What is the Climate and Ecological Emergency?

Our video **'Heading for Extinction and What to Do About It'** explains the emergency (50mins). To watch, click here

(November 2022) with Bors Hulesch

Please see this page for support with climate grief and anxiety

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Transcript from earlier, shorter, version of this talk:

(August 2020) with Bors Hulesch and Sara Hudston

[Music]

Climate change is quite simply an existential threat for most life on the planet, including and especially the life of humankind.

[Music]

Hello. I'm Sarah Hudson and I'm a writer. I joined Extinction Rebellion in 2018 because i was so concerned about the destruction of the natural world. In March 2019, I trained as a speaker and I've been giving the talk *Heading for Extinction* in many places all across the South West.

Hello. My name is Bors. I originally trained as a social scientist and later on as a climate scientist. I've been a member of Extinction Rebellion since March last year and I've been a speaker since August last year. I have the great privilege to be one of the editors of this talk and I'm super excited to give you this short 30 minute version together with Sarah.

On this video, we'll talk more about Extinction Rebellion shortly but, for now, here's a very brief introduction.

We are a non-violent direct-action, civil-protest organization. We're everyday citizens looking for a solution to the climate and the ecological emergency. We have recognized the individual action is not going to be sufficient to tackle these crises. Therefore we must get governments, both national and international, to take decisive action on our behalf. They must support and protect us as they pledged to do when they came to power.

The world's most pressing problems are closely interlinked. At the heart of it all is power. Power, financial and governmental, is concentrated in the hands of a very small minority of humanity. Think political leaders. Think global corporations. Think financial institutions.

This concentration of power doesn't care about the damage it does to the earth. The concentration of power means that gross inequalities are perpetuated.

It's impossible to do justice to global justice in just one slide but here are some examples. People of colour are disproportionately affected by the adverse effects of climate change in the Global South and even within industrialized nations such as ours. People of color are dying of Covid at twice the rate of white people. People of colour are also disproportionately affected by air pollution, have lower life expectancy, have less access to education and suffer more police brutality.

Many movements are advocating for justice and for a more equal distribution of power and resources.

Extinction Rebellion stands with Black Lives Matter.

We also advocate for equal rights for everybody, including LGBTQ rights, refugee rights famine, water, stress or air pollution.

Our civilization is more fragile than we like to think. The Ccovid-19 pandemic shows how vulnerable even our big, strong technological society is. It gives us a timely clue what the much bigger and nastier monster of climate change would be like. Going back to business-as-usual is not an option.

Now, we have this lovely, wonderful, one-and-only planet which is reasonably habitable at the moment. But we are destroying it in many different ways. The two big ways that we're destroying it are climate destruction and ecological destruction. They're both very important for different reasons and I'm going to start by talking a little bit about how the climate is being destroyed.

Now, when we talk about climate, we mean weather systems, everything to do with the ocean currents, the temperatures both on the surface, in the air and in the oceans as well. We mean stuff like glaciers and how much they melt. All of that stuff is climate. When we talk about ecology and ecological destruction, we mean species. We talk about plants and animals as well as humans.

What you see on this slide has been very aptly named the hockey stick graph. It's a very famous chart and it has a long history, and it has been contentious in the past. The basic tenets of it are beyond reproach and beyond question now, and here's what this graph does. It maps out the carbon dioxide levels in the atmosphere for the past 2000 years.

The main thing that you're seeing is this nice flat line going across at about 280 parts per million, and that means that the carbon dioxide levels were pretty much even. Yes, there is some fluctuation but it's pretty much at that level. That carbon dioxide level gave us a very similarly level flat and clement climate during the past 2000 years.

I'll show you another squiggly line in a minute. There won't be any more squiggly lines, I promise, but just these two.

The carbon dioxide levels when the industrial age begins, they start to skyrocket. Why is that? Because we're burning fossil fuels, specifically coal oil and gas. once those fossil fuels begin to be burned in earnest, the carbon dioxide concentration in the atmosphere goes right up.

The other thing that we need to observe is the temperatures. The little squiggly line on the right hand side of the chart in blue is global temperature records. Now we've only got actual proper temperature records from from measurements of temperature since the year roughly 1850, so that's what we have.

You can see on the chart that the temperatures increasing up to 1.1 degrees above pre-industrial levels is very much trending together with the CO2 levels.

There has been a number of studies across decades which have tried to see if there's any other correlation that's worth looking at or worth mentioning in terms of the increases of temperature.

So, solar activities - the wobble of the Earth, the Milankovic cycle, all sorts of stuff - and, yes, these things exist. But actually, they have been all excluded from the temperature rise that we are observing on global average temperatures today.

Now why is this important? Because this is the curve that we have an influence over. We can't influence global cycles and solar cycles, but we can influence carbon dioxide emissions in the atmosphere. And it is beyond proof now that if we can bring down those carbon dioxide levels then we will also be helping the temperatures not to rise any further. And, in the very long run, also to come down again.

This is my other squiggly line, and the last one in this deck. What this line shows you is global average temperatures across the last five million years. As I've mentioned before, you have actual records only for the past 170 years or so. But, before that, you have reconstructions, and the reconstructions are based on a great deal of different science. And, I have to say, this squiggly line here represents much more science than getting to the Moon. There's just incredible amounts of thousands of man-years' worth of climate science in this line.

The closer you come to the present day, the more accurate the line gets. But, even as far back as 5 million years, it is pretty accurate.

I'll talk you through the straight lines. First, you've got the green straight line coming across the middle. That's the zero, the pre-industrial average temperature on the surface of the planet. You've got a two degree line above it, which is two degrees above that pre-industrial average. We're kind of halfway in between those two right now.

And then there's a four degree line as well on top of that. And, if you look at the squiggly line, you can see that the last time it was at least two degrees warmer than the pre-industrial average is 130,000 years ago. And the last time it was at least four degrees warmer than the pre-industrial average was about 4-5 million years ago.

Now, why is this important? That's because human civilization has only existed in the last 10,000 (arguably 20,000) years, and we have not got any idea of whether human civilization is able to exist in this two degree world because we haven't tried it.

The human species evolved about two million years ago so, again, we have no idea whether the human species is able to exist in a plus four degree world. This is the big experiment, and if we screw up, there is no way of going back.

Now we need to understand that climate change is not something that's into the distant future. 30 years or 50 years from now, it is happening. It has been happening, and the effects are already noticeable today. We are now at 1.1 degrees Celsius increase in global average temperatures, which actually on land is even greater. And actually, a large proportion of the human race is currently even living under conditions of 1.5 or more!

But the point is that climate change is now. It's not sometime in the future. And some of the most important impacts of climate change have to do with not enough water and too much water and, of course, heat.

So, the four examples we have on this slide:

- the first one is about drought: not enough water, which leads to crop failure, it leads to to people and animals dying as well. The other one is wildfires, so we know about Siberia, Australia, California - we also have wildfires on on these shores, and the greatest wildfire seasons in known in history in the UK.
- on the other hand, we have floods on seashores as well as floods inland when there is a river, and we have sea ice melt and sea level rise. Now, sea-level rise is not just about the sea ice, because sea ice is roughly already 90 percent inside the water so it doesn't cause that much sea level rise. But ice sheets that are sat on top of land such as in Antarctica and in Greenland, if they fall into the water, they can have a tendency to give rise to a great deal of sea level rise. Also, thermal expansion of the water as it heats up.

And we talked about 1.1 degrees, which is what we have today, but what happens by mid-century and by the end of the century?

Well, a lot depends on what we do as a species: what kind of decisions we make, how we cut carbon emissions. But, on the current trajectory, even if we agree to uphold the climate agreement of Paris 2015, we're on course for something like three degrees of warming by the end of the century.

We're not on track to meet those targets so, right now, the thinking is anywhere between four and five degrees of warming globally on average by the end of the century and two degrees by mid-century.

Now the Paris Agreement says that we should be staying below two degrees but we're not actually doing so at the moment, so let's have a look at what might that mean for the planet and for us as a species.

World hunger has been on the decline for years and, for the first time, it is going up again. Extreme weather events are going to increase in frequency and intensity and devastation, both in terms of human sacrifice, human cost but also financially.

So there is an estimation that, by 2050, you're going to look at a trillion dollars worth of coastal damage every single year, until there's nothing left on the coasts.

The next thing is water shortage and there is already quite a lot of water shortage but, in just five years' time, about four billion people are going to be looking at being short of water. That doesn't mean they don't get any water but that there's a water stress going on. And, by mid-century, you could be looking at a billion people having severe shortage of water.

When these kinds of events occur, you're going to see displacement of people because people would rather move than die. And that's pretty understandable! By mid-century, the projections are (and this is part of my dissertation by the way) somewhere between 200 million to a billion people might need to move. And that kind of displacement is completely unprecedented in the history of this planet.

Every year is so important. Every year you leave it, the later you leave it, the worse it gets. The later you leave it, the more difficult it gets to climb down from the carbon dioxide levels in the atmosphere.

If we had started earlier, and we've known for a while that we need to do this, then the curve would have been a much more pleasant one, maybe a reduction of 3%, 4% or 5% year on year. Now, it's more like 10-15% year on year. And, if you look at what happened with Covid-19 this year, typically in an average year you get a 3% increase in carbon dioxide emissions and this year, we have projected to some something like 4 or 5 percentage points reduction! So, when you add the 3% and the 5%, you get something like 8% reduction in carbon emissions.

If you consider how many cars have stopped, how many flights have stopped, and yet we've only achieved 8% reduction in our global emissions. You can see the scale of the problem! Even that, even Covid-19 has failed to achieve just one year of required reductions.

In order for us to get to net zero, we need to pull our fingers out and do something radically different to what we're doing today. I'm going to finish here as regards the climate emergency, and I'll let Sarah explain a little bit about the ecological emergency.

In addition to the climate, there is also a crisis in the biosphere, the ecology, the web of living beings that sustains us all. Humans depend on a healthy natural environment for our well-being and our survival. In 2019, a hard-hitting international report backed by the United Nations had these things to say about the impact of humans on the planet:

- Nature is declining globally at rates unprecedented in human history, and the rate of species extinction is accelerating.
- Around a quarter of species are already threatened with extinction.
- Species are being destroyed at rates at least 10 to 100 times higher than the background.
- Average extinction rate over the last 10 million years - humans affect three-quarters of land, two-thirds of the oceans, three-quarters of fresh water, leaving little room for anything else.
- 85% of wetlands have been destroyed.

The chair of the organization that produced that report said: "we are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide."

A mass extinction of species is already under way. There have been five previous mass extinctions in the Earth's history. The last one was 66 million years ago. The current one is caused by exploding human consumption, not natural events.

What's more, we humans know that it's happening and why. That's why it's better called an extermination. Today, by biomass, the mammals of the world are represented like this: 60% livestock, 36% humans and only 4% wild.

So what do we need to do? Well, we need to do everything! We need to do all sorts of things, but there is one specific, particular thing that if we don't do we are definitely going to fail. This is the dragon that we need to slay.

In very short, it is CO2. We need to reduce carbon emissions. We need to reduce CO2 levels rapidly, completely and for ever. There's no way around it. If we fail to do this, we will have failed.

All the other things that we could be doing and we should be doing are insufficient if we haven't reduced CO2 emissions. Individual, personal action will fail. The only way to do this is through international organizations, international corporations, national governments.

Now, if you ask the UK Government what it has done in the past on CO2, it will be more than happy to tell you that they have reduced from 1990 levels the CO2 emissions of the country by 40%. And, in their accounting, that might be true. But we know that, when you add aviation and shipping as well as all the goods that we no longer manufacture here but somewhere else and we're importing and using them here - if you add those three things up, actually the UK carbon emission levels have stayed pretty much level. Not a lot has changed.

We've tried a number of different things. There are international treaties such as the Climate Agreement in Paris 2015. We did also have the Kyoto Protocol in 1995. Governments have done climate change legislation, such as the Climate Change Act of 2008 in the UK. We are also litigating governments - there's thousands of lawsuits going on in many different countries about that. We have our personal commitments. We have our activist organizations such as Friends of the Earth, WWF, Greenpeace. And, all of those things put together, what have they achieved? All you need to do is look at this graph. If there is a tailing off and dropping off then they're right. If there isn't then we're not making progress.

This is your check. Check this graph.

The rules that govern us today have got us to this place, and we know that when those rules don't work for us, they need to be broken. Breaking the rules has a noble and long-ranging tradition. Some examples include:

- Gandhi, who broke the rules in order to stop colonial power in India;
- Rosa Parks, who famously refused to give up her seat to a white man on a bus and and triggered the civil rights movement in the US;
- and then Martin Luther King Jr, who led the movement and brought millions of people out onto the streets and to force these changes to discriminatory laws.

You may have noticed also that Governments and people in power prefer not to hand out rights to the population without some degree of pressure. You can think about voting rights, women's suffrage, gay rights, discrimination, racial and otherwise. You can think about the Velvet Revolution in 1989 in Eastern Europe, where I come from. And you can think about apartheid.

So there's always some kind of pressure from grassroots, from down below, that pushed these governments to make the changes that were required. The people that put this pressure on at the time were considered criminals, perhaps, or bad actors. But now they're considered heroes in the name of a righteous cause

Civil resistance, otherwise called non-violent direct action and non-violence, is really a crucial part of this. We call it Non-Violent Direct Action within Extinction Rebellion. It is when otherwise peaceful law-abiding citizens like you and me go on to break the law and put themselves in the way of the government in order to achieve an objective.

A regime that refuses to change needs to be changed, either by getting them to do the things we want them to do or by removing the regime. Altogether, the main strategy and the main tactics of Extinction Rebellion is through actions.

So we are on the streets. We are taking actions - disruption which causes both the government to take notice but also the general population and the media to take notice. Sarah will tell you a little bit about what an action can look like and why arrest is an important part of the actions that we take.

In order to be able to carry out disruptive actions and create dilemmas for the authorities, we need people who are willing to do things that risk being arrested. Arrest itself is also a form of disruption, as it uses police resources and court time. We have found that our court cases have created thousands of opportunities to present the issues to the judiciary and reach one part of the establishment. However, for every person who is what we call an 'arrestable' - that is, somebody who is willing to put themselves in a position where they may be arrested - there are more than 20 other people who are part of the movement, who support them. And they help the movement in other ways.

We have artists, writers, samba band musicians, cooks, organizers - the list goes on and on. Joining Extinction Rebellion doesn't mean that you have to get arrested. You don't! There are so many

other ways you can help, and we need you whether you have an hour a week or are able even to give up your job to work full-time for the movement!

I particularly want to draw your attention to our top tasks, as these are part of our mass-mobilization strategy. These are:

- leafleting and stalls;
- phone banking;
- door knocking;
- giving this talk;
- and house meetings.

If you can do any of these things, you can help grow the movement as fast as possible.

Civil disobedience works best when it's a mass movement, one which is broad and diverse. We want to have one million people actively involved.

"I do feel that there are two types of laws. One is a just law, and one is an unjust law. I think we all have moral obligations to obey just laws. On the other hand, I think we have moral obligations to disobey unjust laws because non-cooperation with evil is as much a moral obligation as is cooperation with good. I think the distinction here is that, when one breaks the law the conscience tells him is unjust, he must do it openly, he must do it cheerfully, he must do it lovingly, he must do it civilly not uncivilly, and he must do it with a willingness to accept the penalty. And any man who breaks the law that conscience tells him is unjust and willingly accepts the penalty by staying in jail in order to arouse the conscience of the community on the injustice of the law. is at that moment expressing the very highest respect for law."

We have three big, clear demands. The first of these is that government and the media tell the truth about the situation that we're in. We need to make sure that everybody understands the basic science behind our situation. We want good, clear information about this, not like the lies and the confusion that we've seen from some governments over the coronavirus pandemic!

The second demand is for the government to set a legally binding target to reduce greenhouse gas emissions to net zero by 2025.

The third demand is for a citizens' assembly to decide how to address these issues. Their recommendations must be legally binding. They will be commissioned and funded by the Government, but independently organized and run. XR will not be involved in the running or the setup of the assembly. The aim is to strengthen democracy, so independence is absolutely key. So the Citizens' Assembly brings together a randomly selected group of citizens, and they're brought together and, over a period of time, they're facilitated to learn to deliberate and to come to decisions and recommendations.

What's really important about citizens' assemblies is that they aren't run by directly by government. Government may give them a task, it may sponsor the assembly, but the assembly is organized by an independent, trusted organization, typically a civil-society organization, and the facilitators working in that citizens' assembly are independent.

You don't need permission to get involved with XR. You can visit the website for all sorts of information. You can read about our demands, our values, our events, our groups. You can also sign up for the UK newsletter.

I want to leave you with two key takeaways from this talk. The first of these is: do not think for a minute that your own personal commitments to the environment are going to be enough, not on their own. They're not. We need to put pressure on governments together.

The second thing i want you to remember from this talk if you remember nothing else: do not believe for a second that we and XR have got your back, and that you can sit back and relax and let us go and take action on your behalf. We need more people. We need you. Your planet needs you. Life itself needs you!

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