

Climate Change and Art — A Framework for Understanding and Community Action
CAEC September 13, 2023 Happy Days Lodge
Emma Johnson

Image: Tlingit homeland
Tlingit homeland, forced out by an advancing glacier
Woosh.it.tak, winter following winter
Case study in responding to climate change



Their story of change and resilience is told today through nature and art.

GB sees half a million visitors per year, most on cruise ships. Narration by park rangers and Tlingit cultural interpreters helps visitors engage with a changed and continually changing landscape, seeing the remnants of the once great glacier that forced the Tlingit out and the resilience of the people who survived.

Also, their art tells the story.

A highlight of a visit to the land of Glacier Bay includes stopping by the Tribal House.

This building, built for the four remaining Tlingit clans of Glacier Bay (there are many other Tlingit clans in other parks of SEAK) to have a footprint in GB. Anchored by incredible art: this screen tells the story of the four clans, and the glacier that forced them out. (Describe briefly.)



What does this have to do with what we are talking about today? When I think of how we need to respond to the crisis of climate change, this story inspires me.

Introduction — Emma Johnson, Park Ranger

GB in SEAK with glaciers since 2008. Climate change critical. Not a climate scientist but a good portion of my time has been spent learning how to talk to people about climate change and training others to do be able to so as well. I am a regional leader with Earth to Sky, an affiliate of NASA based at NASA's Goddard Center, that uses NASA science to help us understand our public lands better.

I came to Cuyahoga Valley about 2.5 years ago, in part because I saw such potential in this place to talk about climate change and work for change.

The stories here are ripe for helping us as a culture grapple with and respond to the impending climate disaster.

Today I hope to share a little bit about climate, review some basics, go over some ways that this place is especially important in thinking about and understanding how we got here, and provide some tangible ways for you to be involved and feel engaged for change.



Weather vs Climate

Climate change in 60 seconds aka heat trapping blanket

Impacts

Audience question: what impacts are you aware of? How will that impact your life?

Ohio specifics for change — Other global changes

So what do we do? First, we have to start talking about it.

Katherine Hayhoe, atmospheric scientist, Evangelical Christian, we have to talk about. We are never going to make changes if we aren't talking about it. For yourself: how often do you talk about it with your friends or family?

So how do we do that? You may think, I'm not a scientist, I don't know how to talk about climate change. Well, I'm going to stay, talking about it doesn't need to stay within science. In fact, I'd argue that we have harmed ourselves in many ways by focusing on talking about it from a scientific perspective. If that worked, we'd see bigger changes by now. I would argue that one of the most powerful ways to talk about it is through good storytelling (which can be scientific or anything else) and art, things that make people feel, that make us connect to each other. Because connecting to our fellow humans is one of the most important things we need to do to respond.

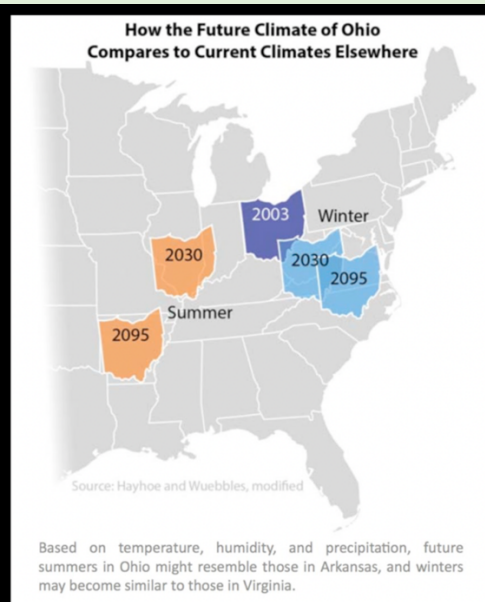
One way we can start talking about climate change: telling stories of how we got here.

CUVA tells that story of a land transforming from indigenous use to Western agrarian society to the advent of the canal bringing industry and ideas. Then moving to rail roads and cars and even jets, our desire for inexpensive goods and the rise of fossil fuels to get them to us, bringing us to where we are today. But as we look at that story, we also see choices, places where we can understand that reliance on fossil fuels wasn't a given but the result of choices, opportunities, technologies and decisions. What we do now and the future is also about that.

**Choices we make today will help chart our future.
We absolutely have the power to make changes and it's not too late.**

Local Impacts

- Hotter summers
- Increased summer droughts
- Shorter winters
- Stronger spring rain storms
- Increased flooding



When I think about that, this park is again a place of inspiration. I work in an office that looks out over the Cuyahoga River. This is a river that had so much pollution in it that it caught fire 13 times. It was devoid of life, fish, insects, plants, etc, not even the most pollution tolerant of species were to be found in here.

For many reasons people realized that was a problem. They worked for change.

By passing national laws, by developing local task forces, by studying the problem and recruiting people to help, this river has been transformed. It's not pristine, but it's had an incredible comeback. Today biologists are working to bring back fresh water mussels and even sturgeon, species that can only live in clean water. It is a river that people can kayak on, float down, fish in, bird watch next too, find peace in the calming sound of the water flowing. We hurt and have done a huge amount to repair it. It is possible to do big things. This park has other stories like that too: Beaver Marsh, Krejic dump. I don't have time to share them, but know that if you need examples of people fixing big problems we made, we can find them here.



So when we look at this huge, enormous problem of climate change, how do we respond?



The Heat Trapping Blanket

Quite simply, when we burn fossil fuels like coal and gas, we pump more and more carbon dioxide into the atmosphere, and this build-up creates a blanket effect, trapping in heat around the world. If nothing is done to halt this process, the planet we leave our children will be hotter, with more violent weather, fewer species, and disrupted systems.

I'm going to give an overview of methods and then some more detailed examples.

Adaptation and Mitigation are two critical concepts for response.

Mitigation

Mitigation

- Mitigating or reducing climate change involves reducing the flow of heat-trapping greenhouse gases into the atmosphere.
- Reducing the sources of these gases (stop fossil fuel emissions)
- Expanding “sinks” that can absorb the gases (oceans, forests, soil)



We have got to keep CO₂ and other greenhouse gases out of the atmosphere. There are couple of general principles behind that. One, use less of the things that create CO₂. Stop taking fossil fuels out of the ground and burning them and thus releasing them into the atmosphere. Drive less, use a more fuel efficient vehicle, be aware of where energy is coming from, support green energy. Keep fossil fuels in the ground, not the atmosphere. That's just going to keep us warming this planet. If we do emit that CO₂ and greenhouse gases, we need to find a place for them to go, other than the atmosphere. Things that absorb greenhouse gasses we call sinks, the gasses sink into them. Examples of sinks include things like kelp forests. Kelp absorbs an incredible amount of CO₂, so having healthy coasts with rich kelp forests is a way to mitigate climate change. Trees are also incredibly important carbon sinks. Trees take in CO₂ and give out oxygen. It's incredible and they are so valuable in the fight against climate change.

Adaptation

Adaptation

- Adapting to life in a changing climate involves adjusting to actual or expected future climate.
- Reduce vulnerability to most harmful effects (sea level rise, extreme weather, food insecurity)
- Make the most of climate change benefits (longer growing seasons, increased yield)



Our home earth is warmer and will continue to warm. We are seeing the impacts. We have got to adapt. We need to plan for new normal. Ideally we will manage to get our act together and keep the damage minimal but we need to adapt and be ready for this new world. How do we adapt? Depends on the location and what the needs are. Here in NEOH, we know that we will get bigger wetter storms. Are our storm water systems ready for that? What do we need to do to prepare? Bigger drains? Rain gardens? Elevating roads? We know it's going to get hotter. Are we ready? Do schools have AC? Do we have shady playgrounds for kids? Or cool places for the unhouse to find sanctuary? Are our medical responders ready for heat related issues? As we look at our new normal climate, are Ohio's farmers responding? What crops are they growing that will adapt to this new climate? There are so many things we can be doing to start to adapt.

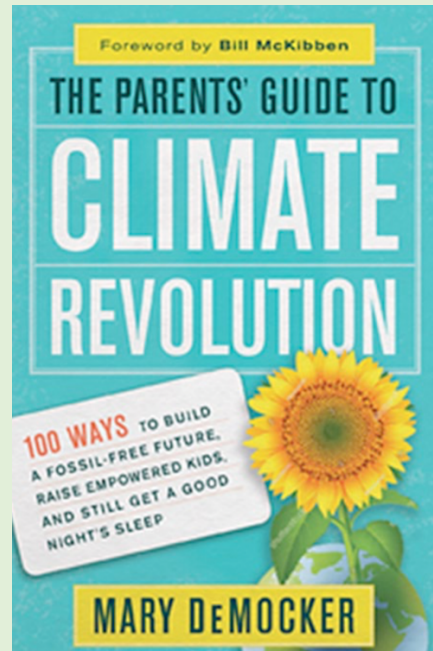
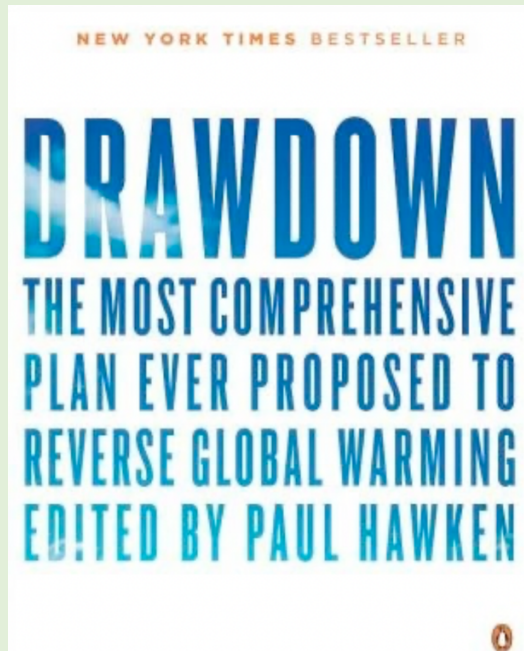
Sweet spot

When adaptation and mitigation are in sync or solutions that do both. One example of that can be found in spades here and is really relevant for urban areas as well. Trees are an incredibly powerful tool to respond to climate change. Trees help mitigate. They are sinks that take in excess CO₂. As we burn fossil fuels, we really need those sinks. Trees also help us adapt. When we think about what climate change will bring to this area, trees largely help protect us again the worst impacts. As we think about precipitation events, a fear is erosion, loosing land, run off into our water ways. Hillside planted with trees are less likely to erode, those tree roots stabilizing the land, the dips and contours of a forested land soaking in water and making it run downhill more slowly, giving our drainage systems time, limiting the onslaught of water and the amount of damage it can cause. Trees are also a natural air conditioner, especially important as temperatures increase, especially for cities. Concrete and asphalt are a lot hotter than trees. Having playgrounds and streets richly planted with trees will keep areas cooler while absorbing CO₂, that sweet spot of adaptation and mitigation. When we are planting trees, we are doing so much more than just planting a tree. The impacts ripple out.



Drawdown: the solutions we need are out there. They exist.

**Really smart people have thought it through.
The solutions are there, we need to implement them.**



Check out Project Drawdown.

Another resource I love is a guide to parenting to prepare for climate change, all about building resilience, community, and sustainability in our kiddos. That doesn't need to be just in our kiddos. We can do that too. Get to know your neighbors now so when there is a crisis, you are all ready to support each other. Learn how to reach out to your public officials to share your thoughts, influence action, whether it's city, state, federal, etc. Talk to your friends and family. We have the biggest influence with the people who know us best. Share what actions you are taking and talk about. Let them know what you're doing and why.

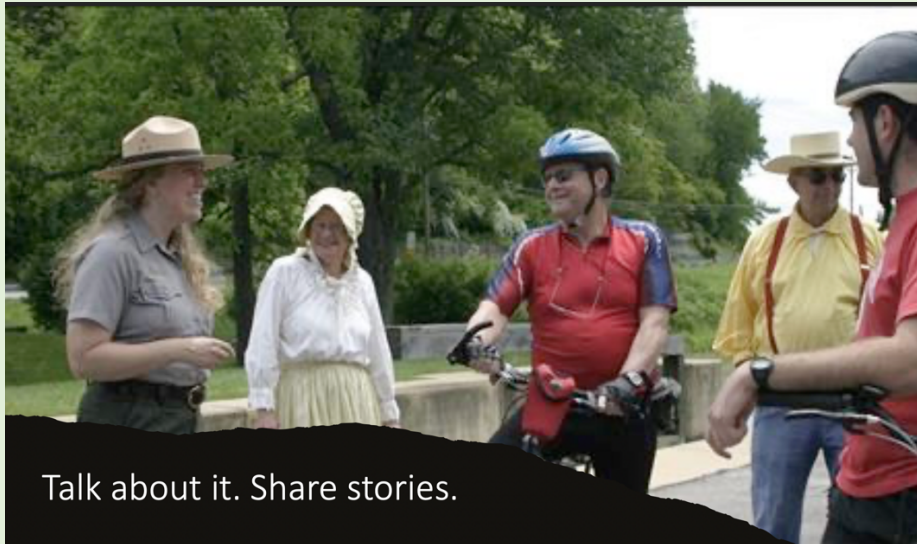
Recognize that we can all engage at different levels. Doing your own thing is great, taking a personal action such as flying less or eating less meat. Take it a step farther and share with a friend. Let them know what you are doing. Think about actions that may be able to have a bigger sphere of influence. Can you do something at your office or place of work? What is happening in your community or needs to happen in your community? Powerful site of action in terms of activating many people and seeing a response for yourself. Keep in mind the big picture too: large corporations, federal agencies/laws. All of these levels work together. Individual action alone will never succeed, nor will only federal laws. We need intersecting levels of engagement and involvement. That's why each of us can play a role, find a way to engage that utilizes our particular individual skill sets.

**Community level action/different levels — Individual power: social networks are key
This is a huge problem: find your way to engage. What is your skill set? How will you contribute?**

Leave you with the idea: we have done great things before, we have made huge changes. Simple, serious solvable. Examples: landing on the moon. Transitioning from whale oil. Plumbing. We are already seeing changes and impacts, we just need more.

Action happens in communities.

- Citizens
- Businesses
- Workplaces
- Government
- Local Agencies
- Individual
- Household
- City
- County
- State
- Nation



Talk about it. Share stories.



Simple.
Serious.
Solveable.

“We need our leaders to be
brave and their choices bold.”

*Morgan Freeman, United
Nations Video, 2015*