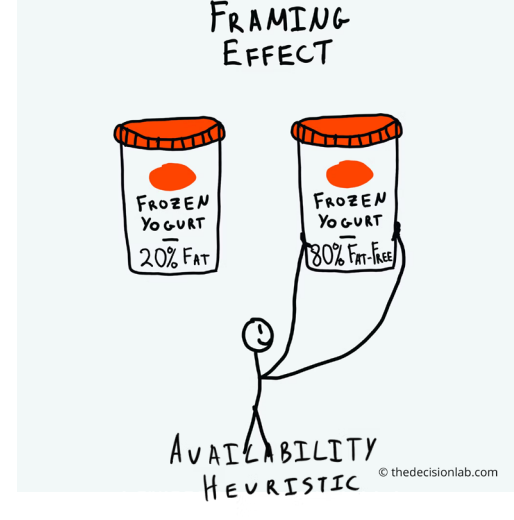
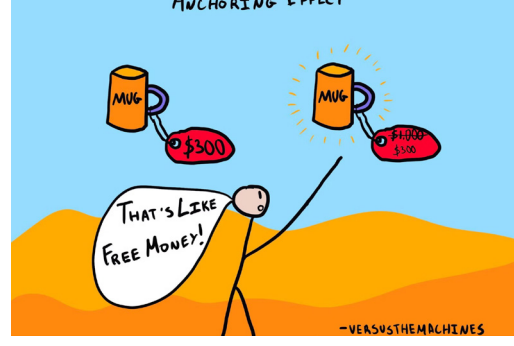




## Climate Change: What it Means for an Average Citizen

Every year, humanity continues to pollute its natural environment through burning fossil fuels, cutting down rainforests and producing unnecessary amounts of goods. In spite of clear scientific research backed up by experts of such fields of study as climatology,<sup>1</sup> meteorology<sup>2</sup> and ecology<sup>3</sup>, there are still outrageous amounts of climate change deniers roaming the internet including but not limited to such websites as Facebook and Twitter, who continue to spread misinformation in the form of 'pseudoscience' which claims such a thing as global warming is either enormously oversaturated or fake as a whole. This is done due to multiple reasons including many forms of cognitive bias such as anchoring<sup>4</sup>, framing<sup>5</sup> or availability<sup>6</sup> of information, which influences the way in which a person perceives the reality around them, making them more lenient towards those viewpoints which resemble their own experiences and thus seem the most factual.

As easy as it is to use such psychological tricks in order to make a person believe what is actually false, they can also be utilised in order to prove to those who are of anti-climate change beliefs or are uncertain in their views, what is the actual situation on our planet. Thus, one way of showing how global warming affects our everyday life, is through mentioning statistics and current events happening in our general vicinity, including those right at our doorstep in Marbella, as well as going to the other side of Europe where its effects are just as noticeable, only through different means.



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<sup>1</sup> The scientific study of the atmosphere and weather patterns over a time span.

<sup>2</sup> The scientific study of the weather, mainly focused on forecasting

<sup>3</sup> The scientific study of the relationships between living organisms and their environment

<sup>4</sup> The use of irrelevant information as a reference point when making decisions about the mentioned topic

<sup>5</sup> The way in which certain information is presented which further impacts its receivers

<sup>6</sup> The tendency to base one's opinion on the information readily available at hand without taking in the bigger picture

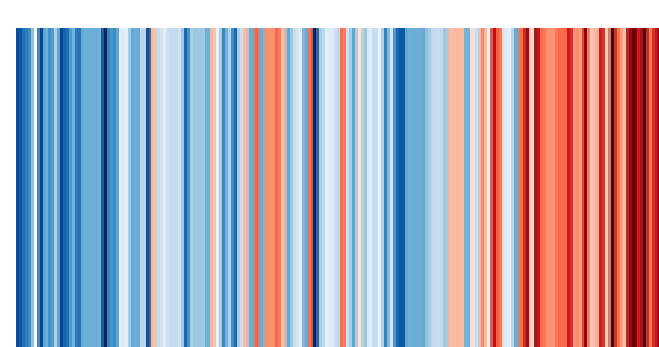
<sup>7</sup> <https://thedecisionlab.com/biases/anchoring-bias>

<sup>8</sup> <https://thedecisionlab.com/biases/framing-effect>

<sup>9</sup> <https://thedecisionlab.com/biases/availability-heuristic>

### Higher Average Temperatures

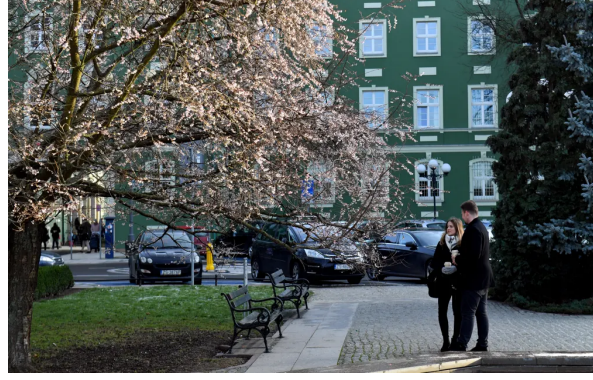
As proven by multiple researchers<sup>1</sup>, the leading effect of global warming is the overall increase in temperature on Earth. It has been especially noticeable during the last decade, as it has been the warmest on record since the 1980's, as recognised by the United Nations themselves.<sup>2</sup>



Spanish warming stripes. A minimalist visual portrait of long-term temperature trends<sup>3</sup>

In the case of Spain, this means the average temperature has risen by 1.5 degrees Celsius across the board in the last 50 years, as well as the amount of heatwaves doubling, which lead to more frequent yellow heat alerts during the summer of 2022. In the future, their length is also expected to double. The ever increasing temperature not only makes work and relaxation outdoors all the more difficult, but also starts to become a health hazard, as the UV index<sup>4</sup> in Marbella and its general vicinity is immensely high during its long summer days<sup>5</sup>. The many negative effects caused by excess exposure to intense UV radiation include but are not limited to: sunburns, eye damage, skin aging and skin cancer. Furthermore, intense heat waves are no longer solely restricted to the sunny Mediterranean coast, but lately also hit countries such as the Netherlands, which have experienced its hottest summer days since the 1930's topping off at 38 degrees Celsius.<sup>6</sup> The heat is also no longer restricted to just the summer, as multiple European nations lately report its warmest winters in years, making snow a rare sight, even in the central and eastern European countries.

Cherry tree blossoms in January which are supposed to appear by the end of March, Szczecin, Poland<sup>7</sup>



<sup>1</sup> <https://www.un.org/en/climatechange/what-is-climate-change>

<sup>2</sup> <https://www.un.org/en/climatechange/science/causes-effects-climate-change>

<sup>3</sup> [https://en.wikipedia.org/wiki/Climate\\_change\\_in\\_Spain](https://en.wikipedia.org/wiki/Climate_change_in_Spain)

<sup>4</sup> [https://en.wikipedia.org/wiki/Ultraviolet\\_index](https://en.wikipedia.org/wiki/Ultraviolet_index)

<sup>5</sup> <https://www.andalucia.com/wear-sunscreen/uv-index>

<sup>6</sup> <https://www.dutchnews.nl/news/2022/07/temperature-to-hit-38-celsius-on-tuesday-wednesday-will-be-much-cooler/>

<sup>7</sup> <https://www.theguardian.com/environment/gallery/2020/mar/06/a-snowless-winter-around-europe-in-pictures>

### More Severe Storms and Weather Anomalies

The first events worth mentioning which exemplifies the impacts of climate change visible around us, are the storms which continuously took place in Marbella throughout the first half of December. The highlight of the rainy week in the city and its surrounding areas, was a tornado which caused considerable damage including multiple cars crushed by uprooted trees and a minor injury to one of the Costa del Sol hospital workers.



The tornado in Marbella, 5 December 2022<sup>1</sup>

More severe storms and the resulting weather anomalies are caused by the constantly increasing temperatures, which are an effect of global warming as mentioned prior. The more heat, the more moisture evaporates as well as the warmer the large bodies of water such as the Mediterranean sea, which is within arm's reach of the city. Not only does the vapour feed rain clouds which later pour down in a more extreme fashion that can even lead to flooding in unprepared areas such as Nueva Andalucia, the hotter water right off the coast also increases the likelihood of such natural disasters as tornadoes. Similar sightings are growing less and less extraneous, as over the last years they become all the more common, with the last tornado hitting Costa del Sol, Málaga specifically, only 3 years ago.

The tornado in Málaga, 26 August 2019<sup>2</sup>



The weather anomalies also extend to severe snowfall in areas which do not unusually experience it, caused by an increase in evaporated moisture which feeds the snow clouds. For example, the snowstorm "Filomena" in Spain during January 2021 has been dubbed "the most intense storm in the last 50 years" by the country's interior minister. It has greatly affected the country's capital, closing several roads as well as cancelling all trains and flights from the city. It even went as far as directly causing 4 deaths, including 2 right outside the city of Malaga.

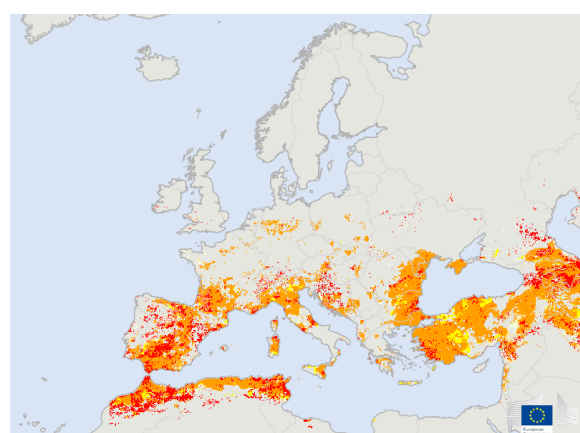
<sup>1</sup> <https://www.dailymail.co.uk/news/article-11506903/Tornado-hits-Marbella-terrifying-freak-weather-smashes-Spanish-resort-town.html>

<sup>2</sup> <https://www.thelocal.es/20190827/video-tornado-rips-through-malaga/>

### Droughts and Wildfires.

As mentioned before, climate change increases average temperatures which in turn also leads to the evaporation of moisture. Both of these are perfect setups for severe droughts, which have been recently affecting Spain as well as the rest of Europe. Two straight months without rainfall in Spain as well as a drought so severe it has been crowned as the "worst in 500 years" by the EU's Joint Research Centre,<sup>1</sup> were sole reasons for abandoning the crops of southern and central Spain which have died out due to insufficient irrigation.<sup>2</sup> This has an enormous impact on the European food market. As harvests grow smaller, local producers struggle to make a profit and remain competitive, in turn increasing the prices of food products.

Drought situation of Europe as of 11 November 2022, composed by the European Drought Observatory<sup>3</sup>



Furthermore, such conditions increase the chance for potential wildfires, which haunt the country as a whole, including Andalucia. This type of natural disasters can start due to the sheer intensity of sunlight or a lightning strike occurring during one of the severe storms which are also caused by global warming, but is most commonly the consequence of human carelessness, which is made all the more significant due to the hotter climate. By August 2022, the largest area burned down due to wildfires has been recorded since 2012, reaching roughly 229 250 hectares. This area, which is higher than that of the last five years prior combined, is roughly the size of the country of Luxemburg. It has been recorded as one of the 15 worst wildfires recorded in Spain. What further reinforces the idea that climate change acts as a huge factor in such



<sup>1</sup> <https://www.spainenglish.com/2022/08/12/drought-spain-europe-worst-in-500-years/>

<sup>2</sup> [https://joint-research-centre.ec.europa.eu/jrc-news/summer-drought-keeps-its-grip-europe-2022-08-22\\_en](https://joint-research-centre.ec.europa.eu/jrc-news/summer-drought-keeps-its-grip-europe-2022-08-22_en)

<sup>3</sup> <https://edo.jrc.ec.europa.eu/edov2/php/index.php?id=1000>

No matter how many articles there are claiming global warming is not real, there is just as much scientific proof showing its effects which surround and affect us each and every day. Declarations made by climate change deniers which are supposed to represent how it's impossible for the human race to have an impact on earth, such as still occurring snowfalls and storms, are in reality arguments which usually exemplify how big of an impact humanity already has on our planet. However, **there is still hope**, as every citizen has multiple very realistic ways to stop these very realistic impacts from getting worse and worse. If we start promoting actions such as purchasing sustainable products, consuming reasonable amounts as well as cutting down on electricity and fossil fuel use, it is still feasible for society to maintain Earth's status as it is now, and with sufficient work in the future, bring it back to where it was before irresponsible human activity made life harder for all living organisms.