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Environment, Climate Change

IntroductionThe Grand Canyon’s Geological Cross Section consists of the the south rim geology and the formation of the Colorado river. This Geological attraction will be examined to see if the rock layers that have been showing up these past years are beneficial to the arrangement of the Grand Canyon. The point to find out is why the Grand Canyon is significant to our country and if the split matters in our course of subject.

The discussion will involve all different rock layers and their importance, how our environment affects the formation of the cross section, and lastly, how the Colorado river went down a certain path to form this canyon. Finding out if the cross section was a good or bad thing is vitally important in research. The Grand Canyon of the Colorado river is a world known place of geology. Geologic evolution through time can be studied through the changes between different rock layers. This paper will examine how our environment affects rock formation and how the Colorado river began craving the canyon.

Rock LayersThe Grand Canyon consists of many different rock layers. Rock layers such as: Igneous rocks, Sedimentary rocks, Metamorphic rocks, and etc. Rocks are always changing.

With different sources such as wind and water, the rocks get pushed away and change. This goes the same way with magma. When the surface of the earth is too hot or heating up, it can destroy rocks. This will cause an outcome of a split.

As we can tell, rocks come in all different forms and shapes. The rocks have been classified into three different groups that I have stated above. These

three groups of rocks can be found today at the Grand Canyon. Igneous rocks are formed from melted rocks in the ground.

When rocks are deep under the earth’s surface, the magma below it melts the rock due to the enormous temperatures, and therefore forms the magma chamber. Once the magma starts to cool off, and the heat disperses, crystals will soon then form, and the rock granite appears. Once magma cools on to the earth’s surface, the magma immediately cools down. For this reason, there is not enough time for the rock to full crystalize, therefore, basalt forms which is a small grained type of rock. This rock can be harmful because it is volcanic. This can affect us with extremely large temperatures. Sedimentary rocks are viewed on the earth’s surface which will either include water or land.

These rocks are visible to us. This type of rock comes from the material that we use today everywhere such as: minerals, or animal/plant materials. Sedimentary rocks are formed when we see layers of rocks covering old layers underneath them. They come together compacted as one and form this type of rock. Soon after, the sedimentary rocks that were compacted and pushed together, are combined with different chemicals and minerals which are held together.

The sedimentary rocks contain so much to them since they are compacted together as one. These rocks can be formed in a way to be huge. The sand that we see on the beach can be formed as a sedimentary rock. This is why we this type of rock is so common, while being one of the seen. Metamorphic

rocks are only formed when the other two rocks cannot take a certain pressure.

This is why the metamorphic rock is not as common. When the other two cannot take in the source of heat and such a high temperature, this is when the metamorphic rock will take action. The outcome that the rock will produce is the transformation and change we will see in the rock due to the crystals that form it. This change is due to the new minerals that are created, and the water that is moving into these rocks. They play a big factor in changing the whole rocks structure.

We can see that little subjects make huge differences in the rocks formed at the canyon. Lastly, metamorphic rocks can even be changed into other metamorphic rocks with a different temperature or pressure that may be exerted on to it. Finally, young rocks are always piled over older rocks.

The study of the sequence of these rock layers is our main source of knowledge about earth’s history. This includes the evolution of life and changes that appear in our climate. We see that with moisture in the air and humidity in the air, climate is affected. This goes hand in hand to affect our rock layers in the Grand Canyon as well. Environment effect (fossil fuels) on rock layersRock layers that are formed in the Grand Canyon have an effect that connects with fossils. The canyon contains rock formations that we discussed above with the effect on them which is hidden. Those are the fossil fuels that are hundreds of million years old.

Fossils are the old remains of animals body parts from millions of years ago. This can include a leg or even teeth. The rocks connect with the fossils because the rocks contain footprints from the past which a new layer is put on top of the old layer to track these steps.

These fossil fuels appeared because of these rock layers and are classified as a giant attraction to people today. There are three types of fossils that will be discussed, such as: Marine Fossils, Terrestrial Fossils, and Recent Fossils. Marine fossils are fossils viewed because of the layers of sedimentary rocks that have been in the canyon the past millions of years. Stromatolites are classified as a type of marine fossil which is the oldest in the grand canyon.

They are formed by bacteria piling on top of more bacteria. As more bacteria is added on, the sun affects the bacteria that is forming. This created layers upon layers of bacteria in waters, which were dominant. Although, once predators such as animals came into the picture, a lot of the formation affected the outcome.

For this reason, salt is now put into the water so no predators want to go near it. This solved the issue of keeping the stromatolites in good place. Terrestrial fossils are formed from mudstones and siltstones which then formed river systems which were connected. This occurred at an average climate temperature. The sand that has appeared from these sandstones, were caused by significant amounts of wind pressure in the dunes. The layers were all divided up and each layer referred back to a fossil.

As we can see, there is a huge connection between the two. Terrestrial fossils are all over the grand canyon today, such as: coconino sandstone, hermit shale, and the supai formation. In these areas, we see these types of fossils appear due to the rocks are in between.

Recent fossils are fossils that were newly discovered or not to old. With the temperature the grand canyon is at today, we see a climate with cool and hot. This allows us to view these recent fossils. With the remains that we have today, for example the sloths skull from a cave, scientists are able to study it, and tell us the effects that climate change brought upon to them and how they can advance in the right direction. As we can see, fossils fuels are the product that are hidden underneath these rocks and they are the ones to have the effect on the Grand Canyon Cross Section.

Colorado River Path and formation of CanyonThe Grand Canyon of the Colorado River is a significant landmark that is recognized today by many people across the world. The landmark was formed because of the rocks that would appear and how they would form on the earth’s surface. This is why today at the canyon, we see so many different cool features. We see the rocks come in different comes as going up and down, side to side, unraveled, etc. The Colorado river is split into four plateaus of the province.

The province is classified within sedimentary rocks. Due to these rocks, the province has formed and can do so much more. Many erosions formed due to the rock building of making this canyon miles long. During the proterozoic era, crystals started to appear. This was a huge positive outcome for the

canyon because the magma and heat that arose in these rocks, allowed the crystals to form in the shape they are today.

The magma that was contained in these rocks rose deeper in, and then soon formed granite. This is due to the crystalline structure that appeared. Many years ago, the mountains that formed the canyon due to the rocks, and splits, tilted the shape and form of these rocks. Erosion then appeared and took away these cracked rocks. These remnants are in the eastern part of the canyon.

The rock layers that formed in the time of the Paleozoic era stood out the most in the walls that consisted the canyon. Layers of limestone and sandstones totaled to make the canyon so deep and thick in structure. The Grand Canyon is a geological area today. We see so many ups and downs with the canyon that occur all the time. For example, we see erosion at times, but then we can see violent and heavy storms that pour in. The moisture from the air and water the canyon receives at times, creates the area of the rock.

Still today, geologists are discovering how rocks are the main source of covering the canyon, and if these rocks can perform new carvings to the canyon. The canyon allows people today to view these interesting landmarks and to see the different types of rock formations and how they appear. To conclude, we can see that one effect will cause another and it will continue to happen. We may see major differences in the future to come as we discover new things in the canyon all the time. ConclusionFor the above

discussion, geological roles play an essential part in our earth today. The Grand Canyon of the Colorado river is a world known place of geology.

Geologic evolution through time can be studied through the changes between different rock layers. The Grand Canyon examination on how our environment affects rock formation and how the Colorado river began craving the canyon was the ultimate goal in our research. Overall, the Grand Canyon is an exceptional feature in today’s geography, and therefore the discovery of old and new will continue to appear in our world today. The conditions of the site today will always determine the outcome of what will happen next within the Grand Canyon, and this will all depend on the three factors discussed in this paper; rock layers, environment affect (fossil fuels) on rock layers, and the Colorado river path and the formation of the canyon.