	0.0	0.0	0.3	0.0	0.0	1058.5	0.1	4799.2	94.6	923	0.0	0.0	0.4	0.0	4.9	2.4	1455.9
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	6.0	1.1	9546	0.0	0.0	0.3	0.0	0.1	0.0	0.1
Spain	55.4	33.1	4967.8	3.4	0.0	0.0	0.0	0.0	0.0	480.1	0.5	2888.4	832.6	2435	0.1	0.0	0.3	1.5	22.2	1.8	848.1
Sweden	19.4	0.8	7076.7	0.0	0.0	0.0	0.0	0.0	0.0	94.2	0.3	11251.7	564.5	4162	0.0	0.0	0.1	0.0	18.7	0.0	823.1
United Kingdom	158.7	26.2	12458.2	7.3	0.0	0.0	0.0	0.0	0.0	1328.3	3.3	21061.9	5009.6	1518	0.0	0.0	0.3	4.3	132.6	3.0	2584.2

Table D24. Results by country, for the ECHAM4 B2, high sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	2.5	0.1	130.2	137.3	0.0	0.0	0.0	0	0	41.4	2.7	6693.5	2938.0	1102	0.0	0.0	0.2	0.0	2.4	137.2	441.1
Bulgaria	2.1	0.0	326.3	0.3	0.0	0.0	0.0	0	0	0.5	0.0	229.5	25.0	598	0.0	0.0	0.1	0.0	2.1	0.3	1.7
Croatia	17.0	0.0	2263.0	0.3	0.0	0.0	0.0	0	0	115.8	0.0	472.0	22.2	382	0.0	0.0	0.1	0.0	17.0	0.3	226.2
Denmark	80.1	29.1	4954.4	1.4	0.7	0.0	1.7	0	0	212.5	0.6	9646.1	983.0	137	0.0	0.0	0.1	0.0	51.0	0.7	1904.9
Estonia	28.9	0.0	1907.4	0.3	0.0	0.0	0.4	0	0	257.3	0.0	882.9	11.9	336	0.0	0.0	0.1	0.0	28.9	0.2	768.9
Finland	13.3	0.0	3790.4	0.3	0.0	0.0	0.0	0	0	149.9	0.2	4586.7	264.3	1931	0.0	0.0	0.0	0.0	13.3	0.3	545.7
France	109.9	74.9	4655.8	261.6	0.1	0.5	0.2	0	0	538.4	1.9	14969.3	2051.7	1275	0.5	0.0	0.1	153.9	34.4	107.6	3363.6
Germany	101.0	65.0	2729.6	432.3	0.4	0.0	1.0	0	0	411.4	2.3	21439.8	2277.8	1256	1.4	0.0	0.1	252.6	34.6	179.3	3742.5
Greece	33.9	2.8	7809.5	4.0	0.0	0.5	0.0	0	0	119.6	0.3	4359.1	260.0	1062	0.0	0.0	0.1	0.0	31.1	4.0	266.9
Ireland	45.8	7.4	3435.1	22.7	0.0	0.0	0.0	0	0	23.9	0.5	4589.9	547.0	856	0.0	0.0	0.1	0.0	38.4	22.7	226.1
Italy	49.8	10.9	5767.0	7.1	0.3	0.0	0.4	0	0	140.6	1.5	11102.3	2164.2	3713	0.1	0.0	0.1	6.7	38.8	0.0	277.6
Latvia	10.8	1.2	654.7	2.2	0.0	0.0	0.0	0	0	7.6	0.1	600.6	120.4	386	0.0	0.0	0.1	0.0	9.5	2.2	22.5
Lithuania	3.8	1.2	209.1	0.2	0.0	0.0	0.1	0	0	11.7	0.0	65.9	9.2	193	0.0	0.0	0.1	0.0	2.6	0.1	32.4
Malta	0.3	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	34.0	31.6	2373	0.0	0.0	0.1	0.0	0.3	0.0	0.0
Netherlands	88.1	53.8	2024.4	548.9	0.3	0.0	0.6	0	0	101.0	15.0	32515.8	19900.9	1117	0.5	0.6	0.1	188.5	33.8	359.4	745.1
Poland	16.2	0.0	979.8	10.1	0.0	0.0	0.0	0	0	40.8	0.4	3491.1	336.7	292	0.1	0.0	0.1	5.3	16.1	4.8	54.1
Portugal	21.8	14.4	1896.0	7.1	0.0	0.0	0.1	0	0	112.5	0.3	1419.0	227.1	452	0.0	0.0	0.1	0.0	7.4	7.1	668.8
Romania	7.4	0.0	420.1	0.9	0.0	0.1	0.1	0	0	335.1	0.2	3983.5	93.3	213	0.0	0.0	0.1	0.0	7.4	0.9	2179.3
Slovenia	0.2	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.1	0.0	5.7	1.2	2215	0.0	0.0	0.1	0.0	0.2	0.0	0.2
Spain	40.7	17.0	4967.8	11.8	0.0	0.0	0.0	0	0	162.1	0.7	2786.6	844.1	1516	0.1	0.0	0.1	1.0	23.6	10.7	1166.1
Sweden	23.1	0.8	7076.7	0.0	0.0	0.0	0.0	0	0	34.2	0.4	11189.0	589.0	2507	0.0	0.0	0.0	0.0	22.3	0.0	883.1
United Kingdom	174.2	28.4	12458.2	81.6	0.0	0.1	0.0	0	0	431.1	4.3	20712.0	5192.8	907	0.0	0.0	0.1	2.7	145.8	78.8	3481.4

Table D25. Results by country, for the ECHAM4 B2, high sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	2.5	0.1	130.2	0.0	0.0	0.0	0.1	0.0	0.0	149.3	2.0	6918.6	2905.1	1852	0.0	0.0	0.6	0.0	2.4	0.0	333.1
Bulgaria	1.9	0.0	326.3	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	244.6	24.4	2373	0.0	0.0	0.4	0.0	1.9	0.0	0.8
Croatia	15.1	0.0	2263.0	0.3	0.0	0.0	0.0	0.0	0.0	296.7	0.0	503.2	23.2	1587	0.0	0.0	0.4	0.0	15.1	0.3	45.3
Denmark	136.5	77.4	4954.4	1.4	1.4	0.0	2.8	0.0	0.0	786.8	0.5	10126.5	980.9	211	0.0	0.0	0.4	0.0	59.1	0.0	1330.6
Estonia	26.5	0.0	1907.4	5.2	0.2	0.0	1.5	0.0	5.0	807.2	0.0	957.4	12.0	2876	0.0	0.0	0.3	0.0	26.5	0.0	219.0
Finland	14.2	0.0	3790.4	0.0	0.0	0.0	0.0	0.0	0.0	463.8	0.1	4648.7	254.3	3187	0.0	0.0	0.2	0.0	14.2	0.0	231.8
France	182.5	142.1	4655.8	256.6	0.2	0.1	0.3	0.0	0.0	1805.9	1.5	15746.1	2043.6	1925	0.6	0.0	0.4	234.8	39.9	21.6	2096.1
Germany	234.2	193.9	2729.6	398.3	1.0	0.0	2.0	0.1	8.6	1491.0	1.7	22360.7	2248.1	1976	1.6	0.0	0.4	387.9	38.7	0.9	2662.9
Greece	43.5	3.9	7809.5	4.8	0.0	0.6	0.0	0.0	0.0	340.6	0.3	5050.9	278.0	1461	0.0	0.0	0.4	0.0	39.6	4.8	46.0
Ireland	53.9	7.4	3435.1	11.6	0.0	0.0	0.0	0.0	0.0	96.1	0.4	4679.3	529.2	1419	0.0	0.0	0.4	0.0	46.5	11.5	153.9
Italy	69.4	21.8	5767.0	11.1	0.5	0.0	0.5	0.0	0.0	338.6	1.3	12365.6	2338.4	4936	0.1	0.0	0.4	10.6	47.4	0.0	79.6
Latvia	10.7	1.8	654.7	0.0	0.0	0.0	0.0	0.0	0.0	23.8	0.1	625.4	115.1	3287	0.0	0.0	0.3	0.0	8.9	0.0	6.3
Lithuania	4.0	1.7	209.1	0.0	0.0	0.0	0.3	0.0	0.0	32.7	0.0	69.8	9.2	1662	0.0	0.0	0.4	0.0	2.3	0.0	11.4
Malta	0.4	0.0	75.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.1	38.0	3202	0.0	0.0	0.4	0.0	0.4	0.0	0.0
Netherlands	142.5	108.9	2024.4	300.5	0.8	0.0	1.1	0.0	0.0	351.1	11.8	32738.5	18990.5	1858	0.6	0.0	0.5	291.0	33.0	8.6	495.0
Poland	13.7	0.0	979.8	20.9	0.0	0.0	0.1	0.0	0.0	81.5	0.4	3818.7	340.8	1223	0.1	0.0	0.5	13.3	13.6	7.5	13.4
Portugal	67.7	58.8	1896.0	11.6	0.1	0.0	0.1	0.0	0.0	318.7	0.3	1512.3	228.6	726	0.0	0.0	0.4	0.0	8.9	11.5	462.6
Romania	6.0	0.0	420.1	2.7	0.0	0.0	0.4	0.0	0.0	1195.4	0.1	4993.3	97.8	877	0.0	0.0	0.5	0.0	6.0	2.7	1319.0
Slovenia	0.2	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	6.3	1.2	9348	0.0	0.0	0.4	0.0	0.2	0.0	0.0
Spain	74.4	45.2	4967.8	6.0	0.0	0.0	0.0	0.0	0.0	527.3	0.6	2980.6	855.1	2322	0.1	0.0	0.4	1.6	29.0	4.4	800.8
Sweden	28.1	0.9	7076.7	0.0	0.0	0.0	0.0	0.0	0.0	110.1	0.3	11354.0	571.4	3993	0.0	0.0	0.2	0.0	27.2	0.0	807.2
United Kingdom	206.4	33.8	12458.2	9.3	0.0	0.0	0.0	0.0	0.0	1633.8	3.4	21272.7	5060.5	1480	0.0	0.0	0.4	4.6	172.5	4.7	2278.7

Table D26. Results by country, for the HADCM3 A2, low sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																			
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	569.0	0.0	0.0	0.0	0	0	40.8	3.9	6654.1	3130.7	263	0	0.0	0.1	0.0	0	569.0	441.6
Bulgaria	0	0	326.3	0.2	0.0	0.0	0.0	0	0	0.4	0.0	218.8	25.6	134	0	0.0	0.0	0.0	0	0.2	1.8
Croatia	0	0	2263.0	0.2	0.0	0.0	0.0	0	0	61.2	0.2	456.6	21.8	103	0	0.0	0.0	0.0	0	0.2	280.8
Denmark	0	0	4954.4	13.2	0.2	0.0	0.6	0	0	99.1	0.7	9519.4	1038.7	28	0	0.0	0.0	0.0	0	13.0	2018.3
Estonia	0	0	1907.4	0.2	0.0	0.0	0.1	0	0	97.4	0.0	861.2	13.1	131	0	0.0	0.0	0.0	0	0.2	928.8
Finland	0	0	3790.4	1.7	0.0	0.0	0.0	0	0	0.9	0.2	4572.0	282.8	382	0	0.0	0.0	0.0	0	1.7	694.7
France	0	0	4655.8	396.8	0.1	0.3	0.2	0	0	301.1	2.4	14756.7	2182.3	221	0	0.0	0.0	146.5	0	250.2	3602.6
Germany	0	0	2729.6	485.3	0.2	0.0	0.6	0	0	172.7	2.6	21233.7	2422.6	284	0	0.1	0.0	242.3	0	242.6	3981.2
Greece	0	0	7809.5	4.3	0.0	0.2	0.0	0	0	62.1	0.4	4087.2	264.0	226	0	0.0	0.0	0.0	0	4.2	324.4
Ireland	0	0	3435.1	25.1	0.0	0.0	0.0	0	0	16.0	0.5	4566.8	584.5	240	0	0.0	0.0	0.0	0	25.1	234.1
Italy	0	0	5767.0	35.1	0.2	0.0	0.3	0	0	78.2	2.7	10871.1	2265.0	408	0	0.0	0.0	6.4	0	28.4	340.0
Latvia	0	0	654.7	1.8	0.0	0.0	0.0	0	0	2.9	0.1	595.5	134.5	138	0	0.0	0.0	0.0	0	1.8	27.1
Lithuania	0	0	209.1	0.1	0.0	0.0	0.0	0	0	4.2	0.0	65.3	10.1	77	0	0.0	0.0	0.0	0	0.1	39.9
Malta	0	0	75.6	0.4	0.0	0.0	0.0	0	0	0.0	0.0	31.1	31.1	331	0	0.0	0.0	0.0	0	0.4	0.0
Netherlands	0	0	2024.4	3197.4	0.2	0.0	0.5	0	0	45.7	21.4	32472.8	21346.9	262	0	3.4	0.1	181.1	0	3012.6	800.4
Poland	0	0	979.8	9.1	0.0	0.0	0.0	0	0	23.3	4.0	3427.7	353.0	79	0	0.0	0.1	4.7	0	4.4	71.6
Portugal	0	0	1896.0	8.4	0.0	0.0	0.1	0	0	49.7	0.3	1396.8	240.4	159	0	0.0	0.0	0.0	0	8.4	731.6
Romania	0	0	420.1	0.8	0.0	0.0	0.1	0	0	190.6	0.7	3806.2	97.4	57	0	0.0	0.1	0.0	0	0.8	2323.8
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.2	267	0	0.0	0.0	0.0	0	0.1	0.2
Spain	0	0	4967.8	30.1	0.0	0.0	0.1	0	0	68.1	0.9	2749.4	892.4	277	0	0.1	0.0	1.0	0	29.0	1260.0
Sweden	0	0	7076.7	2.9	0.0	0.0	0.0	0	0	2.2	0.4	11153.1	629.0	422	0	0.0	0.0	0.0	0	2.9	915.1
United Kingdom	0	0	12458.2	539.7	0.0	0.0	0.1	0	0	239.3	5.9	20586.4	5542.1	215	0	0.0	0.0	2.6	0	537.2	3673.3

Table D27. Results by country, for the HADCM3 A2, low sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	1026.9	0.1	0.0	0.0	0.0	0.0	148.9	4.6	6812.9	3705.2	153	0	0.0	0.3	0.0	0	1026.8	333.5
Bulgaria	0	0	326.3	1.3	0.0	0.0	0.0	0.0	0.0	1.2	0.7	238.2	26.5	21	0	0.0	0.2	0.0	0	1.3	1.0
Croatia	0	0	2263.0	1.3	0.0	0.0	0.0	0.0	0.0	218.6	2.2	474.7	22.8	12	0	0.0	0.2	0.0	0	1.3	123.4
Denmark	0	0	4954.4	105.6	1.0	0.0	2.0	0.0	0.0	0.0	1.2	9754.6	1225.7	12	0	0.0	0.2	0.0	0	104.6	1474.0
Estonia	0	0	1907.4	4.6	0.1	0.0	0.6	0.0	2.1	528.3	0.2	893.0	21.1	55	0	0.0	0.1	0.0	0	2.5	498.0
Finland	0	0	3790.4	18.6	0.0	0.0	0.0	0.0	0.0	211.1	0.3	4590.7	326.0	328	0	0.0	0.0	0.0	0	18.6	484.5
France	0	0	4655.8	718.8	0.4	0.3	0.7	0.0	0.0	1154.0	6.4	15257.1	2572.6	90	0	0.4	0.2	212.2	0	505.8	2748.0
Germany	0	0	2729.6	961.3	1.0	0.0	1.9	0.0	0.0	1210.8	14.9	21757.6	2841.3	152	0	1.0	0.2	359.3	0	599.9	2943.0
Greece	0	0	7809.5	14.4	0.0	0.4	0.0	0.0	0.0	236.9	6.0	4673.6	340.2	33	0	0.0	0.2	0.0	0	14.4	149.7
Ireland	0	0	3435.1	124.8	0.0	0.0	0.1	0.0	0.0	55.2	2.1	4611.4	677.0	106	0	0.0	0.2	0.0	0	124.7	194.8
Italy	0	0	5767.0	507.1	0.7	0.0	0.7	0.0	0.0	283.6	9.7	11572.9	2794.8	136	0	0.2	0.2	9.7	0	496.5	134.6
Latvia	0	0	654.7	21.0	0.0	0.0	0.0	0.0	0.0	15.6	2.2	603.5	211.8	52	0	0.0	0.1	0.0	0	21.0	14.5
Lithuania	0	0	209.1	1.2	0.0	0.0	0.2	0.0	0.0	20.4	0.2	66.6	16.4	35	0	0.0	0.1	0.0	0	1.2	23.7
Malta	0	0	75.6	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	38.3	43.8	63	0	0.0	0.2	0.0	0	1.4	0.0
Netherlands	0	0	2024.4	6632.7	0.9	0.0	1.4	0.0	0.0	300.7	25.8	32616.9	24591.8	174	0	14.4	0.3	270.6	0	6346.8	545.5
Poland	0	0	979.8	37.4	0.0	1.0	0.0	0.1	1.9	67.5	33.1	3618.9	364.5	13	0	0.0	0.2	9.8	0	25.7	27.3
Portugal	0	0	1896.0	16.8	0.1	0.0	0.2	0.0	0.0	239.6	3.7	1440.8	284.0	48	0	0.0	0.2	0.0	0	16.7	541.7
Romania	0	0	420.1	7.7	0.0	29.8	0.3	0.1	2.9	786.7	7.8	4533.6	103.7	7	0	0.0	0.3	0.0	0	4.8	1727.7
Slovenia	0	0	28.7	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.0	5.8	1.2	64	0	0.0	0.2	0.0	0	0.3	0.1
Spain	0	0	4967.8	108.0	0.1	0.0	0.2	0.0	0.0	390.2	2.5	2826.0	1056.9	95	0	0.3	0.2	1.5	0	106.0	938.0
Sweden	0	0	7076.7	26.8	0.0	0.0	0.0	0.0	0.0	49.5	0.6	11194.5	726.7	354	0	0.0	0.0	0.0	0	26.7	867.8
United Kingdom	0	0	12458.2	1297.7	0.1	0.0	0.2	0.0	0.0	963.9	9.7	20875.3	6447.5	96	0	0.1	0.2	3.9	0	1293.5	2948.6

Table D28. Results by country, for the HADCM3 A2, medium sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	571.6	0.0	0.0	0.0	0	0	41.4	3.9	6670.4	3140.6	248	0	0.0	0.1	0.0	0	571.6	441.1
Bulgaria	0	0	326.3	0.2	0.0	0.0	0.0	0	0	0.5	0.1	224.7	26.3	105	0	0.0	0.1	0.0	0	0.2	1.7
Croatia	0	0	2263.0	0.2	0.0	0.0	0.0	0	0	108.1	0.3	460.5	22.1	77	0	0.0	0.1	0.0	0	0.2	233.9
Denmark	0	0	4954.4	23.1	0.4	0.0	1.1	0	0	181.1	0.8	9573.8	1045.7	24	0	0.0	0.0	0.0	0	22.7	1936.3
Estonia	0	0	1907.4	0.2	0.0	0.0	0.2	0	0	123.6	0.1	870.1	13.3	107	0	0.0	0.0	0.0	0	0.2	902.7
Finland	0	0	3790.4	3.7	0.0	0.0	0.0	0	0	69.5	0.2	4577.1	283.2	366	0	0.0	0.0	0.0	0	3.7	626.1
France	0	0	4655.8	419.8	0.2	0.4	0.4	0	0	425.1	2.5	14843.0	2185.3	193	0	0.1	0.1	148.7	0	271.0	3476.9
Germany	0	0	2729.6	496.3	0.3	0.0	1.0	0	0	344.5	2.7	21317.7	2432.1	257	0	0.2	0.1	245.1	0	250.7	3809.3
Greece	0	0	7809.5	4.5	0.0	0.3	0.0	0	0	118.7	0.4	4207.3	271.3	176	0	0.0	0.1	0.0	0	4.5	267.8
Ireland	0	0	3435.1	59.0	0.0	0.0	0.1	0	0	16.0	0.6	4576.4	585.7	206	0	0.0	0.1	0.0	0	58.9	234.1
Italy	0	0	5767.0	193.0	0.3	0.0	0.4	0	0	112.9	2.8	10965.1	2289.1	347	0	0.0	0.1	6.5	0	186.1	305.3
Latvia	0	0	654.7	1.8	0.0	0.0	0.0	0	0	3.7	0.3	597.6	135.0	112	0	0.0	0.0	0.0	0	1.8	26.4
Lithuania	0	0	209.1	0.1	0.0	0.0	0.1	0	0	7.6	0.0	65.5	10.2	65	0	0.0	0.0	0.0	0	0.1	36.5
Malta	0	0	75.6	0.4	0.0	0.0	0.0	0	0	0.0	0.0	32.3	32.2	268	0	0.0	0.1	0.0	0	0.4	0.0
Netherlands	0	0	2024.4	3375.7	0.3	0.0	0.8	0	0	85.7	21.5	32489.0	21355.9	248	0	3.7	0.1	183.1	0	3188.5	760.4
Poland	0	0	979.8	9.7	0.0	0.0	0.0	0	0	27.0	4.0	3452.9	355.8	61	0	0.0	0.1	4.7	0	5.0	67.9
Portugal	0	0	1896.0	8.6	0.0	0.0	0.1	0	0	75.9	0.5	1405.3	241.8	129	0	0.0	0.1	0.0	0	8.5	705.4
Romania	0	0	420.1	0.8	0.0	0.1	0.1	0	0	191.2	1.4	3879.3	98.4	45	0	0.0	0.1	0.0	0	0.8	2323.2
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.1	0.0	5.6	1.2	216	0	0.0	0.1	0.0	0	0.1	0.2
Spain	0	0	4967.8	46.4	0.1	0.0	0.1	0	0	115.6	1.0	2764.3	898.1	231	0	0.1	0.1	1.0	0	45.2	1212.6
Sweden	0	0	7076.7	4.3	0.0	0.0	0.0	0	0	16.5	0.5	11164.5	630.2	402	0	0.0	0.0	0.0	0	4.3	900.8
United Kingdom	0	0	12458.2	680.0	0.0	0.0	0.1	0	0	239.3	6.0	20638.3	5555.9	185	0	0.0	0.1	2.6	0	677.4	3673.3

Table D29. Results by country, for the HADCM3 A2, medium sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	1083.8	0.1	0.0	0.1	0.0	0.0	149.3	15.9	6872.8	3743.5	111	0	0.0	0.5	0.0	0	1083.7	333.1
Bulgaria	0	0	326.3	1.9	0.0	0.6	0.0	0.0	0.0	1.3	4.3	241.8	27.1	1	0	0.0	0.3	0.0	0	1.9	0.9
Croatia	0	0	2263.0	21.6	0.0	15.0	0.0	0.5	19.9	273.3	6.6	487.5	24.2	1	0	0.0	0.3	0.0	0	1.8	68.7
Denmark	0	0	4954.4	275.9	1.6	0.0	3.1	0.0	0.0	731.1	3.2	9965.5	1252.9	6	0	0.0	0.3	0.0	0	274.3	1386.2
Estonia	0	0	1907.4	5.5	0.1	0.0	1.2	0.0	2.1	721.8	1.3	929.5	22.1	13	0	0.0	0.2	0.0	0	3.3	304.4
Finland	0	0	3790.4	69.3	0.0	0.0	0.0	0.0	0.0	414.5	0.3	4620.7	328.3	260	0	0.0	0.1	0.0	0	69.3	281.1
France	0	0	4655.8	820.0	0.6	0.3	1.1	0.0	0.0	1580.7	24.8	15552.2	2622.6	40	0	0.9	0.3	225.6	0	592.8	2321.3
Germany	0	0	2729.6	1020.2	1.5	0.0	2.8	0.1	8.7	1405.0	22.9	22099.7	2886.7	86	0	1.8	0.3	376.7	0	631.6	2748.8
Greece	0	0	7809.5	226.9	0.0	88.8	0.1	5.0	204.4	319.7	69.0	4922.4	353.8	3	0	0.0	0.3	0.0	0	22.5	66.9
Ireland	0	0	3435.1	158.4	0.1	0.0	0.1	0.0	0.0	79.0	8.6	4650.1	682.8	38	0	0.0	0.3	0.0	0	158.3	171.0
Italy	0	0	5767.0	607.4	0.8	0.0	0.9	0.0	0.0	322.8	37.5	12027.2	2934.7	46	0	0.3	0.3	10.2	0	596.0	95.4
Latvia	0	0	654.7	25.9	0.0	0.0	0.1	0.0	0.0	21.4	22.1	613.8	215.3	10	0	0.0	0.2	0.0	0	25.9	8.7
Lithuania	0	0	209.1	1.7	0.1	0.0	0.3	0.0	0.0	28.8	0.2	68.4	17.1	11	0	0.0	0.3	0.0	0	1.7	15.3
Malta	0	0	75.6	2.3	0.0	0.0	0.0	0.0	0.0	0.0	5.7	43.0	49.3	5	0	0.0	0.3	0.0	0	2.3	0.0
Netherlands	0	0	2024.4	6923.3	1.2	0.0	2.0	0.1	6.2	341.2	186.4	32689.1	24639.3	132	0	19.7	0.4	283.0	0	6613.1	504.9
Poland	0	0	979.8	141.7	0.0	16.9	0.1	3.5	100.1	76.4	88.7	3728.9	376.4	1	0	0.0	0.4	10.2	0	31.4	18.5
Portugal	0	0	1896.0	50.2	0.2	12.3	0.4	1.2	28.2	291.5	22.8	1480.5	291.4	20	0	0.0	0.3	0.0	0	21.7	489.8
Romania	0	0	420.1	36.8	0.0	65.9	0.3	1.1	30.4	1059.4	23.2	4840.1	107.8	1	0	0.0	0.4	0.0	0	6.4	1455.0
Slovenia	0	0	28.7	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.1	6.1	1.3	7	0	0.0	0.3	0.0	0	0.4	0.1
Spain	0	0	4967.8	144.0	0.2	0.1	0.3	0.0	0.0	481.7	16.5	2905.2	1086.7	32	0	0.5	0.3	1.6	0	141.7	846.5
Sweden	0	0	7076.7	107.5	0.0	0.0	0.0	0.0	0.0	96.1	1.0	11269.0	734.7	248	0	0.0	0.1	0.0	0	107.5	821.2
United Kingdom	0	0	12458.2	1432.1	0.2	0.0	0.3	0.0	0.0	1359.2	40.7	21101.4	6518.0	40	0	0.3	0.3	4.4	0	1427.2	2553.4

Table D30. Results by country, for the HADCM3 A2, high sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																			
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	574.3	0.0	0	0.0	0	0	41.4	3.9	6686.9	3150.8	233	0	0.0	0.1	0.0	0	574.3	441.1
Bulgaria	0	0	326.3	0.2	0.0	0	0	0	0	0.5	0.4	228.2	26.6	79	0	0.0	0.1	0.0	0	0.2	1.7
Croatia	0	0	2263.0	0.3	0.0	0	0	0	0	115.8	0.3	470.5	23.6	56	0	0.0	0.1	0.0	0	0.3	226.2
Denmark	0	0	4954.4	43.6	0.7	0	1.8	0	0	212.5	0.9	9626.3	1052.8	20	0	0.0	0.1	0.0	0	43.0	1904.9
Estonia	0	0	1907.4	0.2	0.0	0	0.4	0	0	256.7	0.2	879.1	13.4	86	0	0.0	0.1	0.0	0	0.2	769.5
Finland	0	0	3790.4	9.9	0.0	0	0	0	0	104.4	0.2	4583.7	283.6	347	0	0.0	0.0	0.0	0	9.9	591.2
France	0	0	4655.8	428.3	0.2	0.5	0.6	0	0	463.5	2.6	14934.6	2198.3	166	0	0.1	0.1	150.9	0	277.1	3438.5
Germany	0	0	2729.6	557.7	0.5	0.0	1.3	0	0	411.4	2.8	21406.5	2442.1	231	0	0.2	0.1	247.9	0	309.1	3742.5
Greece	0	0	7809.5	4.8	0.0	0.4	0	0	0	118.7	0.7	4316.9	277.0	133	0	0.0	0.1	0.0	0	4.8	267.8
Ireland	0	0	3435.1	70.8	0.0	0	0.1	0	0	19.6	0.6	4586.1	586.9	175	0	0.0	0.1	0.0	0	70.8	230.4
Italy	0	0	5767.0	249.5	0.4	0	0.6	0	0	140.0	3.0	11065.1	2314.4	291	0	0.0	0.1	6.6	0	242.4	278.2
Latvia	0	0	654.7	1.9	0.0	0	0	0	0	7.6	1.4	599.9	135.5	90	0	0.0	0.1	0.0	0	1.9	22.5
Lithuania	0	0	209.1	0.1	0.0	0	0.1	0	0	11.7	0.1	65.8	10.4	55	0	0.0	0.1	0.0	0	0.1	32.4
Malta	0	0	75.6	0.5	0.0	0	0	0	0	0.0	0.0	33.5	33.4	212	0	0.0	0.1	0.0	0	0.5	0.0
Netherlands	0	0	2024.4	3524.2	0.5	0	1.1	0	0	101.0	21.8	32509.4	21365.9	234	0	4.1	0.1	185.1	0	3334.6	745.1
Poland	0	0	979.8	10.3	0.0	0	0	0	0	39.5	4.1	3479.5	358.7	46	0	0.0	0.1	4.8	0	5.5	55.3
Portugal	0	0	1896.0	8.8	0.0	0	0.2	0	0	112.5	0.8	1415.6	243.3	102	0	0.0	0.1	0.0	0	8.7	668.8
Romania	0	0	420.1	0.9	0.0	0.1	0.1	0	0	229.0	1.9	3954.0	99.4	34	0	0.0	0.1	0.0	0	0.9	2285.4
Slovenia	0	0	28.7	0.1	0.0	0	0	0	0	0.1	0.0	5.6	1.2	170	0	0.0	0.1	0.0	0	0.1	0.2
Spain	0	0	4967.8	50.3	0.1	0	0.2	0	0	160.9	1.0	2780.8	904.1	191	0	0.1	0.1	1.0	0	49.1	1167.3
Sweden	0	0	7076.7	11.4	0.0	0	0	0	0	28.0	0.5	11181.5	631.8	370	0	0.0	0.0	0.0	0	11.4	889.3
United Kingdom	0	0	12458.2	738.8	0.1	0	0.2	0	0	330.6	6.0	20691.2	5570.3	158	0	0.0	0.1	2.7	0	736.1	3581.9

Table D31. Results by country, for the HADCM3 A2, high sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																			
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	1194.2	0.1	0	0.1	0	0	149.3	17.4	6932.5	3781.6	78.4	0	0.0	0.6	0.0	0	1194.1	333.1
Bulgaria	0	0	326.3	70.0	0.0	9.5	0.0	1.6	67.6	1.5	12.1	245.4	27.7	0.9	0	0.0	0.4	0.0	0	2.4	0.7
Croatia	0	0	2263.0	25.7	0.0	9.0	0.0	0.6	23.5	293.8	10.8	506.2	26.5	0.9	0	0.0	0.4	0.0	0	2.3	48.2
Denmark	0	0	4954.4	322.7	2.2	0.0	4.4	0.0	0.0	862.4	7.9	10176.1	1280.3	3.1	0	0.0	0.4	0.0	0	320.5	1255.0
Estonia	0	0	1907.4	43.7	0.2	4.1	1.6	0.5	39.4	818.5	5.4	966.0	23.0	0.9	0	0.0	0.4	0.0	0	4.2	207.7
Finland	0	0	3790.4	78.3	0.0	0.0	0.0	0.0	0.0	533.5	1.0	4658.9	331.0	202.3	0	0.0	0.2	0.0	0	78.2	162.1
France	0	0	4655.8	1200.2	0.8	9.9	1.4	2.2	207.7	1751.9	99.1	15801.4	2663.0	17.1	0	1.6	0.4	239.5	0	750.6	2150.1
Germany	0	0	2729.6	1497.3	1.9	87.5	3.7	5.2	360.8	1529.8	93.8	22435.5	2928.9	44.9	0	2.8	0.4	394.3	0	737.4	2624.0
Greece	0	0	7809.5	555.7	0.0	126.3	0.1	13.0	526.7	337.1	157.6	5084.5	362.7	1.0	0	0.0	0.4	0.0	0	28.9	49.5
Ireland	0	0	3435.1	222.1	0.1	0.8	0.2	0.0	3.2	93.3	23.6	4688.2	688.6	9.3	0	0.0	0.4	0.0	0	218.8	156.8
Italy	0	0	5767.0	1641.2	1.0	16.0	1.1	14.3	964.4	359.8	164.7	12465.3	3066.4	16.4	0	0.5	0.4	10.8	0	664.5	58.5
Latvia	0	0	654.7	34.9	0.0	0.0	0.1	0.0	0.0	24.1	22.4	629.5	220.3	0.4	0	0.0	0.4	0.0	0	34.8	6.0
Lithuania	0	0	209.1	2.1	0.1	0.0	0.4	0.0	0.0	33.3	1.8	70.3	17.6	1.9	0	0.0	0.4	0.0	0	2.1	10.8
Malta	0	0	75.6	157.2	0.0	2.7	0.0	3.8	154.0	0.0	19.8	43.1	49.4	0.9	0	0.0	0.5	0.0	0	3.2	0.0
Netherlands	0	0	2024.4	8476.3	1.6	0.0	2.7	0.1	6.2	351.1	205.8	32750.9	24667.4	98.5	0	25.8	0.5	295.7	0	8146.9	495.0
Poland	0	0	979.8	490.5	0.0	116.5	0.1	12.0	444.5	86.9	155.5	3844.0	388.7	0.8	0	0.1	0.5	10.6	0	35.2	8.0
Portugal	0	0	1896.0	27.6	0.3	5.7	0.5	0.0	0.0	318.2	35.3	1521.7	298.5	9.0	0	0.0	0.4	0.0	0	27.4	463.1
Romania	0	0	420.1	140.8	0.0	67.8	0.4	4.8	133.4	1134.5	46.5	5039.5	111.6	0.9	0	0.0	0.5	0.0	0	7.3	1379.9
Slovenia	0	0	28.7	0.5	0.0	0.2	0.0	0.0	0.0	0.2	0.6	6.3	1.3	1.0	0	0.0	0.4	0.0	0	0.5	0.0
Spain	0	0	4967.8	272.4	0.3	16.0	0.4	1.3	88.7	524.8	89.0	3003.5	1117.7	10.7	0	0.8	0.4	1.6	0	180.9	803.4
Sweden	0	0	7076.7	154.4	0.0	0.0	0.0	0.0	0.0	124.0	4.1	11382.6	744.3	162.8	0	0.0	0.2	0.0	0	154.4	793.3
United Kingdom	0	0	12458.2	1772.7	0.3	1.7	0.4	0.1	7.8	1558.9	117.2	21324.8	6588.2	15.3	0	0.6	0.4	4.8	0	1759.3	2353.7

Table D32. Results by country, for the HADCM3 A2, low sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	1.5	0.1	130.2	134.1	0.0	0.0	0.0	0	0	40.8	2.9	6654.1	3130.7	1021	0.0	0.0	0.1	0.0	1.5	134.1	441.6
Bulgaria	1.0	0.0	326.3	0.2	0.0	0.0	0.0	0	0	0.4	0.0	218.8	25.6	494	0.0	0.0	0.0	0.0	1.0	0.2	1.8
Croatia	8.1	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	61.2	0.0	456.6	21.8	311	0.0	0.0	0.0	0.0	8.1	0.2	280.8
Denmark	31.7	9.6	4954.4	0.5	0.2	0.0	0.5	0	0	99.1	0.6	9519.4	1038.7	130	0.0	0.0	0.0	0.0	22.0	0.3	2018.3
Estonia	13.3	0.0	1907.4	0.2	0.0	0.0	0.1	0	0	97.4	0.0	861.2	13.1	262	0.0	0.0	0.0	0.0	13.3	0.2	928.8
Finland	5.8	0.0	3790.4	0.4	0.0	0.0	0.0	0	0	0.9	0.2	4572.0	282.8	1806	0.0	0.0	0.0	0.0	5.8	0.4	694.7
France	42.7	26.2	4655.8	237.1	0.0	0.3	0.1	0	0	299.4	2.0	14756.7	2182.3	1219	0.2	0.0	0.0	146.5	16.2	90.5	3602.6
Germany	38.9	21.4	2729.6	406.5	0.2	0.0	0.5	0	0	172.7	2.4	21233.7	2422.6	1188	0.8	0.0	0.0	242.3	16.7	164.0	3981.2
Greece	14.0	1.0	7809.5	1.6	0.0	0.2	0.0	0	0	62.1	0.3	4087.2	264.0	1045	0.0	0.0	0.0	0.0	13.0	1.6	324.4
Ireland	17.8	2.6	3435.1	20.0	0.0	0.0	0.0	0	0	16.0	0.5	4566.8	584.5	799	0.0	0.0	0.0	0.0	15.1	20.0	234.1
Italy	21.3	3.9	5767.0	6.6	0.2	0.0	0.3	0	0	78.2	1.5	10871.1	2265.0	3665	0.1	0.0	0.0	6.4	17.3	0.0	340.0
Latvia	4.6	0.3	654.7	1.8	0.0	0.0	0.0	0	0	2.9	0.1	595.5	134.5	301	0.0	0.0	0.0	0.0	4.4	1.8	27.1
Lithuania	1.6	0.2	209.1	0.1	0.0	0.0	0.0	0	0	4.2	0.0	65.3	10.1	150	0.0	0.0	0.0	0.0	1.3	0.1	39.9
Malta	0.1	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	31.1	31.1	2344	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Netherlands	41.7	21.6	2024.4	533.4	0.2	0.0	0.3	0	0	45.7	16.0	32472.8	21346.9	1039	0.3	0.8	0.1	181.1	19.7	351.3	800.4
Poland	8.5	0.0	979.8	8.4	0.0	0.0	0.0	0	0	23.3	0.4	3427.7	353.0	237	0.1	0.0	0.1	4.7	8.4	3.8	71.6
Portugal	7.4	4.4	1896.0	6.1	0.0	0.0	0.0	0	0	49.7	0.3	1396.8	240.4	425	0.0	0.0	0.0	0.0	3.0	6.1	731.6
Romania	4.1	0.0	420.1	0.7	0.0	0.0	0.1	0	0	190.6	0.2	3806.2	97.4	174	0.0	0.0	0.1	0.0	4.1	0.7	2323.8
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.2	1799	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Spain	14.9	5.2	4967.8	9.7	0.0	0.0	0.0	0	0	68.1	0.7	2749.4	892.4	1445	0.1	0.0	0.0	1.0	9.6	8.7	1260.0
Sweden	8.4	0.2	7076.7	0.0	0.0	0.0	0.0	0	0	2.2	0.4	11153.1	629.0	2364	0.0	0.0	0.0	0.0	8.1	0.0	915.1
United Kingdom	66.9	6.5	12458.2	57.7	0.0	0.0	0.0	0	0	239.3	4.6	20586.4	5542.1	850	0.0	0.0	0.0	2.6	60.4	55.1	3673.3

Table D33. Results by country, for the HADCM3 A2, low sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																			
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	2.0	0.1	130.2	0.3	0.1	0.0	0.0	0.0	0.0	148.89	2.73	6812.94	3705.25	1559	0.0	0.0	0.3	0.0	1.9	0.2	333.5
Bulgaria	1.4	0.0	326.3	0.1	0.0	0.0	0.0	0.0	0.0	1.16	0.02	238.20	26.48	1567	0.0	0.0	0.2	0.0	1.4	0.1	1.0
Croatia	11.2	0.0	2263.0	0.7	0.0	0.0	0.0	0.0	0.0	218.61	0.03	474.73	22.83	1020	0.0	0.0	0.2	0.0	11.2	0.7	123.4
Denmark	81.0	40.8	4954.4	0.9	0.9	0.0	1.7	0.0	0.0	643.42	0.63	9754.61	1225.72	190	0.0	0.0	0.2	0.0	40.2	0.0	1474.0
Estonia	20.4	0.0	1907.4	2.3	0.1	0.0	0.6	0.0	2.1	528.27	0.02	893.01	21.15	1532	0.0	0.0	0.1	0.0	20.4	0.2	498.0
Finland	9.1	0.0	3790.4	0.0	0.0	0.0	0.0	0.0	0.0	211.12	0.17	4590.73	326.01	2770	0.0	0.0	0.0	0.0	9.1	0.0	484.5
France	111.1	82.8	4655.8	253.5	0.2	0.3	0.2	0.0	0.0	1153.99	1.98	15257.15	2583.48	1742	0.4	0.0	0.2	212.2	27.9	41.1	2748.0
Germany	125.1	96.5	2729.6	362.2	0.6	0.0	1.3	0.0	0.0	1210.79	2.18	21757.64	2841.34	1748	1.1	0.0	0.2	359.3	27.5	2.2	2943.0
Greece	29.0	2.5	7809.5	1.8	0.0	0.4	0.0	0.0	0.0	236.88	0.32	4673.59	340.19	1406	0.0	0.0	0.2	0.0	26.5	1.8	149.7
Ireland	34.0	3.1	3435.1	13.0	0.0	0.0	0.0	0.0	0.0	55.25	0.49	4611.41	677.01	1218	0.0	0.0	0.2	0.0	30.9	13.0	194.8
Italy	46.4	14.0	5767.0	10.2	0.5	0.0	0.4	0.0	0.0	283.59	1.64	11572.89	2794.80	4779	0.1	0.0	0.2	9.7	32.3	0.0	134.6
Latvia	7.9	1.1	654.7	0.0	0.0	0.0	0.0	0.0	0.0	15.60	0.15	603.46	211.76	1754	0.0	0.0	0.1	0.0	6.8	0.0	14.5
Lithuania	2.9	1.0	209.1	0.1	0.0	0.0	0.2	0.0	0.0	20.36	0.01	66.60	16.42	877	0.0	0.0	0.1	0.0	1.8	0.0	23.7
Malta	0.3	0.0	75.6	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.03	38.25	43.82	3112	0.0	0.0	0.2	0.0	0.3	0.0	0.0
Netherlands	90.1	63.9	2024.4	376.3	0.6	0.0	0.7	0.0	0.0	300.65	16.08	32616.94	24591.80	1580	0.4	0.1	0.3	270.6	25.7	105.0	545.5
Poland	10.7	0.0	979.8	24.4	0.0	0.0	0.0	0.0	0.0	67.54	0.42	3618.89	364.53	773	0.1	0.0	0.2	9.8	10.6	14.6	27.3
Portugal	24.4	18.3	1896.0	11.1	0.1	0.0	0.1	0.0	0.0	239.61	0.33	1440.77	283.98	636	0.0	0.0	0.2	0.0	6.0	11.0	541.7
Romania	4.9	0.0	420.1	1.4	0.0	0.1	0.3	0.0	0.0	786.68	0.12	4533.60	103.68	560	0.0	0.0	0.3	0.0	4.9	1.4	1727.7
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.18	0.00	5.83	1.22	5952	0.0	0.0	0.2	0.0	0.1	0.0	0.1
Spain	43.0	23.5	4967.8	7.5	0.0	0.0	0.0	0.0	0.0	390.15	0.75	2825.97	1056.90	2101	0.1	0.0	0.2	1.5	19.4	6.0	938.0
Sweden	15.7	0.6	7076.7	0.0	0.0	0.0	0.0	0.0	0.0	49.52	0.38	11194.48	726.70	3584	0.0	0.0	0.0	0.0	15.1	0.0	867.8
United Kingdom	135.8	19.5	12458.2	14.6	0.0	0.0	0.1	0.0	0.0	963.95	4.59	20875.27	6447.51	1282	0.0	0.0	0.2	3.9	116.3	10.6	2948.6

Table D34. Results by country, for the HADCM3 A2, medium sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	1.8	0.1	130.2	168.3	0.0	0.0	0.0	0	0	41.4	2.9	6670.4	3140.6	1018	0.0	0.0	0.1	0.0	1.7	168.3	441.1
Bulgaria	1.3	0.0	326.3	0.2	0.0	0.0	0.0	0	0	0.5	0.0	224.7	26.3	483	0.0	0.0	0.1	0.0	1.3	0.2	1.7
Croatia	10.5	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	108.1	0.0	460.5	22.1	306	0.0	0.0	0.1	0.0	10.5	0.2	233.9
Denmark	48.7	17.2	4954.4	1.1	0.4	0.0	1.0	0	0	181.1	0.6	9573.8	1045.7	128	0.0	0.0	0.0	0.0	31.5	0.7	1936.3
Estonia	17.1	0.0	1907.4	0.2	0.0	0.0	0.2	0	0	123.6	0.0	870.1	13.3	259	0.0	0.0	0.0	0.0	17.1	0.2	902.7
Finland	7.7	0.0	3790.4	0.4	0.0	0.0	0.0	0	0	69.5	0.2	4577.1	283.2	1796	0.0	0.0	0.0	0.0	7.7	0.4	626.1
France	67.9	45.4	4655.8	253.7	0.1	0.4	0.1	0	0	425.1	2.0	14843.0	2185.3	1200	0.3	0.0	0.1	148.7	22.2	105.0	3476.9
Germany	62.7	39.3	2729.6	419.1	0.2	0.0	0.7	0	0	344.5	2.4	21317.7	2432.1	1175	0.9	0.0	0.1	245.1	22.4	173.8	3809.3
Greece	21.1	1.7	7809.5	2.7	0.0	0.3	0.0	0	0	118.7	0.3	4207.3	271.3	1016	0.0	0.0	0.1	0.0	19.4	2.7	267.8
Ireland	27.6	4.6	3435.1	21.5	0.0	0.0	0.0	0	0	16.0	0.5	4576.4	585.7	795	0.0	0.0	0.1	0.0	23.0	21.5	234.1
Italy	31.3	6.5	5767.0	6.8	0.3	0.0	0.3	0	0	112.9	1.5	10965.1	2289.1	3560	0.1	0.0	0.1	6.5	24.7	0.0	305.3
Latvia	6.3	0.6	654.7	1.8	0.0	0.0	0.0	0	0	3.7	0.1	597.6	135.0	298	0.0	0.0	0.0	0.0	5.7	1.8	26.4
Lithuania	2.2	0.6	209.1	0.1	0.0	0.0	0.1	0	0	7.6	0.0	65.5	10.2	148	0.0	0.0	0.0	0.0	1.6	0.1	36.5
Malta	0.2	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	32.3	32.2	2275	0.0	0.0	0.1	0.0	0.2	0.0	0.0
Netherlands	58.1	34.2	2024.4	541.0	0.2	0.0	0.4	0	0	85.7	16.2	32489.0	21355.9	1035	0.4	0.9	0.1	183.1	23.6	356.8	760.4
Poland	10.5	0.0	979.8	8.6	0.0	0.0	0.0	0	0	27.0	0.4	3452.9	355.8	234	0.1	0.0	0.1	4.7	10.4	3.9	67.9
Portugal	12.8	8.3	1896.0	6.4	0.0	0.0	0.1	0	0	75.9	0.3	1405.3	241.8	421	0.0	0.0	0.1	0.0	4.5	6.4	705.4
Romania	4.9	0.0	420.1	0.7	0.0	0.1	0.1	0	0	191.2	0.2	3879.3	98.4	171	0.0	0.0	0.1	0.0	4.9	0.7	2323.2
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.1	0.0	5.6	1.2	1772	0.0	0.0	0.1	0.0	0.1	0.0	0.2
Spain	24.5	10.0	4967.8	10.6	0.0	0.0	0.0	0	0	115.6	0.8	2764.3	898.1	1425	0.1	0.0	0.1	1.0	14.4	9.6	1212.6
Sweden	12.1	0.5	7076.7	0.0	0.0	0.0	0.0	0	0	16.5	0.4	11164.5	630.2	2347	0.0	0.0	0.0	0.0	11.6	0.0	900.8
United Kingdom	102.3	13.5	12458.2	77.7	0.0	0.0	0.0	0	0	239.3	4.6	20638.3	5555.9	844	0.0	0.0	0.1	2.6	88.9	75.1	3673.3

Table D35. Results by country, for the HADCM3 A2, medium sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																			
	Total Adaptation costs	**Beach nourishment costs**	**Length of the coast**	**Total Residual Damage costs**	**Land loss costs**	**Land loss (submergence)**	**Net land loss (erosion)**	**Migration (due to land loss)**	**Migration (due to land loss) costs**	**Net loss of wetland area**	**People actually flooded**	**Coastal floodplain area**	**Coastal floodplain population**	**Average Protection level**	**River dike costs**	**River flood costs**	**Relative sea-level change (since 1995)**	**Salinity intrusion costs**	**Sea dike costs**	**Sea flood costs**	**Total wetland area**
	Millions €/yr	**Millions €/yr**	**km**	**Millions €/yr**	**Millions €/yr**	**km²/yr**	**km²/yr**	**Thousands people/yr**	**Millions €/yr**	**km²**	**Thousands /yr**	**km²**	**thousands**	**year**	**Millions €/yr**	**Millions €/yr**	**m**	**Millions €/yr**	**Millions €/yr**	**Millions €/yr**	**km²**
Belgium	2.5	0.1	130.2	0.3	0.1	0	0.1	0	0.0	149.3	2.8	6872.8	3743.5	1541	0.0	0.0	0.5	0.0	2.4	0.2	333.1
Bulgaria	2.0	0.0	326.3	0.1	0.0	0	0.0	0	0.0	1.3	0.0	241.8	27.1	1448	0.0	0.0	0.3	0.0	2.0	0.1	0.9
Croatia	15.7	0.0	2263.0	0.9	0.0	0	0.0	0	0.0	273.3	0.0	487.5	24.2	958	0.0	0.0	0.3	0.0	15.7	0.9	68.7
Denmark	121.1	63.7	4954.4	1.3	1.3	0.00	2.6	0	0.0	731.1	0.7	9965.5	1252.9	181	0.0	0.0	0.3	0.0	57.4	0.0	1386.2
Estonia	27.4	0.0	1907.4	3.1	0.1	0	1.2	0	2.1	721.8	0.0	929.5	22.1	1457	0.0	0.0	0.2	0.0	27.4	0.9	304.4
Finland	13.7	0.0	3790.4	0.0	0.0	0	0.0	0	0.0	414.5	0.2	4620.7	328.3	2689	0.0	0.0	0.1	0.0	13.7	0.0	281.1
France	166.1	126.7	4655.8	294.4	0.2	0.304319	0.3	0	0.0	1580.7	2.1	15552.2	2622.6	1660	0.6	0.0	0.3	225.6	38.8	68.6	2321.3
Germany	195.8	156.5	2729.6	392.7	0.9	0	1.7	0.1	8.7	1405.0	2.3	22099.7	2886.7	1678	1.5	0.0	0.3	376.7	37.8	6.5	2748.8
Greece	42.0	3.8	7809.5	7.4	0.0	0.60552	0.0	0	0.0	319.7	0.4	4922.4	353.8	1282	0.0	0.0	0.3	0.0	38.3	7.4	66.9
Ireland	49.7	4.6	3435.1	15.6	0.0	0	0.1	0	0.0	79.0	0.5	4650.1	682.8	1190	0.0	0.0	0.3	0.0	45.1	15.6	171.0
Italy	67.0	21.0	5767.0	10.8	0.5	2.62E-02	0.5	0	0.0	322.8	1.8	12027.2	2934.7	4402	0.1	0.0	0.3	10.2	45.9	0.0	95.4
Latvia	10.9	1.8	654.7	0.1	0.0	0	0.0	0	0.0	21.4	0.2	613.8	215.3	1667	0.0	0.0	0.2	0.0	9.2	0.1	8.7
Lithuania	4.0	1.7	209.1	0.1	0.0	0	0.3	0	0.0	28.8	0.0	68.4	17.1	839	0.0	0.0	0.3	0.0	2.4	0.0	15.3
Malta	0.4	0.0	75.6	0.0	0.0	0	0.0	0	0.0	0.0	0.0	43.0	49.3	2822	0.0	0.0	0.3	0.0	0.4	0.0	0.0
Netherlands	128.3	95.1	2024.4	435.4	0.8	0	1.0	0	0.0	341.2	16.5	32689.1	24639.3	1553	0.5	0.1	0.4	283.0	32.6	151.5	504.9
Poland	14.4	0.0	979.8	25.8	0.0	0	0.1	0	0.0	76.4	0.4	3728.9	376.4	734	0.1	0.0	0.4	10.2	14.2	15.6	18.5
Portugal	39.1	30.5	1896.0	11.8	0.1	5.05E-03	0.1	0	0.0	291.5	0.3	1480.5	291.4	614	0.0	0.0	0.3	0.0	8.7	11.6	489.8
Romania	6.4	0.0	420.1	3.0	0.0	0	0.3	0	0.0	1059.4	0.1	4840.1	107.8	528	0.0	0.0	0.4	0.0	6.4	3.0	1455.0
Slovenia	0.2	0.0	28.7	0.0	0.0	0	0.0	0	0.0	0.2	0.0	6.1	1.3	5623	0.0	0.0	0.3	0.0	0.2	0.0	0.1
Spain	66.1	37.8	4967.8	10.8	0.0	4.65E-02	0.0	0	0.0	481.7	0.8	2905.2	1086.7	1990	0.1	0.0	0.3	1.6	28.1	9.3	846.5
Sweden	26.1	0.7	7076.7	0.0	0.0	0	0.0	0	0.0	96.1	0.4	11269.0	734.7	3426	0.0	0.0	0.1	0.0	25.4	0.0	821.2
United Kingdom	194.9	27.2	12458.2	22.4	0.0	1.01E-02	0.1	0	0.0	1359.2	4.7	21101.4	6518.0	1246	0.0	0.0	0.3	4.4	167.7	18.0	2553.4

Table D36. Results by country, for the HADCM3 A2, high sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	2.1	0.1	130.2	193.7	0.0	0.0	0.0	0	0	41.4	2.9	6686.9	3150.8	1016	0.0	0.0	0.1	0.0	2.1	193.6	441.1
Bulgaria	1.7	0.0	326.3	0.2	0.0	0.0	0.0	0	0	0.5	0.0	228.2	26.6	473	0.0	0.0	0.1	0.0	1.7	0.2	1.7
Croatia	13.5	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	115.8	0.0	470.5	23.6	301	0.0	0.0	0.1	0.0	13.5	0.2	226.2
Denmark	68.7	25.9	4954.4	0.6	0.6	0.0	1.6	0	0	212.5	0.6	9626.3	1052.8	127	0.0	0.0	0.1	0.0	42.8	0.0	1904.9
Estonia	21.8	0.0	1907.4	0.2	0.0	0.0	0.4	0	0	256.7	0.0	879.1	13.4	256	0.0	0.0	0.1	0.0	21.8	0.2	769.5
Finland	10.4	0.0	3790.4	0.4	0.0	0.0	0.0	0	0	104.4	0.2	4583.7	283.6	1783	0.0	0.0	0.0	0.0	10.4	0.4	591.2
France	91.7	61.8	4655.8	272.5	0.1	0.5	0.2	0	0	463.5	2.1	14934.6	2198.3	1181	0.4	0.0	0.1	150.9	29.5	121.5	3438.5
Germany	88.0	57.5	2729.6	431.1	0.3	0.0	0.9	0	0	411.4	2.5	21406.5	2442.1	1162	1.2	0.0	0.1	247.9	29.2	182.8	3742.5
Greece	29.6	2.5	7809.5	4.0	0.0	0.4	0.0	0	0	118.7	0.4	4316.9	277.0	988	0.0	0.0	0.1	0.0	27.1	4.0	267.8
Ireland	38.9	6.5	3435.1	23.6	0.0	0.0	0.0	0	0	19.6	0.5	4586.1	586.9	790	0.0	0.0	0.1	0.0	32.5	23.6	230.4
Italy	43.4	9.8	5767.0	6.9	0.3	0.0	0.4	0	0	140.0	1.6	11065.1	2314.4	3458	0.1	0.0	0.1	6.6	33.5	0.0	278.2
Latvia	8.3	1.1	654.7	1.8	0.0	0.0	0.0	0	0	7.6	0.1	599.9	135.5	294	0.0	0.0	0.1	0.0	7.2	1.8	22.5
Lithuania	3.0	1.0	209.1	0.1	0.0	0.0	0.1	0	0	11.7	0.0	65.8	10.4	147	0.0	0.0	0.1	0.0	2.0	0.1	32.4
Malta	0.3	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	33.5	33.4	2210	0.0	0.0	0.1	0.0	0.3	0.0	0.0
Netherlands	77.2	48.6	2024.4	548.7	0.3	0.0	0.6	0	0	101.0	16.4	32509.4	21365.9	1031	0.4	0.9	0.1	185.1	28.1	362.4	745.1
Poland	12.9	0.0	979.8	8.7	0.0	0.0	0.0	0	0	39.5	0.4	3479.5	358.7	230	0.1	0.0	0.1	4.8	12.8	3.9	55.3
Portugal	19.1	12.8	1896.0	7.7	0.0	0.0	0.1	0	0	112.5	0.3	1415.6	243.3	418	0.0	0.0	0.1	0.0	6.3	7.7	668.8
Romania	5.9	0.0	420.1	0.7	0.0	0.1	0.1	0	0	229.0	0.2	3954.0	99.4	168	0.0	0.0	0.1	0.0	5.9	0.7	2285.4
Slovenia	0.2	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.1	0.0	5.6	1.2	1746	0.0	0.0	0.1	0.0	0.2	0.0	0.2
Spain	35.4	15.1	4967.8	12.8	0.0	0.0	0.0	0	0	160.9	0.8	2780.8	904.1	1404	0.1	0.0	0.1	1.0	20.2	11.7	1167.3
Sweden	18.2	0.7	7076.7	0.0	0.0	0.0	0.0	0	0	28.0	0.4	11181.5	631.8	2319	0.0	0.0	0.0	0.0	17.5	0.0	889.3
United Kingdom	146.2	23.2	12458.2	37.9	0.0	0.0	0.0	0	0	330.6	4.9	20691.2	5570.3	838	0.0	0.0	0.1	2.7	123.0	35.2	3581.9

Table D37. Results by country, for the HADCM3 A2, high sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	3.1	0.2	130.2	9.0	0.1	0.0	0.1	0	0.0	149.3	2.9	6932.5	3781.6	1524	0.0	0.0	0.6	0.0	2.9	8.9	333.1
Bulgaria	2.6	0.0	326.3	0.9	0.0	0.0	0.0	0	0.0	1.5	0.0	245.4	27.7	1349	0.0	0.0	0.4	0.0	2.6	0.9	0.7
Croatia	20.7	0.0	2263.0	1.0	0.0	0.0	0.0	0	0.0	293.8	0.0	506.2	26.5	905	0.0	0.0	0.4	0.0	20.7	1.0	48.2
Denmark	165.3	88.6	4954.4	6.3	1.9	0.0	3.6	0	0.0	862.4	0.7	10176.1	1280.3	173	0.0	0.0	0.4	0.0	76.7	4.4	1255.0
Estonia	35.2	0.0	1907.4	5.6	0.2	0.0	1.6	0.1	4.1	818.5	0.0	966.0	23.0	1391	0.0	0.0	0.4	0.0	35.2	1.3	207.7
Finland	19.7	0.0	3790.4	0.0	0.0	0.0	0.0	0	0.0	533.5	0.2	4658.9	331.0	2610	0.0	0.0	0.2	0.0	19.7	0.0	162.1
France	250.7	198.9	4655.8	341.1	0.3	0.1	0.4	0	0.0	1751.9	2.2	15801.4	2663.0	1586	0.8	0.0	0.4	239.5	51.0	101.3	2150.1
Germany	266.0	214.7	2729.6	450.4	1.2	0.0	2.2	0.1	8.7	1529.8	2.5	22435.5	2928.9	1616	2.0	0.0	0.4	394.3	49.3	46.3	2624.0
Greece	57.4	6.0	7809.5	12.8	0.0	0.8	0.0	0	0.0	337.1	0.4	5084.5	362.7	1184	0.0	0.0	0.4	0.0	51.4	12.8	49.5
Ireland	67.4	6.5	3435.1	21.5	0.0	0.0	0.1	0	0.0	93.3	0.5	4688.2	688.6	1165	0.0	0.0	0.4	0.0	60.9	21.5	156.8
Italy	91.0	29.7	5767.0	11.4	0.6	0.0	0.5	0	0.0	359.8	1.9	12465.3	3066.4	4088	0.1	0.0	0.4	10.8	61.2	0.0	58.5
Latvia	14.3	2.5	654.7	2.2	0.0	0.0	0.0	0	0.0	24.1	0.2	629.5	220.3	1590	0.0	0.0	0.4	0.0	11.8	2.2	6.0
Lithuania	5.3	2.4	209.1	0.1	0.1	0.0	0.4	0	0.0	33.3	0.0	70.3	17.6	805	0.0	0.0	0.4	0.0	3.0	0.1	10.8
Malta	0.6	0.0	75.6	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	43.1	49.4	2592	0.0	0.0	0.5	0.0	0.6	0.0	0.0
Netherlands	169.8	128.9	2024.4	475.3	1.0	0.0	1.3	0	0.0	351.1	16.9	32750.9	24667.4	1527	0.7	0.1	0.5	295.7	40.2	178.4	495.0
Poland	18.4	0.0	979.8	27.2	0.0	0.0	0.1	0	0.0	86.9	0.4	3844.0	388.7	699	0.2	0.0	0.5	10.6	18.3	16.5	8.0
Portugal	84.3	72.7	1896.0	12.2	0.0	0.0	0.0	0	0.0	318.2	0.4	1521.7	298.5	594	0.0	0.0	0.4	0.0	11.6	12.2	463.1
Romania	8.0	0.0	420.1	3.5	0.0	0.0	0.4	0	0.0	1134.5	0.1	5039.5	111.6	500	0.0	0.0	0.5	0.0	8.0	3.5	1379.9
Slovenia	0.3	0.0	28.7	0.0	0.0	0.0	0.0	0	0.0	0.2	0.0	6.3	1.3	5337	0.0	0.0	0.4	0.0	0.3	0.0	0.0
Spain	89.7	51.7	4967.8	13.5	0.0	0.0	0.0	0	0.0	524.8	0.9	3003.5	1117.7	1895	0.2	0.0	0.4	1.6	37.8	11.9	803.4
Sweden	39.1	1.1	7076.7	0.0	0.0	0.0	0.0	0	0.0	124.0	0.4	11382.6	744.3	3277	0.0	0.0	0.2	0.0	38.0	0.0	793.3
United Kingdom	260.8	36.0	12458.2	40.3	0.1	0.0	0.2	0	0.0	1558.9	5.0	21324.8	6588.2	1213	0.1	0.0	0.4	4.8	224.8	35.4	2353.7

Table D38. Results by country, for the HADCM3 B2, low sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	584.6	0.0	0.0	0.0	0	0	40.9	3.6	6656.5	2916.9	261	0	0.0	0.1	0.0	0	584.6	441.5
Bulgaria	0	0	326.3	0.2	0.0	0.0	0.0	0	0	0.4	0.1	219.7	24.0	130	0	0.0	0.0	0.0	0	0.2	1.8
Croatia	0	0	2263.0	0.3	0.0	0.0	0.0	0	0	61.2	0.3	457.2	20.4	99	0	0.0	0.0	0.0	0	0.3	280.8
Denmark	0	0	4954.4	15.0	0.3	0.0	0.8	0	0	103.1	0.7	9526.5	963.6	28	0	0.0	0.0	0.0	0	14.7	2014.3
Estonia	0	0	1907.4	0.2	0.0	0.0	0.1	0	0	98.4	0.0	862.4	11.7	127	0	0.0	0.0	0.0	0	0.2	927.9
Finland	0	0	3790.4	1.8	0.0	0.0	0.0	0	0	0.9	0.2	4572.6	263.4	380	0	0.0	0.0	0.0	0	1.8	694.7
France	0	0	4655.8	410.1	0.1	0.3	0.3	0	0	319.5	2.3	14769.4	2034.0	217	0	0.0	0.0	148.9	0	261.0	3582.5
Germany	0	0	2729.6	497.5	0.2	0.0	0.7	0	0	178.6	2.4	21245.8	2257.4	280	0	0.2	0.0	246.2	0	251.0	3975.2
Greece	0	0	7809.5	4.4	0.0	0.2	0.0	0	0	73.2	0.3	4104.5	246.8	218	0	0.0	0.0	0.0	0	4.4	313.3
Ireland	0	0	3435.1	25.8	0.0	0.0	0.0	0	0	16.0	0.5	4568.2	544.5	235	0	0.0	0.0	0.0	0	25.8	234.1
Italy	0	0	5767.0	69.0	0.3	0.0	0.4	0	0	81.3	2.5	10884.7	2112.6	399	0	0.0	0.0	6.5	0	62.1	336.9
Latvia	0	0	654.7	2.1	0.0	0.0	0.0	0	0	2.9	0.1	595.8	119.5	134	0	0.0	0.0	0.0	0	2.1	27.1
Lithuania	0	0	209.1	0.1	0.0	0.0	0.0	0	0	4.2	0.0	65.3	9.0	75	0	0.0	0.0	0.0	0	0.1	39.9
Malta	0	0	75.6	0.4	0.0	0.0	0.0	0	0	0.0	0.0	31.3	29.1	321	0	0.0	0.0	0.0	0	0.4	0.0
Netherlands	0	0	2024.4	3310.2	0.3	0.0	0.6	0	0	46.3	19.9	32475.2	19881.0	260	0	3.5	0.1	183.9	0	3122.5	799.8
Poland	0	0	979.8	10.6	0.0	0.0	0.0	0	0	23.3	3.7	3431.4	330.7	76	0	0.0	0.1	5.2	0	5.5	71.6
Portugal	0	0	1896.0	8.7	0.0	0.0	0.1	0	0	49.7	0.3	1398.0	224.1	154	0	0.0	0.0	0.0	0	8.7	731.6
Romania	0	0	420.1	0.9	0.0	0.1	0.1	0	0	190.6	0.6	3816.9	91.3	55	0	0.0	0.1	0.0	0	0.9	2323.8
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.1	259	0	0.0	0.0	0.0	0	0.1	0.2
Spain	0	0	4967.8	34.5	0.0	0.0	0.1	0	0	68.1	0.9	2751.8	831.9	270	0	0.1	0.0	1.0	0	33.3	1260.0
Sweden	0	0	7076.7	3.0	0.0	0.0	0.0	0	0	3.4	0.4	11154.4	585.9	420	0	0.0	0.0	0.0	0	3.0	913.9
United Kingdom	0	0	12458.2	583.1	0.0	0.0	0.1	0	0	239.3	5.5	20594.1	5163.9	210	0	0.0	0.0	2.6	0	580.5	3673.3

Table D39. Results by country, for the HADCM3 B2, low sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	1009.6	0.0	0.0	0.0	0.0	0.0	149.0	3.5	6794.5	2844.1	168	0	0.0	0.3	0.0	0	1009.6	333.5
Bulgaria	0	0	326.3	1.8	0.0	0.0	0.0	0.0	0.0	1.2	0.3	235.8	23.2	36	0	0.0	0.2	0.0	0	1.8	1.0
Croatia	0	0	2263.0	1.8	0.0	0.0	0.0	0.0	0.0	213.9	0.3	470.9	19.8	24	0	0.0	0.1	0.0	0	1.8	128.1
Denmark	0	0	4954.4	93.5	0.5	0.0	1.1	0.0	0.0	490.0	0.9	9691.5	937.5	16	0	0.0	0.1	0.0	0	92.9	1627.3
Estonia	0	0	1907.4	2.6	0.1	0.0	0.5	0.0	0.0	400.2	0.1	882.0	11.0	76	0	0.0	0.1	0.0	0	2.6	626.0
Finland	0	0	3790.4	16.7	0.0	0.0	0.0	0.0	0.0	157.0	0.2	4582.8	250.6	351	0	0.0	-0.1	0.0	0	16.7	538.6
France	0	0	4655.8	697.2	0.3	0.2	0.4	0.0	0.0	1090.2	3.7	15154.2	1975.6	113	0	0.3	0.2	206.9	0	489.8	2816.6
Germany	0	0	2729.6	940.2	0.7	0.0	1.5	0.0	0.0	839.9	3.9	21653.7	2177.2	178	0	0.8	0.2	352.0	0	586.6	3313.9
Greece	0	0	7809.5	12.1	0.0	0.2	0.0	0.0	0.0	241.6	3.2	4556.8	256.3	58	0	0.0	0.2	0.0	0	12.1	144.9
Ireland	0	0	3435.1	121.6	0.0	0.0	0.0	0.0	0.0	52.1	0.7	4599.3	519.9	137	0	0.0	0.1	0.0	0	121.6	198.0
Italy	0	0	5767.0	487.5	0.5	0.0	0.5	0.0	0.0	247.7	3.0	11439.6	2121.6	182	0	0.2	0.2	9.5	0	477.3	170.5
Latvia	0	0	654.7	21.2	0.0	0.0	0.0	0.0	0.0	11.8	1.2	600.9	110.9	75	0	0.0	0.1	0.0	0	21.2	18.3
Lithuania	0	0	209.1	1.3	0.0	0.0	0.2	0.0	0.0	13.7	0.0	66.1	8.5	46	0	0.0	0.1	0.0	0	1.3	30.4
Malta	0	0	75.6	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	36.7	32.3	101	0	0.0	0.2	0.0	0	1.0	0.0
Netherlands	0	0	2024.4	6537.0	0.6	0.0	1.0	0.0	0.0	292.1	19.8	32595.3	18925.6	189	0	12.8	0.2	265.3	0	6258.3	554.0
Poland	0	0	979.8	52.9	0.0	1.4	0.0	0.1	3.0	56.4	27.9	3585.0	318.8	21	0	0.0	0.2	12.2	0	37.7	38.5
Portugal	0	0	1896.0	15.8	0.1	0.0	0.1	0.0	0.0	167.2	1.0	1429.0	217.0	66	0	0.0	0.1	0.0	0	15.8	614.1
Romania	0	0	420.1	7.0	0.0	0.1	0.2	0.0	0.0	705.7	5.3	4434.6	90.4	12	0	0.0	0.2	0.0	0	7.0	1808.8
Slovenia	0	0	28.7	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.0	5.8	1.1	99	0	0.0	0.2	0.0	0	0.3	0.1
Spain	0	0	4967.8	100.7	0.1	0.0	0.1	0.0	0.0	284.3	1.4	2806.4	807.1	129	0	0.3	0.1	1.5	0	98.9	1043.8
Sweden	0	0	7076.7	18.5	0.0	0.0	0.0	0.0	0.0	34.4	0.4	11177.5	558.1	384	0	0.0	-0.1	0.0	0	18.5	882.9
United Kingdom	0	0	12458.2	1271.5	0.1	0.0	0.1	0.0	0.0	842.8	5.9	20805.6	4948.0	122	0	0.1	0.1	3.8	0	1267.6	3069.8

Table D40. Results by country, for the HADCM3 B2, medium sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	587.4	0.0	0.0	0.0	0	0	41.4	3.6	6673.3	2926.5	245	0	0.0	0.1	0.0	0	587.4	441.1
Bulgaria	0	0	326.3	0.3	0.0	0.0	0.0	0	0	0.5	0.1	225.4	24.7	100	0	0.0	0.1	0.0	0	0.3	1.7
Croatia	0	0	2263.0	0.3	0.0	0.0	0.0	0	0	108.2	0.3	461.2	20.8	73	0	0.0	0.1	0.0	0	0.3	233.8
Denmark	0	0	4954.4	27.7	0.5	0.0	1.3	0	0	195.6	0.8	9582.8	975.0	23	0	0.0	0.1	0.0	0	27.2	1921.8
Estonia	0	0	1907.4	0.3	0.0	0.0	0.2	0	0	172.8	0.1	871.7	11.8	103	0	0.0	0.0	0.0	0	0.3	853.4
Finland	0	0	3790.4	4.3	0.0	0.0	0.0	0	0	78.3	0.2	4578.2	263.8	363	0	0.0	0.0	0.0	0	4.3	617.3
France	0	0	4655.8	431.4	0.2	0.4	0.5	0	0	429.8	2.3	14858.8	2037.2	188	0	0.1	0.1	151.2	0	280.0	3472.2
Germany	0	0	2729.6	508.2	0.4	0.0	1.0	0	0	346.9	2.5	21332.8	2266.6	252	0	0.2	0.1	249.1	0	258.5	3806.9
Greece	0	0	7809.5	4.7	0.0	0.3	0.0	0	0	118.7	0.4	4227.5	253.7	168	0	0.0	0.1	0.0	0	4.7	267.8
Ireland	0	0	3435.1	68.3	0.0	0.0	0.1	0	0	16.0	0.6	4578.1	545.7	200	0	0.0	0.1	0.0	0	68.3	234.1
Italy	0	0	5767.0	212.2	0.4	0.0	0.5	0	0	120.3	2.7	10982.1	2135.9	336	0	0.0	0.1	6.6	0	205.2	297.9
Latvia	0	0	654.7	2.2	0.0	0.0	0.0	0	0	5.1	0.3	597.9	119.9	108	0	0.0	0.0	0.0	0	2.2	24.9
Lithuania	0	0	209.1	0.2	0.0	0.0	0.1	0	0	8.7	0.0	65.6	9.1	63	0	0.0	0.1	0.0	0	0.1	35.4
Malta	0	0	75.6	0.5	0.0	0.0	0.0	0	0	0.0	0.0	32.5	30.2	257	0	0.0	0.1	0.0	0	0.5	0.0
Netherlands	0	0	2024.4	3483.2	0.4	0.0	0.9	0	0	93.5	20.1	32491.9	19889.7	246	0	3.9	0.1	186.0	0	3292.9	752.6
Poland	0	0	979.8	11.4	0.0	0.0	0.0	0	0	30.0	3.7	3457.5	333.4	58	0	0.0	0.1	5.2	0	6.2	64.9
Portugal	0	0	1896.0	8.8	0.0	0.0	0.2	0	0	86.5	0.5	1406.8	225.4	123	0	0.0	0.1	0.0	0	8.8	694.8
Romania	0	0	420.1	1.0	0.0	0.1	0.1	0	0	191.2	1.3	3892.7	92.2	42	0	0.0	0.1	0.0	0	1.0	2323.2
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.1	0.0	5.6	1.1	207	0	0.0	0.1	0.0	0	0.1	0.2
Spain	0	0	4967.8	48.9	0.1	0.0	0.1	0	0	130.1	0.9	2767.0	837.3	224	0	0.1	0.1	1.0	0	47.7	1198.1
Sweden	0	0	7076.7	5.1	0.0	0.0	0.0	0	0	18.6	0.4	11167.2	587.1	396	0	0.0	0.0	0.0	0	5.1	898.7
United Kingdom	0	0	12458.2	731.3	0.1	0.0	0.1	0	0	239.3	5.7	20647.8	5176.4	180	0	0.0	0.1	2.7	0	728.5	3673.3

Table D41. Results by country, for the HADCM3 B2, medium sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																			
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	1041.7	0.0	0.0	0.0	0.0	0.0	149.3	12.2	6853.4	2873.1	123	0	0.0	0.4	0.0	0	1041.7	333.1
Bulgaria	0	0	326.3	2.6	0.0	0.0	0.0	0.0	0.0	1.2	3.1	240.7	23.8	3	0	0.0	0.3	0.0	0	2.6	1.0
Croatia	0	0	2263.0	2.5	0.0	0.4	0.0	0.0	0.0	243.9	2.4	483.3	21.0	2	0	0.0	0.3	0.0	0	2.5	98.1
Denmark	0	0	4954.4	122.7	1.1	0.0	2.3	0.0	0.0	739.8	1.4	9898.8	958.1	8	0	0.0	0.2	0.0	0	121.6	1377.6
Estonia	0	0	1907.4	6.2	0.1	0.0	1.0	0.0	2.5	641.9	0.5	917.9	11.5	22	0	0.0	0.2	0.0	0	3.6	384.3
Finland	0	0	3790.4	57.4	0.0	0.0	0.0	0.0	0.0	399.1	0.3	4609.5	252.2	281	0	0.0	0.0	0.0	0	57.4	296.5
France	0	0	4655.8	769.6	0.5	0.3	0.8	0.0	0.0	1370.0	14.8	15459.9	2007.8	53	0	0.7	0.3	219.9	0	548.5	2532.0
Germany	0	0	2729.6	984.6	1.2	0.0	2.4	0.0	0.0	1395.0	13.0	21988.1	2211.7	104	0	1.5	0.3	368.8	0	613.1	2758.8
Greece	0	0	7809.5	19.7	0.0	0.4	0.0	0.0	0.0	265.2	30.8	4855.1	269.5	6	0	0.0	0.3	0.0	0	19.6	121.3
Ireland	0	0	3435.1	136.5	0.0	0.0	0.1	0.0	0.0	71.6	5.4	4637.7	524.4	55	0	0.0	0.2	0.0	0	136.5	178.5
Italy	0	0	5767.0	576.9	0.7	0.0	0.7	0.0	0.0	309.7	22.1	11878.0	2224.3	67	0	0.3	0.3	10.0	0	566.0	108.5
Latvia	0	0	654.7	31.1	0.0	0.0	0.0	0.0	0.0	18.9	1.2	609.8	112.7	19	0	0.0	0.2	0.0	0	31.1	11.2
Lithuania	0	0	209.1	2.0	0.0	0.0	0.3	0.0	0.0	25.4	0.1	67.8	8.9	17	0	0.0	0.2	0.0	0	1.9	18.7
Malta	0	0	75.6	1.8	0.0	0.0	0.0	0.0	0.0	0.0	4.3	41.7	36.8	15	0	0.0	0.3	0.0	0	1.8	0.0
Netherlands	0	0	2024.4	6614.5	0.9	0.0	1.6	0.0	0.0	346.3	141.8	32665.5	18961.1	145	0	17.7	0.4	277.3	0	6318.6	499.8
Poland	0	0	979.8	248.9	0.0	20.2	0.0	3.7	189.1	73.7	77.2	3693.2	329.0	3	0	0.1	0.3	12.7	0	47.0	21.2
Portugal	0	0	1896.0	21.0	0.1	2.1	0.3	0.0	1.2	293.4	7.1	1467.6	222.6	26	0	0.0	0.3	0.0	0	19.7	488.0
Romania	0	0	420.1	57.9	0.0	67.7	0.3	1.0	49.0	1002.2	20.5	4751.3	94.1	2	0	0.0	0.4	0.0	0	8.9	1512.2
Slovenia	0	0	28.7	0.5	0.0	0.0	0.0	0.0	0.0	0.2	0.0	6.0	1.1	18	0	0.0	0.3	0.0	0	0.5	0.1
Spain	0	0	4967.8	129.1	0.2	0.0	0.2	0.0	0.0	474.3	7.9	2874.0	829.1	46	0	0.5	0.3	1.5	0	127.0	853.8
Sweden	0	0	7076.7	71.6	0.0	0.0	0.0	0.0	0.0	89.0	0.7	11241.2	563.6	280	0	0.0	0.1	0.0	0	71.6	828.3
United Kingdom	0	0	12458.2	1347.1	0.1	0.0	0.2	0.0	0.0	1182.6	19.9	21028.1	5001.4	54	0	0.2	0.2	4.2	0	1342.5	2729.9

Table D42. Results by country, for the HADCM3 B2, high sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	590.2	0.0	0.0	0.1	0.0	0.0	41.4	3.6	6690.5	2936.3	230	0	0.0	0.1	0.0	0	590.2	441.1
Bulgaria	0	0	326.3	0.3	0.0	0.0	0.0	0.0	0.0	0.5	0.3	228.9	24.9	75	0	0.0	0.1	0.0	0	0.3	1.7
Croatia	0	0	2263.0	0.4	0.0	0.0	0.0	0.0	0.0	115.8	0.3	471.3	22.1	52	0	0.0	0.1	0.0	0	0.4	226.2
Denmark	0	0	4954.4	48.1	0.8	0.0	2.0	0.0	0.0	212.5	0.8	9637.1	981.8	20	0	0.0	0.1	0.0	0	47.3	1904.9
Estonia	0	0	1907.4	0.3	0.0	0.0	0.4	0.0	0.0	256.7	0.1	880.9	11.9	82	0	0.0	0.1	0.0	0	0.3	769.5
Finland	0	0	3790.4	11.0	0.0	0.0	0.0	0.0	0.0	135.9	0.2	4585.3	264.2	342	0	0.0	0.0	0.0	0	11.0	559.7
France	0	0	4655.8	439.6	0.3	0.5	0.7	0.0	0.0	515.9	2.4	14953.6	2058.5	161	0	0.1	0.1	153.5	0	285.7	3389.3
Germany	0	0	2729.6	586.2	0.5	0.0	1.4	0.0	0.0	411.4	2.6	21424.7	2276.2	225	0	0.3	0.1	252.1	0	333.3	3742.5
Greece	0	0	7809.5	5.0	0.0	0.5	0.1	0.0	0.0	119.2	1.4	4340.0	259.1	125	0	0.0	0.1	0.0	0	5.0	267.4
Ireland	0	0	3435.1	72.8	0.0	0.0	0.1	0.0	0.0	26.8	0.6	4588.2	546.8	169	0	0.0	0.1	0.0	0	72.8	223.3
Italy	0	0	5767.0	265.2	0.4	0.0	0.6	0.0	0.0	140.3	2.8	11085.4	2160.2	280	0	0.0	0.1	6.7	0	258.0	277.9
Latvia	0	0	654.7	2.3	0.0	0.0	0.0	0.0	0.0	7.6	1.3	600.3	120.4	85	0	0.0	0.1	0.0	0	2.3	22.5
Lithuania	0	0	209.1	0.2	0.0	0.0	0.1	0.0	0.0	11.7	0.0	65.9	9.2	53	0	0.0	0.1	0.0	0	0.1	32.4
Malta	0	0	75.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.7	31.4	201	0	0.0	0.1	0.0	0	0.5	0.0
Netherlands	0	0	2024.4	3716.4	0.5	0.0	1.2	0.0	0.0	101.0	20.3	32512.9	19899.3	231	0	4.3	0.1	188.2	0	3523.5	745.1
Poland	0	0	979.8	12.0	0.0	0.0	0.0	0.0	0.0	39.5	3.9	3485.1	336.2	43	0	0.0	0.1	5.3	0	6.8	55.3
Portugal	0	0	1896.0	9.1	0.1	0.0	0.2	0.0	0.0	112.5	0.7	1417.4	226.9	97	0	0.0	0.1	0.0	0	9.0	668.8
Romania	0	0	420.1	1.2	0.0	0.1	0.1	0.0	0.0	301.7	1.8	3970.1	93.2	31	0	0.0	0.1	0.0	0	1.1	2212.7
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	5.7	1.2	162	0	0.0	0.1	0.0	0	0.1	0.2
Spain	0	0	4967.8	51.9	0.1	0.0	0.2	0.0	0.0	161.7	1.0	2784.0	843.1	183	0	0.1	0.1	1.0	0	50.6	1166.5
Sweden	0	0	7076.7	13.1	0.0	0.0	0.0	0.0	0.0	31.2	0.5	11185.0	588.7	363	0	0.0	0.0	0.0	0	13.1	886.1
United Kingdom	0	0	12458.2	759.5	0.1	0.0	0.2	0.0	0.0	374.6	5.7	20702.6	5190.3	153	0	0.0	0.1	2.7	0	756.7	3537.9

Table D43. Results by country, for the HADCM3 B2, high sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																			
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	1141.3	0.0	0.0	0.1	0.0	0.0	149.3	12.3	6911.6	2901.7	89	0	0.0	0.5	0.0	0	1141.3	333.1
Bulgaria	0	0	326.3	27.0	0.0	4.0	0.0	0.3	23.6	1.3	5.7	244.2	24.3	1	0	0.0	0.4	0.0	0	3.4	0.8
Croatia	0	0	2263.0	38.0	0.0	8.7	0.0	0.5	34.7	293.8	7.9	501.7	23.0	1	0	0.0	0.4	0.0	0	3.3	48.2
Denmark	0	0	4954.4	301.7	1.6	0.0	3.3	0.0	0.0	753.4	5.1	10102.1	978.5	4	0	0.0	0.3	0.0	0	300.1	1364.0
Estonia	0	0	1907.4	21.9	0.2	1.5	1.5	0.1	17.0	804.6	2.8	952.8	11.9	3	0	0.0	0.3	0.0	0	4.8	221.6
Finland	0	0	3790.4	74.3	0.0	0.0	0.0	0.0	0.0	458.0	0.3	4644.2	254.1	223	0	0.0	0.2	0.0	0	74.3	237.6
France	0	0	4655.8	917.9	0.6	0.2	1.1	0.0	0.0	1780.1	44.4	15718.4	2040.1	23	0	1.4	0.4	233.2	0	682.7	2121.9
Germany	0	0	2729.6	1543.6	1.6	118.3	3.2	5.4	478.0	1457.0	61.3	22323.3	2244.4	57	0	2.4	0.4	385.8	0	675.8	2696.9
Greece	0	0	7809.5	504.8	0.0	128.5	0.1	9.2	478.5	340.5	112.8	5033.9	277.3	1	0	0.0	0.4	0.0	0	26.3	46.0
Ireland	0	0	3435.1	202.9	0.0	0.0	0.1	0.0	0.0	98.0	13.8	4674.8	528.7	16	0	0.0	0.4	0.0	0	202.8	152.0
Italy	0	0	5767.0	924.7	0.8	4.4	0.9	3.3	281.9	337.9	77.7	12315.7	2327.0	23	0	0.4	0.4	10.5	0	631.0	80.3
Latvia	0	0	654.7	42.3	0.0	0.0	0.1	0.0	0.0	23.8	11.7	623.7	114.9	2	0	0.0	0.3	0.0	0	42.3	6.3
Lithuania	0	0	209.1	2.3	0.0	0.0	0.4	0.0	0.0	32.7	0.9	69.6	9.1	4	0	0.0	0.3	0.0	0	2.3	11.4
Malta	0	0	75.6	2.8	0.0	0.1	0.0	0.0	0.0	0.0	14.5	43.1	38.0	1	0	0.0	0.4	0.0	0	2.8	0.0
Netherlands	0	0	2024.4	7770.0	1.2	0.0	2.2	0.0	6.1	351.1	157.9	32732.4	18988.4	109	0	23.3	0.5	289.5	0	7449.8	495.0
Poland	0	0	979.8	489.0	0.0	79.7	0.1	6.7	422.9	80.8	135.6	3803.9	339.5	1	0	0.1	0.4	13.3	0	52.7	14.1
Portugal	0	0	1896.0	31.5	0.2	5.6	0.4	0.2	6.0	318.2	24.5	1507.6	227.9	12	0	0.0	0.4	0.0	0	25.4	463.1
Romania	0	0	420.1	91.4	0.0	62.2	0.4	1.6	80.5	1175.5	40.4	4970.0	97.4	1	0	0.0	0.5	0.0	0	10.8	1339.0
Slovenia	0	0	28.7	0.8	0.0	0.0	0.0	0.0	0.0	0.2	0.2	6.2	1.1	1	0	0.0	0.4	0.0	0	0.8	0.0
Spain	0	0	4967.8	201.8	0.2	5.2	0.3	0.4	36.6	525.2	40.1	2969.1	852.4	16	0	0.7	0.4	1.6	0	162.7	803.0
Sweden	0	0	7076.7	137.9	0.0	0.0	0.0	0.0	0.0	107.2	1.6	11339.6	570.5	193	0	0.0	0.2	0.0	0	137.9	810.0
United Kingdom	0	0	12458.2	1629.2	0.2	0.0	0.3	0.0	0.0	1598.8	61.4	21246.6	5054.2	21	0	0.5	0.4	4.6	0	1624.0	2313.7

Table D44. Results by country, for the HADCM3 B2, low sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	1.9	0.1	130.2	49.5	0.0	0.0	0.0	0	0	40.9	2.7	6656.5	2916.9	1109	0.0	0.0	0.1	0.0	1.8	49.5	441.5
Bulgaria	1.5	0.0	326.3	0.2	0.0	0.0	0.0	0	0	0.4	0.0	219.7	24.0	629	0.0	0.0	0.0	0.0	1.5	0.2	1.8
Croatia	11.6	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	61.2	0.0	457.2	20.4	396	0.0	0.0	0.0	0.0	11.6	0.2	280.8
Denmark	42.0	11.8	4954.4	0.3	0.3	0.0	0.7	0	0	103.1	0.5	9526.5	968.2	141	0.0	0.0	0.0	0.0	30.2	0.0	2014.3
Estonia	20.5	0.0	1907.4	0.2	0.0	0.0	0.1	0	0	98.4	0.0	862.4	11.7	346	0.0	0.0	0.0	0.0	20.5	0.2	927.9
Finland	8.3	0.0	3790.4	0.3	0.0	0.0	0.0	0	0	0.9	0.2	4572.6	263.4	1960	0.0	0.0	0.0	0.0	8.3	0.3	694.7
France	53.9	32.4	4655.8	228.9	0.0	0.3	0.1	0	0	319.5	1.8	14769.4	2025.2	1320	0.3	0.0	0.0	148.9	21.2	80.0	3582.5
Germany	47.4	24.3	2729.6	399.4	0.2	0.0	0.5	0	0	178.6	2.2	21245.8	2257.4	1288	0.9	0.0	0.0	246.2	22.1	153.1	3975.2
Greece	18.2	1.2	7809.5	1.6	0.0	0.2	0.0	0	0	73.2	0.3	4104.5	246.8	1130	0.0	0.0	0.0	0.0	17.0	1.6	313.3
Ireland	24.6	3.6	3435.1	16.9	0.0	0.0	0.0	0	0	16.0	0.4	4568.2	544.5	867	0.0	0.0	0.0	0.0	21.0	16.9	234.1
Italy	27.6	5.0	5767.0	6.8	0.2	0.0	0.3	0	0	81.3	1.4	10884.7	2112.6	3942	0.1	0.0	0.0	6.5	22.5	0.0	336.9
Latvia	7.1	0.4	654.7	2.1	0.0	0.0	0.0	0	0	2.9	0.1	595.8	119.5	398	0.0	0.0	0.0	0.0	6.6	2.1	27.1
Lithuania	2.4	0.4	209.1	0.1	0.0	0.0	0.0	0	0	4.2	0.0	65.3	9.0	198	0.0	0.0	0.0	0.0	2.0	0.1	39.9
Malta	0.2	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	31.3	29.1	2534	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Netherlands	51.5	25.7	2024.4	515.0	0.2	0.0	0.4	0	0	46.3	14.6	32475.2	19881.0	1128	0.4	0.6	0.1	183.9	25.4	330.2	799.8
Poland	11.8	0.0	979.8	9.7	0.0	0.0	0.0	0	0	23.3	0.4	3431.4	330.7	302	0.1	0.0	0.1	5.2	11.7	4.6	71.6
Portugal	9.7	5.6	1896.0	6.3	0.0	0.0	0.0	0	0	49.7	0.3	1398.0	224.1	461	0.0	0.0	0.0	0.0	4.1	6.3	731.6
Romania	5.7	0.0	420.1	0.8	0.0	0.1	0.1	0	0	190.6	0.2	3816.9	91.3	221	0.0	0.0	0.1	0.0	5.7	0.8	2323.8
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.1	2290	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Spain	19.2	6.2	4967.8	9.5	0.0	0.0	0.0	0	0	68.1	0.7	2751.8	831.9	1566	0.1	0.0	0.0	1.0	13.0	8.4	1260.0
Sweden	12.0	0.3	7076.7	0.0	0.0	0.0	0.0	0	0	3.4	0.3	11154.4	585.9	2565	0.0	0.0	0.0	0.0	11.7	0.0	913.9
United Kingdom	92.5	9.3	12458.2	45.3	0.0	0.0	0.0	0	0	239.3	4.1	20594.1	5163.1	922	0.0	0.0	0.0	2.6	83.1	42.7	3673.3

Table D45. Results by country, for the HADCM3 B2, low sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	1.5	0.1	130.2	0.0	0.0	0.0	0.0	0	0	149.0	1.9	6794.5	2844.1	1897	0.0	0.0	0.3	0.0	1.5	0.0	333.5
Bulgaria	0.8	0.0	326.3	0.0	0.0	0.0	0.0	0	0	1.2	0.0	235.8	23.2	2785	0.0	0.0	0.2	0.0	0.8	0.0	1.0
Croatia	6.2	0.0	2263.0	0.0	0.0	0.0	0.0	0	0	213.9	0.0	470.9	19.8	1802	0.0	0.0	0.1	0.0	6.2	0.0	128.1
Denmark	55.7	31.0	4954.4	0.4	0.4	0.0	0.9	0	0	490.0	0.5	9691.5	937.5	234	0.0	0.0	0.1	0.0	24.6	0.0	1627.3
Estonia	12.5	0.0	1907.4	0.1	0.1	0.0	0.5	0	0	400.2	0.0	882.0	11.0	3184	0.0	0.0	0.1	0.0	12.5	0.0	626.0
Finland	5.6	0.0	3790.4	0.0	0.0	0.0	0.0	0	0	157.0	0.1	4582.8	250.6	3383	0.0	0.0	-0.1	0.0	5.6	0.0	538.6
France	72.7	54.4	4655.8	215.6	0.1	0.2	0.1	0	0	1085.4	1.3	15154.2	1967.2	2099	0.3	0.0	0.2	206.9	18.1	8.5	2816.6
Germany	91.2	72.3	2729.6	352.5	0.5	0.0	1.0	0	0	839.9	1.5	21653.7	2177.2	2148	0.8	0.0	0.2	352.0	18.1	0.0	3313.9
Greece	17.4	1.4	7809.5	0.0	0.0	0.2	0.0	0	0	241.6	0.2	4556.8	256.3	1759	0.0	0.0	0.2	0.0	16.0	0.0	144.9
Ireland	22.1	4.1	3435.1	1.2	0.0	0.0	0.0	0	0	52.1	0.3	4599.3	519.9	1487	0.0	0.0	0.1	0.0	18.0	1.2	198.0
Italy	28.3	8.1	5767.0	9.9	0.4	0.0	0.3	0	0	247.7	1.1	11439.6	2121.6	5825	0.1	0.0	0.2	9.5	20.1	0.0	170.5
Latvia	4.7	0.5	654.7	0.0	0.0	0.0	0.0	0	0	11.8	0.1	600.9	110.9	3648	0.0	0.0	0.1	0.0	4.2	0.0	18.3
Lithuania	1.6	0.5	209.1	0.0	0.0	0.0	0.1	0	0	13.7	0.0	66.1	8.5	1820	0.0	0.0	0.1	0.0	1.2	0.0	30.4
Malta	0.2	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	36.7	32.3	3900	0.0	0.0	0.2	0.0	0.2	0.0	0.0
Netherlands	64.5	45.0	2024.4	265.9	0.4	0.0	0.5	0	0	292.1	11.3	32595.3	18925.6	1926	0.3	0.0	0.2	265.3	19.2	0.2	554.0
Poland	7.3	0.9	979.8	12.6	0.0	0.0	0.0	0	0	56.4	0.3	3585.0	318.8	1362	0.1	0.0	0.2	12.2	6.4	0.4	38.5
Portugal	14.5	10.9	1896.0	8.0	0.0	0.0	0.1	0	0	167.2	0.2	1429.0	217.0	779	0.0	0.0	0.1	0.0	3.6	8.0	614.1
Romania	3.1	0.0	420.1	2.1	0.0	0.1	0.2	0	0	705.7	0.1	4434.6	90.4	987	0.0	0.0	0.2	0.0	3.1	2.1	1808.8
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.2	0.0	5.8	1.1	9746	0.0	0.0	0.2	0.0	0.1	0.0	0.1
Spain	27.4	15.8	4967.8	2.0	0.0	0.0	0.0	0	0	284.3	0.5	2806.4	807.1	2593	0.1	0.0	0.1	1.5	11.6	0.5	1043.8
Sweden	8.4	0.4	7076.7	0.0	0.0	0.0	0.0	0	0	34.4	0.3	11177.5	558.1	4367	0.0	0.0	-0.1	0.0	8.1	0.0	882.9
United Kingdom	83.0	13.1	12458.2	5.0	0.0	0.0	0.0	0	0	842.8	3.1	20805.6	4948.0	1569	0.0	0.0	0.1	3.8	69.9	1.2	3069.8

Table D46. Results by country, for the HADCM3 B2, medium sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	2.2	0.1	130.2	90.1	0.0	0.0	0.0	0	0	41.4	2.7	6673.3	2926.5	1105	0.0	0.0	0.1	0.0	2.1	90.1	441.1
Bulgaria	1.8	0.0	326.3	0.3	0.0	0.0	0.0	0	0	0.5	0.0	225.4	24.7	614	0.0	0.0	0.1	0.0	1.8	0.3	1.7
Croatia	14.1	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	108.2	0.0	461.2	20.8	389	0.0	0.0	0.1	0.0	14.1	0.2	233.8
Denmark	59.2	19.6	4954.4	0.6	0.4	0.0	1.2	0	0	195.6	0.5	9582.8	975.0	139	0.0	0.0	0.1	0.0	39.7	0.2	1921.8
Estonia	24.3	0.0	1907.4	0.3	0.0	0.0	0.2	0	0	172.8	0.0	871.7	11.8	342	0.0	0.0	0.0	0.0	24.3	0.2	853.4
Finland	10.5	0.0	3790.4	0.3	0.0	0.0	0.0	0	0	78.3	0.2	4578.2	263.8	1948	0.0	0.0	0.0	0.0	10.5	0.3	617.3
France	79.4	51.8	4655.8	242.3	0.1	0.4	0.2	0	0	429.8	1.9	14858.8	2037.2	1299	0.4	0.0	0.1	151.2	27.2	91.1	3472.2
Germany	71.8	42.9	2729.6	415.6	0.3	0.0	0.8	0	0	346.9	2.2	21332.8	2266.6	1273	1.1	0.0	0.1	249.1	27.8	166.2	3806.9
Greece	25.3	1.9	7809.5	2.5	0.0	0.3	0.0	0	0	118.7	0.3	4227.5	253.7	1097	0.0	0.0	0.1	0.0	23.4	2.5	267.8
Ireland	34.4	5.5	3435.1	20.8	0.0	0.0	0.0	0	0	16.0	0.4	4578.1	545.7	862	0.0	0.0	0.1	0.0	28.9	20.8	234.1
Italy	37.9	7.9	5767.0	6.9	0.3	0.0	0.4	0	0	120.3	1.4	10982.1	2135.9	3833	0.1	0.0	0.1	6.6	29.8	0.0	297.9
Latvia	8.7	0.8	654.7	2.2	0.0	0.0	0.0	0	0	5.1	0.1	597.9	119.9	393	0.0	0.0	0.0	0.0	8.0	2.2	24.9
Lithuania	3.0	0.7	209.1	0.1	0.0	0.0	0.1	0	0	8.7	0.0	65.6	9.1	196	0.0	0.0	0.1	0.0	2.3	0.1	35.4
Malta	0.3	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	32.5	30.2	2458	0.0	0.0	0.1	0.0	0.3	0.0	0.0
Netherlands	68.0	38.3	2024.4	534.9	0.3	0.0	0.5	0	0	93.5	14.8	32491.9	19889.7	1123	0.5	0.6	0.1	186.0	29.2	347.9	752.6
Poland	13.8	0.0	979.8	9.9	0.0	0.0	0.0	0	0	30.0	0.4	3457.5	333.4	297	0.1	0.0	0.1	5.2	13.7	4.7	64.9
Portugal	15.2	9.6	1896.0	6.3	0.0	0.0	0.1	0	0	86.5	0.3	1406.8	225.4	457	0.0	0.0	0.1	0.0	5.6	6.3	694.8
Romania	6.5	0.0	420.1	0.8	0.0	0.1	0.1	0	0	191.2	0.2	3892.7	92.2	218	0.0	0.0	0.1	0.0	6.5	0.8	2323.2
Slovenia	0.2	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.1	0.0	5.6	1.1	2255	0.0	0.0	0.1	0.0	0.2	0.0	0.2
Spain	29.0	11.2	4967.8	10.2	0.0	0.0	0.0	0	0	130.1	0.7	2767.0	837.3	1543	0.1	0.0	0.1	1.0	17.8	9.1	1198.1
Sweden	16.7	0.5	7076.7	0.0	0.0	0.0	0.0	0	0	18.6	0.3	11167.2	587.1	2543	0.0	0.0	0.0	0.0	16.1	0.0	898.7
United Kingdom	127.9	16.3	12458.2	56.0	0.0	0.0	0.0	0	0	239.3	4.2	20647.8	5176.4	915	0.0	0.0	0.1	2.7	111.6	53.3	3673.3

Table D47. Results by country, for the HADCM3 B2, medium sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	2.0	0.1	130.2	0.0	0.0	0.0	0.0	0	0.0	149.3	2.0	6853.4	2873.1	1875	0.0	0.0	0.4	0.0	1.9	0.0	333.1
Bulgaria	1.3	0.0	326.3	0.0	0.0	0.0	0.0	0	0.0	1.2	0.0	240.7	23.8	2569	0.0	0.0	0.3	0.0	1.3	0.0	1.0
Croatia	10.6	0.0	2263.0	0.1	0.0	0.0	0.0	0	0.0	243.9	0.0	483.3	21.0	1691	0.0	0.0	0.3	0.0	10.6	0.1	98.1
Denmark	94.6	52.8	4954.4	0.9	0.9	0.0	1.8	0	0.0	739.8	0.5	9898.8	958.1	222	0.0	0.0	0.2	0.0	41.8	0.0	1377.6
Estonia	19.5	0.0	1907.4	2.6	0.1	0.0	1.0	0	2.5	641.9	0.0	917.9	11.5	3028	0.0	0.0	0.2	0.0	19.5	0.0	384.3
Finland	9.5	0.0	3790.4	0.0	0.0	0.0	0.0	0	0.0	399.1	0.1	4609.5	252.2	3292	0.0	0.0	0.0	0.0	9.5	0.0	296.5
France	126.8	97.4	4655.8	235.3	0.2	0.3	0.2	0	0.0	1370.0	1.4	15459.9	2007.8	2010	0.4	0.0	0.3	219.9	28.9	15.2	2532.0
Germany	160.8	131.3	2729.6	369.8	0.7	0.0	1.5	0	0.0	1395.0	1.6	21988.1	2211.7	2061	1.2	0.0	0.3	368.8	28.4	0.2	2758.8
Greece	30.4	2.6	7809.5	1.1	0.0	0.4	0.0	0	0.0	265.2	0.2	4855.1	269.5	1599	0.0	0.0	0.3	0.0	27.8	1.1	121.3
Ireland	37.7	5.5	3435.1	4.1	0.0	0.0	0.0	0	0.0	71.6	0.4	4637.7	524.4	1454	0.0	0.0	0.2	0.0	32.2	4.1	178.5
Italy	49.1	15.2	5767.0	10.5	0.5	0.0	0.4	0	0.0	309.7	1.2	11878.0	2224.3	5354	0.1	0.0	0.3	10.0	33.7	0.0	108.5
Latvia	7.7	1.2	654.7	0.0	0.0	0.0	0.0	0	0.0	18.9	0.1	609.8	112.7	3465	0.0	0.0	0.2	0.0	6.5	0.0	11.2
Lithuania	2.8	1.1	209.1	0.0	0.0	0.0	0.3	0	0.0	25.4	0.0	67.8	8.9	1740	0.0	0.0	0.2	0.0	1.7	0.0	18.7
Malta	0.3	0.0	75.6	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	41.7	36.8	3526	0.0	0.0	0.3	0.0	0.3	0.0	0.0
Netherlands	102.7	76.1	2024.4	278.4	0.6	0.0	0.8	0	0.0	346.3	11.5	32665.5	18961.1	1893	0.4	0.0	0.4	277.3	26.1	0.5	499.8
Poland	10.1	0.0	979.8	14.0	0.0	0.0	0.0	0	0.0	73.7	0.3	3693.2	329.0	1291	0.1	0.0	0.3	12.7	10.0	1.3	21.2
Portugal	28.2	22.0	1896.0	10.2	0.1	0.0	0.1	0	0.0	293.4	0.3	1467.6	222.6	753	0.0	0.0	0.3	0.0	6.3	10.2	488.0
Romania	4.6	0.0	420.1	2.4	0.0	0.0	0.3	0	0.0	1002.2	0.1	4751.3	94.1	931	0.0	0.0	0.4	0.0	4.6	2.4	1512.2
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0	0.0	0.2	0.0	6.0	1.1	9574	0.0	0.0	0.3	0.0	0.1	0.0	0.1
Spain	51.1	30.7	4967.8	3.1	0.0	0.0	0.0	0	0.0	474.3	0.5	2874.0	829.1	2454	0.1	0.0	0.3	1.5	20.3	1.6	853.8
Sweden	17.4	0.7	7076.7	0.0	0.0	0.0	0.0	0	0.0	89.0	0.3	11241.2	563.6	4189	0.0	0.0	0.1	0.0	16.7	0.0	828.3
United Kingdom	145.1	23.9	12458.2	6.7	0.0	0.0	0.0	0	0.0	1182.6	3.3	21028.1	5001.4	1524	0.0	0.0	0.2	4.2	121.2	2.5	2729.9

Table D48. Results by country, for the HADCM3 B2, high sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	2.5	0.1	130.2	136.5	0.0	0.0	0.0	0	0	41.4	2.7	6690.5	2936.3	1102	0.0	0.0	0.1	0.0	2.4	136.4	441.1
Bulgaria	2.1	0.0	326.3	0.3	0.0	0.0	0.0	0	0	0.5	0.0	228.9	24.9	600	0.0	0.0	0.1	0.0	2.1	0.3	1.7
Croatia	17.0	0.0	2263.0	0.3	0.0	0.0	0.0	0	0	115.8	0.0	471.3	22.1	383	0.0	0.0	0.1	0.0	17.0	0.3	226.2
Denmark	79.2	28.2	4954.4	1.4	0.7	0.0	1.7	0	0	212.5	0.6	9637.1	981.8	137	0.0	0.0	0.1	0.0	51.0	0.7	1904.9
Estonia	28.9	0.0	1907.4	0.3	0.0	0.0	0.4	0	0	256.7	0.0	880.9	11.9	337	0.0	0.0	0.1	0.0	28.9	0.2	769.5
Finland	13.3	0.0	3790.4	0.3	0.0	0.0	0.0	0	0	135.9	0.2	4585.3	264.2	1934	0.0	0.0	0.0	0.0	13.3	0.3	559.7
France	108.8	73.8	4655.8	260.9	0.1	0.5	0.2	0	0	512.7	1.9	14953.6	2049.7	1279	0.5	0.0	0.1	153.5	34.4	107.3	3389.3
Germany	97.9	61.9	2729.6	431.3	0.4	0.0	1.0	0	0	411.4	2.2	21424.7	2276.2	1259	1.3	0.0	0.1	252.1	34.6	178.9	3742.5
Greece	33.8	2.8	7809.5	3.9	0.0	0.5	0.0	0	0	119.2	0.3	4340.0	259.1	1067	0.0	0.0	0.1	0.0	31.1	3.9	267.4
Ireland	44.9	6.5	3435.1	22.6	0.0	0.0	0.0	0	0	26.8	0.5	4588.2	546.8	857	0.0	0.0	0.1	0.0	38.4	22.6	223.3
Italy	49.8	10.9	5767.0	7.1	0.3	0.0	0.4	0	0	140.3	1.4	11085.4	2160.2	3730	0.1	0.0	0.1	6.7	38.8	0.0	277.9
Latvia	10.8	1.2	654.7	2.2	0.0	0.0	0.0	0	0	7.6	0.1	600.3	120.4	387	0.0	0.0	0.1	0.0	9.5	2.2	22.5
Lithuania	3.8	1.2	209.1	0.2	0.0	0.0	0.1	0	0	11.7	0.0	65.9	9.2	193	0.0	0.0	0.1	0.0	2.6	0.1	32.4
Malta	0.3	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	33.7	31.4	2385	0.0	0.0	0.1	0.0	0.3	0.0	0.0
Netherlands	87.3	53.0	2024.4	548.2	0.3	0.0	0.6	0	0	101.0	15.0	32512.9	19899.3	1118	0.5	0.6	0.1	188.2	33.8	359.1	745.1
Poland	16.2	0.0	979.8	10.0	0.0	0.0	0.0	0	0	39.5	0.4	3485.1	336.2	293	0.1	0.0	0.1	5.3	16.0	4.8	55.3
Portugal	21.5	14.1	1896.0	7.1	0.0	0.0	0.1	0	0	112.5	0.3	1417.4	226.9	453	0.0	0.0	0.1	0.0	7.4	7.0	668.8
Romania	7.4	0.0	420.1	0.9	0.0	0.1	0.1	0	0	301.7	0.2	3970.1	93.2	214	0.0	0.0	0.1	0.0	7.4	0.9	2212.7
Slovenia	0.2	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.1	0.0	5.7	1.2	2221	0.0	0.0	0.1	0.0	0.2	0.0	0.2
Spain	40.0	16.4	4967.8	11.7	0.0	0.0	0.0	0	0	161.7	0.7	2784.0	843.1	1520	0.1	0.0	0.1	1.0	23.6	10.6	1166.5
Sweden	22.9	0.8	7076.7	0.0	0.0	0.0	0.0	0	0	31.2	0.4	11185.0	588.7	2512	0.0	0.0	0.0	0.0	22.1	0.0	886.1
United Kingdom	172.2	26.4	12458.2	81.0	0.0	0.0	0.0	0	0	374.6	4.3	20702.6	5190.3	908	0.0	0.0	0.1	2.7	145.8	78.3	3537.9

Table D49. Results by country, for the HADCM3 B2, high sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	2.5	0.1	130.2	0.0	0.0	0.0	0.1	0.0	0.0	149.3	2.0	6911.6	2901.7	1855	0.0	0.0	0.5	0.0	2.4	0.0	333.1
Bulgaria	1.8	0.0	326.3	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	244.2	24.3	2392	0.0	0.0	0.4	0.0	1.8	0.0	0.8
Croatia	14.6	0.0	2263.0	0.3	0.0	0.0	0.0	0.0	0.0	293.8	0.0	501.7	23.0	1598	0.0	0.0	0.4	0.0	14.6	0.3	48.2
Denmark	132.0	74.8	4954.4	1.4	1.4	0.0	2.7	0.0	0.0	753.4	0.5	10102.1	978.5	213	0.0	0.0	0.3	0.0	57.2	0.0	1364.0
Estonia	25.7	0.0	1907.4	2.7	0.2	0.0	1.5	0.0	2.5	804.6	0.0	952.8	11.9	2891	0.0	0.0	0.3	0.0	25.7	0.0	221.6
Finland	13.6	0.0	3790.4	0.0	0.0	0.0	0.0	0.0	0.0	458.0	0.1	4644.2	254.1	3198	0.0	0.0	0.2	0.0	13.6	0.0	237.6
France	176.5	137.3	4655.8	254.1	0.2	0.1	0.3	0.0	0.0	1780.1	1.5	15718.4	2048.6	1934	0.6	0.0	0.4	233.2	38.7	20.7	2121.9
Germany	226.6	187.5	2729.6	396.2	1.0	0.0	1.9	0.1	8.6	1457.0	1.6	22323.3	2244.4	1984	1.5	0.0	0.4	385.8	37.6	0.9	2696.9
Greece	42.0	3.8	7809.5	3.8	0.0	0.6	0.0	0.0	0.0	340.5	0.3	5033.9	277.3	1474	0.0	0.0	0.4	0.0	38.3	3.8	46.0
Ireland	51.4	6.5	3435.1	10.8	0.0	0.0	0.1	0.0	0.0	98.0	0.4	4674.8	528.7	1422	0.0	0.0	0.4	0.0	44.9	10.8	152.0
Italy	67.2	21.1	5767.0	11.1	0.5	0.0	0.5	0.0	0.0	337.9	1.3	12315.7	2327.0	4976	0.1	0.0	0.4	10.5	45.9	0.0	80.3
Latvia	10.4	1.8	654.7	0.0	0.0	0.0	0.0	0.0	0.0	23.8	0.1	623.7	114.9	3305	0.0	0.0	0.3	0.0	8.7	0.0	6.3
Lithuania	3.9	1.7	209.1	0.0	0.0	0.0	0.3	0.0	0.0	32.7	0.0	69.6	9.1	1670	0.0	0.0	0.3	0.0	2.2	0.0	11.4
Malta	0.4	0.0	75.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.1	38.0	3233	0.0	0.0	0.4	0.0	0.4	0.0	0.0
Netherlands	138.2	105.4	2024.4	297.9	0.8	0.0	1.0	0.0	0.0	351.1	11.8	32732.4	18988.4	1862	0.5	0.0	0.5	289.5	32.2	7.5	495.0
Poland	13.3	0.0	979.8	19.3	0.0	0.0	0.1	0.0	0.0	80.8	0.4	3803.9	339.5	1230	0.1	0.0	0.4	13.3	13.2	6.1	14.1
Portugal	65.4	56.7	1896.0	11.5	0.1	0.0	0.1	0.0	0.0	318.2	0.3	1507.6	227.9	728	0.0	0.0	0.4	0.0	8.6	11.4	463.1
Romania	5.9	0.0	420.1	2.7	0.0	0.0	0.4	0.0	0.0	1175.5	0.1	4970.0	97.4	882	0.0	0.0	0.5	0.0	5.9	2.7	1339.0
Slovenia	0.2	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	6.2	1.1	9400	0.0	0.0	0.4	0.0	0.2	0.0	0.0
Spain	71.9	43.8	4967.8	5.5	0.0	0.0	0.0	0.0	0.0	525.2	0.6	2969.1	852.4	2336	0.1	0.0	0.4	1.6	28.0	3.9	803.0
Sweden	26.9	0.9	7076.7	0.0	0.0	0.0	0.0	0.0	0.0	107.2	0.3	11339.6	570.5	4014	0.0	0.0	0.2	0.0	26.0	0.0	810.0
United Kingdom	198.1	31.2	12458.2	9.0	0.0	0.0	0.1	0.0	0.0	1598.8	3.4	21246.6	5054.2	1484	0.0	0.0	0.4	4.6	166.8	4.4	2313.7

Table D50. Results by country, for the IPCC A2, low sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	567.6	0.0	0.0	0.0	0	0	40.8	3.9	6645.3	3125.3	271	0	0.0	0.1	0.0	0	567.6	441.6
Bulgaria	0	0	326.3	0.2	0.0	0.0	0.0	0	0	0.2	0.0	215.6	25.2	152	0	0.0	0.0	0.0	0	0.2	2.0
Croatia	0	0	2263.0	0.2	0.0	0.0	0.0	0	0	61.2	0.1	454.5	21.6	119	0	0.0	0.0	0.0	0	0.2	280.8
Denmark	0	0	4954.4	8.3	0.0	0.0	0.3	0	0	67.7	0.7	9493.8	1035.1	31	0	0.0	0.0	0.0	0	8.3	1870.1
Estonia	0	0	1907.4	0.2	0.0	0.0	0.4	0	0	0.0	0.0	857.9	13.1	141	0	0.0	0.0	0.0	0	0.2	1026.2
Finland	0	0	3790.4	1.7	0.0	0.0	0.0	0	0	0.0	0.2	4570.4	282.6	386	0	0.0	-0.1	0.0	0	1.7	695.6
France	0	0	4655.8	362.7	0.0	0.2	0.2	0	0	300.7	2.4	14710.1	2166.1	238	0	0.0	0.0	145.3	0	217.3	3602.6
Germany	0	0	2729.6	473.7	0.1	0.0	0.4	0	0	146.4	2.6	21188.1	2417.4	299	0	0.1	0.0	240.8	0	232.6	4007.4
Greece	0	0	7809.5	4.1	0.0	0.1	0.0	0	0	62.1	0.4	4023.1	260.1	257	0	0.0	0.0	0.0	0	4.1	324.4
Ireland	0	0	3435.1	25.0	0.0	0.0	0.0	0	0	15.6	0.5	4561.4	583.9	260	0	0.0	0.0	0.0	0	25.0	234.4
Italy	0	0	5767.0	18.5	0.2	0.0	0.2	0	0	78.2	1.9	10820.3	2252.0	444	0	0.0	0.0	6.4	0	11.9	340.0
Latvia	0	0	654.7	1.8	0.0	0.0	0.0	0	0	0.0	0.1	594.4	134.2	151	0	0.0	0.0	0.0	0	1.8	30.1
Lithuania	0	0	209.1	0.1	0.0	0.0	0.1	0	0	0.6	0.0	65.1	10.1	84	0	0.0	0.0	0.0	0	0.1	43.5
Malta	0	0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	30.5	30.4	369	0	0.0	0.0	0.0	0	0.0	0.0
Netherlands	0	0	2024.4	2972.3	0.2	0.0	0.4	0	0	45.7	21.2	32464.2	21341.9	270	0	3.3	0.0	180.0	0	2788.9	800.4
Poland	0	0	979.8	8.8	0.0	0.0	0.0	0	0	20.4	3.6	3413.6	351.4	90	0	0.0	0.0	4.6	0	4.1	74.5
Portugal	0	0	1896.0	8.4	0.0	0.0	0.0	0	0	49.7	0.3	1392.2	239.6	178	0	0.0	0.0	0.0	0	8.4	731.6
Romania	0	0	420.1	0.8	0.0	0.0	0.1	0	0	189.1	0.7	3766.5	96.9	65	0	0.0	0.1	0.0	0	0.7	2325.3
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.2	298	0	0.0	0.0	0.0	0	0.1	0.2
Spain	0	0	4967.8	23.6	0.0	0.0	0.0	0	0	64.4	0.9	2740.2	888.9	305	0	0.1	0.0	1.0	0	22.5	1263.7
Sweden	0	0	7076.7	2.9	0.0	0.0	0.0	0	0	0.5	0.4	11150.0	628.6	427	0	0.0	-0.1	0.0	0	2.9	916.8
United Kingdom	0	0	12458.2	414.2	0.0	0.0	0.0	0	0	175.1	5.7	20552.1	5534.3	232	0	0.0	0.0	2.5	0	411.7	3536.9

Table D51. Results by country, for the IPCC A2, low sea-level rise scenario for the 2080s, with no adaptation

	Parameters																			
Locations	**Total adaptation costs**	**Beach nourishment costs**	**Length of the coast**	**Total residual damage costs**	**Land loss costs**	**Land loss (submergence)**	**Net land loss (erosion)**	**Migration (due to land loss)**	**Migration (due to land loss) costs**	**Net loss of wetland area**	**People actually flooded**	**Coastal floodplain area**	**Coastal floodplain population**	**Average protection level**	**River dike costs**	**River flood costs**	**Relative sea-level change (since 1995)**	**Salinity intrusion costs**	**Sea dike costs**	**Sea flood costs**	**Total wetland area**
	millions €/yr	**millions €/yr**	**km**	**millions €/yr**	**millions €/yr**	**km²/yr**	**km²/yr**	**thousands people/yr**	**millions €/yr**	**km²**	**thousands /yr**	**km²**	**thousands**	**year**	**millions €/yr**	**millions €/yr**	**m**	**millions €/yr**	**millions €/yr**	**millions €/yr r**	**km²**
Belgium	0	0	130.2	1008.4	0.0	0.0	0.0	0	0.0	147.7	4.5	6751.4	3663.7	203	0	0.0	0.2	0.0	0	1008.4	334.7
Bulgaria	0	0	326.3	0.8	0.0	0.0	0.0	0	0.0	0.7	0.4	226.7	25.6	89	0	0.0	0.1	0.0	0	0.8	1.4
Croatia	0	0	2263.0	0.9	0.0	0.0	0.0	0	0.0	162.0	0.3	461.7	21.5	70	0	0.0	0.1	0.0	0	0.9	179.9
Denmark	0	0	4954.4	35.0	0.0	0.0	0.4	0	0.0	328.0	0.9	9557.8	1197.9	25	0	0.0	0.0	0.0	0	35.0	1610.3
Estonia	0	0	1907.4	3.8	0.1	0.0	0.9	0	2.1	132.6	0.0	858.9	20.3	135	0	0.0	0.0	0.0	0	1.6	893.6
Finland	0	0	3790.4	3.0	0.0	0.0	0.0	0	0.0	0.6	0.2	4570.8	324.2	386	0	0.0	-0.2	0.0	0	3.0	695.0
France	0	0	4655.8	673.3	0.0	0.2	0.2	0	0.0	950.9	3.0	14939.0	2516.4	174	0	0.1	0.1	199.9	0	473.3	2951.1
Germany	0	0	2729.6	782.2	0.4	0.0	0.8	0	0.0	673.2	4.4	21430.8	2797.7	241	0	0.5	0.1	343.3	0	438.0	3480.6
Greece	0	0	7809.5	8.1	0.0	0.1	0.0	0	0.0	168.0	0.7	4283.1	315.9	144	0	0.0	0.1	0.0	0	8.1	218.5
Ireland	0	0	3435.1	47.3	0.0	0.0	0.0	0	0.0	51.8	0.6	4573.0	671.4	218	0	0.0	0.0	0.0	0	47.2	198.3
Italy	0	0	5767.0	444.2	0.4	0.0	0.3	0	0.0	221.8	3.3	11177.1	2678.8	309	0	0.1	0.1	9.2	0	434.5	196.4
Latvia	0	0	654.7	14.8	0.0	0.0	0.0	0	0.0	3.6	0.2	595.6	208.7	139	0	0.0	0.0	0.0	0	14.8	26.5
Lithuania	0	0	209.1	1.0	0.0	0.0	0.1	0	0.0	6.0	0.0	65.3	15.7	76	0	0.0	0.0	0.0	0	1.0	38.1
Malta	0	0	75.6	0.8	0.0	0.0	0.0	0	0.0	0.0	0.1	33.4	38.2	217	0	0.0	0.1	0.0	0	0.8	0.0
Netherlands	0	0	2024.4	6167.3	0.4	0.0	0.6	0	0.0	192.7	25.1	32550.4	24548.0	223	0	10.3	0.2	259.1	0	5897.5	653.4
Poland	0	0	979.8	30.0	0.0	0.0	0.0	0	0.0	51.3	17.7	3513.7	353.3	49	0	0.0	0.1	9.4	0	20.6	43.6
Portugal	0	0	1896.0	14.7	0.0	0.0	0.1	0	0.0	158.0	0.6	1404.8	277.3	126	0	0.0	0.1	0.0	0	14.7	623.3
Romania	0	0	420.1	3.5	0.0	0.0	0.2	0	0.0	702.0	5.9	4228.8	99.7	29	0	0.0	0.2	0.0	0	3.5	1812.4
Slovenia	0	0	28.7	0.2	0.0	0.0	0.0	0	0.0	0.1	0.0	5.6	1.2	203	0	0.0	0.1	0.0	0	0.2	0.2
Spain	0	0	4967.8	75.6	0.0	0.0	0.1	0	0.0	242.5	1.1	2765.6	1029.9	227	0	0.2	0.1	1.4	0	74.0	1085.6
Sweden	0	0	7076.7	5.1	0.0	0.0	0.0	0	0.0	4.0	0.5	11154.5	721.8	420	0	0.0	-0.1	0.0	0	5.1	913.3
United Kingdom	0	0	12458.2	1087.0	0.0	0.0	0.0	0	0.0	789.4	6.8	20654.6	6380.0	192	0	0.0	0.0	3.6	0	1083.4	3123.1

Table D52. Results by country, for the IPCC A2, high sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	577.4	0.0	0.0	0.1	0	0	41.4	3.9	6705.9	3162.4	217	0	0.0	0.2	0.0	0	577.3	441.1
Bulgaria	0	0	326.3	0.3	0.0	0.0	0.0	0	0	0.5	0.4	231.9	26.8	56	0	0.0	0.1	0.0	0	0.3	1.7
Croatia	0	0	2263.0	0.3	0.0	0.0	0.0	0	0	162.2	0.3	474.3	23.9	36	0	0.0	0.1	0.0	0	0.3	179.8
Denmark	0	0	4954.4	52.1	1.0	0.0	2.6	0	0	213.2	1.0	9681.9	1059.7	17	0	0.0	0.1	0.0	0	51.1	1904.1
Estonia	0	0	1907.4	0.6	0.0	0.0	0.5	0	0	296.9	0.2	889.2	13.6	65	0	0.0	0.1	0.0	0	0.3	729.3
Finland	0	0	3790.4	12.3	0.0	0.0	0.0	0	0	163.7	0.2	4592.8	284.2	324	0	0.0	0.0	0.0	0	12.3	531.9
France	0	0	4655.8	434.9	0.3	0.6	0.9	0	0	688.7	2.9	15035.6	2212.5	140	0	0.1	0.1	153.5	0	281.0	3213.3
Germany	0	0	2729.6	590.3	0.6	0.0	1.7	0	0	418.3	3.7	21501.9	2453.1	203	0	0.3	0.1	251.2	0	338.1	3735.5
Greece	0	0	7809.5	5.5	0.0	0.6	0.1	0	0	174.5	2.7	4437.8	283.4	93	0	0.0	0.1	0.0	0	5.5	212.0
Ireland	0	0	3435.1	71.3	0.0	0.0	0.1	0	0	31.1	0.8	4597.0	588.3	143	0	0.0	0.1	0.0	0	71.3	219.0
Italy	0	0	5767.0	271.9	0.5	0.0	0.8	0	0	155.5	3.1	11173.2	2341.9	235	0	0.0	0.1	6.7	0	264.6	262.7
Latvia	0	0	654.7	2.1	0.0	0.0	0.1	0	0	8.8	1.4	602.0	136.1	67	0	0.0	0.1	0.0	0	2.1	21.3
Lithuania	0	0	209.1	0.1	0.0	0.0	0.2	0	0	13.4	0.1	66.2	10.5	44	0	0.0	0.1	0.0	0	0.1	30.7
Malta	0	0	75.6	0.5	0.0	0.0	0.0	0	0	0.0	0.1	34.9	34.8	157	0	0.0	0.1	0.0	0	0.5	0.0
Netherlands	0	0	2024.4	3772.4	0.6	0.0	1.5	0	0	101.0	21.8	32528.1	21376.6	219	0	4.5	0.2	187.5	0	3579.8	745.1
Poland	0	0	979.8	10.7	0.0	0.0	0.1	0	0	44.0	4.2	3510.6	362.0	32	0	0.0	0.1	4.8	0	5.9	50.9
Portugal	0	0	1896.0	9.1	0.1	0.0	0.3	0	0	120.5	1.0	1425.6	244.9	78	0	0.0	0.1	0.0	0	9.1	660.8
Romania	0	0	420.1	1.0	0.0	0.1	0.1	0	0	366.8	1.9	4039.7	100.5	23	0	0.0	0.2	0.0	0	1.0	2147.6
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.1	0.0	5.7	1.2	126	0	0.0	0.1	0.0	0	0.1	0.2
Spain	0	0	4967.8	55.6	0.1	0.0	0.2	0	0	174.3	1.3	2797.7	910.7	150	0	0.1	0.1	1.0	0	54.3	1153.9
Sweden	0	0	7076.7	24.7	0.0	0.0	0.0	0	0	39.0	0.6	11207.5	633.9	334	0	0.0	0.1	0.0	0	24.6	878.3
United Kingdom	0	0	12458.2	743.5	0.1	0.0	0.3	0	0	522.6	6.1	20757.1	5587.6	131	0	0.0	0.1	2.8	0	740.6	3390.0

Table D53. Results by country, for the IPCC A2, high sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	1438.6	0.1	0.0	0.1	0.0	0.0	215.3	56.1	7053.4	3858.9	36	0	0.0	0.8	0.0	0	1438.5	267.2
Bulgaria	0	0	326.3	16.3	0.0	1.8	0.0	0.3	13.1	1.7	13.5	252.7	29.0	1	0	0.0	0.7	0.0	0	3.2	0.5
Croatia	0	0	2263.0	19.7	0.0	4.9	0.0	0.5	16.8	342.0	12.6	531.7	29.2	1	0	0.0	0.7	0.0	0	2.9	0.0
Denmark	0	0	4954.4	892.5	3.6	19.0	7.2	3.7	422.8	1049.2	91.8	10612.7	1337.1	1	0	0.0	0.6	0.0	0	466.1	1068.2
Estonia	0	0	1907.4	42.8	0.2	22.9	2.2	0.5	37.3	1021.6	10.5	1047.6	24.8	1	0	0.0	0.6	0.0	0	5.4	4.6
Finland	0	0	3790.4	114.2	0.0	0.5	0.0	0.0	0.0	664.8	6.0	4791.2	338.7	65	0	0.0	0.4	0.0	0	114.2	30.8
France	0	0	4655.8	3359.8	1.3	130.8	2.3	19.5	2031.9	1963.8	463.7	16190.7	2733.6	3	0	3.5	0.7	268.7	0	1054.3	1938.2
Germany	0	0	2729.6	2607.6	2.9	178.1	5.4	14.3	1104.9	1938.5	293.3	23088.3	3011.8	11	0	5.2	0.7	431.4	0	1063.2	2215.4
Greece	0	0	7809.5	186.9	0.1	51.8	0.2	3.7	149.1	383.0	178.4	5252.8	372.3	1	0	0.0	0.7	0.0	0	37.8	3.5
Ireland	0	0	3435.1	5679.9	0.1	112.1	0.3	47.9	5372.0	100.8	297.9	4769.0	700.4	1	0	0.0	0.6	0.0	0	307.8	149.2
Italy	0	0	5767.0	8044.2	1.4	188.5	1.5	55.2	7149.8	393.7	512.9	13319.1	3331.2	6	0	0.9	0.7	11.9	0	880.2	24.6
Latvia	0	0	654.7	310.9	0.0	9.3	0.1	4.4	267.8	30.1	106.3	674.6	235.9	1	0	0.0	0.6	0.0	0	43.0	0.0
Lithuania	0	0	209.1	3.7	0.1	1.8	0.5	0.0	0.8	41.0	8.0	75.0	19.1	1	0	0.0	0.6	0.0	0	2.8	3.1
Malta	0	0	75.6	81.8	0.0	0.8	0.0	1.9	77.0	0.0	24.6	43.4	49.7	1	0	0.0	0.7	0.0	0	4.9	0.0
Netherlands	0	0	2024.4	10170.3	2.5	1.1	4.2	0.4	43.7	460.1	1888.2	32852.9	24713.8	52	0	40.5	0.8	322.2	0	9761.3	386.0
Poland	0	0	979.8	232.1	0.0	44.6	0.1	5.2	177.9	94.9	182.7	4079.4	412.9	1	0	0.1	0.7	11.5	0	42.5	0.0
Portugal	0	0	1896.0	74.8	0.5	14.2	0.9	0.8	38.1	382.0	67.0	1603.2	313.6	2	0	0.0	0.7	0.0	0	36.2	399.3
Romania	0	0	420.1	59.6	0.0	53.9	0.5	1.8	50.4	1321.1	50.7	5420.2	118.8	1	0	0.0	0.8	0.0	0	9.2	1193.4
Slovenia	0	0	28.7	0.7	0.0	0.1	0.0	0.0	0.0	0.3	0.6	6.8	1.4	1	0	0.0	0.7	0.0	0	0.7	0.0
Spain	0	0	4967.8	749.7	0.5	38.3	0.7	7.0	503.3	659.8	321.8	3212.2	1187.6	2	0	1.5	0.7	1.8	0	242.6	668.4
Sweden	0	0	7076.7	456.7	0.0	53.0	0.0	1.5	198.7	736.0	51.9	11723.0	766.4	33	0	0.0	0.5	0.0	0	257.9	181.3
United Kingdom	0	0	12458.2	10062.6	0.5	239.3	0.7	73.6	7587.1	1690.2	986.3	21779.3	6734.6	4	0	1.4	0.7	5.7	0	2468.0	2222.3

Table D54. Results by country, for the IPCC A2, low sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	1.4	0.1	130.2	112.4	0.0	0.0	0.0	0	0	40.8	2.9	6645.3	3125.3	1023	0.0	0.0	0.1	0.0	1.3	112.4	441.6
Bulgaria	0.9	0.0	326.3	0.2	0.0	0.0	0.0	0	0	0.2	0.0	215.6	25.2	500	0.0	0.0	0.0	0.0	0.9	0.2	2.0
Croatia	6.6	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	61.2	0.0	454.5	21.6	314	0.0	0.0	0.0	0.0	6.6	0.2	280.8
Denmark	21.6	6.2	4954.4	0.1	0.0	0.0	0.2	0	0	67.7	0.6	9493.8	1035.1	131	0.0	0.0	0.0	0.0	16.5	0.1	1870.1
Estonia	11.2	0.0	1907.4	0.2	0.0	0.0	0.4	0	0	0.0	0.0	857.9	13.1	264	0.0	0.0	0.0	0.0	11.2	0.2	1026.2
Finland	5.2	0.0	3790.4	0.4	0.0	0.0	0.0	0	0	0.0	0.2	4570.4	282.6	1809	0.0	0.0	-0.1	0.0	5.2	0.4	695.6
France	27.9	18.6	4655.8	228.8	0.0	0.2	0.0	0	0	300.7	2.0	14710.1	2166.1	1229	0.2	0.0	0.0	145.3	12.7	83.5	3602.6
Germany	25.4	14.2	2729.6	398.9	0.1	0.0	0.3	0	0	146.4	2.3	21188.1	2417.4	1195	0.6	0.0	0.0	240.8	13.3	158.0	4007.4
Greece	9.7	0.7	7809.5	1.4	0.0	0.1	0.0	0	0	62.1	0.3	4023.1	260.1	1062	0.0	0.0	0.0	0.0	9.2	1.4	324.4
Ireland	11.6	1.5	3435.1	17.9	0.0	0.0	0.0	0	0	15.6	0.5	4561.4	583.9	801	0.0	0.0	0.0	0.0	10.4	17.9	234.4
Italy	15.1	2.7	5767.0	6.6	0.2	0.0	0.2	0	0	78.2	1.5	10820.3	2252.0	3722	0.1	0.0	0.0	6.4	12.9	0.0	340.0
Latvia	3.6	0.0	654.7	1.8	0.0	0.0	0.0	0	0	0.0	0.1	594.4	134.2	303	0.0	0.0	0.0	0.0	3.6	1.8	30.1
Lithuania	1.2	0.0	209.1	0.1	0.0	0.0	0.1	0	0	0.6	0.0	65.1	10.1	151	0.0	0.0	0.0	0.0	1.1	0.1	43.5
Malta	0.1	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	30.5	30.4	2384	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Netherlands	31.9	17.5	2024.4	527.8	0.1	0.0	0.2	0	0	45.7	15.9	32464.2	21341.9	1042	0.3	0.8	0.0	180.0	17.5	346.8	800.4
Poland	7.3	0.0	979.8	8.4	0.0	0.0	0.0	0	0	20.4	0.4	3413.6	351.4	239	0.1	0.0	0.0	4.6	7.3	3.7	74.5
Portugal	4.2	2.5	1896.0	6.0	0.0	0.0	0.0	0	0	49.7	0.3	1392.2	239.6	427	0.0	0.0	0.0	0.0	2.2	6.0	731.6
Romania	3.7	0.0	420.1	0.6	0.0	0.0	0.1	0	0	189.1	0.2	3766.5	96.9	175	0.0	0.0	0.1	0.0	3.7	0.6	2325.3
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.2	1814	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Spain	9.2	3.0	4967.8	9.4	0.0	0.0	0.0	0	0	64.4	0.7	2740.2	888.9	1457	0.0	0.0	0.0	1.0	6.8	8.3	1263.7
Sweden	7.5	0.1	7076.7	0.0	0.0	0.0	0.0	0	0	0.5	0.4	11150.0	628.6	2368	0.0	0.0	-0.1	0.0	7.4	0.0	916.8
United Kingdom	45.5	2.8	12458.2	50.1	0.0	0.0	0.0	0	0	175.1	4.4	20552.1	5534.3	853	0.0	0.0	0.0	2.5	43.2	47.6	3536.9

Table D55. Results by country, for the IPCC A2, low sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	1.2	0.1	130.2	0.2	0.0	0.0	0.0	0.0	0.0	147.7	2.6	6751.4	3663.7	1576	0.0	0.0	0.2	0.0	1.2	0.2	334.7
Bulgaria	0.6	0.0	326.3	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	226.7	25.6	1705	0.0	0.0	0.1	0.0	0.6	0.0	1.4
Croatia	4.3	0.0	2263.0	0.4	0.0	0.0	0.0	0.0	0.0	162.0	0.0	461.7	21.5	1088	0.0	0.0	0.1	0.0	4.3	0.4	179.9
Denmark	27.0	16.3	4954.4	0.0	0.0	0.0	0.3	0.0	0.0	328.0	0.6	9557.8	1197.9	200	0.0	0.0	0.0	0.0	13.8	0.0	1610.3
Estonia	9.9	0.0	1907.4	2.2	0.1	0.0	0.9	0.0	2.1	132.6	0.0	858.9	20.3	1610	0.0	0.0	0.0	0.0	9.9	0.0	893.6
Finland	4.0	0.0	3790.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2	4570.8	324.2	2829	0.0	0.0	-0.2	0.0	4.0	0.0	695.0
France	36.7	31.5	4655.8	220.9	0.0	0.2	0.1	0.0	0.0	950.9	1.8	14939.0	2516.4	1829	0.2	0.0	0.1	199.9	11.0	21.0	2951.1
Germany	45.4	41.3	2729.6	344.6	0.3	0.0	0.6	0.0	0.0	673.2	2.1	21430.8	2797.7	1825	0.6	0.0	0.1	343.3	11.5	1.0	3480.6
Greece	9.0	0.7	7809.5	0.1	0.0	0.1	0.0	0.0	0.0	168.0	0.2	4283.1	315.9	1558	0.0	0.0	0.1	0.0	8.4	0.1	218.5
Ireland	10.0	1.5	3435.1	3.5	0.0	0.0	0.0	0.0	0.0	51.8	0.5	4573.0	671.4	1245	0.0	0.0	0.0	0.0	8.8	3.5	198.3
Italy	14.8	4.0	5767.0	9.6	0.3	0.0	0.3	0.0	0.0	221.8	1.5	11177.1	2678.8	5239	0.1	0.0	0.1	9.2	11.5	0.0	196.4
Latvia	3.2	0.0	654.7	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.1	595.6	208.7	1848	0.0	0.0	0.0	0.0	3.1	0.0	26.5
Lithuania	1.0	0.0	209.1	0.0	0.0	0.0	0.1	0.0	0.0	6.0	0.0	65.3	15.7	917	0.0	0.0	0.0	0.0	1.0	0.0	38.1
Malta	0.1	0.0	75.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.4	38.2	3468	0.0	0.0	0.1	0.0	0.1	0.0	0.0
Netherlands	38.8	29.1	2024.4	301.8	0.3	0.0	0.3	0.0	0.0	192.7	15.6	32550.4	24548.0	1607	0.3	0.0	0.2	259.1	15.0	42.4	653.4
Poland	5.1	0.0	979.8	20.3	0.0	0.0	0.0	0.0	0.0	51.3	0.4	3513.7	353.3	816	0.1	0.0	0.1	9.4	5.1	10.9	43.6
Portugal	5.9	5.0	1896.0	9.7	0.0	0.0	0.0	0.0	0.0	158.0	0.3	1404.8	277.3	659	0.0	0.0	0.1	0.0	1.9	9.6	623.3
Romania	2.7	0.0	420.1	1.2	0.0	0.0	0.2	0.0	0.0	702.0	0.1	4228.8	99.7	594	0.0	0.0	0.2	0.0	2.7	1.2	1812.4
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	5.6	1.2	6311	0.0	0.0	0.1	0.0	0.1	0.0	0.2
Spain	12.7	8.4	4967.8	3.9	0.0	0.0	0.0	0.0	0.0	242.5	0.7	2765.6	1029.9	2224	0.0	0.0	0.1	1.4	5.9	2.5	1085.6
Sweden	5.9	0.1	7076.7	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.4	11154.5	721.8	3675	0.0	0.0	-0.1	0.0	5.9	0.0	913.3
United Kingdom	41.0	5.4	12458.2	6.3	0.0	0.0	0.0	0.0	0.0	789.4	4.3	20654.6	6380.0	1320	0.0	0.0	0.0	3.6	36.6	2.7	3123.1

Table D56. Results by country, for the IPCC A2, high sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	2.6	0.1	130.2	215.1	0.0	0.0	0.1	0.0	0.0	41.4	3.0	6705.9	3162.4	1012	0.0	0.0	0.2	0.0	2.5	215.1	441.1
Bulgaria	2.2	0.0	326.3	0.2	0.0	0.0	0.0	0.0	0.0	0.5	0.0	231.9	26.8	461	0.0	0.0	0.1	0.0	2.2	0.2	1.7
Croatia	17.4	0.0	2263.0	0.2	0.0	0.0	0.0	0.0	0.0	162.2	0.0	474.3	23.9	295	0.0	0.0	0.1	0.0	17.4	0.2	179.8
Denmark	94.4	36.5	4954.4	2.3	0.9	0.0	2.3	0.0	0.0	213.2	0.6	9681.9	1059.7	125	0.0	0.0	0.1	0.0	57.9	1.4	1904.1
Estonia	27.9	0.0	1907.4	0.5	0.0	0.0	0.5	0.0	0.2	296.9	0.0	889.2	13.6	252	0.0	0.0	0.1	0.0	27.9	0.2	729.3
Finland	14.3	0.0	3790.4	0.4	0.0	0.0	0.0	0.0	0.0	163.7	0.2	4592.8	284.2	1768	0.0	0.0	0.0	0.0	14.3	0.4	531.9
France	132.2	92.6	4655.8	291.7	0.1	0.6	0.3	0.0	0.0	688.7	2.1	15035.6	2222.0	1162	0.6	0.0	0.1	153.5	39.1	138.1	3213.3
Germany	118.8	79.0	2729.6	448.3	0.4	0.0	1.2	0.0	0.0	418.3	2.5	21501.9	2453.1	1148	1.5	0.0	0.1	251.2	38.4	196.6	3735.5
Greece	41.0	3.6	7809.5	4.9	0.0	0.6	0.0	0.0	0.0	174.5	0.4	4437.8	283.4	959	0.0	0.0	0.1	0.0	37.4	4.9	212.0
Ireland	54.0	8.8	3435.1	25.2	0.0	0.0	0.0	0.0	0.0	31.1	0.5	4597.0	588.3	785	0.0	0.0	0.1	0.0	45.1	25.2	219.0
Italy	59.7	14.2	5767.0	7.1	0.4	0.0	0.5	0.0	0.0	155.5	1.6	11173.2	2341.9	3350	0.1	0.0	0.1	6.7	45.3	0.1	262.7
Latvia	11.0	1.7	654.7	1.9	0.0	0.0	0.0	0.0	0.0	8.8	0.1	602.0	136.1	289	0.0	0.0	0.1	0.0	9.3	1.8	21.3
Lithuania	4.0	1.6	209.1	0.1	0.0	0.0	0.2	0.0	0.0	13.4	0.0	66.2	10.5	145	0.0	0.0	0.1	0.0	2.4	0.1	30.7
Malta	0.4	0.0	75.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.9	34.8	2140	0.0	0.0	0.1	0.0	0.4	0.0	0.0
Netherlands	101.9	67.2	2024.4	560.3	0.4	0.0	0.8	0.0	0.0	101.0	16.7	32528.1	21376.6	1026	0.5	0.9	0.2	187.5	34.2	371.5	745.1
Poland	16.1	0.0	979.8	8.8	0.0	0.0	0.1	0.0	0.0	44.0	0.4	3510.6	362.0	227	0.1	0.0	0.1	4.8	16.0	4.0	50.9
Portugal	27.1	18.5	1896.0	8.5	0.0	0.0	0.1	0.0	0.0	120.5	0.3	1425.6	244.9	413	0.0	0.0	0.1	0.0	8.6	8.5	660.8
Romania	7.2	0.0	420.1	0.7	0.0	0.1	0.1	0.0	0.0	366.8	0.7	4039.7	100.5	165	0.0	0.0	0.2	0.0	7.2	0.7	2147.6
Slovenia	0.2	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	5.7	1.2	1717	0.0	0.0	0.1	0.0	0.2	0.0	0.2
Spain	49.2	21.1	4967.8	14.5	0.0	0.0	0.0	0.0	0.0	174.3	0.8	2797.7	910.7	1381	0.1	0.0	0.1	1.0	27.9	13.4	1153.9
Sweden	27.0	1.1	7076.7	0.0	0.0	0.0	0.0	0.0	0.0	39.0	0.4	11207.5	633.9	2288	0.0	0.0	0.1	0.0	25.9	0.0	878.3
United Kingdom	204.7	36.1	12458.2	136.4	0.0	0.0	0.0	0.0	0.0	522.6	4.9	20757.1	5587.6	831	0.0	0.0	0.1	2.8	168.6	133.6	3390.0

Table D57. Results by country, for the IPCC A2, high sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	4.5	0.2	130.2	42.7	0.1	0.0	0.1	0.0	0.0	215.3	3.1	7053.4	3858.9	1490	0.0	0.0	0.8	0.0	4.3	42.6	267.2
Bulgaria	4.1	0.0	326.3	1.4	0.0	0.0	0.0	0.0	0.0	1.7	0.0	252.7	29.0	1193	0.0	0.0	0.7	0.0	4.1	1.4	0.5
Croatia	33.3	0.0	2263.0	1.3	0.0	0.0	0.0	0.0	0.0	342.0	0.0	531.7	29.2	818	0.0	0.0	0.7	0.0	33.3	1.3	0.0
Denmark	262.6	137.6	4954.4	11.8	3.2	0.0	6.1	0.1	6.2	1049.2	0.8	10612.7	1337.1	159	0.0	0.0	0.6	0.0	125.1	2.4	1068.2
Estonia	54.7	0.0	1907.4	6.7	0.2	0.0	2.2	0.1	4.1	1021.6	0.0	1047.6	24.8	1278	0.0	0.0	0.6	0.0	54.7	2.4	4.6
Finland	41.4	0.0	3790.4	0.1	0.0	0.0	0.0	0.0	0.0	664.8	0.2	4791.2	338.7	2426	0.0	0.0	0.4	0.0	41.4	0.1	30.8
France	361.2	278.5	4655.8	456.6	0.5	1.6	0.7	0.0	0.0	1963.8	2.5	16190.7	2733.6	1463	1.3	0.0	0.7	268.7	81.3	187.4	1938.2
Germany	414.6	333.3	2729.6	686.9	1.7	0.0	3.1	0.1	8.7	1938.5	2.9	23088.3	3011.8	1509	3.1	0.0	0.7	431.4	78.2	245.1	2215.4
Greece	94.6	10.1	7809.5	16.0	0.0	1.3	0.0	0.0	0.0	383.0	0.4	5252.8	372.3	1032	0.0	0.0	0.7	0.0	84.4	16.0	3.5
Ireland	109.4	8.8	3435.1	47.5	0.1	0.0	0.2	0.0	0.0	100.8	0.6	4769.0	700.4	1116	0.0	0.0	0.6	0.0	100.6	47.5	149.2
Italy	147.2	47.6	5767.0	17.0	0.8	0.1	0.8	0.0	0.0	393.7	2.3	13319.1	3331.2	3563	0.2	0.0	0.7	11.9	99.4	4.3	24.6
Latvia	22.8	4.4	654.7	11.1	0.0	0.0	0.1	0.0	0.0	30.1	0.3	674.6	235.9	1458	0.0	0.0	0.6	0.0	18.5	11.1	0.0
Lithuania	8.6	4.1	209.1	0.5	0.1	0.0	0.5	0.0	0.0	41.0	0.0	75.0	19.1	745	0.0	0.0	0.6	0.0	4.5	0.4	3.1
Malta	0.9	0.0	75.6	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	43.4	49.7	2243	0.0	0.0	0.7	0.0	0.9	2.1	0.0
Netherlands	262.6	202.2	2024.4	699.4	1.6	0.0	2.0	0.0	0.0	460.1	18.0	32852.9	24713.8	1477	1.0	0.1	0.8	322.2	59.4	375.4	386.0
Poland	28.6	0.0	979.8	30.1	0.0	0.0	0.1	0.0	0.0	94.9	0.5	4079.4	412.9	640	0.2	0.0	0.7	11.5	28.3	18.5	0.0
Portugal	93.8	74.8	1896.0	17.8	0.3	0.0	0.3	0.0	0.0	382.0	0.4	1603.2	313.6	559	0.0	0.0	0.7	0.0	19.0	17.5	399.3
Romania	12.1	0.0	420.1	5.1	0.0	0.0	0.5	0.0	1.0	1321.1	0.1	5420.2	118.8	454	0.0	0.0	0.8	0.0	12.1	4.1	1193.4
Slovenia	0.4	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	6.8	1.4	4854	0.0	0.0	0.7	0.0	0.4	0.0	0.0
Spain	143.7	81.3	4967.8	32.0	0.0	0.1	0.0	0.0	0.0	659.8	1.1	3212.2	1187.6	1735	0.2	0.0	0.7	1.8	62.2	30.2	668.4
Sweden	78.5	1.4	7076.7	0.4	0.0	0.0	0.0	0.0	0.0	736.0	0.5	11723.0	766.4	2985	0.0	0.0	0.5	0.0	77.1	0.4	181.3
United Kingdom	428.1	60.3	12458.2	155.1	0.2	0.0	0.3	0.0	0.0	1690.2	5.6	21779.3	6734.6	1154	0.1	0.0	0.7	5.7	367.7	149.3	2222.3

Table D58. Results by country, for the IPCC B2, low sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	582.8	0.0	0.0	0.0	0	0	40.8	3.6	6645.3	2910.5	271	0	0.0	0.1	0.0	0	582.7	441.6
Bulgaria	0	0	326.3	0.2	0.0	0.0	0.0	0	0	0.2	0.0	215.6	23.6	152	0	0.0	0.0	0.0	0	0.2	2.0
Croatia	0	0	2263.0	0.2	0.0	0.0	0.0	0	0	61.2	0.1	454.5	20.2	119	0	0.0	0.0	0.0	0	0.2	280.8
Denmark	0	0	4954.4	8.6	0.0	0.0	0.3	0	0	67.7	0.6	9493.8	963.9	31	0	0.0	0.0	0.0	0	8.6	1870.1
Estonia	0	0	1907.4	0.2	0.0	0.0	0.4	0	0	0.0	0.0	857.9	11.6	141	0	0.0	0.0	0.0	0	0.2	1026.2
Finland	0	0	3790.4	1.8	0.0	0.0	0.0	0	0	0.0	0.2	4570.4	263.2	386	0	0.0	-0.1	0.0	0	1.8	695.6
France	0	0	4655.8	370.5	0.0	0.2	0.2	0	0	299.4	2.2	14710.1	2017.2	238	0	0.0	0.0	147.4	0	223.1	3602.6
Germany	0	0	2729.6	483.3	0.1	0.0	0.4	0	0	146.4	2.4	21188.1	2251.2	299	0	0.1	0.0	244.2	0	238.8	4007.4
Greece	0	0	7809.5	4.2	0.0	0.1	0.0	0	0	62.1	0.3	4023.1	242.2	257	0	0.0	0.0	0.0	0	4.2	324.4
Ireland	0	0	3435.1	25.7	0.0	0.0	0.0	0	0	15.6	0.5	4561.4	543.7	260	0	0.0	0.0	0.0	0	25.7	234.4
Italy	0	0	5767.0	18.9	0.2	0.0	0.2	0	0	78.2	1.8	10820.3	2097.2	444	0	0.0	0.0	6.5	0	12.2	340.0
Latvia	0	0	654.7	2.1	0.0	0.0	0.0	0	0	0.0	0.1	594.4	119.2	151	0	0.0	0.0	0.0	0	2.1	30.1
Lithuania	0	0	209.1	0.1	0.0	0.0	0.1	0	0	0.6	0.0	65.1	9.0	84	0	0.0	0.0	0.0	0	0.1	43.5
Malta	0	0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	30.5	28.3	369	0	0.0	0.0	0.0	0	0.0	0.0
Netherlands	0	0	2024.4	3049.5	0.2	0.0	0.4	0	0	45.7	19.8	32464.2	19875.2	270	0	3.3	0.0	182.6	0	2863.4	800.4
Poland	0	0	979.8	10.1	0.0	0.0	0.0	0	0	20.4	3.3	3413.6	328.8	90	0	0.0	0.0	5.1	0	5.0	74.5
Portugal	0	0	1896.0	8.6	0.0	0.0	0.0	0	0	49.7	0.3	1392.2	223.2	178	0	0.0	0.0	0.0	0	8.6	731.6
Romania	0	0	420.1	0.9	0.0	0.0	0.1	0	0	189.1	0.6	3766.5	90.6	65	0	0.0	0.1	0.0	0	0.9	2325.3
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.1	298	0	0.0	0.0	0.0	0	0.1	0.2
Spain	0	0	4967.8	24.2	0.0	0.0	0.0	0	0	64.4	0.8	2740.2	827.8	305	0	0.1	0.0	1.0	0	23.1	1263.7
Sweden	0	0	7076.7	3.0	0.0	0.0	0.0	0	0	0.5	0.4	11150.0	585.4	427	0	0.0	-0.1	0.0	0	3.0	916.8
United Kingdom	0	0	12458.2	425.3	0.0	0.0	0.0	0	0	175.1	5.2	20552.1	5153.9	232	0	0.0	0.0	2.6	0	422.7	3536.9

Table D59. Results by country, for the IPCC B2, low sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	997.2	0.0	0.0	0.0	0	0.0	147.7	3.5	6751.4	2821.2	202.6	0	0.0	0.2	0.0	0	997.2	334.7
Bulgaria	0	0	326.3	1.2	0.0	0.0	0.0	0	0.0	0.7	0.3	226.7	22.6	89.5	0	0.0	0.1	0.0	0	1.2	1.4
Croatia	0	0	2263.0	1.4	0.0	0.0	0.0	0	0.0	162.0	0.2	461.7	19.0	70.1	0	0.0	0.1	0.0	0	1.4	179.9
Denmark	0	0	4954.4	34.6	0.0	0.0	0.4	0	0.0	328.0	0.7	9557.8	922.4	25.1	0	0.0	0.0	0.0	0	34.6	1610.3
Estonia	0	0	1907.4	4.6	0.1	0.0	0.9	0	2.5	132.6	0.0	858.9	10.7	135.2	0	0.0	0.0	0.0	0	2.0	893.6
Finland	0	0	3790.4	2.9	0.0	0.0	0.0	0	0.0	0.6	0.2	4570.8	249.7	385.6	0	0.0	-0.2	0.0	0	2.9	695.0
France	0	0	4655.8	665.0	0.0	0.2	0.2	0	0.0	950.9	2.3	14939.0	1937.7	173.9	0	0.1	0.1	198.7	0	466.3	2951.1
Germany	0	0	2729.6	775.3	0.4	0.0	0.8	0	0.0	673.2	3.4	21430.8	2154.3	241.4	0	0.5	0.1	341.3	0	433.1	3480.6
Greece	0	0	7809.5	8.0	0.0	0.1	0.0	0	0.0	168.0	0.5	4283.1	243.2	144.4	0	0.0	0.1	0.0	0	8.0	218.5
Ireland	0	0	3435.1	46.7	0.0	0.0	0.0	0	0.0	51.8	0.5	4573.0	517.0	218.2	0	0.0	0.0	0.0	0	46.7	198.3
Italy	0	0	5767.0	439.3	0.4	0.0	0.3	0	0.0	221.8	2.5	11177.1	2062.7	308.7	0	0.1	0.1	9.2	0	429.7	196.4
Latvia	0	0	654.7	18.2	0.0	0.0	0.0	0	0.0	3.6	0.1	595.6	109.8	139.2	0	0.0	0.0	0.0	0	18.2	26.5
Lithuania	0	0	209.1	1.2	0.0	0.0	0.1	0	0.0	6.0	0.0	65.3	8.3	75.7	0	0.0	0.0	0.0	0	1.2	38.1
Malta	0	0	75.6	0.8	0.0	0.0	0.0	0	0.0	0.0	0.0	33.4	29.4	217.3	0	0.0	0.1	0.0	0	0.8	0.0
Netherlands	0	0	2024.4	6100.0	0.3	0.0	0.6	0	0.0	192.7	19.3	32550.4	18902.8	222.9	0	10.2	0.2	257.6	0	5831.9	653.4
Poland	0	0	979.8	43.9	0.0	0.0	0.0	0	0.0	51.3	15.6	3513.7	312.0	49.1	0	0.0	0.1	11.8	0	32.1	43.6
Portugal	0	0	1896.0	14.6	0.0	0.0	0.1	0	0.0	158.0	0.5	1404.8	213.5	125.7	0	0.0	0.1	0.0	0	14.5	623.3
Romania	0	0	420.1	5.5	0.0	0.0	0.2	0	0.0	702.0	5.2	4228.8	88.1	29.2	0	0.0	0.2	0.0	0	5.5	1812.4
Slovenia	0	0	28.7	0.3	0.0	0.0	0.0	0	0.0	0.1	0.0	5.6	1.0	203.3	0	0.0	0.1	0.0	0	0.3	0.2
Spain	0	0	4967.8	74.8	0.0	0.0	0.1	0	0.0	242.5	0.9	2765.6	793.1	226.8	0	0.2	0.1	1.4	0	73.2	1085.6
Sweden	0	0	7076.7	5.0	0.0	0.0	0.0	0	0.0	4.0	0.4	11154.5	555.8	419.7	0	0.0	-0.1	0.0	0	5.0	913.3
United Kingdom	0	0	12458.2	1074.9	0.0	0.0	0.0	0	0.0	789.4	5.2	20654.6	4912.8	191.7	0	0.0	0.0	3.6	0	1071.3	3123.1

Table D60. Results by country, for the IPCC B2, high sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	592.8	0.0	0.0	0.1	0	0.0	41.4	3.7	6705.9	2945.1	217	0	0.0	0.2	0.0	0	592.7	441.1
Bulgaria	0	0	326.3	0.4	0.0	0.0	0.0	0	0.0	0.5	0.3	231.9	25.1	56	0	0.0	0.1	0.0	0	0.4	1.7
Croatia	0	0	2263.0	0.4	0.0	0.0	0.0	0	0.0	162.2	0.3	474.3	22.4	36	0	0.0	0.1	0.0	0	0.4	179.8
Denmark	0	0	4954.4	53.4	1.0	0.0	2.6	0	0.0	213.2	0.9	9681.9	986.8	17	0	0.0	0.1	0.0	0	52.4	1904.1
Estonia	0	0	1907.4	0.6	0.0	0.0	0.5	0	0.3	296.9	0.1	889.2	12.0	65	0	0.0	0.1	0.0	0	0.3	729.3
Finland	0	0	3790.4	12.7	0.0	0.0	0.0	0	0.0	163.7	0.2	4592.8	264.7	324	0	0.0	0.0	0.0	0	12.7	531.9
France	0	0	4655.8	445.7	0.4	0.6	0.9	0	0.0	688.7	2.7	15035.6	2069.3	140	0	0.1	0.1	155.6	0	289.6	3213.3
Germany	0	0	2729.6	602.9	0.7	0.0	1.7	0	0.0	418.3	3.4	21501.9	2284.5	203	0	0.3	0.1	254.8	0	347.2	3735.5
Greece	0	0	7809.5	5.7	0.0	0.6	0.1	0	0.0	174.5	2.6	4437.8	263.9	93	0	0.0	0.1	0.0	0	5.7	212.0
Ireland	0	0	3435.1	73.2	0.0	0.0	0.1	0	0.0	31.1	0.7	4597.0	547.9	143	0	0.0	0.1	0.0	0	73.2	219.0
Italy	0	0	5767.0	279.0	0.5	0.0	0.8	0	0.0	155.5	2.9	11173.2	2180.9	235	0	0.0	0.1	6.8	0	271.7	262.7
Latvia	0	0	654.7	2.6	0.0	0.0	0.1	0	0.0	8.8	1.3	602.0	120.8	67	0	0.0	0.1	0.0	0	2.5	21.3
Lithuania	0	0	209.1	0.2	0.0	0.0	0.2	0	0.0	13.4	0.1	66.2	9.3	44	0	0.0	0.1	0.0	0	0.2	30.7
Malta	0	0	75.6	0.5	0.0	0.0	0.0	0	0.0	0.0	0.0	34.9	32.4	157	0	0.0	0.1	0.0	0	0.5	0.0
Netherlands	0	0	2024.4	3870.8	0.6	0.0	1.5	0	0.0	101.0	20.3	32528.1	19907.4	219	0	4.6	0.2	190.1	0	3675.5	745.1
Poland	0	0	979.8	12.4	0.0	0.0	0.1	0	0.0	44.0	3.9	3510.6	338.8	32	0	0.0	0.1	5.3	0	7.1	50.9
Portugal	0	0	1896.0	9.4	0.1	0.0	0.3	0	0.0	120.5	0.9	1425.6	228.1	78	0	0.0	0.1	0.0	0	9.3	660.8
Romania	0	0	420.1	1.2	0.0	0.1	0.1	0	0.0	366.8	1.7	4039.7	94.0	23	0	0.0	0.2	0.0	0	1.2	2147.6
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0.0	0.1	0.0	5.7	1.2	126	0	0.0	0.1	0.0	0	0.1	0.2
Spain	0	0	4967.8	57.1	0.1	0.0	0.2	0	0.0	174.3	1.2	2797.7	848.1	150	0	0.1	0.1	1.1	0	55.7	1153.9
Sweden	0	0	7076.7	25.3	0.0	0.0	0.0	0	0.0	39.0	0.5	11207.5	590.3	334	0	0.0	0.1	0.0	0	25.3	878.3
United Kingdom	0	0	12458.2	763.3	0.1	0.0	0.3	0	0.0	522.6	5.7	20757.1	5203.6	131	0	0.0	0.1	2.8	0	760.4	3390.0

Table D61. Results by country, for the IPCC B2, high sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																			
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	1422.6	0.1	0.0	0.1	0.0	0.0	215.3	43.2	7053.4	2971.5	36	0	0.0	0.8	0.0	0	1422.5	267.2
Bulgaria	0	0	326.3	25.3	0.0	1.8	0.0	0.3	20.4	1.7	12.0	252.7	25.6	1	0	0.0	0.7	0.0	0	4.9	0.5
Croatia	0	0	2263.0	30.8	0.0	4.9	0.0	0.4	26.2	342.0	11.1	531.7	25.8	1	0	0.0	0.7	0.0	0	4.5	0.0
Denmark	0	0	4954.4	882.4	3.6	19.0	7.2	2.9	417.9	1049.2	70.7	10612.7	1029.6	1	0	0.0	0.6	0.0	0	460.9	1068.2
Estonia	0	0	1907.4	52.8	0.2	22.9	2.2	0.3	45.9	1021.6	5.5	1047.6	13.1	1	0	0.0	0.6	0.0	0	6.6	4.6
Finland	0	0	3790.4	112.9	0.0	0.5	0.0	0.0	0.0	664.8	4.6	4791.2	260.8	65	0	0.0	0.4	0.0	0	112.9	30.8
France	0	0	4655.8	3323.7	1.4	130.8	2.2	15.0	2009.2	1963.8	357.1	16190.7	2105.0	3	0	3.5	0.7	267.1	0	1042.6	1938.2
Germany	0	0	2729.6	2580.9	2.8	178.1	5.4	11.0	1092.7	1938.5	225.9	23088.3	2319.2	11	0	5.2	0.7	428.9	0	1051.4	2215.4
Greece	0	0	7809.5	185.0	0.1	51.8	0.2	2.8	147.6	383.0	137.4	5252.8	286.7	1	0	0.0	0.7	0.0	0	37.3	3.5
Ireland	0	0	3435.1	5616.7	0.1	112.1	0.3	36.9	5312.3	100.8	229.4	4769.0	539.3	1	0	0.0	0.6	0.0	0	304.4	149.2
Italy	0	0	5767.0	7954.5	1.4	188.5	1.5	42.5	7070.0	393.7	394.9	13319.1	2565.1	6	0	0.9	0.7	11.9	0	870.4	24.6
Latvia	0	0	654.7	383.9	0.1	9.3	0.1	2.3	330.8	30.1	56.0	674.6	124.2	1	0	0.0	0.6	0.0	0	53.1	0.0
Lithuania	0	0	209.1	4.5	0.1	1.8	0.5	0.0	1.0	41.0	4.2	75.0	10.0	1	0	0.0	0.6	0.0	0	3.4	3.1
Malta	0	0	75.6	80.9	0.0	0.8	0.0	1.5	76.1	0.0	18.9	43.4	38.3	1	0	0.0	0.7	0.0	0	4.8	0.0
Netherlands	0	0	2024.4	10058.6	2.3	1.1	4.2	0.3	43.2	460.1	1454.0	32852.9	19030.5	52	0	40.1	0.8	320.3	0	9652.6	386.0
Poland	0	0	979.8	358.2	0.0	44.6	0.1	4.6	277.1	94.9	161.4	4079.4	364.7	1	0	0.2	0.7	14.6	0	66.3	0.0
Portugal	0	0	1896.0	73.8	0.3	14.2	0.9	0.6	37.7	382.0	51.6	1603.2	241.5	2	0	0.0	0.7	0.0	0	35.8	399.3
Romania	0	0	420.1	92.9	0.0	53.9	0.5	1.6	78.5	1321.1	44.8	5420.2	104.9	1	0	0.0	0.8	0.0	0	14.4	1193.4
Slovenia	0	0	28.7	1.1	0.0	0.1	0.0	0.0	0.0	0.3	0.6	6.8	1.2	1	0	0.0	0.7	0.0	0	1.1	0.0
Spain	0	0	4967.8	741.4	0.4	38.3	0.7	5.4	497.7	659.8	247.8	3212.2	914.5	2	0	1.5	0.7	1.8	0	239.9	668.4
Sweden	0	0	7076.7	451.5	0.0	53.0	0.0	1.1	196.4	736.0	39.9	11723.0	590.1	33	0	0.0	0.5	0.0	0	255.0	181.3
United Kingdom	0	0	12458.2	9950.2	0.4	239.3	0.7	56.7	7502.2	1690.2	759.5	21779.3	5185.9	4	0	1.4	0.7	5.7	0	2440.5	2222.3

Table D62. Results by country, for the IPCC B2, low sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	1.6	0.0	130.2	36.8	0.0	0.0	0.0	0	0	40.8	2.5	6645.3	2910.5	1111	0.0	0.0	0.1	0.0	1.6	36.8	441.6
Bulgaria	1.2	0.0	326.3	0.2	0.0	0.0	0.0	0	0	0.2	0.0	215.6	23.6	639	0.0	0.0	0.0	0.0	1.2	0.2	2.0
Croatia	9.2	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	61.2	0.0	454.5	20.2	401	0.0	0.0	0.0	0.0	9.2	0.2	280.8
Denmark	26.0	5.0	4954.4	0.0	0.0	0.0	0.2	0	0	67.7	0.5	9493.8	963.9	142	0.0	0.0	0.0	0.0	21.0	0.0	1870.1
Estonia	16.9	0.0	1907.4	0.2	0.0	0.0	0.4	0	0	0.0	0.0	857.9	11.6	348	0.0	0.0	0.0	0.0	16.9	0.2	1026.2
Finland	7.1	0.0	3790.4	0.3	0.0	0.0	0.0	0	0	0.0	0.2	4570.4	263.2	1964	0.0	0.0	-0.1	0.0	7.1	0.3	695.6
France	30.5	15.0	4655.8	219.5	0.0	0.2	0.0	0	0	299.4	1.8	14710.1	2017.2	1335	0.2	0.0	0.0	147.4	15.2	72.1	3602.6
Germany	28.7	11.5	2729.6	385.6	0.1	0.0	0.3	0	0	146.4	2.1	21188.1	2251.2	1298	0.8	0.0	0.0	244.2	16.4	141.3	4007.4
Greece	11.1	0.5	7809.5	1.0	0.0	0.1	0.0	0	0	62.1	0.3	4023.1	242.2	1153	0.0	0.0	0.0	0.0	10.6	1.0	324.4
Ireland	14.4	1.2	3435.1	11.9	0.0	0.0	0.0	0	0	15.6	0.4	4561.4	543.7	870	0.0	0.0	0.0	0.0	13.1	11.9	234.4
Italy	17.4	2.2	5767.0	6.6	0.2	0.0	0.2	0	0	78.2	1.3	10820.3	2097.2	4019	0.1	0.0	0.0	6.5	15.2	0.0	340.0
Latvia	5.4	0.0	654.7	2.1	0.0	0.0	0.0	0	0	0.0	0.1	594.4	119.2	401	0.0	0.0	0.0	0.0	5.4	2.1	30.1
Lithuania	1.7	0.0	209.1	0.1	0.0	0.0	0.1	0	0	0.6	0.0	65.1	9.0	199	0.0	0.0	0.0	0.0	1.7	0.1	43.5
Malta	0.1	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	30.5	28.3	2589	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Netherlands	36.1	14.2	2024.4	495.8	0.1	0.0	0.2	0	0	45.7	14.5	32464.2	19875.2	1131	0.4	0.6	0.0	182.6	21.6	312.5	800.4
Poland	9.8	0.0	979.8	9.6	0.0	0.0	0.0	0	0	20.4	0.4	3413.6	328.8	305	0.1	0.0	0.0	5.1	9.7	4.5	74.5
Portugal	4.7	2.1	1896.0	6.2	0.0	0.0	0.0	0	0	49.7	0.3	1392.2	223.2	464	0.0	0.0	0.0	0.0	2.7	6.2	731.6
Romania	4.9	0.0	420.1	0.8	0.0	0.0	0.1	0	0	189.1	0.2	3766.5	90.6	224	0.0	0.0	0.1	0.0	4.9	0.8	2325.3
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.1	2315	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Spain	10.7	2.4	4967.8	8.9	0.0	0.0	0.0	0	0	64.4	0.7	2740.2	827.8	1583	0.1	0.0	0.0	1.0	8.2	7.8	1263.7
Sweden	10.1	0.1	7076.7	0.0	0.0	0.0	0.0	0	0	0.5	0.3	11150.0	585.4	2571	0.0	0.0	-0.1	0.0	10.1	0.0	916.8
United Kingdom	56.8	2.3	12458.2	37.5	0.0	0.0	0.0	0	0	175.1	4.0	20552.1	5153.9	927	0.0	0.0	0.0	2.6	54.5	34.9	3536.9

Table D63. Results by country, for the IPCC B2, low sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	1.2	0.0	130.2	0.0	0.0	0.0	0.0	0	0.0	147.7	1.9	6751.4	2821.2	1911	0.0	0.0	0.2	0.0	1.1	0.0	334.7
Bulgaria	0.4	0.0	326.3	0.0	0.0	0.0	0.0	0	0.0	0.7	0.0	226.7	22.6	2952	0.0	0.0	0.1	0.0	0.4	0.0	1.4
Croatia	3.2	0.0	2263.0	0.0	0.0	0.0	0.0	0	0.0	162.0	0.0	461.7	19.0	1884	0.0	0.0	0.1	0.0	3.2	0.0	179.9
Denmark	27.5	14.1	4954.4	0.0	0.0	0.0	0.3	0	0.0	328.0	0.4	9557.8	922.4	242	0.0	0.0	0.0	0.0	13.4	0.0	1610.3
Estonia	8.1	0.0	1907.4	2.6	0.1	0.0	0.9	0	2.5	132.6	0.0	858.9	10.7	3294	0.0	0.0	0.0	0.0	8.1	0.0	893.6
Finland	3.8	0.0	3790.4	0.0	0.0	0.0	0.0	0	0.0	0.6	0.1	4570.8	249.7	3421	0.0	0.0	-0.2	0.0	3.8	0.0	695.0
France	36.1	25.1	4655.8	202.8	0.0	0.2	0.1	0	0.0	950.9	1.3	14939.0	1937.7	2166	0.2	0.0	0.1	198.7	10.8	4.1	2951.1
Germany	45.1	33.3	2729.6	341.6	0.3	0.0	0.6	0	0.0	673.2	1.5	21430.8	2154.3	2212	0.6	0.0	0.1	341.3	11.2	0.0	3480.6
Greece	8.8	0.5	7809.5	0.0	0.0	0.1	0.0	0	0.0	168.0	0.2	4283.1	243.2	1888	0.0	0.0	0.1	0.0	8.3	0.0	218.5
Ireland	9.7	1.2	3435.1	0.7	0.0	0.0	0.0	0	0.0	51.8	0.3	4573.0	517.0	1510	0.0	0.0	0.0	0.0	8.5	0.7	198.3
Italy	14.5	3.2	5767.0	9.5	0.3	0.0	0.3	0	0.0	221.8	1.1	11177.1	2062.7	6194	0.1	0.0	0.1	9.2	11.2	0.0	196.4
Latvia	2.6	0.0	654.7	0.0	0.0	0.0	0.0	0	0.0	3.6	0.1	595.6	109.8	3781	0.0	0.0	0.0	0.0	2.6	0.0	26.5
Lithuania	0.9	0.0	209.1	0.0	0.0	0.0	0.1	0	0.0	6.0	0.0	65.3	8.3	1877	0.0	0.0	0.0	0.0	0.8	0.0	38.1
Malta	0.1	0.0	75.6	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	33.4	29.4	4203	0.0	0.0	0.1	0.0	0.1	0.0	0.0
Netherlands	38.6	23.7	2024.4	258.0	0.3	0.0	0.3	0	0.0	192.7	11.1	32550.4	18902.8	1948	0.3	0.0	0.2	257.6	14.7	0.1	653.4
Poland	4.6	0.6	979.8	12.0	0.0	0.0	0.0	0	0.0	51.3	0.2	3513.7	312.0	1413	0.0	0.0	0.1	11.8	4.0	0.1	43.6
Portugal	5.8	3.9	1896.0	5.5	0.0	0.0	0.0	0	0.0	158.0	0.2	1404.8	213.5	798	0.0	0.0	0.1	0.0	1.8	5.5	623.3
Romania	2.2	0.0	420.1	1.9	0.0	0.0	0.2	0	0.0	702.0	0.1	4228.8	88.1	1029	0.0	0.0	0.2	0.0	2.2	1.9	1812.4
Slovenia	0.0	0.0	28.7	0.0	0.0	0.0	0.0	0	0.0	0.1	0.0	5.6	1.0	9869	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Spain	12.2	6.3	4967.8	1.9	0.0	0.0	0.0	0	0.0	242.5	0.5	2765.6	793.1	2696	0.0	0.0	0.1	1.4	5.8	0.5	1085.6
Sweden	5.7	0.1	7076.7	0.0	0.0	0.0	0.0	0	0.0	4.0	0.3	11154.5	555.8	4425	0.0	0.0	-0.1	0.0	5.6	0.0	913.3
United Kingdom	40.1	4.4	12458.2	4.6	0.0	0.0	0.0	0	0.0	789.4	3.1	20654.6	4912.8	1600	0.0	0.0	0.0	3.6	35.7	1.1	3123.1

Table D64. Results by country, for the IPCC B2, high sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	2.9	0.1	130.2	177.7	0.0	0.0	0.1	0	0.0	41.4	2.7	6705.9	2945.1	1099	0.0	0.0	0.2	0.0	2.7	177.7	441.1
Bulgaria	2.5	0.0	326.3	0.3	0.0	0.0	0.0	0	0.0	0.5	0.0	231.9	25.1	588	0.0	0.0	0.1	0.0	2.5	0.3	1.7
Croatia	20.0	0.0	2263.0	0.3	0.0	0.0	0.0	0	0.0	162.2	0.0	474.3	22.4	377	0.0	0.0	0.1	0.0	20.0	0.3	179.8
Denmark	98.8	36.5	4954.4	1.9	0.9	0.0	2.3	0	0.0	213.2	0.6	9681.9	986.8	135	0.0	0.0	0.1	0.0	62.4	1.0	1904.1
Estonia	33.6	0.0	1907.4	0.6	0.0	0.0	0.5	0	0.3	296.9	0.0	889.2	12.0	333	0.0	0.0	0.1	0.0	33.6	0.3	729.3
Finland	16.2	0.0	3790.4	0.3	0.0	0.0	0.0	0	0.0	163.7	0.2	4592.8	264.7	1920	0.0	0.0	0.0	0.0	16.2	0.3	531.9
France	137.6	95.3	4655.8	279.2	0.1	0.6	0.3	0	0.0	688.7	1.9	15035.6	2069.3	1261	0.6	0.0	0.1	155.6	41.7	123.4	3213.3
Germany	122.2	79.2	2729.6	441.8	0.5	0.0	1.2	0	0.0	418.3	2.3	21501.9	2284.5	1246	1.6	0.0	0.1	254.8	41.5	186.6	3735.5
Greece	42.4	3.6	7809.5	4.8	0.0	0.6	0.0	0	0.0	174.5	0.3	4437.8	263.9	1041	0.0	0.0	0.1	0.0	38.8	4.8	212.0
Ireland	56.7	8.8	3435.1	25.0	0.0	0.0	0.0	0	0.0	31.1	0.5	4597.0	547.9	853	0.0	0.0	0.1	0.0	47.9	25.0	219.0
Italy	62.0	14.2	5767.0	7.2	0.4	0.0	0.5	0	0.0	155.5	1.5	11173.2	2180.9	3638	0.1	0.0	0.1	6.8	47.7	0.0	262.7
Latvia	12.8	1.7	654.7	2.2	0.0	0.0	0.0	0	0.0	8.8	0.1	602.0	120.8	383	0.0	0.0	0.1	0.0	11.1	2.2	21.3
Lithuania	4.6	1.6	209.1	0.2	0.0	0.0	0.2	0	0.0	13.4	0.0	66.2	9.3	191	0.0	0.0	0.1	0.0	3.0	0.1	30.7
Malta	0.4	0.0	75.6	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	34.9	32.4	2324	0.0	0.0	0.1	0.0	0.4	0.0	0.0
Netherlands	106.1	67.2	2024.4	558.6	0.4	0.0	0.8	0	0.0	101.0	15.2	32528.1	19907.4	1114	0.6	0.7	0.2	190.1	38.4	367.4	745.1
Poland	18.6	0.0	979.8	10.2	0.0	0.0	0.1	0	0.0	44.0	0.4	3510.6	338.8	289	0.1	0.0	0.1	5.3	18.4	4.8	50.9
Portugal	27.6	18.5	1896.0	8.3	0.0	0.0	0.1	0	0.0	120.5	0.3	1425.6	228.1	449	0.0	0.0	0.1	0.0	9.1	8.3	660.8
Romania	8.4	0.0	420.1	0.9	0.0	0.1	0.1	0	0.0	366.8	0.2	4039.7	94.0	211	0.0	0.0	0.2	0.0	8.4	0.9	2147.6
Slovenia	0.2	0.0	28.7	0.0	0.0	0.0	0.0	0	0.0	0.1	0.0	5.7	1.2	2191	0.0	0.0	0.1	0.0	0.2	0.0	0.2
Spain	50.6	21.1	4967.8	13.6	0.0	0.0	0.0	0	0.0	174.3	0.7	2797.7	848.1	1500	0.1	0.0	0.1	1.1	29.3	12.6	1153.9
Sweden	29.6	1.1	7076.7	0.0	0.0	0.0	0.0	0	0.0	39.0	0.4	11207.5	590.3	2484	0.0	0.0	0.1	0.0	28.5	0.0	878.3
United Kingdom	216.1	36.1	12458.2	105.3	0.0	0.0	0.0	0	0.0	522.6	4.4	20757.1	5203.6	902	0.0	0.0	0.1	2.8	179.9	102.5	3390.0

Table D65. Results by country, for the IPCC B2, high sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	4.4	0.1	130.2	7.3	0.1	0.0	0.1	0.0	0.0	215.3	2.2	7053.4	2971.5	1806.6	0.0	0.0	0.8	0.0	4.2	7.2	267.2
Bulgaria	4.0	0.0	326.3	0.6	0.0	0.0	0.0	0.0	0.0	1.7	0.0	252.7	25.6	2064.8	0.0	0.0	0.7	0.0	4.0	0.6	0.5
Croatia	32.1	0.0	2263.0	1.9	0.0	0.0	0.0	0.0	0.0	342.0	0.0	531.7	25.8	1415.8	0.0	0.0	0.7	0.0	32.1	1.9	0.0
Denmark	262.6	137.9	4954.4	9.3	3.2	0.0	6.1	0.0	6.1	1049.2	0.6	10612.7	1029.6	192.7	0.0	0.0	0.6	0.0	124.7	0.1	1068.2
Estonia	53.0	0.0	1907.4	5.3	0.2	0.0	2.2	0.0	5.0	1021.6	0.0	1047.6	13.1	2613.5	0.0	0.0	0.6	0.0	53.0	0.0	4.6
Finland	41.2	0.0	3790.4	0.0	0.0	0.0	0.0	0.0	0.0	664.8	0.2	4791.2	260.8	2940.2	0.0	0.0	0.4	0.0	41.2	0.0	30.8
France	360.9	278.5	4655.8	377.8	0.5	0.2	0.7	0.0	0.0	1963.8	1.8	16190.7	2105.0	1772.0	1.3	0.0	0.7	267.1	81.1	110.1	1938.2
Germany	414.2	333.2	2729.6	472.8	1.6	0.0	3.1	0.1	8.6	1938.5	2.0	23088.3	2319.2	1828.9	3.1	0.0	0.7	428.9	78.0	33.8	2215.4
Greece	93.0	8.7	7809.5	15.8	0.0	1.3	0.0	0.0	0.0	383.0	0.3	5252.8	286.7	1251.2	0.0	0.0	0.7	0.0	84.3	15.8	3.5
Ireland	109.2	8.8	3435.1	26.4	0.0	0.0	0.2	0.0	0.0	100.8	0.4	4769.0	539.3	1353.0	0.0	0.0	0.6	0.0	100.3	26.3	149.2
Italy	143.9	44.5	5767.0	13.2	0.8	0.1	0.8	0.0	0.0	393.7	1.7	13319.1	2565.1	4298.5	0.2	0.0	0.7	11.9	99.2	0.5	24.6
Latvia	22.3	4.4	654.7	0.0	0.0	0.0	0.1	0.0	0.0	30.1	0.1	674.6	124.2	2982.0	0.0	0.0	0.6	0.0	17.9	0.0	0.0
Lithuania	8.4	4.1	209.1	0.1	0.0	0.0	0.5	0.0	0.0	41.0	0.0	75.0	10.0	1524.3	0.0	0.0	0.6	0.0	4.3	0.0	3.1
Malta	0.9	0.0	75.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.4	38.3	2718.3	0.0	0.0	0.7	0.0	0.9	1.6	0.0
Netherlands	262.1	202.0	2024.4	356.1	1.6	0.0	2.0	0.0	0.0	460.1	12.8	32852.9	19030.5	1790.9	1.0	0.0	0.8	320.3	59.1	34.2	386.0
Poland	27.5	0.0	979.8	43.0	0.0	0.0	0.1	0.0	0.0	94.9	0.4	4079.4	364.7	1107.2	0.2	0.0	0.7	14.6	27.3	28.4	0.0
Portugal	132.1	113.1	1896.0	13.3	0.2	0.0	0.3	0.0	0.0	382.0	0.3	1603.2	241.5	677.2	0.0	0.0	0.7	0.0	19.0	13.2	399.3
Romania	11.6	0.0	420.1	7.7	0.0	0.0	0.5	0.0	1.6	1321.1	0.1	5420.2	104.9	786.6	0.0	0.0	0.8	0.0	11.6	6.1	1193.4
Slovenia	0.4	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	6.8	1.2	8403.2	0.0	0.0	0.7	0.0	0.4	0.0	0.0
Spain	143.6	81.3	4967.8	18.3	0.0	0.1	0.0	0.0	0.0	659.8	0.8	3212.2	914.5	2103.1	0.2	0.0	0.7	1.8	62.0	16.5	668.4
Sweden	78.3	1.4	7076.7	0.0	0.0	0.0	0.0	0.0	0.0	736.0	0.4	11723.0	590.1	3604.8	0.0	0.0	0.5	0.0	76.9	0.0	181.3
United Kingdom	427.2	60.3	12458.2	59.9	0.1	0.0	0.3	0.0	0.0	1690.2	3.9	21779.3	5185.9	1398.3	0.1	0.0	0.7	5.7	366.7	54.1	2222.3

Table D66. Results by country, for the A2, no sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	565.5	0.0	0.0	0.0	0	0	40.8	3.9	6632.3	3117.3	284	0	0.0	0.0	0.0	0	565.5	441.6
Bulgaria	0	0	326.3	0.2	0.0	0.0	0.0	0	0	0.0	0.0	211.0	24.6	181	0	0.0	0.0	0.0	0	0.2	2.2
Croatia	0	0	2263.0	0.2	0.0	0.0	0.0	0	0	0.0	0.0	446.1	20.3	140	0	0.0	0.0	0.0	0	0.2	342.0
Denmark	0	0	4954.4	5.1	0.1	0.0	0.2	0	0	0.0	0.7	9470.7	1032.1	33	0	0.0	0.0	0.0	0	5.0	3769.6
Estonia	0	0	1907.4	0.2	0.0	0.0	0.4	0	0	0.0	0.0	857.9	13.1	141	0	0.0	0.0	0.0	0	0.2	1026.2
Finland	0	0	3790.4	1.7	0.0	0.0	0.0	0	0	0.0	0.2	4570.4	282.6	386	0	0.0	-0.1	0.0	0	1.7	695.6
France	0	0	4655.8	311.5	0.0	0.2	0.1	0	0	79.7	2.2	14646.3	2157.1	261	0	0.0	0.0	143.6	0	167.9	3839.7
Germany	0	0	2729.6	445.0	0.2	0.0	0.6	0	0	1.6	2.5	21129.8	2411.0	318	0	0.1	0.0	238.6	0	206.1	4152.3
Greece	0	0	7809.5	3.5	0.0	0.0	0.0	0	0	11.9	0.4	3919.2	254.0	306	0	0.0	0.0	0.0	0	3.5	374.6
Ireland	0	0	3435.1	25.0	0.0	0.0	0.0	0	0	0.0	0.5	4557.6	583.4	272	0	0.0	0.0	0.0	0	25.0	250.0
Italy	0	0	5767.0	14.0	0.1	0.0	0.2	0	0	58.1	1.8	10747.3	2233.4	499	0	0.0	0.0	6.3	0	7.5	360.1
Latvia	0	0	654.7	1.8	0.0	0.0	0.0	0	0	0.0	0.1	594.3	134.2	153	0	0.0	0.0	0.0	0	1.8	30.1
Lithuania	0	0	209.1	0.1	0.0	0.0	0.1	0	0	0.0	0.0	65.1	10.1	85	0	0.0	0.0	0.0	0	0.1	44.1
Malta	0	0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	29.5	29.5	430	0	0.0	0.0	0.0	0	0.0	0.0
Netherlands	0	0	2024.4	1861.5	0.1	0.0	0.2	0	0	45.4	21.0	32452.0	21334.8	282	0	3.0	0.0	178.4	0	1679.9	800.7
Poland	0	0	979.8	8.4	0.0	0.0	0.0	0	0	9.2	3.3	3396.8	349.3	101	0	0.0	0.0	4.6	0	3.8	85.7
Portugal	0	0	1896.0	8.3	0.0	0.0	0.0	0	0	0.0	0.3	1386.8	238.9	200	0	0.0	0.0	0.0	0	8.3	781.3
Romania	0	0	420.1	0.7	0.0	0.0	0.0	0	0	187.8	0.7	3707.5	96.1	77	0	0.0	0.0	0.0	0	0.7	2326.6
Slovenia	0	0	28.7	0.0	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.2	336	0	0.0	0.0	0.0	0	0.0	0.3
Spain	0	0	4967.8	20.8	0.0	0.0	0.1	0	0	1.1	0.8	2731.3	885.8	333	0	0.1	0.0	1.0	0	19.7	1327.0
Sweden	0	0	7076.7	2.9	0.0	0.0	0.0	0	0	0.0	0.4	11149.0	628.5	428	0	0.0	-0.1	0.0	0	2.9	917.3
United Kingdom	0	0	12458.2	283.6	0.0	0.0	0.0	0	0	61.6	5.4	20518.9	5525.8	244	0	0.0	0.0	2.5	0	281.1	4438.6

Table D67. Results by country, for the A2, no sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	0	0	130.2	995.1	0.0	0.0	0.0	0	0.0	147.7	4.5	6703.7	3630.0	244	0	0.0	0.1	0.0	0	995.1	334.7
Bulgaria	0	0	326.3	0.6	0.0	0.0	0.0	0	0.0	0.0	0.0	211.0	23.8	181	0	0.0	0.0	0.0	0	0.6	2.2
Croatia	0	0	2263.0	0.6	0.0	0.0	0.0	0	0.0	0.0	0.0	446.1	19.6	140	0	0.0	0.0	0.0	0	0.6	342.0
Denmark	0	0	4954.4	8.8	0.2	0.0	0.5	0	0.0	0.0	0.8	9470.7	1183.9	32	0	0.0	0.0	0.0	0	8.6	3769.6
Estonia	0	0	1907.4	3.8	0.1	0.0	1.0	0	2.1	0.0	0.0	857.9	20.2	141	0	0.0	-0.1	0.0	0	1.6	1026.2
Finland	0	0	3790.4	3.0	0.0	0.0	0.0	0	0.0	0.0	0.2	4570.4	324.2	386	0	0.0	-0.2	0.0	0	3.0	695.6
France	0	0	4655.8	494.1	0.0	0.2	0.1	0	0.0	272.1	2.6	14724.8	2479.1	252	0	0.0	0.0	191.3	0	302.7	3647.3
Germany	0	0	2729.6	689.2	0.7	0.0	1.3	0	0.0	4.1	2.9	21216.7	2770.3	306	0	0.2	0.0	332.1	0	356.1	4149.8
Greece	0	0	7809.5	6.4	0.0	0.0	0.0	0	0.0	33.2	0.4	3936.3	292.7	298	0	0.0	0.0	0.0	0	6.4	353.3
Ireland	0	0	3435.1	43.0	0.0	0.0	0.0	0	0.0	0.0	0.6	4557.6	669.2	272	0	0.0	0.0	0.0	0	43.0	250.0
Italy	0	0	5767.0	393.9	0.3	0.0	0.2	0	0.0	164.6	2.9	10909.7	2600.1	489	0	0.0	0.0	8.9	0	384.7	253.6
Latvia	0	0	654.7	14.6	0.0	0.0	0.0	0	0.0	0.0	0.2	594.3	208.0	153	0	0.0	-0.1	0.0	0	14.6	30.1
Lithuania	0	0	209.1	1.0	0.0	0.0	0.2	0	0.0	0.0	0.0	65.1	15.6	85	0	0.0	-0.1	0.0	0	1.0	44.1
Malta	0	0	75.6	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	29.9	34.2	407	0	0.0	0.0	0.0	0	0.0	0.0
Netherlands	0	0	2024.4	5233.4	0.2	0.0	0.3	0	0.0	191.2	24.4	32504.3	24517.3	263	0	8.0	0.1	251.1	0	4974.1	654.9
Poland	0	0	979.8	27.0	0.0	0.0	0.0	0	0.0	25.0	3.4	3451.7	345.8	77	0	0.0	0.0	9.1	0	17.9	69.9
Portugal	0	0	1896.0	14.4	0.1	0.0	0.1	0	0.0	0.0	0.3	1386.8	274.1	200	0	0.0	0.0	0.0	0	14.4	781.3
Romania	0	0	420.1	2.8	0.0	0.0	0.1	0	0.0	695.9	1.2	4012.0	96.9	61	0	0.0	0.1	0.0	0	2.8	1818.5
Slovenia	0	0	28.7	0.2	0.0	0.0	0.0	0	0.0	0.0	0.0	5.5	1.2	336	0	0.0	0.0	0.0	0	0.2	0.3
Spain	0	0	4967.8	35.6	0.0	0.0	0.1	0	0.0	2.8	0.9	2733.6	1016.3	330	0	0.1	0.0	1.4	0	34.0	1325.4
Sweden	0	0	7076.7	5.1	0.0	0.0	0.0	0	0.0	0.0	0.5	11149.0	721.0	428	0	0.0	-0.2	0.0	0	5.1	917.3
United Kingdom	0	0	12458.2	593.0	0.0	0.0	0.0	0	0.0	260.1	6.3	20532.1	6342.5	242	0	0.0	0.0	3.3	0	589.6	4239.4

Table D68. Results by country, for the A2, no sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	1.1	0.0	130.2	80.8	0.0	0.0	0.0	0	0	40.8	2.9	6632.3	3117.3	1025	0.0	0.0	0.0	0.0	1.1	80.7	441.6
Bulgaria	0.6	0.0	326.3	0.2	0.0	0.0	0.0	0	0	0.0	0.0	211.0	24.6	510	0.0	0.0	0.0	0.0	0.6	0.2	2.2
Croatia	5.0	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	0.0	0.0	446.1	20.3	318	0.0	0.0	0.0	0.0	5.0	0.2	342.0
Denmark	22.8	10.5	4954.4	0.1	0.0	0.0	0.1	0	0	0.0	0.6	9470.7	1032.1	132	0.0	0.0	0.0	0.0	12.4	0.0	3769.6
Estonia	11.2	0.0	1907.4	0.2	0.0	0.0	0.4	0	0	0.0	0.0	857.9	13.1	264	0.0	0.0	0.0	0.0	11.2	0.2	1026.2
Finland	5.2	0.0	3790.4	0.4	0.0	0.0	0.0	0	0	0.0	0.2	4570.4	282.6	1809	0.0	0.0	-0.1	0.0	5.2	0.4	695.6
France	11.1	2.8	4655.8	221.0	0.0	0.2	0.0	0	0	79.7	1.9	14646.3	2157.1	1244	0.1	0.0	0.0	143.6	8.2	77.3	3839.7
Germany	44.5	34.3	2729.6	391.8	0.1	0.0	0.4	0	0	1.6	2.3	21129.8	2411.0	1203	0.5	0.0	0.0	238.6	9.7	153.1	4152.3
Greece	4.2	0.0	7809.5	0.8	0.0	0.0	0.0	0	0	11.9	0.3	3919.2	254.0	1088	0.0	0.0	0.0	0.0	4.2	0.8	374.6
Ireland	7.6	0.0	3435.1	15.9	0.0	0.0	0.0	0	0	0.0	0.5	4557.6	583.4	803	0.0	0.0	0.0	0.0	7.6	15.9	250.0
Italy	7.4	0.0	5767.0	6.5	0.1	0.0	0.2	0	0	58.1	1.5	10747.3	2233.4	3806	0.1	0.0	0.0	6.3	7.3	0.0	360.1
Latvia	3.5	0.0	654.7	1.8	0.0	0.0	0.0	0	0	0.0	0.1	594.3	134.2	304	0.0	0.0	0.0	0.0	3.5	1.8	30.1
Lithuania	1.1	0.0	209.1	0.1	0.0	0.0	0.1	0	0	0.0	0.0	65.1	10.1	151	0.0	0.0	0.0	0.0	1.1	0.1	44.1
Malta	0.1	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	29.5	29.5	2446	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Netherlands	18.7	3.9	2024.4	518.4	0.1	0.0	0.2	0	0	45.4	15.8	32452.0	21334.8	1045	0.3	0.8	0.0	178.4	14.4	339.1	800.7
Poland	6.2	0.0	979.8	8.3	0.0	0.0	0.0	0	0	9.2	0.4	3396.8	349.3	241	0.1	0.0	0.0	4.6	6.2	3.7	85.7
Portugal	4.5	3.1	1896.0	6.0	0.0	0.0	0.0	0	0	0.0	0.3	1386.8	238.9	429	0.0	0.0	0.0	0.0	1.4	6.0	781.3
Romania	3.0	0.0	420.1	0.6	0.0	0.0	0.0	0	0	187.8	0.2	3707.5	96.1	178	0.0	0.0	0.0	0.0	3.0	0.6	2326.6
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.2	1832	0.0	0.0	0.0	0.0	0.1	0.0	0.3
Spain	11.8	7.6	4967.8	9.1	0.0	0.0	0.0	0	0	1.1	0.7	2731.3	885.8	1469	0.0	0.0	0.0	1.0	4.2	8.1	1327.0
Sweden	7.2	0.0	7076.7	0.0	0.0	0.0	0.0	0	0	0.0	0.4	11149.0	628.5	2370	0.0	0.0	-0.1	0.0	7.2	0.0	917.3
United Kingdom	32.6	0.2	12458.2	44.6	0.0	0.0	0.0	0	0	61.6	4.4	20518.9	5525.8	856	0.0	0.0	0.0	2.5	32.5	42.2	4438.6

Table D69. Results by country, for the A2, no sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	1.0	0.0	130.2	0.2	0.0	0.0	0.0	0	0.0	147.7	2.6	6703.7	3630.0	1589	0.0	0.0	0.1	0.0	0.9	0.2	334.7
Bulgaria	0.3	0.0	326.3	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	211.0	23.8	1823	0.0	0.0	0.0	0.0	0.3	0.0	2.2
Croatia	2.7	0.0	2263.0	0.3	0.0	0.0	0.0	0	0.0	0.0	0.0	446.1	19.6	1136	0.0	0.0	0.0	0.0	2.7	0.3	342.0
Denmark	53.4	43.8	4954.4	0.1	0.1	0.0	0.2	0	0.0	0.0	0.6	9470.7	1183.9	205	0.0	0.0	0.0	0.0	9.7	0.0	3769.6
Estonia	9.9	0.0	1907.4	2.2	0.1	0.0	1.0	0	2.1	0.0	0.0	857.9	20.2	1615	0.0	0.0	-0.1	0.0	9.9	0.0	1026.2
Finland	4.1	0.0	3790.4	0.0	0.0	0.0	0.0	0	0.0	0.0	0.2	4570.4	324.2	2830	0.0	0.0	-0.2	0.0	4.1	0.0	695.6
France	11.2	4.6	4655.8	208.4	0.0	0.2	0.1	0	0.0	272.1	1.8	14724.8	2479.1	1891	0.1	0.0	0.0	191.3	6.6	17.0	3647.3
Germany	99.3	91.0	2729.6	333.4	0.3	0.0	0.6	0	0.0	4.1	2.0	21216.7	2770.3	1873	0.4	0.0	0.0	332.1	7.9	0.9	4149.8
Greece	3.4	0.0	7809.5	0.0	0.0	0.0	0.0	0	0.0	33.2	0.2	3936.3	292.7	1696	0.0	0.0	0.0	0.0	3.4	0.0	353.3
Ireland	6.0	0.0	3435.1	3.2	0.0	0.0	0.0	0	0.0	0.0	0.4	4557.6	669.2	1256	0.0	0.0	0.0	0.0	6.0	3.2	250.0
Italy	8.1	2.2	5767.0	9.1	0.2	0.0	0.2	0	0.0	164.6	1.4	10909.7	2600.1	5645	0.0	0.0	0.0	8.9	5.9	0.0	253.6
Latvia	3.1	0.0	654.7	0.0	0.0	0.0	0.0	0	0.0	0.0	0.1	594.3	208.0	1860	0.0	0.0	-0.1	0.0	3.1	0.0	30.1
Lithuania	1.0	0.0	209.1	0.1	0.0	0.0	0.2	0	0.0	0.0	0.0	65.1	15.6	925	0.0	0.0	-0.1	0.0	1.0	0.0	44.1
Malta	0.0	0.0	75.6	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	29.9	34.2	3791	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Netherlands	18.0	5.8	2024.4	282.7	0.2	0.0	0.2	0	0.0	191.2	15.3	32504.3	24517.3	1627	0.2	0.0	0.1	251.1	12.0	31.5	654.9
Poland	4.4	0.4	979.8	16.6	0.0	0.0	0.0	0	0.0	25.0	0.4	3451.7	345.8	841	0.0	0.0	0.0	9.1	4.0	7.5	69.9
Portugal	8.2	7.1	1896.0	9.0	0.1	0.0	0.0	0	0.0	0.0	0.3	1386.8	274.1	671	0.0	0.0	0.0	0.0	1.1	8.9	781.3
Romania	2.0	0.0	420.1	1.1	0.0	0.0	0.1	0	0.0	695.9	0.1	4012.0	96.9	623	0.0	0.0	0.1	0.0	2.0	1.1	1818.5
Slovenia	0.0	0.0	28.7	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	5.5	1.2	6548	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Spain	20.6	17.3	4967.8	3.5	0.0	0.0	0.0	0	0.0	2.8	0.6	2733.6	1016.3	2295	0.0	0.0	0.0	1.4	3.3	2.1	1325.4
Sweden	5.6	0.0	7076.7	0.0	0.0	0.0	0.0	0	0.0	0.0	0.4	11149.0	721.0	3688	0.0	0.0	-0.2	0.0	5.6	0.0	917.3
United Kingdom	25.9	0.2	12458.2	5.6	0.0	0.0	0.0	0	0.0	260.1	4.2	20532.1	6342.5	1339	0.0	0.0	0.0	3.3	25.7	2.2	4239.4

Table D70. Results by country, for the B2, no sea-level rise scenario for the 2020s, with no adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	580.6	0.0	0.0	0.0	0	0	40.8	3.6	6632.3	2903.1	284	0	0.0	0.0	0.0	0	580.6	441.6
Bulgaria	0	0	326.3	0.2	0.0	0.0	0.0	0	0	0.0	0.0	211.0	23.0	181	0	0.0	0.0	0.0	0	0.2	2.2
Croatia	0	0	2263.0	0.2	0.0	0.0	0.0	0	0	0.0	0.0	446.1	19.0	140	0	0.0	0.0	0.0	0	0.2	342.0
Denmark	0	0	4954.4	5.2	0.1	0.0	0.2	0	0	0.0	0.6	9470.7	961.1	33	0	0.0	0.0	0.0	0	5.1	3769.6
Estonia	0	0	1907.4	0.2	0.0	0.0	0.4	0	0	0.0	0.0	857.9	11.6	141	0	0.0	0.0	0.0	0	0.2	1026.2
Finland	0	0	3790.4	1.8	0.0	0.0	0.0	0	0	0.0	0.2	4570.4	263.2	386	0	0.0	-0.1	0.0	0	1.8	695.6
France	0	0	4655.8	318.0	0.0	0.2	0.1	0	0	79.7	2.1	14646.3	2008.9	261	0	0.0	0.0	145.6	0	172.4	3839.7
Germany	0	0	2729.6	453.9	0.2	0.0	0.6	0	0	1.6	2.3	21129.8	2245.3	318	0	0.1	0.0	242.0	0	211.6	4152.3
Greece	0	0	7809.5	3.5	0.0	0.0	0.0	0	0	11.9	0.3	3919.2	236.5	306	0	0.0	0.0	0.0	0	3.5	374.6
Ireland	0	0	3435.1	25.7	0.0	0.0	0.0	0	0	0.0	0.5	4557.6	543.3	272	0	0.0	0.0	0.0	0	25.7	250.0
Italy	0	0	5767.0	14.3	0.1	0.0	0.2	0	0	58.1	1.7	10747.3	2079.9	499	0	0.0	0.0	6.4	0	7.7	360.1
Latvia	0	0	654.7	2.1	0.0	0.0	0.0	0	0	0.0	0.1	594.3	119.1	153	0	0.0	0.0	0.0	0	2.1	30.1
Lithuania	0	0	209.1	0.1	0.0	0.0	0.1	0	0	0.0	0.0	65.1	9.0	85	0	0.0	0.0	0.0	0	0.1	44.1
Malta	0	0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	29.5	27.5	430	0	0.0	0.0	0.0	0	0.0	0.0
Netherlands	0	0	2024.4	1909.0	0.1	0.0	0.2	0	0	45.4	19.6	32452.0	19868.5	282	0	3.1	0.0	180.9	0	1724.8	800.7
Poland	0	0	979.8	9.7	0.0	0.0	0.0	0	0	9.2	3.1	3396.8	326.9	101	0	0.0	0.0	5.1	0	4.6	85.7
Portugal	0	0	1896.0	8.6	0.0	0.0	0.0	0	0	0.0	0.3	1386.8	222.5	200	0	0.0	0.0	0.0	0	8.6	781.3
Romania	0	0	420.1	0.9	0.0	0.0	0.0	0	0	187.8	0.6	3707.5	89.9	77	0	0.0	0.0	0.0	0	0.9	2326.6
Slovenia	0	0	28.7	0.1	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.1	336	0	0.0	0.0	0.0	0	0.1	0.3
Spain	0	0	4967.8	21.3	0.0	0.0	0.1	0	0	1.1	0.8	2731.3	824.9	333	0	0.1	0.0	1.0	0	20.3	1327.0
Sweden	0	0	7076.7	3.0	0.0	0.0	0.0	0	0	0.0	0.4	11149.0	585.3	428	0	0.0	-0.1	0.0	0	3.0	917.3
United Kingdom	0	0	12458.2	291.1	0.0	0.0	0.0	0	0	61.6	5.0	20518.9	5146.0	244	0	0.0	0.0	2.5	0	288.6	4438.6

Table D71. Results by country, for the B2, no sea-level rise scenario for the 2080s, with no adaptation

Locations	Parameters																			
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km^2/yr	km^2/yr	Thousands people/yr	Millions €/yr	km^2	Thousands /yr	km^2	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km^2
Belgium	0	0	130.2	984.0	0.0	0.0	0.0	0	0.0	147.7	3.5	6703.7	2795.2	244	0	0.0	0.1	0.0	0	984.0	334.7
Bulgaria	0	0	326.3	1.0	0.0	0.0	0.0	0	0.0	0.0	0.0	211.0	21.0	181	0	0.0	0.0	0.0	0	1.0	2.2
Croatia	0	0	2263.0	1.0	0.0	0.0	0.0	0	0.0	0.0	0.0	446.1	17.4	140	0	0.0	0.0	0.0	0	1.0	342.0
Denmark	0	0	4954.4	8.7	0.2	0.0	0.5	0	0.0	0.0	0.6	9470.7	911.6	32	0	0.0	0.0	0.0	0	8.5	3769.6
Estonia	0	0	1907.4	4.6	0.1	0.0	1.0	0	2.5	0.0	0.0	857.9	10.7	141	0	0.0	-0.1	0.0	0	2.0	1026.2
Finland	0	0	3790.4	2.9	0.0	0.0	0.0	0	0.0	0.0	0.2	4570.4	249.6	386	0	0.0	-0.2	0.0	0	2.9	695.6
France	0	0	4655.8	489.2	0.0	0.2	0.1	0	0.0	272.1	2.0	14724.8	1909.0	252	0	0.0	0.0	190.2	0	298.9	3647.3
Germany	0	0	2729.6	683.2	0.6	0.0	1.3	0	0.0	4.1	2.2	21216.7	2133.2	306	0	0.2	0.0	330.2	0	352.2	4149.8
Greece	0	0	7809.5	6.3	0.0	0.0	0.0	0	0.0	33.2	0.3	3936.3	225.4	298	0	0.0	0.0	0.0	0	6.3	353.3
Ireland	0	0	3435.1	42.6	0.0	0.0	0.0	0	0.0	0.0	0.4	4557.6	515.3	272	0	0.0	0.0	0.0	0	42.6	250.0
Italy	0	0	5767.0	389.6	0.3	0.0	0.2	0	0.0	164.6	2.2	10909.7	2002.2	489	0	0.0	0.0	8.8	0	380.4	253.6
Latvia	0	0	654.7	18.0	0.0	0.0	0.0	0	0.0	0.0	0.1	594.3	109.5	153	0	0.0	-0.1	0.0	0	18.0	30.1
Lithuania	0	0	209.1	1.2	0.0	0.0	0.2	0	0.0	0.0	0.0	65.1	8.2	85	0	0.0	-0.1	0.0	0	1.2	44.1
Malta	0	0	75.6	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	29.9	26.4	407	0	0.0	0.0	0.0	0	0.0	0.0
Netherlands	0	0	2024.4	5176.5	0.2	0.0	0.3	0	0.0	191.2	18.8	32504.3	18879.2	263	0	7.9	0.1	249.6	0	4918.7	654.9
Poland	0	0	979.8	39.4	0.0	0.0	0.0	0	0.0	25.0	3.0	3451.7	305.4	77	0	0.0	0.0	11.5	0	27.9	69.9
Portugal	0	0	1896.0	14.2	0.0	0.0	0.1	0	0.0	0.0	0.3	1386.8	211.0	200	0	0.0	0.0	0.0	0	14.2	781.3
Romania	0	0	420.1	4.3	0.0	0.0	0.1	0	0.0	695.9	1.1	4012.0	85.6	61	0	0.0	0.1	0.0	0	4.3	1818.5
Slovenia	0	0	28.7	0.2	0.0	0.0	0.0	0	0.0	0.0	0.0	5.5	1.0	336	0	0.0	0.0	0.0	0	0.2	0.3
Spain	0	0	4967.8	35.2	0.1	0.0	0.1	0	0.0	2.8	0.7	2733.6	782.6	330	0	0.1	0.0	1.4	0	33.7	1325.4
Sweden	0	0	7076.7	5.0	0.0	0.0	0.0	0	0.0	0.0	0.4	11149.0	555.2	428	0	0.0	-0.2	0.0	0	5.0	917.3
United Kingdom	0	0	12458.2	586.4	0.0	0.0	0.0	0	0.0	260.1	4.8	20532.1	4884.0	242	0	0.0	0.0	3.3	0	583.1	4239.4

Table D72. Results by country, for the B2, no sea-level rise scenario for the 2020s, with adaptation

Locations	Parameters																			
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	1.4	0.0	130.2	33.0	0.0	0.0	0.0	0	0	40.8	2.5	6632.3	2903.1	1113	0.0	0.0	0.0	0.0	1.4	33.0	441.6
Bulgaria	1.0	0.0	326.3	0.2	0.0	0.0	0.0	0	0	0.0	0.0	211.0	23.0	651	0.0	0.0	0.0	0.0	1.0	0.2	2.2
Croatia	7.5	0.0	2263.0	0.2	0.0	0.0	0.0	0	0	0.0	0.0	446.1	19.0	405	0.0	0.0	0.0	0.0	7.5	0.2	342.0
Denmark	27.3	10.5	4954.4	0.0	0.0	0.0	0.1	0	0	0.0	0.5	9470.7	961.1	143	0.0	0.0	0.0	0.0	16.8	0.0	3769.6
Estonia	16.9	0.0	1907.4	0.2	0.0	0.0	0.4	0	0	0.0	0.0	857.9	11.6	348	0.0	0.0	0.0	0.0	16.9	0.2	1026.2
Finland	7.1	0.0	3790.4	0.3	0.0	0.0	0.0	0	0	0.0	0.2	4570.4	263.2	1964	0.0	0.0	-0.1	0.0	7.1	0.3	695.6
France	13.7	2.8	4655.8	211.3	0.0	0.2	0.0	0	0	79.7	1.8	14646.3	2008.9	1351	0.2	0.0	0.0	145.6	10.8	65.6	3839.7
Germany	47.8	34.3	2729.6	370.2	0.1	0.0	0.4	0	0	1.6	2.1	21129.8	2245.3	1307	0.6	0.0	0.0	242.0	12.8	128.0	4152.3
Greece	5.6	0.0	7809.5	0.5	0.0	0.0	0.0	0	0	11.9	0.2	3919.2	236.5	1181	0.0	0.0	0.0	0.0	5.6	0.5	374.6
Ireland	10.4	0.0	3435.1	10.1	0.0	0.0	0.0	0	0	0.0	0.4	4557.6	543.3	872	0.0	0.0	0.0	0.0	10.4	10.1	250.0
Italy	9.6	0.0	5767.0	6.5	0.1	0.0	0.2	0	0	58.1	1.3	10747.3	2079.9	4103	0.1	0.0	0.0	6.4	9.6	0.0	360.1
Latvia	5.3	0.0	654.7	2.1	0.0	0.0	0.0	0	0	0.0	0.1	594.3	119.1	401	0.0	0.0	0.0	0.0	5.3	2.1	30.1
Lithuania	1.7	0.0	209.1	0.1	0.0	0.0	0.1	0	0	0.0	0.0	65.1	9.0	199	0.0	0.0	0.0	0.0	1.7	0.1	44.1
Malta	0.1	0.0	75.6	0.0	0.0	0.0	0.0	0	0	0.0	0.0	29.5	27.5	2657	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Netherlands	22.9	3.9	2024.4	481.1	0.1	0.0	0.2	0	0	45.4	14.4	32452.0	19868.5	1135	0.3	0.6	0.0	180.9	18.6	299.5	800.7
Poland	8.7	0.0	979.8	9.5	0.0	0.0	0.0	0	0	9.2	0.4	3396.8	326.9	307	0.1	0.0	0.0	5.1	8.6	4.4	85.7
Portugal	4.9	3.1	1896.0	6.2	0.0	0.0	0.0	0	0	0.0	0.3	1386.8	222.5	466	0.0	0.0	0.0	0.0	1.8	6.2	781.3
Romania	4.3	0.0	420.1	0.8	0.0	0.0	0.0	0	0	187.8	0.2	3707.5	89.9	227	0.0	0.0	0.0	0.0	4.3	0.8	2326.6
Slovenia	0.1	0.0	28.7	0.0	0.0	0.0	0.0	0	0	0.0	0.0	5.5	1.1	2337	0.0	0.0	0.0	0.0	0.1	0.0	0.3
Spain	13.3	7.6	4967.8	8.5	0.0	0.0	0.0	0	0	1.1	0.6	2731.3	824.9	1595	0.1	0.0	0.0	1.0	5.6	7.5	1327.0
Sweden	9.8	0.0	7076.7	0.0	0.0	0.0	0.0	0	0	0.0	0.3	11149.0	585.3	2573	0.0	0.0	-0.1	0.0	9.8	0.0	917.3
United Kingdom	44.0	0.2	12458.2	33.2	0.0	0.0	0.0	0	0	61.6	4.0	20518.9	5146.0	930	0.0	0.0	0.0	2.5	43.8	30.7	4438.6

Table D73. Results by country, for the B2, no sea-level rise scenario for the 2080s, with adaptation

Locations	Parameters																				
	Total Adaptation costs	Beach nourishment costs	Length of the coast	Total Residual Damage costs	Land loss costs	Land loss (submergence)	Net land loss (erosion)	Migration (due to land loss)	Migration (due to land loss) costs	Net loss of wetland area	People actually flooded	Coastal floodplain area	Coastal floodplain population	Average Protection level	River dike costs	River flood costs	Relative sea-level change (since 1995)	Salinity intrusion costs	Sea dike costs	Sea flood costs	Total wetland area
	Millions €/yr	Millions €/yr	km	Millions €/yr	Millions €/yr	km²/yr	km²/yr	Thousands people/yr	Millions €/yr	km²	Thousands /yr	km²	thousands	year	Millions €/yr	Millions €/yr	m	Millions €/yr	Millions €/yr	Millions €/yr	km²
Belgium	1.0	0.0	130.2	0.0	0.0	0.0	0.0	0	0.0	147.7	1.9	6703.7	2795.2	1926	0.0	0.0	0.1	0.0	0.9	0.0	334.7
Bulgaria	0.2	0.0	326.3	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	211.0	21.0	3156	0.0	0.0	0.0	0.0	0.2	0.0	2.2
Croatia	1.6	0.0	2263.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	446.1	17.4	1966	0.0	0.0	0.0	0.0	1.6	0.0	342.0
Denmark	56.8	47.6	4954.4	0.0	0.0	0.0	0.0	0	0.0	0.0	0.4	9470.7	911.6	247	0.0	0.0	0.0	0.0	9.2	0.0	3769.6
Estonia	8.1	0.0	1907.4	2.6	0.1	0.0	1.0	0	2.5	0.0	0.0	857.9	10.7	3304	0.0	0.0	-0.1	0.0	8.1	0.0	1026.2
Finland	3.9	0.0	3790.4	0.0	0.0	0.0	0.0	0	0.0	0.0	0.1	4570.4	249.6	3422	0.0	0.0	-0.2	0.0	3.9	0.0	695.6
France	11.0	4.6	4655.8	192.2	0.0	0.2	0.0	0	0.0	272.1	1.3	14724.8	1909.0	2240	0.1	0.0	0.0	190.2	6.3	2.0	3647.3
Germany	99.0	91.0	2729.6	330.4	0.3	0.0	0.6	0	0.0	4.1	1.4	21216.7	2133.2	2270	0.4	0.0	0.0	330.2	7.6	0.0	4149.8
Greece	3.2	0.0	7809.5	0.0	0.0	0.0	0.0	0	0.0	33.2	0.2	3936.3	225.4	2056	0.0	0.0	0.0	0.0	3.2	0.0	353.3
Ireland	5.8	0.0	3435.1	0.7	0.0	0.0	0.0	0	0.0	0.0	0.3	4557.6	515.3	1522	0.0	0.0	0.0	0.0	5.8	0.7	250.0
Italy	7.6	2.2	5767.0	9.1	0.2	0.0	0.2	0	0.0	164.6	1.0	10909.7	2002.2	6633	0.0	0.0	0.0	8.8	5.4	0.0	253.6
Latvia	2.5	0.0	654.7	0.0	0.0	0.0	0.0	0	0.0	0.0	0.1	594.3	109.5	3806	0.0	0.0	-0.1	0.0	2.5	0.0	30.1
Lithuania	0.8	0.0	209.1	0.0	0.0	0.0	0.2	0	0.0	0.0	0.0	65.1	8.2	1891	0.0	0.0	-0.1	0.0	0.8	0.0	44.1
Malta	0.0	0.0	75.6	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	29.9	26.4	4595	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Netherlands	17.7	5.8	2024.4	249.9	0.2	0.0	0.2	0	0.0	191.2	10.9	32504.3	18879.2	1972	0.2	0.0	0.1	249.6	11.6	0.1	654.9
Poland	3.4	0.5	979.8	11.5	0.0	0.0	0.0	0	0.0	25.0	0.2	3451.7	305.4	1455	0.0	0.0	0.0	11.5	2.9	0.0	69.9
Portugal	8.1	7.1	1896.0	4.7	0.0	0.0	0.0	0	0.0	0.0	0.2	1386.8	211.0	814	0.0	0.0	0.0	0.0	1.0	4.6	781.3
Romania	1.5	0.0	420.1	1.5	0.0	0.0	0.1	0	0.0	695.9	0.1	4012.0	85.6	1078	0.0	0.0	0.1	0.0	1.5	1.5	1818.5
Slovenia	0.0	0.0	28.7	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	5.5	1.0	9986	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Spain	20.5	17.3	4967.8	1.8	0.0	0.0	0.0	0	0.0	2.8	0.5	2733.6	782.6	2781	0.0	0.0	0.0	1.4	3.2	0.5	1325.4
Sweden	5.4	0.0	7076.7	0.0	0.0	0.0	0.0	0	0.0	0.0	0.3	11149.0	555.2	4441	0.0	0.0	-0.2	0.0	5.4	0.0	917.3
United Kingdom	25.0	0.2	12458.2	4.4	0.0	0.0	0.0	0	0.0	260.1	3.0	20532.1	4884.0	1623	0.0	0.0	0.0	3.3	24.8	1.0	4239.4

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Abstract

Results of the physical impacts and adaptation cost assessment of sea-level rise for the European Union are presented for the A2 and B2 SRES socio-economic storylines and for a range of plausible sea-level rise scenarios, using data from the ECHAM4 and HADCM3 Global Climate Models (GCMs) models. In addition, to better understand the sensitivity of the results to the magnitude of sea-level rise, the full IPCC (2001) range of sea level rise predictions and scenarios of no climate change have also been modelled. These results are all derived using the global Dynamic Interactive Vulnerability Assessment (DIVA) tool for assessing regional to global coastal impacts and adaptation.

Both the physical and economic impacts of sea-level rise increase with time for both the A2 and B2 storylines, especially under scenarios of high sea-level rise. Without adaptation, significant impacts and therefore damages are apparent. Significant populations are threatened with displacement by flooding and coastal erosion. An exploratory adaptation analysis using standard protection measures of dike construction and beach nourishment, where benefit-cost analysis suggests this is the optimum response, reduces these impacts significantly. While adaptation in Europe is likely to be much more diverse than these two smple options, these results demonstrate the significant benefits of protection, and more generally suggest that widespread adaptation to sustain human coastal activities would be prudent. Moreover, under these protection assumptions, coastal ecosystems are significantly reduced in area, especially under the high sea-level rise scenario and climate change raises significant challenges for wider coastal management in Europe, even if human uses in the coastal zone are protected.

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