**Chapter IV.**

# Course 01. Global Warming vs. Climate Change

In this Course, we're going to look at the differences between the phrases global warming, and climate change, and then talk about the relationship between them.

Okay, let's start by talking about the phrase, climate change. People often confuse climate with weather.

**Weather** means the state of the atmosphere at one specific time, meaning today, yesterday, or tomorrow. It can vary or change from one day to the next, or  even between the morning, and the afternoon. So we might say, the weather was sunny yesterday, or the weather is going to be windy later on today.

On the other hand, **climate** means the weather conditions in an area or region, over a long period. Years, decades, or centuries, or millennia, meaning thousands of years.  So when we say, the climate in the Middle East is hot and dry, we do not just mean today or tomorrow, we mean all the time, and for a long time in the past.  So ***climate change is a long term change, to the weather in an area, or a region.***

When we usually talk about climate change, we mean the changes that have  happened because of increased amounts of *carbon dioxide* in the atmosphere.  This increase in carbon dioxide is a direct result of the increase in the use of fossil fuels, such as coal or oil. That brings us to the difference between global warming and climate change.  Sometimes, especially in the media, these two terms are used interchangeably, meaning that you can use either one, because they both mean the same thing. But that is not true.  They are connected, but they mean different things.

***Global warming means the long term increase in the temperature of the Earth***. You read earlier (**Chapter III**) that more of the heat of the sun is being trapped by a layer of green house gases. And because that heat cannot escape, the Earth is becoming warmer.

***Climate change refers to the long-term changes in climates in different regions of the world***. These changes could be warming.  But they might also be cooling or other changes such as more energetic or extreme weather like snowstorms or hurricanes.

Climate change can also refer to rising sea levels which are dangerous for  people living on the coast. There is clearly a relationship between these two terms. As we said earlier, global warming is causing climate change,  so there is a cause and effect relationship.

Global warming was the first term that people used to describe what was going on. But this term is too narrow to describe the complete effects.  So climate change is used more often now because it better represents what is actually going on.

So in this course, we defined climate change, and looked at the differences between global warming and climate change. Next, you're going to read a text that has a lot more information about climate change.