

Sea level rises could cost EU and UK economies up to 872 billion euros by 2100, study suggests

January 18 2024



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Damage caused by sea level rises could cost the EU and UK economies

up to 872 billion euros in total by the end of the century, according to a modeling study [published](#) in *Scientific Reports*.

Ignasi Cortés Arbués, Theodoros Chatzivasileiadis, Tatiana Filatova and colleagues modeled the potential economic impacts of sea level rises for 271 European regions by 2100 under a high emissions scenario (SSP5-RCP8.5) with no new coastal protection measures implemented after 2015.

They combined a previously developed economic model with data on projected sea-level rise impacts, investment trends, and the distribution of [economic losses](#) caused by 155 flooding events across Europe between 1995 and 2016.

They estimated potential economic losses and gains compared to a scenario with no sea level rises and 2% annual economic growth across all regions. They also modeled the impact of targeted investment in different economic sectors on regional economies following sea level rises.

The authors estimate that under a high emissions scenario sea level rises could cause 872 billion euros of combined economic losses across the UK and EU by 2100, compared to a scenario of no sea level rises.

They observed [regional differences](#) in the economic impacts of sea level rises, with the majority of economic losses—up to 21% regional gross domestic product (GDP) by 2100—concentrated in [coastal regions](#) such as Veneto and Emilia-Romagna in Italy and Zachodniopomorskie in Poland.

Other regions that incurred relatively higher economic losses were concentrated around the Baltic Sea, the Belgian coast, western France and Greece. However, they found that inland regions—such as in

Germany, Austria, and Hungary—experienced economic gains of up to 1% regional GDP by 2100. The authors propose that this could be due to production relocating from flooded coastal regions to inland regions.

Although targeted investment in the logistics, public services, construction, and utilities sectors had negligible impacts on the UK and EU economy as a whole under a high emissions scenario, it did reduce some regional losses with a negligible cost to the overall UK and EU [economy](#). Regions that particularly benefited from targeted investment were Lincolnshire, East Yorkshire, and Kent in the UK, Bremen and Weser-Ems in Germany, and West-Vlaanderen in Belgium.

Together, the findings highlight the need for [region](#)-specific economic policies to address the uneven impacts of sea levels on different regions and their economies.

More information: Ignasi Cortés Arbués, Distribution of economic damages due to climate-driven sea-level rise across European regions and sectors, *Scientific Reports* (2024). [DOI: 10.1038/s41598-023-48136-y](#).
www.nature.com/articles/s41598-023-48136-y

Provided by Nature Publishing Group

Citation: Sea level rises could cost EU and UK economies up to 872 billion euros by 2100, study suggests (2024, January 18) retrieved 29 April 2024 from <https://phys.org/news/2024-01-sea-eu-uk-economies-billion.html>

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