So what's happening right now?

Right now, Earth's climate is getting warmer. On average, the world is 1°C hotter than it was 170 years ago (though some places have warmed even more). This change might sound tiny, but it's already had a big effect.

All over the world, ice that used to be permanent is melting. This is contributing to a rise in sea levels.

In the 1990s, Greenland was losing more than 30 billion tons of ice each year. But in the last decade it has been losing ice almost *8 times* faster.

CRISIS!

Some natural disasters, such as wildfires, are more severe and last longer.

Reporting live from California, USA, where over 18,000 buildings have burned down in the recent fires.

CRISIS!

CRISIS!

The particular place where an animal lives is known as its **habitat**. Climate change and the actions of people are harming many habitats. Some habitats are even disappearing.

If all the trees we nest in die, we'll die too.

CRISIS!

Some extreme weather events, such as heat waves and floods, are becoming more severe.

My town in Bangladesh was washed away.

Sea levels are 20cm (8 inches) higher than in 1880, and now rising at nearly 4mm (0.15 inches) per year.

The sea around the island we live on is rising. Soon we may not be able to live here anymore.

CRISIS!

CRISIS!

The oceans are absorbing *extra* CO_2. This is making them more acidic.

All sorts of marine life can't handle these conditions.

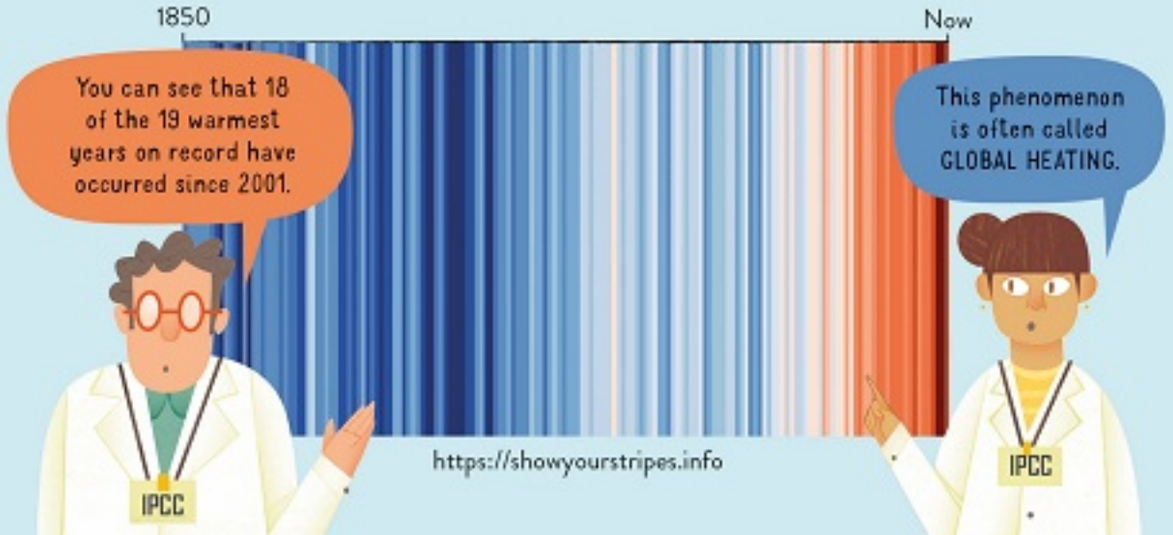
CRISIS!

Less rain is falling in some places, which means supplies of fresh water are drying up. This is known as a **drought**. It makes it much harder to grow crops and find water to drink.

The rain we rely on didn't come this year.

How do we know it's getting hotter?

Scientists have calculated world temperatures going back 170 years. Their data shows that the average temperature on Earth varies a little each year. Here's a chart showing a stripe for every one of those 170 years. Blue stripes are colder than the average. Red stripes are warmer. The darker the red, the hotter the year.



Bright lights, green city

By 2050, experts predict that 70% of the world's population will live in busy, bustling cities. To limit global temperature rise to 1.5°C, cities will have to emit much less and absorb much more.

So, what should future cities do differently?

Emitting less

Big changes to how cities are organized and powered can massively cut emissions.

Buildings can be built or renovated to use much less energy.

My region is powered entirely by WIND.

Pale paint has a high albedo. I'm painting my building white so that it reflects more heat. It'll stay cooler inside and we'll use our air conditioner loads less!

New rules can change how people behave.

No cars in the central zone, Ma'am!

Absorbing more

Plants can grow almost anywhere. The more there are, the more CO_2 gets absorbed.

Parks and green spaces

Ahhh, fresh air!

Tree-lined streets

Green roofs

Vertical gardens

Adapting

As well as *mitigating* the effects of the crisis, many cities will have to *adapt* to new living conditions. Exactly *how* cities adapt will differ from place to place, depending on how their local climates change.

The way a city is built may have to be reorganized.

Half of the wells that supply our water have dried up completely.

The city government had to build a pipeline to a river hundreds of miles away.

And we now collect water in the rainy season and store it in a reservoir for the dry season.

The way people go about their day-to-day lives may have to change.

Don't water the flowers – we're nearly at our daily water limit!

Come back inside! You'll fry out there!

From a giant flood wall in Rotterdam, Netherlands, that's controlled by a supercomputer, to rules in New Delhi, India, that mean people can only use their car every other day – cities, towns and villages all around the world are already beginning to adapt. Have you noticed adaptations where you live?

Getting the job done

To limit warming to 1.5°C, our society needs to be carbon neutral by 2050. We'll have to change how we power things, grow food, move around and more – and it'll need to happen FAST. How can we make it happen?

It's a HUGE challenge, but we won't need amazing superpowers to overcome it. In fact, all we'll really need is regular, everyday, human powers – skills that anyone can use...

All those skills are essential to create treaties, plans and actions that WORK. According to the IPCC, change is particularly crucial in three areas – technology, money and how we behave – to stand a chance of meeting the 1.5°C target.

Technology

We need to make it possible for technology to advance quickly enough. It also had to be cheap and available everywhere it's needed.

Money

We need to invest much, much more in technologies, ideas and programs that keep emissions low.

How we behave

Governments only have so much power over how people behave. We need to work out how to get people to change their lifestyles *willingly*.

There are many things we *need* to do, and even more ways we could *choose* to do them. The thing to keep in mind, is that it CAN be done. But will it?