

Climate Detectives school project 2018-2019 – Scientist feedback

Team name: Climate negotiators

Country: Romania

Age: 12-13



Scientist

Hiya, my name is Dr Natalie Douglas and I am a mathematician. I am a Teaching and Research Fellow at the University of Surrey in England and I am currently funded by the National Centre for Earth Observation to conduct some research in data assimilation that has implications in Climate Change.

In our project we will investigate...

Describe here the climate problem/issue that you want to investigate.

Scientist feedback

hurricanes in Romania, causes and consequences. We start the investigation with the hurricane from Florent (Satu Mare County), the most powerful hurricane in Romania, F3 grade on Fujita scale, happened in August 13, 2003, with a wind speed of 202 - 230 km/h. The effects of this hurricane in the area of Florent during 2 minutes were: 18 completely destroyed houses, 99 partially destroyed houses, 14 seriously injured persons, 2 dead people, 1,000 people affected, a 120 ha estate forest destroyed by breaking the trees to about 1 m from the surface of the soil. We think that global warming and CO2 emissions may be the cause of hurricanes in Romania. That's why we will analyze the level of global warming in our area.

Great! This is a very interesting and potentially upsetting project. Having said that, upsetting is not always a bad thing as it can have the greatest impact – to get people's attention. Read on for some more information and suggestions for your project. Good luck!

Some wider context

The Intergovernmental Panel on Climate Change (IPCC) is an intergovernmental body of the United Nations dedicated to providing objective reports on climate change, based on scientific evidence, and its associated political and economical impacts.

According to the IPCC our global climate is approximately 1°C warmer than pre-industrial (late 1800s) temperatures. It is important to understand that climate change is not a new thing and that climate variability is as old as our planet itself – the historical climate of our planet is known as palaeoclimate. However, as the IPCC states, the relatively recent sharp increase is attributed to increases in greenhouse gases caused by anthropogenic activity (human activity).

By global warming, we mean the increase in the global average of surface temperatures. The IPCC have concluded that the increase in global temperatures is caused by the increase in greenhouse gases, such as carbon dioxide and methane, in the atmosphere as a result of the burning of fossil fuels. Climate change denies facts to be those people that question whether climate change is caused by anthropogenic activity rather than denying that the climate is actually changing.

The Paris Agreement, signed by many countries all over the world, is an agreement to work together to mitigate greenhouse gas emissions and take action in the year 2020. The main goal of the agreement is to keep global warming below 2°C above pre-industrial levels, with an aim to keep it as low as 1.5°C as this will substantially reduce the drastic risks and effects of the 2°C change. Although the exact effects of climate change are difficult to quantify, there are mathematics models that are able to simulate it and quantify its impacts. The impacts of climate change, if they are not mitigated, are potentially catastrophic. Heatwaves will increase in frequency, declines in river flows will affect fresh water resources in some areas, increased rainfall will cause flooding in others as well vulnerability to food insecurity and many other natural disasters. Even though the effects are much less drastic at the 1.5°C level, some scientists argue that there are tipping points in global temperature beyond which damage to our planet becomes irreversible.