Climate Connections: Questions from Glacier National Park, MT

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Jessica Robertson: Welcome to USGS Climate Connections, where your questions about climate change are answered by USGS scientists. I’m your host, Jessica Robertson. In this episode, we gathered questions from the beautiful and scenic Glacier National Park in Montana. Let’s head into the park and see what questions you have about climate change.

Question 1.

Barbara Tully: Hi, I’m Barbara Tully and currently I’m from Trout Creek, Montana. My question for you would be: When did you first start measuring the melting of the glaciers here in the park and what is your projection within the next ten years as far as melt is concerned? When I come back in ten years, what will I see? Thank you.

Dan Fagre: I’m Dan Fagre. I’m a research ecologist at the Northern Rocky Mountain Science Center, U.S. Geological Survey. Basically we started measuring glaciers almost as soon as I got here, that is when this program was originally founded in 1991. So I think that in ten years, if you come here you will find at least remnants of glaciers. I think many of our glaciers will have become so small that they are hardly worthy of being called a glacier, but there will still be glacial ice there. Past that, it is hard to know because we don’t know how quickly climate change is going to continue to warm the regional area.

Question 2.

Matt: Hi, I’m Matt from Cincinnati, and I’m really curious how climate change is impacting the glaciers here in Glacier National Park.

Greg Pederson: Thanks Matt, that’s a great question. I’m Greg Pederson with the U.S. Geological Survey here in Bozeman, and basically climate change impacts glaciers by a number of means. Our warm springs and summers both start the onset of snow and ice melting earlier, which lasts longer and has been intensified throughout the summer season. So they not only receive less snowpack because of warming, but it’s also increasingly melting the glaciers in the summertime.

Question 3.

Terry Newcomb: My name is Terry Newcomb. I’m from Seattle, Washington, and my question is really how all the snow this winter impacted the glaciers here. Does it help the glaciers? I know they may disappear, so does it help them?

Greg Pederson: Thanks Terry, that’s a great question. Basically yes, individual years of high snowpack can have a positive influence on at least slowing the glacial decline in Glacier National Park. In fact, as far as last year’s high winter snowpack goes, it actually did add some positive mass or more snow and ice to that glacier, even though the long-term trends and the year after year progression is that more and more of that snowpack is melting out and those glaciers are going to continue to decline as we move into a warmer future.

Question 4.

Tara: Hi, my name is Tara and I live in Bozeman, Montana. My question for USGS scientists is: How do receding glaciers and climate change affect the local economy in terms of recreation, agriculture, tourism? Thanks.

Erich Peitzsch: Hi Tara, my name is Erich Peitzsch and I’m a physical scientist with the USGS in Glacier National Park. Recent work has shown that we are seeing an earlier spring melt out, and this can translate to a shorter snow season for things like skiing and snowboarding. We’re also seeing, or we are likely to see, the potential for midwinter rain events or rain on snow events and this also affects the issue of timing in that we're going to potentially see greater midwinter streamflow. So in terms of agriculture, the issue of timing is very important because farmers need to consider the issue of irrigation perhaps being earlier in the spring or even late winter as opposed to later in the spring. And finally, with the changing climate, we’re likely to see warmer stream temperatures which can have an effect on various fish species as well.

Jessica Robertson: Thank you, Erich. I also want to add that for tourism, we will have to wait and see how many people continue to come to the park as the glaciers recede to still see the beautiful wildlife and scenic landscape. That’s it for this episode of USGS Climate Connections in Glacier National Park. We hope you join us again next time.

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