

267 million people worldwide at risk from sea-level rise

June 30 2021



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Worldwide, 267 million people live on land less than two meters above sea level, which is most at risk from sea level rise, according to a study in *Nature Communications*. The paper suggests that by 2100 the number could increase to 410 million people, with the majority of this land found in the tropics.

Climate change has caused sea levels to rise and more frequent and [severe storms](#) to occur, both of which increase flood risks in coastal environments. Predicting the risk of flooding relies on accurate land elevation data, but this is not available in many parts of the world.

Aljosja Hooijer and colleagues use satellite LiDAR measurements (a remote sensing method that uses pulsed [laser light](#) to measure elevation on Earth's surface) to model lowland terrain globally and determine regions that are less than two meters above average [sea level](#). The authors found that in 2020, 267 million people lived on land less than two meters above sea level, which is at most risk from [sea level rise](#). Their maps showed that 62% of the most at-risk land is concentrated in the tropics, with Indonesia having the largest extent of land at-risk worldwide. Using a projection of one meter sea level rise, and assuming zero population growth, the authors suggest that by 2100, 410 million people may live in areas less than two meters above sea level and at risk from sea level rises. These projections showed that the tropics were at even more risk in the future, with 72% of the at-risk population in the tropics, and 59% in tropical Asia alone.

Although these estimates are projections with inherent uncertainty, the authors argue that they highlight the urgent need to focus more on tropical regions for the development of adaptation measures and spatial planning for long-term flood risk prevention.

More information: A. Hooijer et al, Global LiDAR land elevation data reveal greatest sea-level rise vulnerability in the tropics, *Nature Communications* (2021). [DOI: 10.1038/s41467-021-23810-9](https://doi.org/10.1038/s41467-021-23810-9)

Provided by Nature Publishing Group

Citation: 267 million people worldwide at risk from sea-level rise (2021, June 30) retrieved 23 May 2024 from <https://phys.org/news/2021-06-million-people-worldwide-sea-level.html>

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