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Larsen Ice Shelf: Why We Should Research

The ice formation we propose for research is the Larsen Ice Shelf on the northern peninsula of Antarctica. This is a large fringing ice shelf that is located at the edge of the Weddel Sea. It is named after Captain Carl Anton Larsen who sailed along the ice front during December 1893. The latitude and longitude of this ice shelf is 64 degrees, 28 minutes, 32 seconds south and 58 degrees, 38 minutes, 14 seconds west. (64 o 28' 32"S and 58o 38' 14" W)

Ice shelves are the floating edges of ice sheets that cover Greenland and Antarctica. These ice sheets contain 77 per cent of the world's freshwater, 99 per cent of all glacial ice and cover more than 10 per cent of the Earth's land area. If the ice sheets were to melt entirely, sea level would rise by nearly 80 meters. (<http://www.noc.soton.ac.uk/aii/shelf.html>)

So...What Is So Interesting About This Ice Shelf After All?

The truth is that scientists have been observing this ice shelf over a period of 30 years due to large amounts of it disappearing in a series of retreats. There are many reasons that this might be a good place to research first:

- The Larsen ice shelf is actually three ice shelves referred to as Larson A, Larson B, and Larson C by researchers.
- This ice shelf which is about the size of Rhode Island has the potential to shelter animals both aquatic and land. Polar Bears have actually drowned because ice shelves have collapsed while they were on them. Also some of the many species of seal might use the icebergs that come from the Larson ice shelves to rest.
- The Larson A and B ice shelves have disintegrated due to warm currents eating away at the underside of the shelf.

These are just a few facts, and I can conclude that the Larson Ice Shelf is a unique formation that deserves to be researched.

What Geological processes are occurring in order to create this ice shelf?

Ice sheets form from the accumulation of snow on the continents. Some snow survives summer melting and evaporation to eventually become compacted under further snowfall. The ice formed by this process spreads out over the land, transported by glaciers and ice streams. Where ice streams reach the edge of the continent, they feed floating ice shelves or glacier tongues that spread out further over the sea. (<http://www.noc.soton.ac.uk/aii/shelf.html>)

Why Should We Be Further Funded To Research This Particular Ice Feature?

There are many reasons to research this particular ice Feature, but the number 1 reason

is that if we are to research it we are, even at this moment, losing data. The Climate in this area is dropping by approximately 0.5 degrees Celsius each year. It is estimated that this has been going on for at least 50 years, which means the climate has dropped about 25 degrees Celsius. This may not seem like much but is a significant change in the delicately balanced eco-system of Antarctica. This has been causing retreats that happen mostly when icebergs break off of the ice shelf. (Google Earth)

In 1995 a large portion of the ice shelf disintegrated (Larson A). In 2002 a similar event occurred when Larson B collapsed. Scientists have linked the pooling of water on the surface of the ice shelf to these collapses. Melt water ponds have been seen forming on Larson C the last remaining section of the Larson ice shelf. This could lead to structural weakening and eventually another collapse taking with it the remains of the Larson ice shelf.

If this is true and global Warming is affecting our Planet so much make haste to research this unique ice feature before it is lost forever. This is a great opportunity, and I hope you agree to research this area.

This Proposal is respectfully submitted by Jack Behal, a member of the 6th grade Fulmore GT program at Fulmore Middle School in Austin, TX.

Links to Images:

<http://www.sciencedaily.com/images/2008/02/080210100441-large.jpg>

http://www.gulker.com/photos/2002/larsen_b.jpg

<http://pubs.usgs.gov/fs/2005/3055/antarctica.jpg>