

European scientists predict half of the current beach will disappear by the end of this century

Climate change has been a threat to humanity. And because of it, beaches will lose half in just 80 years.

Climate change is threatening the existence of beaches in the world and it is likely that by the end of the 21st century, half of them will disappear.

By 2050, some coastal areas will change to unnoticeable levels, of which 14 to 15% of the beach will face severe erosion.

The number of disappearing beaches will vary based on the region. Based on the newly published scientific report, by 2100, coastlines in many densely populated areas - including the eastern US coast, southern Asia and central Europe - retreated. inland to nearly 100 meters.



Waikiki Beach, Hawaii

"We consider the limit of retreat to only 100 meters because most beaches in the world have a width narrower than 100 meters, if erosion passes this number, the beaches will disappear . " Michalis Vourdoukas said. He is an oceanographer and scientific staff at the European Commission, and the author of the scientific report we mentioned.

The scientific report, published in the March 2 issue of the journal Nature Climate Change, was conducted by scientists from the European Commission's Joint Research Center, in collaboration with universities. in Spain, Portugal and the Netherlands.

Based on the expected level of sea level rise, the researchers analyzed the changes in the future beaches and their responses to rising sea levels and severe storms. .

They also consider other factors that may affect the condition of the beach. Among them are natural causes such as erosion caused by waves, geology below and human causes such as the construction of coastal buildings, the existence of dams and efforts. sea ??reclamation force.

Scientists anticipate that sea level rise will be a factor that surpasses others. At the same time, the more man-made greenhouse gas emissions, the more beaches in the world will be seriously affected.



Embankments prevent erosion at Royal Palms Beach, Los Angeles

Beaches are important, they cover one third of the world's coastal areas and play a crucial role in protecting coastal areas from rising water. In addition, beaches are an abundant economic resource, they support the service, tourism and other activities. In some areas, like Brazil or Australia, the residents' livelihoods are based on beaches.

"There are many sandy beaches in the world that can not be measured with money , " Vousdoukas said.

Usually, because beaches are a dynamic form of environment, they will relocate their shorelines accordingly to tides and sea level changes. But some famous beaches in the world are facing the risk of disappearing.

"The coast we see right now is a temporary condition , " Robert Young said. He is the director of the Coastal Studies Program at the University of Carolina and a geologist, but is not involved in the study.

"From the very beginning, our beaches, wetlands and estuaries all moved back and forth based on changes in sea level . "

However, in the words of the scientists, because humans are coastal, we have disabled the ability to move back and forth of the coast and disturb the processes of adding natural sand.

Currently, the beaches facing the worst erosion are beaches located in residential areas, where there are high-rise buildings and streets by the sea.

Miami Beach is replenishing the sand with large trucks to restore areas of serious erosion. In other locations, large dykes and breakwaters are built to keep valuable sand on the beach. However, the cost of these projects is enormous and scientists claim that in the face of rising sea levels and stronger storms, these efforts will only become a waste.



Sand truck to Miami beach

"Right now, what we are doing is keeping the coastlines unchanged. But over the decades, even if we want to, we won't be able to continue , " Young said.

The new report says that with rising sea levels, more beaches in the world will face erosion. In particular, Australia will be most affected with more than 10,000 km of coastline, accounting for 50% of the coastline across the continent, will be threatened by 2100.

Other countries that were also affected were Chile, China, the United States, Russia, Mexico and Argentina.

Vousdoukas said that small islands would also be affected, especially those in the Caribbean, because of their relatively flat terrain.

Researchers have discovered that humans have a part in their ability to determine the outcome of beaches. If governments around the world can reduce their greenhouse gas emissions, scientists say 17% of the beaches expected to disappear will be retained. This figure will even increase to 40% by 2100 if emissions are limited.

"By trying to accomplish the goals of the Paris agreement (signed in 2016), we can reduce the 40% negative impact expected in the report , " Vousdoukas said.

According to CNN

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