

SCAREMONGERING OR REALITY

By Darren Jordan – 13/09/2015

For centuries, global warming and climate change has been a pinnacle discussion for environment ministers and top politicians across the globe. For years, scientists has warned the public about the dramatic effects of increased pollution caused by traffic congestion and pollutants pillowing from our factories and the effect this has on a wider scale - the smog in China which increases the chance of lung cancer and other breathing conditions, or the destruction of icebergs in the Artic and Antartic due to the world heating up which is killing the wildlife i.e. Polar Bears. There is now new evidence to suggest that nature itself – this going by the geographical forces of volcanoes, has its own impact on climate change. The question is, is climate change an inevitable factor which cannot be fixed, or is it a tale of scaremongering from the experts?

Volcanoes, (formed when magma from the upper mantle heads to the surface, causing the land to rise) are one of nature's finest spectacles, but there is a more superior form of volcano – a super volcano i.e. Yellowstone National Park. This means they are a series of separate eruptions which then converge into one mega eruption. With this, climate change can be affected as a result. Luckily in the United Kingdom, all the volcanoes are extinct and therefore have no chance of erupting, but they are a few out there which have had potent and adverse effects on the environment.

In the last two million years, Yellowstone has had three immense eruptions; the most powerful releasing a staggering 2,500 cubic km of magma in comparison to modern-day Krakatoa only releasing 12 cubic km. According to Professor Robert B Smith in *Windows into the Earth*, if Yellowstone was to erupt like it did in the past, it could release two million tonnes of sulphuric acid: creating a nuclear winter, blocking out sunlight and causing worldwide famines. This would result in violent 8-10 magnitude earthquakes, before the huge blast would wipe Yellowstone off the face of the Earth. Scientists estimate that 87,000 people would die instantly. With 317 million people in America alone and 7.1 billion globally such an eruption would be unimaginable. Although there is no active volcanoes in the UK, Britain would feel the effects of an eruption of Yellowstone if America was destroyed as a result of a super eruption, especially in terms of imports and exports; literally the entire world would be affected in one way or another. For example: communications would go down, delays would increase and fear would override people. Imports and exports would be brought to a standstill with the need for food and supplies becoming more desperate by the minute. With America being a global power, its supremacy would be obliterated and the effect on the worldwide economy and environment would be so severe that there would be global ramifications for generations to come.

However, Gerlach.M.T (1991, American Geophysical Union), said that human activities annually contribute more CO₂ to the atmosphere than volcanoes by 150 times. For example, the worst air pollution is in China, where over 4,000 people die a day. Air pollution contributes to “1.6 million deaths a year or roughly 17 percent of all deaths in China” (Muller.R, 2015, Berkeley Earth), which is mainly caused by the immense traffic congestion. But due to the unlikelihood of super eruptions, the pollution they cause is not taken into consideration as there has not been any since 1815, and technology had not been advanced enough for reliable research. However, since we are now in the 21st century, scientists can now relieve the past and find information which can be useful in predicting future eruptions or helping halt the change of climate.

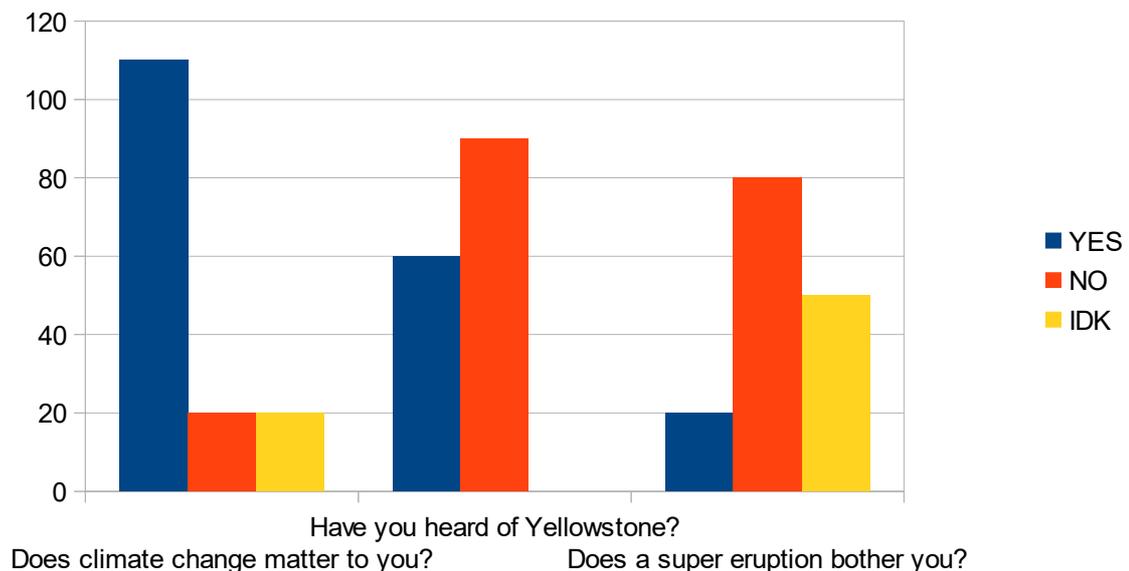
But to scientists, Yellowstone is of significant importance and has been included in various documentaries, television shows and films. For example, it was included in the apocalyptic film '2012' which sees Yellowstone erupt as the Earth's crust begins to heat up, leaving the majority of the US – uninhabitable. Therefore despite the unlikelihood, people should at least be aware of these potential threats and understand the consequences of such destruction.

In 1815, Mount Tambora, off the coast of Indonesia, erupted so violently that it was the largest eruption of the last ten thousand years. A blast so substantial, that it was 1200 times more powerful than the 2004 Indonesian earthquake and releasing the same amount of energy as ¼ of the world uses annually. Over 70,000 people were killed, although this number could of reached millions as the effects of the eruption took centre stage. Europe was hit the hardest, with records showing snowfall in the summer months – leaving the robust crops to survive and destroying everything else. As a result, farmers were forced to slaughter their own animals as a means of surviving. As hunger grew, soup kitchens were introduced to try and release the pressure, however shipping lanes were severely disrupted as the ice migrated from one area to the next.

After looking at secondary research, I decided to undertake some primary research to see whether people were aware of such things so I asked 150 people in the local area three questions:

- Does climate change matter to you?
- Have you heard of Yellowstone?
- Does a super eruption bother you?

The graph below shows the results:



The results showed that climate change is a key matter to the people interviewed as around 110 of the 150 people said yes. However, when it came to talking about Yellowstone and a super eruption, the majority were either completely unaware or don't care. Personally, I believe this covers a majority opinion in Britain and in Europe. But I

feel that if the survey had been undertaken in America, then the results would certainly have been different considering Yellowstone is in Western America.

In conclusion, climate change is preventable as a majority is caused by man-made factors, but in saying that, mother nature will run its course and therefore to an extent, climate change is inevitable. Moreover, nobody in modern times has ever seen a monumental eruption in terms of proportion and size. Professor Robert B Smith states that a super eruptions devastation “would be complete and incomprehensible” therefore it is difficult to predict the devastation that would follow. Overall I believe everyone should do more to reduce pollution and to stop any man-made climate change from happening to preserve our world and our wildlife which is facing the brunt of the effects. To prolong the planets existence and avoid another preventable extinction which has the possibility of happening if we do not change our ways of living. However someday, no matter what humanity or technology does, a super volcano or Yellowstone National Park will release its fury. I just hope mankind is not in the position to experience mother natures wrath, but if the past is anything to go by, a global disaster never seen by modern-day man may one day be seen in future.

References:

Dominquez.G., {17/08/2015), *How smog is killing thousands daily in China*, [Online], available at: <http://www.dw.com/en/how-smog-is-killing-thousands-daily-in-china/a-18653814>, [Accessed: 13/09/2015].

Geology.sdsu.edu., (N.D), *How Volcanoes Work - volcano climate effects* [Online], available at: http://www.geology.sdsu.edu/how_volcanoes_work/climate_effects.html, [Accessed: 13/09/2015].

Klemetti.E., (10/04/15), *Tambora 1815: Just How Big Was The Eruption?* [Online], available at: <http://www.wired.com/2015/04/tambora-1815-just-big-eruption/> , [Accessed: 13/09/2015].

Sealy.A., (30/8/2012), *How a supervolcano can threaten Earth*, [Online], available at: <http://edition.cnn.com/2012/08/30/us/wus-supervolcanoes-yellowstone/>, [Accessed: 13/09/2015].