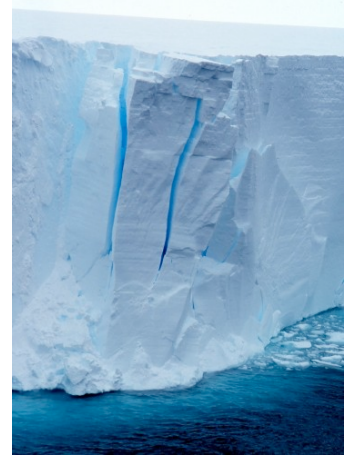


The Ross Ice Shelf

By April

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I choose The Ross Ice Shelf because it's the largest ice shelf in Antarctica. It is hundreds of meters thick. The front to the open sea is more than 600 km long and about 15 and 50 meters high above the water surface. Ninety percent of the floating ice, however, is below the surface. The cliffs at the waters edge are about 200 feet high. The Ross Ice Shelf is 81° 30' 0" S, 175° 0' 0" W. In 2002 the Ross Ice Shelf began to crack. "The Ross Ice Shelf could break off without warning causing a dramatic rise in sea levels," warn New Zealand scientists.



A New Zealand-led ice drilling team has recovered three million years of history from samples which gives clues as to what may happen in the future. We should help with the pollution levels, because if not then the world will have more water, there will be less land, and most of our land will be submerged under the water of the Antarctic. An example of what it could look like is shown in the picture.



This is why we should study the world's biggest ice shelf if we want our planet to be in its best shape. "This breakup gave us the information we need to reassess the stability of ice shelves around the rest of the Antarctic

continent," said Glaciologist Ted Scambos. The Ice shelves act as breaks for the glaciers. But these shelves serve another important purpose – they change the amount of how fast melting occurs on the glaciers' surfaces. Once the shelves are

removed, the glaciers increase in speed due to the melted water, the reduction of braking forces, and they may begin to dump even more ice into the ocean. Glacier ice speed increases are already observed in Peninsula areas, where ice shelves disintegrated in earlier years.

"They are closer to the limit than we thought," said Sir James Ross, who was the expedition's leader that founded the Ross Ice Shelf. The Ross Ice Shelf and the sea around it were named after Sir James Ross. In 1831 he also located the north magnetic pole. Two volcanoes in the region were named by Ross for his vessels.

The Ross Ice Shelf pushes out into the sea at the rate of between *5ft* and *10ft* a day. There are other glaciers that gradually add mass to it. At the same time, the freezing of seawater below the ice mass increases the thickness of the ice from *16in* to *20in*. Sometimes, cracks may cause the shelf to break off; the largest known is about *31,000 km²*, which is slightly larger than the size of Belgium.

University of Colorado's NSIDC has been studying ice shelves; in 2002 they announced that, "based on several break ups of ice shelves, they have begun to decrease their stability." Their scientists stated that "the temperature of the warmest portion of the shelf is only a few degrees too cool in summer presently to undergo the same kind of retreat process. The Ross Ice Shelf is the main outlet for several major glaciers draining the WAIS, which contains the equivalent of 5 m of sea level rise in its above-sea-level ice. The report added the observations of "iceberg calving" on the Ross Ice Shelf."

To help us find out about the future sea level we could measure the cracks to see how frequently they occur. If we can find this information then we



will have a firm grip on the future!

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