

# NASA LIMA Quest

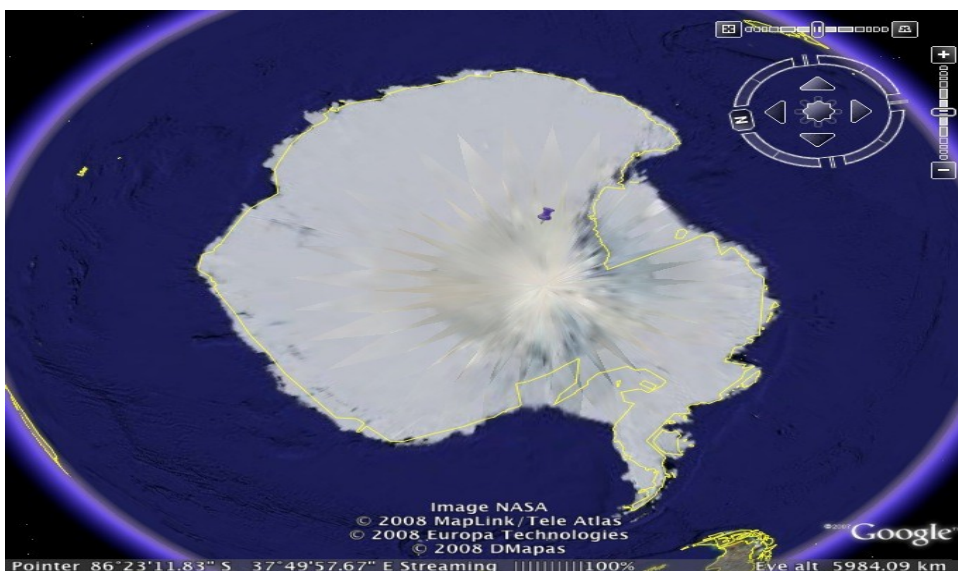
## Proposal

By: Alexandria

The name of my chosen ice feature is called Nimrod glacier. Nimrod glacier is surrounded by many other glaciers and mountains. Nimrod glacier has flow strips, those flow stripes stretch around the other glaciers and mountains.



The longitude of my glacier is 135.9089 and the latitude is -83.9257



I chose this feature because this site was the first one I found and it instantly jumped out at me. It first looked like a big slide but then it became clearer that it was a glacier. As I studied it closer I noticed the flow stripes stretch around the glaciers and mountains which means at the same time they are continuously breaking down the mountains. Then I figured when you break down the mountains, fossils will possibly appear. These fossils could just be bones from something as small as a bird or something more important such as a dinosaur or a new species that haven't yet been found. But more important these fossils could unlock a key to Earth's never ending history.

The geologic process I think is occurring to create this ice feature is that the glacier is moving very slowly, if it were to move fast it would have broken into icebergs. But since the glacier is moving slowly flow stripes are appearing and stretching around the other glaciers and mountains. Mountains can be made by a few different ways one possibly way could be when two plates press against each other until the land is lifted and folded over itself. Another way is by a glacier carving it out.

The benefits of my team being funded is because learning more about the animals and dinosaurs that lived in Antarctica is important for Earth's history. You'll see that as the glacier stretches around the mountains. At the same time the glacier is breaking down the mountains. To see if the glacier is moving fast or slow you can do one of two things. 1. Look at earlier Landsat images (1972) and check every ten years until today to see how far it's moved. Or 2. scientists have another way is scientists measure the speed of a glacier is by pounding stakes into the ice at different points and seeing how quickly or slowly their position changes. I think a fast glacier can move 50 feet a day and a slow glacier goes less than a foot a day. If the glacier turns out to be moving fast it will erode more rock. This would lead to less success in finding fossils because they will get crushed in the process. The ice flows down and to the left, you can tell by looking at the flow stripes closely and also looking at the shadows. You could use LIMA to find other sites that look like mine, with sedimentary rock near the Trans-Antarctic Mountains.

In these mountains there are probably tons of fossils from different animals or dinosaurs, maybe a new species. Diamictite is a sedimentary rock which is found around Nimrod glacier. The layers on sedimentary rock help preserve fossils. In fact most fossils are found in sedimentary rocks. A Nodosaurid Ankylosaur was the first dinosaur found in Antarctica you could learn more about him and his species possibly in this mountain. Also another interesting one is the Plesiosaurs, this is not a dinosaur but it is an aquatic animal, found in Antarctica! I want to find out more about this species and others like it. During the dinosaur era Antarctica was apart of Australia at that time Antarctica had no glaciers. Over a millennium Antarctica drifted farther south. The fossils from Australia could possibly still be in those mountains there for we could start understanding more about the history of the Earth with the fossils you might find. For example if you find a fossil with a fin which means there most of been a lake near by but, there isn't a lake near that mountain now. With that one fossil you could solve some of Earth mystery's on history. So if you fund my project then you can learn more about the history of the Earth and there is always the possibility of finding new species of dinosaurs or animals in the process.