

Earth to Sky Climate Cast

Episode 1

Glaciers and Climate Change at Glacier National Park

[guitar music introduction and female singing]

[male voice #1]

Glaciers have been kinda the barometer for climate change across the whole mountain system. And the glaciers have been going away.

[guitar music in the background]

[male voice #2]

Hi, I'm Paul Ollig, research education coordinator at Glacier National Park's Crown of the Continent Research Learning Center, and your host for this inaugural episode of Earth to Sky's Climate Cast.

Here at Glacier National Park, climate change has become resource issue number one. As a result, the park is evaluating what research needs to be done and how to do it. We're also looking closely at what we've already learned and how it affects park operations. In fact, in response to the growing concerns about the effects of global climate change on our national parks and monuments, a nationwide strategy of communication, mitigation and adaptation has been adopted for the entire national park service. This climate cast series is an effort to share with you the impacts being faced by your national parks and perhaps increase your understanding of this global issue.

Each episode in this series will focus on a single park or monument, and how climate change is impacting their resources. You may hear stories about the influence of climate change on a single species, such as the Florida panther or desert pupfish, or how it's changing entire ecosystems. You may also learn about the impacts to some of our most beloved cultural and historical sites, those places that help define who we are as a nation. But more than these stories, we also hope to share how each park and monument is

planning to mitigate and adapt to those changes. So sit back and enjoy the inaugural episode of Climate Cast, your connection to the science of climate change in your national parks.

[guitar music fades out]

Climate change is an incredibly complicated issue. You can't turn on a television or surf the internet without hearing some mention of how it's affecting our everyday lives. It's impacts can be felt everywhere: from the prices of food in the supermarket, to the tragic loss of both lives and property from more frequent, more extreme climate events, such as wildfires, floods and droughts.

But also at risk from this global phenomenon are some of our nation's most valuable national treasures, the fragile natural and cultural resources found in our national parks, monuments and other protected areas. The reality is that climate change is changing the way we do business in the national park service. And there's no better place to begin learning about these changes than to visit the place that has become ground zero for the discussion about how the national park service will address the issue of climate change: Glacier National Park.

So to find out what the scientists here have learned about the current and impending impacts of climate change on the park, I needed to get out from behind my desk.

[sounds of footsteps in snow]

Fortunately, a short walk through a snowy spring morning here at Glacier's headquarters brings me to the office of Dr. Dan Fagre. Dan is a research ecologist with the US Geological Survey's Glacier Field Station and he works in the climate change office here in the park. He is well-known around the country and the world for his work studying the park's melting glaciers, and is considered by many to be an expert on the impacts of climate change on mountain ecosystems. There's probably no better person to help us understand this important issue and what the years of research that have gone into it have taught us.

[footsteps fade out, male voice #1]

Probably one of the big perspectives that the whole climate change research community has gotten out of the last ten or fifteen years is that the earth is more sensitive than we thought. A lot of these changes are occurring much more quickly than we predicted only a few years ago. If you look at predictions that were made fifteen years ago and they're just laughable. We just didn't understand how quickly this planet could change and how much of that change we can affect.

So I think that's a good lesson for us. On one hand, it means that we're going to have to be a little more careful about our footprint on the planet but because we have this newfound knowledge it suggests that we'll be able to take better care of it in the future.

[male voice #2]

Sitting in his cozy, book-filled office, tucked into the corner of a picturesque little green-roofed park service cabin, Dan presents an air of confident optimism when he speaks about climate research. It's apparent that the grim realities of what we're facing are balanced by his appreciation by how much better the scientific community understands climate change and its impacts. While I, too, can certainly appreciate the vast amounts of knowledge gained by the decades of research being done, I was still concerned about those grim realities being faced by Glacier National Park. So I asked Dan what the latest research could tell us about the fate of the park's namesake glaciers.

[male voice #1]

Right now, the glaciers in the park are melting more quickly than we predicted, and based on the most current measurements we have looks like they'll melt by about 2020. And by that I mean there will still be little bits of ice here and there, but they won't be big functioning glaciers. They're retreating very rapidly, and there will just be small remnants of them left. In some cases there won't be any ice left at all. Some of these areas it's going to be a complete melt out.

[male voice #2]

To imagine that within the next decade, visitors to Glacier National Park will no longer be able to enjoy the park's namesake glaciers brings climate change home in a very real way. It's no longer a vague phenomenon that our grandchildren will have to figure out how to deal with. Change is happening right here, right now. And it's having a visible and dramatic effects on one of the crown jewels of the national park system.

These changes are also happening much more quickly than anyone expected, giving the issue a greater sense of urgency. But it's easy to focus on the doom and gloom forecast. So I asked Dan if he had discovered a silver lining to this very menacing cloud.

[male voice #1]

Well I think there's three perspectives when it comes to the doom and gloom aspect of climate change. There are profound changes that are going on, but the first thing is that Glacier will still be a beautiful and wonderful place to visit. It's going to be a different one – the ecosystem will look different, act different – but it's still going to be a wonderful place. We're not going to be getting rid of the mountains that have been here for millions of years, for instance.

The second thing, is that by being faced with this crisis, by having to learn a lot more about this park and other areas like this, we have advanced our ecosystem knowledge enormously. We understand more about how this functions and where the sensitive points are than we ever have before. So we're gradually gaining more knowledge and more tools for dealing with this in the future.

The final perspective is to remember that a lot of these ecosystems have gone through big things in the past. And while the future may be different, it's not going to be entirely bad. These ecosystems have survived giant ice ages, for instance. In one shape or another, they'll survive climate change as well.

[footsteps in snow, male voice #2]

Leaving Dan's office, I feel more hopeful than I had going in. Climate change is a huge issue that will impact all of our lives for many years to come. But the findings of climate researchers like Dr. Fagre should empower all of us with the knowledge that while our footprints on the planet may be much larger than we ever anticipated, the capacity of each of us to overcome obstacles and really make a difference is also greater than we ever imagined.

[footsteps fade out]

Knowing that places like Glacier National Park are working to mitigate its impact on the fragile resources it's trying to protect, and that they're learning new ways to adapt to a changing climate and a changing world, is an inspiration to me.

[guitar music fade into background]

In fact, the park is a leader in the National Park Service's efforts to combat global climate change. As an official Climate Friendly Park, we're constantly looking for new ways to make our operations more efficient and more sustainable. We're also fortunate to have scientists like Dr. Fagre working in the park helping all of us gain a greater understanding of this critical issue. Because the more we know about how our changing climate is changing the park, the better prepared we'll be to protect it.

And that gives me hope.

[guitar music crescendo]

Earth to Sky's Climate Cast is made possible through an innovative partnership between the National Park Service and NASA. The theme music was composed and performed by Karen Savoca. Each episode is written and produced by employees and partners of the National Park Service. For more information on the NASA Earth to Sky Project, and to learn more about how climate change is impacting our national park system, visit

www.earthtosky.org.

[guitar music crescendos, woman sings, and music ends]