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One reason oceanographers analyze the sediment on the ocean floor is to see how long-term changes in Earth's temperature have affected the depth of the ocean.

海洋学家分析海底沉积物的一个原因是要看看地球温度的长期变化是如何影响海洋深度的。

By analyzing the remains of sea animals in old layers of ocean sediment, oceanographers can determine the depth of the ocean in the past.

通过分析在海洋沉积物的古老的层次中的海洋动物遗骸，海洋学家能判定在过去海洋的深度。

They've analyzed hundreds of such layers, including some from the coldest periods of Earth's history—the ice ages.

他们已经分析了成百上千这样的层次，包括了一些来自地球历史上最冷的时期——冰河时代（的layers）。

What they've found is that during the ice ages, the amount of water in the oceans decreased.

他们已经发现的是在冰河时代的期间，在海洋中水的数量是减少的。

Water levels in the ocean dropped by about four hundred feet.

水位在海洋中下降了大约四百英尺。

Water from the ocean evaporated and became frozen in continental glaciers, so it didn't drain back into the ocean.

来自海洋的水蒸发并且在大陆冰川上成为冰冻的(形式)，所以它没有回流进海洋里。

When temperatures eventually rose again, the glaciers melted, and the oceans returned to their former depths.

当温度最终再次上升，冰川融化了，然后海洋回到了它们从前的深度。

Analysis of sedimentary data indicates that periods of glacial freezing and melting occurred in regular cycles of twenty thousand, forty thousand, and one hundred thousand years.

对沉积物的数据分析指出了冰川的冰冻期和融化期发生在两万，四万和十万年的有规律的周期。

Oceanographers are interested in the history of seawater levels because they hope to use this historical data in order to predict the possible effect that global warming could have on seawater levels.

海洋学家对海水水位的历史感兴趣是因为他们希望使用这种历史性数据以便预测全球变暖能对海水水位（产生的）可能性的影响。

If industrial pollutants are capable of heating global temperatures to the point that glaciers begin to melt, it is urgent for us to know precisely how high sea levels will rise as a result.

如果工业污染物能够加热全球的温度到达冰川开始融化的点，对我们来说精确地知道最终海水水位将上升多高是当务之急。