DR. ROBIN BRONEN: Hello. I'm Robin Bronen. I want to extend to Alaska my deep gratitude to the people and to Tom Kerns and Emily and Shelly and all the other folks who have made this possible.

I am currently in Geneva where I have just been attending the UN Framework Convention On Climate Change Task Force Meeting On Climate Displacement where the UNFCCC is trying to figure out how to avert, minimize or prevent the displacement of people caused by our climate crisis.

The displacement of people caused by climate change is going to be the greatest human rights challenge of our times and the indigenous peoples of Alaska are some of the first peoples in the world who are facing the excruciating choice of figuring out where they will be able to go because they are no longer -- many of the communities along the coasts of Alaska are no longer able to stay where they have lived for millennia because it is no longer safe.

So I'm going to start by talking about the climate crisis in the arctic and, hopefully, you have heard of the term polar amplification.
And what that means is that the arctic region of the world is warming two to three times faster than the rest of the planet. And in this slide I'm showing here these are maps from the National Oceanic & Atmospheric Administration in the United States and these are two maps that were taken last winter. So winter of 2016 and 2017.

And as you can see on these maps the red signifies increased temperature anomalies and I believe it's on the left side of the screen where you can see in November of 2016 the temperatures on that day were 45 degrees above normal and fine over Greenland.

And then if you look on the right side of the screen that map shows February of 2017, once again the hot spot [indiscernible] and thawing over Greenland where temperatures once again. And its ability to stay cold [indiscernible] permanent rise. These temperature anomalies on these two separate dates have continued.

So this past winters these temperatures of 45 degrees above the norm happened two to three times during the winter of 2017 to 2018. And between January first of this year and March 31st the temperatures reached above freezing over Greenland for 61 hours.

And it's important to remember that at that time of year the sun does not rise above the horizon.
So for 61 hours between January 1st and March 31st the temperatures rose above freezing when the sun was not rising above the horizon.

In Alaska the temperature increases have been dramatic. So during the year of 2016 you can see that in Barrow, now called Utqiagvik, the temperature was 7 degrees Fahrenheit above normal.

And it's important to remember when I'm talking about these temperature increases that the UN Framework Convention On Climate Change, the Paris Agreement, their aspirational hope in regard to temperature threshold are 1.5 degrees Celsius, which is about 3 degrees, to 4 degrees Fahrenheit.

And as you can see in Alaska during the year of 2016 we have already exceeded those temperature anomalies. And then this past winter we truly crossed a threshold where you can see that the temperatures at the northern most part of the state where Utqiagvik and Kotzebu are were 10 degrees Fahrenheit above normal, which is between 4 and 5 degrees Celsius above the norm.

This past winter it was raining along much of the coast of Alaska and these [indiscernible] and the temperature increased. And one of the most impacts is on the arctic sea ice extent.

For those of you who are concerned about the
warming of the planet I encourage you to look at what is happening with our arctic sea ice because we are radically losing the ice that normally covers the arctic ocean. And as you can see these decreases in arctic sea ice have been going on now.

There was a record low in 2007 and then again in 2012 and the during the last three years we have had record maximum number low extends. Meaning that in March when the -- when the arctic sea ice is at its maximum extent it has been the lowest ever recorded. Last year, in 2016 and then this year in 2017 was the second lowest.

And the loss of arctic sea ice has a tremendous impact on the communities that reside along the north -- the west coast of Alaska because arctic sea ice has been the natural barrier that has protected the communities from the storms that normally come in during the autumn and now winter season.

And these changes have an enormous impact on peoples human rights. And the ways that human rights are impacted are -- include everything from the right to life, to the right to be able to practice cultural traditions and the right to subsistence.

And so because of these dramatic impacts on indigenous communities in Alaska several of the

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communities have made the decision that the relocation of their entire community is the best way for them to adapt into the future.

And so these same human rights principles that are being violated because of our climate crisis we need to be embedding these human rights principles into the ability for communities to be able to determine how to adapt and to be able to maintain the life styles and their traditions, cultural traditions, that they hold dear and that are deeply connected to the land on which they live.

At the Alaskan Institute For Justice we are currently working with 15 Alaskan native communities who are faced with this really, really, difficult decision about how to adapt to these radical changes to the environment.

And as you can see from this map they are all coastal communities. And the communities of Kivalina and Shirshmaref are two of the communities in Alaska that made the decision to relocate well over a decade ago. And the enormous challenges, despite their tremendous advocacy to actually implement what they have determined to be their long term adaptation plan, has been extremely difficult. So while they made the decision back in the early 2000s to relocate they have
still not been able to relocate. And none of these communities that we're working with are connected by road systems to other parts of the state. So when storms come in on the coast they have no places to evacuate to and without that arctic sea ice the storms are having a dramatic impact on their communities with flooding and winds and the inundation that is caused by the storm surges.

So in looking at the way that climate crisis is impacting the ability or communities to stay where they are it's the combination of these extreme whether events that are happening with greater frequency.

So one of the things that we are doing at the Alaska Institute For Justice is we're working with these communities to document the impacts of the storms. And this past winter season between October of 2017 and February of 2018 there were 42 storms that impacted these communities and, again, without the arctic sea ice they experienced tremendous flooding and erosion which is causing the land on which they live to permanently disappear.

So it's the combination of the extreme weather events with the erosion and permafrost thawing that is causing the land on which their dwellings are to no longer be able to remain there.
So as I mentioned the storms this past winter were extremely severe and as you can see from these pictures there's open water. In Shishmaref where I just showed the map, which is close to the Arctic Circle, there is open water in January of this year which is extremely unusual. Normally there are multi feet of ice protecting the coast.

And on the left Weston Golovin in October you can see the extreme flooding that was caused by a storm that happened in October.

Again, in regard to what just happened this past winter these storms are causing tremendous impact in the communities. So the road that you can see on the screen that you're looking at is a road that goes to the landfill for the community and that's where the community puts their solid waste. And without access to that solid waste landfill it can cause a public health crisis because of their inability to dispose of their solid wastes in a safe manner.

The issue of the communities being eminently threatened by flooding and erosion has been well documented by federal and state government agencies for well over a decade. And as you can see these are some of the reports that have been written by the federal and states governments.
So back in 2003 the Government Accountability Office did their first assessment of flooding and erosion in Alaska native communities and at that time they determined that there were four communities that were seeking to relocate as their best long term adaptation strategy and about 184 communities were being threatened with flooding and erosion.

The US Government Accountability Office did an update of their report in 2009 because despite finding that the four communities at that time were seeking to relocate none of them had yet relocated. And when they updated the report in June 2009 the number of communities that were seeking to relocate had quadrupled from -- actually tripled from four to 12 communities were seeking to relocate.

Governor Palin, she created the subcabinet on climate change and the immediate action working group worked really hard for about 18 months trying to problem solve how state and federal government agencies could work to facilitate the relocation of communities to ensure that they had a long term adaptation strategy that would protect their human rights.

So it's really important for me to explain what I mean by planned relocation because it is
important to understand that this is a decision of last resort. That communities need to be protected in place that is made at the community level.

Meaning that it needs to be not only voluntary but it needs to be protecting the right to self-determination. And if there's anything that you remember from this presentation it is that the right to self-determination must be embedded in any decisions that are made in regard to where people are going to go as sea level rise consumes the coasts of millions of people all over the world.

The reason why the right to self-determination is so important is because we have a horrific legacy of government mandated relocations.

In Alaska the federal government forced the relocation of the Unangan people during World War 2. The Unangan people lived in the Aleutian chain in Alaska and western Alaska and they were forcibly relocated to the southeast part of the state. And as a consequence of that relocation 10% of the population died.

At the end of World War 2 the federal government brought Unangan people back to their homes and they found that the American soldiers, who had inhabited the island during the war, had looted and destroyed a lot of their possessions.
We also have current examples of government mandated relocations and it is when governments make the decisions to implement a development project where the government has made the decision that they want to, for instance, build a dam and as a consequence of that the people living where the dam will be are told that they need to move from the lands on which they're living.

And in that process people talk about participatory decision-making. And what has happened as a consequence of those forced relocations is that people have ties and the loss of their cultural connections. And that consequence has been almost uniform in regard to the relocations that have happened as a consequence of development projects.

So this right to self-determination is essential when we are talking about planned relocation but climate displacement and population displacement in general.

The other thing that is critically important in understanding this is that when I'm talking about planned relocation I'm talking about this as a disaster risk production strategy. And what I mean by that is in the context of the climate crisis we're going to be experiencing more frequent and more intense extreme weather events.
And what is critically important is that relocations occur while people are still living in the places that they call home. Because if people are displaced after an extreme weather event then they're no longer able to really fully implement their right to self-determination and be able to make all of the decisions necessary in regard to protecting their human rights in regard to livelihoods and how they want to maintain their cultural connection to land.

And, as I've said, their human rights, peoples human rights must be protected in this process.

So there are three major governance challenges. And at this meeting that I've just been attending at the UN Framework Convention On Climate Change Task Force On Climate Displacement, one of the things that I learned, which I knew but it was affirmed, is we have no models.

So there are no national policies anywhere in the world that tell us how to go about relocating an entire community as a result of our climate crisis.

And so in the United States that is one of the major issues. There is no government agency at a state or federal government level that has the mandate or funding to do a community wide relocation.
President Obama in 2015 to be the lead federal agency in Alaska to address the need for relocation to occur and for several Alaska native communities. And at the time that President Obama made that designation there was not additional funding attached to it.

So the Denali Commission has done extraordinary work with very limited resources. And with the recent congressional budget cycle the Denali Commission just got a substantial amount of funding which they are going to use to facilitate the relocation of one of the communities called Newtok that has been in a relocation process now for about 20 years.

And of all the communities that are facing relocation they are in the most dire situation because they are not only experiencing storm surges because they're close to the coast but the river they're next to is moving and swallowing the land on which a lot of homes are built.

The second issue, and this is actually the much more difficult and complicated issue and this is the issue that we are working with, the 15 Alaskan native communities that I've previously mentioned and trying to figure out. And so this issue is if we're going to make sure that we protect peoples human rights, that we're doing everything to support peoples right to
self-determination, and if relocations occur prior to 
population displacement then we need to figure out at 
what point in time should a community think that 
relocation is their best adaptation strategy.

And we have no models in regard to how to 
figure this out and this is one of the most critical 
issues that we are now focused on. And as I keep 
repeating it's how can human rights be protected in this 
process where we have no models or guidelines on how to 
do it.

So as I mentioned President Obama took a 
significant step when he released his reports on the 
Task Force Climate Preparedness And Resilience and 
acknowledged in that report that the -- it was critical 
for the federal government to take a leadership role in 
figuring out the complex challenges associated with 
climate related displacement because, unfortunately, 
Alaska is not the only place in the United States that 
is faced with this issue now.

There are communities in the Louisiana and 
Washington state, indigenous communities, that are also 
faced right now with this really, really difficult issue 
of trying to relocate their populations to safe and 
higher ground.

But it's not only indigenous communities. We
know from the research and work being done that cities
such as Miami and New York are also threatened by sea
level rise. And Miami, in particular, is particularly
vulnerable because the land on which that city rests is
porous. So sea walls are not going to be able to
protect the city from sea level rise because the ocean
is actually rising up from the ground.

And people are now -- agencies, government
agencies like the National Oceanic & Atmospheric
Administration in the United States is documenting what
they are calling Sunny Day Flooding, which is flooding
that is happening in cities along the east and south
coasts of the United States that are happening with high
tides. There are no storms that are occurring. It's
just regular high tides that are flooding the streets
and communities that are along the coast.

So President Obama's decision to recognize
that there was a significant institutional gap at the
federal level was a huge step forward. And the
unfortunate part of the change in administration is
despite his best efforts and the best efforts of his
administration they were not able to problem solve this
issue. And so we are still left with this huge
institutional gap in the United States as the climate
And so what I am now going to talk about are solutions. Because it is critically important that we start visioning how it is that we're going to protect people faced with this existential crisis of where to go as the land on which they live disappears.

And so I've come up with what I call an adaptive governance framework where you always start with protecting people in place. And the way that I think of protection in place and human rights is if we have the technology to protect places like lower Manhattan from the sea level rise that's coming. That that technology needs to be made available to the peoples who live in the atolls in the South Pacific and the Indian Ocean, the Marshall Islands and Tuvalu, because that is what climate justice means is giving the resources to those places so that people do not need to leave the places that they love and call home and that they're able to be protected in place.

So in this adaptive governance framework we always start with protection in place. And, unfortunately, also recognize that technology is not going to be able to protect us because we do not know how fast or how much sea level is going to rise.

And so the next piece in creating this adaptive governance framework is figuring out what the
indicators are that relocation needs to occur. And when we think about planned relocation and think about this as a long term process, meaning communities are not going to be able to be relocated in a year or two years if we're talking about protection of human rights and the right to self-determination so communities are leading the way and making all of the decisions, so we need to figure out what those relocation indicators are so that we can start a relocation process where communities are leading the effort and they have the technical assistance and support from state and federal government agencies.

So the way that we are working with the 15 Alaska native tribes to actually operationalize this adaptive governance framework and protect people's human rights and it all starts with community based environmental monitoring.

I would say that is the most important message and along with human rights protections that I can share with you. Because what we know from doing this work is that the modeling and scenario planning is not helpful. The modeling and scenario planning is at a really high resolution. And we're talking about the climate crisis and ecosystems specific responses to how like, for instance, sea level rise is going to effect
individual places.

   It's critically important that we have on the ground information about how that environmental change is happening and that link that with how that environmental change is impacting peoples health and well-being.

   The other reason why community based monitoring is critically important is that hazards or vulnerability [indiscernible] are by baseline data but what we've seen and the work that we've done is those hazard assessments or vulnerability assessments, they're often done by outside consultants who come into communities, do assessments and then leave and don't leave the community with any ability to actually continue to do the monitoring necessary to figure out how the hazards that are identified, the environmental change that's happening, is going to continue.

   And the third reason why this is critically important is what we know is the climate crisis is going to continue forever, right, for generations to come. And so we need to be thinking about processes that can be dynamic and ongoing and based in community empowerment.

So in doing this work in Alaska the way that we started was trying to identify where government or
non-governmental agencies were doing community based monitoring. And what we found was that there were very few government agencies doing, or non-governmental agencies, doing community based monitoring.

We've partnered with the Alaska Coastal Hazards Program because they have been installing community based erosion monitoring in different places in Alaska.

So last summer we went to five communities and installed erosion monitoring tools and the communities then are working with the Alaska Coastal Hazards Program to document the erosion that is happening so that they then can understand, along with state government agencies, the predictive rate of environmental change.

We are then identifying where communities can get access to technical assistance and funding. Because one of the issues is, as I mentioned, there are no government agencies designated that have the [indiscernible] 30 community relocations.

So we are looking at current federal and state government agency programs so that we can assess how those programs can change to be more responsive to the community needs as they're looking at relocation as their long term adaptation strategy.

So as I mentioned the community based TREMAINE & CLEMENS, INC. EUGENE, OREGON (541)343-8833
monitoring that we're doing is the essence of how we are implementing this adaptive governance framework and we're integrating indigenous acknowledge with western acknowledge and we are doing that not only with erosion monitoring but with the documentation of the storms that have been happening.

So when we documented these storms that have been occurring along the coast of Alaska we provide that information to the National Oceanic and Atmospheric Administration for (1) for that agency to understand the impacts of the storms on the communities and (2) for that agency to be able to provide better information to the communities in regard to the forecasting that is being done. So that they can provide more accurate forecasting so communities can be better prepared for the storms that are coming and that are causing such harm as they occur.

This next summer we are going out to two additional communities, to not only install erosion monitoring, but also permafrost thaw monitoring.

And from my understanding it's going to be the first time in Alaska where we're installing both of these community based environmental monitoring tools at the same time so that the community can get a holistic understanding of the environmental change that is
happening.

And then we're going to be working, again, with the Alaska Coastal Hazards Program. We're honored to partner with also the Woods Hole Research Center. For them they're going to be coming with us to install the permafrost thaw monitoring tools. And we're going to work with those agencies to figure out how to integrate this information so that there can be a holistic understanding of the predictive weight of environmental change so that communities can plan for their future and understand what their best long term adaptation strategy may be and, perhaps, relocation may be their decision as the best choice for how to protect themselves in to the future.

So I'm going to close by just affirming how important the arctic is to the rest of the world and that the arctic is in the middle of a massive transformation.

The National Oceanic and Atmospheric Administration issued a report last December. They do it annually and in December of 2017 they said that the frozen regions of the arctic that have existed for millennia will no longer exist in the decades ahead. And I'm sure you know that will not only have
arctic but on the entire planet and it is urgent,
urgent, that we reduce our greenhouse gas emissions,
stop fracking, stop new oil and gas exploration and then
also focus on adaptation because we're not mitigating
and we're not preparing for adaptation.

And so as a person who has lived in the arctic
for a very long time I'm very concerned that we are not
preparing for the future that is coming our way in the
not very distant future. And what I'm talking about is
not in the very distant future. I'm talking about five
to ten years.

So I really appreciate this opportunity to
share with you the work that we're doing in Alaska with
the Alaska native communities that have been at the
forefront of advocacy in the United States and
resilience because they inspire me every day with their
knowledge and perseverance and determination that they
will adapt as our climate continues to change.

Thank you.

I'm happy to answer questions about what I
I've shared.

DR. THOMAS KERNS: I have a question. This
is Tom.

Has your work been mostly with native

Has your work been mostly with native

Has your work been mostly with native

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Has your work been mostly with native
And have you done work up north on the North Slope or Prudhoe Bay too?

DR. ROBIN BRONEN: No. We're only working with the communities on the west coast of Alaska. So the communities that we're working with asked to work with us.

DR. THOMAS KERNS: Are you framing your arguments with, you know, your advocacy work in human rights terms?

DR. ROBIN BRONEN: Yes. It's absolutely critical that we are thinking about the enormous human rights violations that are occurring because people are no longer able to stay in the places that they call home.

And it's critical that we think about the human rights protections that need to be put into place and when thinking about where people will go.

DR. THOMAS KERNS: In the meeting that you've just been at in Geneva that's also about climate forced migration, I think, is that right?

DR. ROBIN BRONEN: Yes.

DR. THOMAS KERNS: And do they think in human rights terms also?

DR. ROBIN BRONEN: Yes, they do. You know, there are a number of NGOs who are present who are
advocating that human rights protections have to be front and center with this issue. And so, yes, there are human rights are being embedded in the conversation. The question is what the implementation will look like?

DR. THOMAS KERNS: Thank you.

DR. ROBIN BRONEN: You're welcome.

[youtube.com/watch?v=yAuMU_cIMHU&t=3s]