

格陵兰岛“僵尸冰”融化或使全球海平面上升 27 厘米

‘Zombie ice’ from Greenland will raise sea level 10 inches

气候变暖不断威胁着全球生态和人类生存空间。美国全国广播公司 8 月 30 日报道称，一项最新研究显示，格陵兰岛“僵尸冰”的融化将使全球海平面上升至少 27 厘米。



[Photo/Agencies]

Zombie ice from the massive Greenland ice sheet will eventually raise global sea level by at least 10 inches (27 centimeters) on its own, according to a study released Monday.

8 月 29 日公布的一项研究显示，格陵兰岛巨大冰盖上的“僵尸冰”融化将使全球海平面上升至少 27 厘米。

Zombie or doomed ice is ice that is still attached to thicker areas of ice, but is no longer getting fed by those larger glaciers. That'

s because the parent glaciers are getting less replenishing snow. Meanwhile the doomed ice is melting from climate change, said study co-author William Colgan, a glaciologist at the Geological Survey of Denmark and Greenland.

“僵尸冰”或“死冰”附着在较厚的冰川上，但受母冰川补雪减少影响，这些冰将无法再补冰。研究论文的合著者、丹麦和格陵兰地质调查局的冰川学家威廉·科尔根称，由于气候变化，这些“僵尸冰”正在融化。

“It’s dead ice. It’s just going to melt and disappear from the ice sheet,” Colgan said in an interview. “This ice has been consigned to the ocean, regardless of what climate (emissions) scenario we take now.”

科尔根在一次采访中称：“这是死冰，它将融化并从冰盖上消失。不管我们现在采取怎样的气候排放方案，这些冰都会融入海洋中。”

Study lead author Jason Box, a glaciologist at the Greenland survey, said it is “more like one foot in the grave.”

该研究论文主要作者、格陵兰地质调查局的冰川学家杰森·博克斯称，这些冰“更像是死期已定”。

The unavoidable ten inches in the study is more than twice as much sea level rise as scientists had previously expected from the melting of Greenland’s ice sheet. The study in the journal *Nature Climate Change* said it could reach as much as 30 inches (78 centimeters). By contrast, last year’s

Intergovernmental Panel on Climate Change report projected a range of 2 to 5 inches (6 to 13 centimeters) for likely sea level rise from Greenland ice melt by the year 2100.

研究预测格陵兰冰盖不可避免的融化将导致海平面上升 27cm，这一数值是科学家此前预测的两倍多。这项发表在《自然气候变化》杂志上的研究显示，最高可能会导致海平面上升 78 厘米。相比之下，2021 年联合国政府间气候变化专门委员会的报告预测，到 2100 年，格陵兰冰川融化可能导致海平面上升 6 至 13 厘米。

What scientists did for the study was look at the ice in balance. In perfect equilibrium, snowfall in the mountains in Greenland flows down and recharges and thickens the sides of glaciers, balancing out what' s melting on the edges. But in the last few decades there' s less replenishment and more melting, creating imbalance. Study authors looked at the ratio of what' s being added to what' s being lost and calculated that 3.3% of Greenland' s total ice volume will melt no matter what happens with the world cutting carbon pollution, Colgan said.

科学家们在这项研究中观察格陵兰冰川的平衡。在完美的平衡状态下，格陵兰岛山区的降雪向下流动，使冰川两侧重新结冰变厚，平衡了边缘的融化。但在过去的几十年里，补给更少，融化更多，造成了不平衡。科尔根称，研究人员观察了加冰量与减冰量之比，并计算出无论全球如何进行减排，格陵兰岛冰川至少都会融化 3.3%。

One of the study authors said that more than 120 trillion tons (110 trillion metric tons) of ice is already doomed to melt from the warming ice sheet' s inability to replenish its edges.

其中一位研究作者称，由于融化的冰盖边缘无法加冰，超过 110 万亿公吨的冰已经注定要融化。

This is the first time scientists calculated a minimum ice loss -- and accompanying sea level rise -- for Greenland, one of Earth' s two massive ice sheets that are slowly shrinking because of climate change from burning coal, oil and natural gas.

这是科学家首次对格陵兰岛冰层最小融化量与海平面上升相关性展开研究。格陵兰冰盖是地球上两大冰盖之一，由于燃烧煤炭、石油和天然气导致气候变暖，格陵兰冰盖正在缓慢缩小。

Although 10 inches doesn' t sound like much, that' s a global average. Some coastal areas will be hit with more, and high tides and storms on top of that could be even worse, so this much sea level rise “will have huge societal, economic and environmental impacts,” said Ellyn Enderlin, a geosciences professor at Boise State University.

虽然 27cm 听起来不多，但这是全球平均值。美国博伊西州立大学地球科学教授埃林·恩德林称，一些沿海地区将受到更多影响。此外，大潮和风暴可能会更严重，因此海平面的大幅上升“将对社会、经济和环境产生巨大影响”。

Time is the key unknown here and a bit of a problem with the study, said two ice scientists, Leigh Stearns of the University of Kansas and Sophie Nowicki of the University of Buffalo. The researchers in the study said they couldn't estimate the timing of the committed melting, yet in the last sentence they mention, "within this century," without supporting it, Stearns said.

两位冰川科学家——堪萨斯大学的利·斯特恩斯和布法罗大学的索菲·诺维基称，时间是这里的关键未知项，是这项研究存在的问题。斯特恩斯称，研究人员表示，他们无法估计冰川融化的时间，但他们在最后提到会“在本世纪内”，但没有提供科学支持。

Colgan responded that the team doesn't know how long it will take for all the doomed ice to melt, but making an educated guess, it would probably be by the end of this century or at least by 2150.

科尔根回应称，研究小组不知道所有“僵尸冰”融化需要多长时间，但根据合理推测，可能会在本世纪末或最迟在 2150 年。