



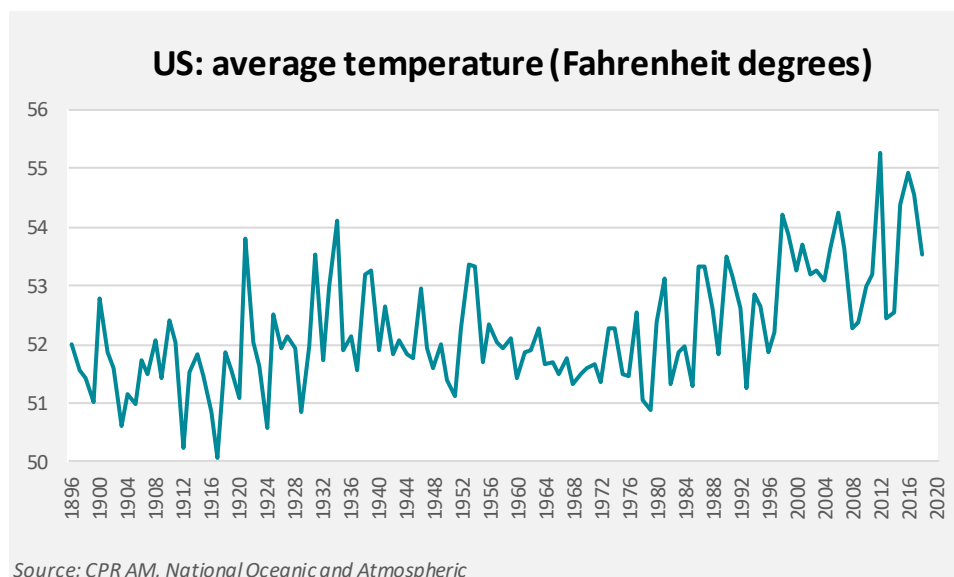
Climate disasters are more and more frequent in the United States

By Juliette Cohen and Bastien Drut, Strategists at CPR AM

According to the European Space Agency, never a month of June had been as hot on the surface of the Earth as in 2019. It is now clear that climate disasters have intensified in recent years. This has been clear in the United States in recent months. In this text, we focus on climate disasters experienced by the largest economy in the world and their costs. Finally, we will see that the multiplication of climatic disasters is giving birth to a global wake-up call in the US society.

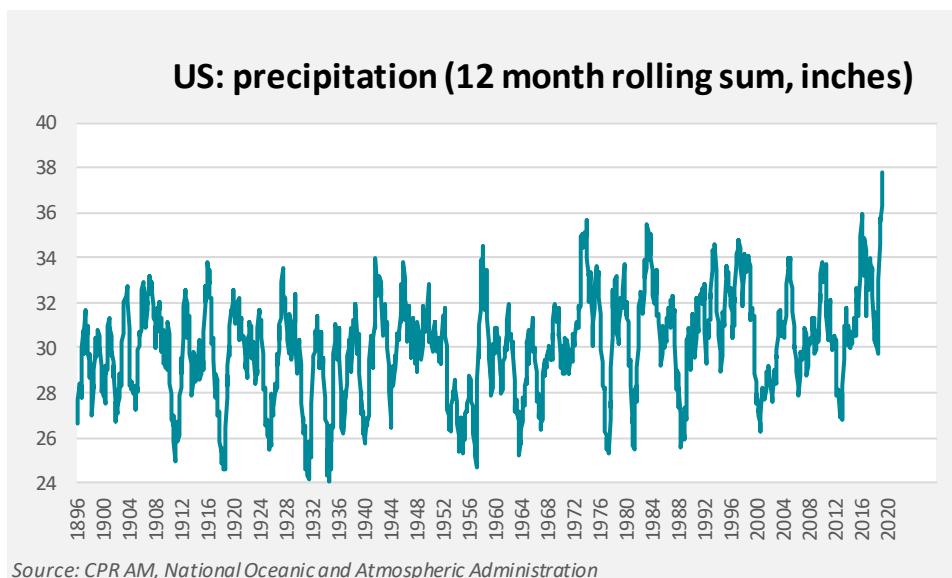
Extreme weather events disasters are more and more common in the United States

Global warming is remarkable in the United States. Indeed, the temperature has risen sharply over the last two decades: the four warmest years in the country since 1895 have taken place since 2012. Records are falling one after the other. For example, Anchorage (Alaska) experienced its hottest day of all time in early July. *National Oceanic and Atmospheric Administration* data also show that heat waves last longer and longer.

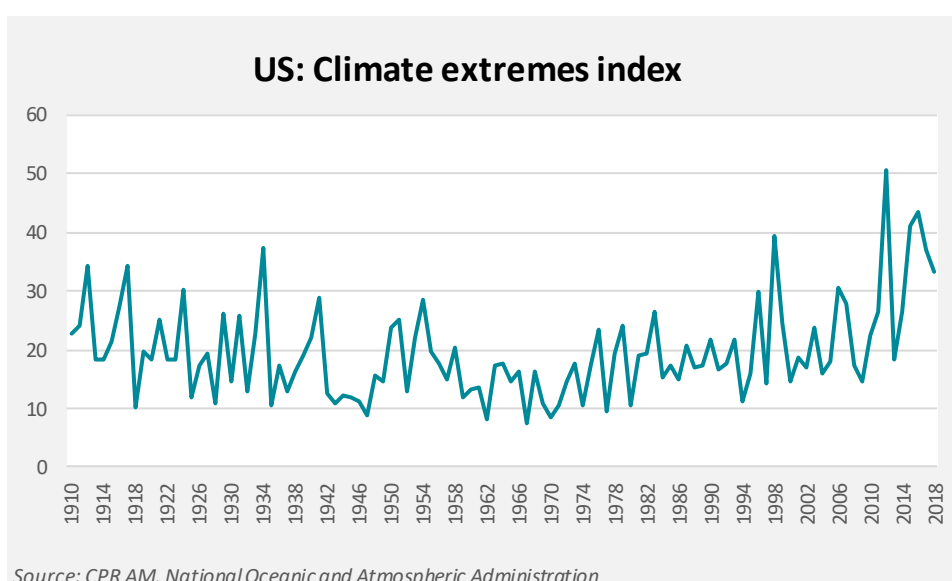


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Another type of extreme weather events has been observed in recent months as the 12-month rainfall from July 2018 to June 2019 has beaten - very largely - its record for the period 1895-2019. As a result, an unusual number of floods occurred in 2019. In 2019, the Mississippi floods affected 8 states and floods lasted more than three months in some cities. This is the longest-lasting Mississippi flood episode since the Great Flood of 1927.



Overall, extreme weather events have become much more common in the United States in recent years. One of the ways to measure it is the aggregate index of “Climate extremes” calculated by the *National Oceanic and Atmospheric Administration*, whose data begins in 1910. It takes into account precipitation, minimum and maximum temperatures, an indicator of drought and the power of storms and hurricanes. This indicator has risen sharply over the last ten years compared to the previous century.



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Not all states are affected in the same way by climate change as southern and western states experience more frequent and long-lasting droughts and consequently large-scale forest fires, while northern states are experiencing very cold waves in winter and more abundant rainfall generating floods. The polar vortex that affected the United States in the winter of 2019 and the heavy rains that hit the northern and Midwestern states in the spring are perfect illustrations.

Texas is one of the states the most threatened by extreme weather events. Indeed, it is the American state in which there has been the most billion-dollar climate disasters since 1980, the year from which the data from *National Oceanic and Atmospheric Administration* started to produce these statistics. In addition, the particularity of Texas is that it is affected by all types of climate disasters (droughts, wildfires, cyclones, floods, extreme cold, winter storms) while many states are affected by only a few types of disaster.

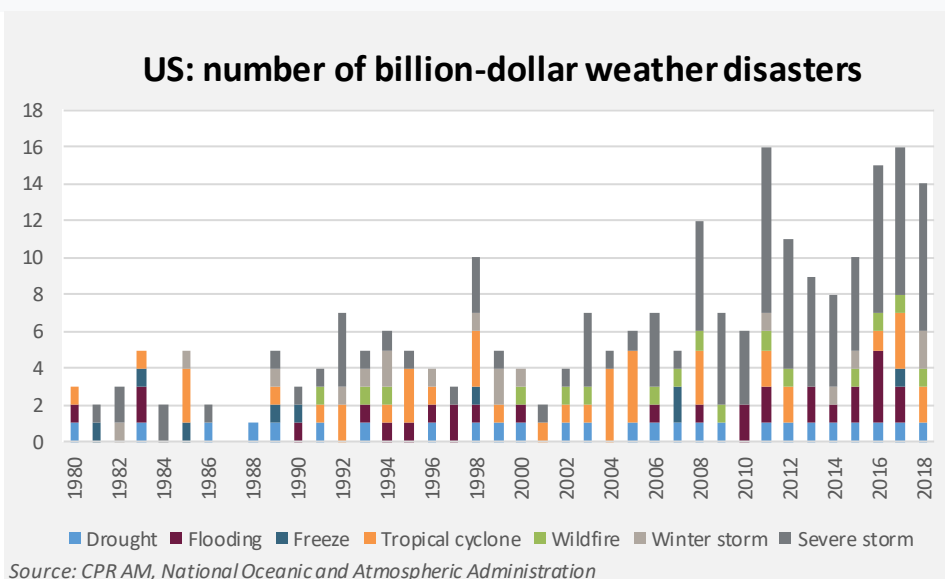
One of the most deadly climate disasters that hit Texas was Hurricane *Harvey* in August 2017, which left 89 people dead and nearly \$ 129 billion worth of damage. In the days following the hurricane, the rains were very heavy (more than 1.2 meters in five days) and caused massive floods. About 300,000 buildings were damaged and half a million cars were taken in the floods. The effects on activity and on employment seem to have been transitory but they have been permanent for several other points: displacement of communities, increased insurance costs, ongoing rebuilding efforts. The hurricane particularly affected the poorest households, whose savings were wiped out and had even more difficulties to safely domicile their families.

The cost of climate change on the US economy is rising sharply

Although the United States stepped out of the Paris Agreement in 2017 and gave up the associated CO₂ reduction target, forward-looking scenarios and estimates of the cost of climate change appear in numerous official statistics and publications. For example, *National Climate Assessments* are produced every four years at the request of the Congress. These comprehensive studies bring together the work of some 100 scientists from 13 federal agencies. They are looking at the impacts and risks that climate change is putting on the United States. The latest report issued in November 2018 (*Fourth National Climate Assessment*) provides a fairly accurate assessment of the risks to different sectors of the US economy, assessing potential losses in agriculture, trade and energy production. It also proposes adaptation strategies to limit the impact of climate change in these areas.

The report points out that climate change has already cost the US economy a lot and that it has increased significantly in the last 10 years. According to data published by the United Nations, the United States appears as the second country in terms of the frequency of extreme weather events and they already suffer more than 25% of global climate change costs (\$ 560 billion out of \$ 2 trillion in damages over the period 1992-2012). In the year 2017 alone, the 3 main storms, Harvey, Irma and Maria costed at least \$ 265 billion in the United States (source: *National Oceanic and Atmospheric Administration*). Over the last 5 years (2014-2018), the average cost of extreme

weather events has reached \$ 100 billion per year (or 0.5% of GDP). It should also be noted that floods or droughts that were occasional events in the 1980s-90s are now recurring phenomena that generate losses almost every year since the early 2000s. Storms and tropical cyclones are the main causes of material damages but droughts and floods now account for more than 20% of extreme weather events. From January to June 2019, there has already been 6 climate disaster events with losses exceeding \$1 billion each across the US, without taking into account extreme precipitation events whose economic impact has not yet been assessed but which seems already considerable.



The agricultural sector is particularly affected by extreme weather events. Farmers' incomes will again be very low in 2019 according to data provided by the US Department of Agriculture (*2019 Farm Sector Income Forecast*). Global oversupply of cereals and declining prices partly explain this trend but the situation proved even more difficult in 2019 due to spring floods. The latter destroyed a large part of the corn and soybean production that had been stored because of the US-China trade war. If the floods were disastrous for US farmers in 2019, a study by the Department of Agriculture (*Agricultural Resources and Environmental Indicators 2019*) shows that drought is the main risk for agricultural production and the first cause of crop insurance indemnity payments in the United States. In the western states, this study estimates that farmers experience severe drought events every 3 years compared to a year out of 5 for the Midwestern and Northern states. While climate change has a direct negative impact on agricultural productivity, it also has indirect negative effects through increased pests and diseases, reduced production and quality of crops and fodder. Production losses linked to climate change are already causing some price increases, particularly for fruits and vegetables. For example, the sharp drought in 2012 caused a drop in global wheat production and a significant rise in prices.

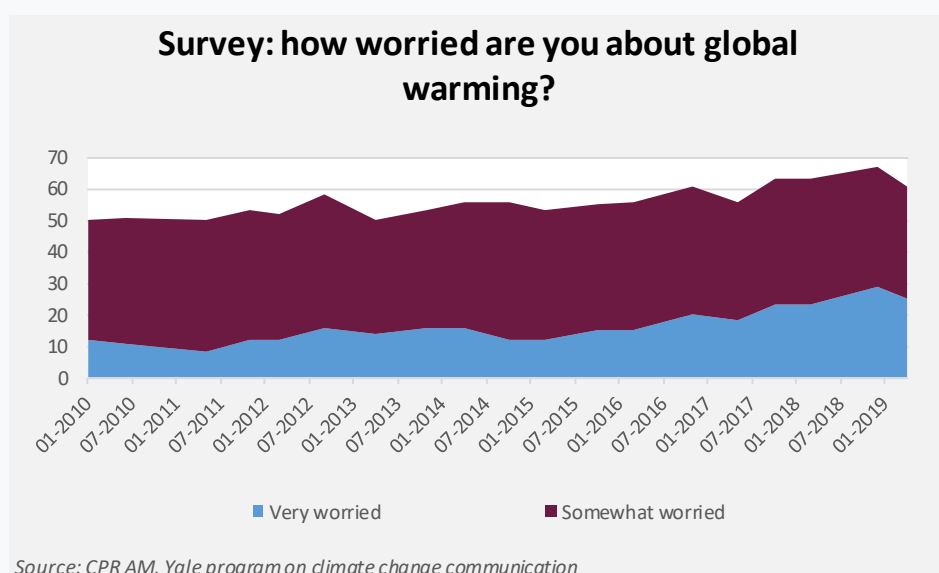
The prospective section of the *Fourth National Climate Assessment* estimates that the United States should suffer even more significant economic losses from climate change: "Without substantial and sustained global mitigation and regional adaptation efforts, climate change is expected to cause growing losses to American infrastructure and property and impede the rate

of economic growth over this century.” Among the sectors that are identified for their vulnerability to climate change, the report highlights agriculture, fisheries, but also infrastructure, transport, housing and tourism. It provides a detailed estimate of the cost of climate change by retaining two scenarios, extending the current warming trajectory and a scenario in which this trajectory can be limited by reducing CO₂ emissions. It estimates that the GDP of the US economy would be 10% lower by 2090 if one stayed on the current trajectory compared to a scenario where the warming would be more limited.

A global wake-up call in the US society

The multiplication and intensification of climatic disasters is giving birth to a global wake-up call in the US, which, coupled with a sense of urgency, is a new development for the country.

A change in public opinion is clearly perceptible as more and more respondents say that global warming is part of their concerns, a sign that the skepticism on climate change perceptible at the top of the administration is no more shared by a majority of Americans. A survey conducted periodically by *Yale University* shows that the share of Americans very worried about global warming has almost tripled between 2010 and 2018. About two-thirds of Americans are now worried or very worried about it while they were around only 50% in 2010. There is a noticeable difference between Democrat and Republican voters on this topic. In April 2019, 88% of respondents who declared themselves to be Democrats were worried or very worried about global warming, compared with only 35% of respondents who declared themselves Republicans. However, this share is progressing slowly but surely among the Republicans. In addition, other surveys show a much more acute concern among the younger generations, where 36% of young Republicans think that climate change is linked to human activity compared to 18% among older people.



Recently, the debate has also touched on the economic and legal sphere. The number of climate-related claims against states, individuals and businesses continues to increase, putting more pressure on businesses to take action and to be more transparent about climate issues. According to a study by law firm *White and Case* in 2018, more than 1,000 cases related to climate change have been litigated in 25 different countries. Their number exceeds 600 for the United States alone. They relate to different types of claims, from complaints of non-protection of human rights to nuisance, fraud, or non-compliance with environmental rules. A new type of appeal has emerged with shareholder complaints against companies demanding more transparency on CO2 emissions, risks on their activities related to climate change or actions taken to limit emissions. The bankruptcy of PG & E (Pacific Gas & Electric) last January is an illustration of this. The company was sentenced to pay \$ 30 billion in damages after being held responsible for the wildfires that devastated California in the summer of 2017. With the growth of class actions, companies could face legal challenges related to the transition to a lower carbon economy. The pressure created by litigation and this new case law can contribute to changing the regulatory and operational environment in this area.

Climate change will be at the heart of the 2020 presidential campaign. The Democratic candidates for the 2020 presidential election place an important place on the topic, notably with the debate on the *Green New Deal* project led by Congresswoman Alexandria Ocasio-Cortez. In addition, the Democratic primary candidate Elizabeth Warren has proposed a bill that would require companies to publish their exposures to climate-related risks. She is not the only one since other candidates for the primaries (Joe Biden, Beto O'Rourke) are also in favor of similar measures. On the Republican side, Donald Trump has so far regularly questioned global warming, saying, for example, "do not believe" the *National Climate Assessment* report published in November 2018 (mentioned above). During the cold wave experienced by the Midwest earlier this year, he joked by asking climate change to come back fast...



Abonné

In the beautiful Midwest, windchill temperatures are reaching minus 60 degrees, the coldest ever recorded. In coming days, expected to get even colder. People can't last outside even for minutes. What the hell is going on with Global Warming? Please come back fast, we need you!

 Traduire le Tweet

18:28 - 28 janv. 2019

However, not taking seriously the topic becomes risky in the run-up to the presidential elections of 2020. Several Republican senators close to Trump have asked him in recent weeks to review his strategy, especially because it could drive young and moderate voters away. In this vein, Donald Trump tried in early July to convey the message that climate change had been the "top priority" of his administration since he came to power. Anyway, the issue of climate change will undoubtedly be at the heart of the presidential campaign over the next 18 months.

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It is clear that climatic disasters are more and more frequent and costly in the United States. This is giving birth to a global wake-up call in the US society and this seems inevitable that the legislation related to climate risks will evolve and that new ambitious environmental policies will be decided in the near future.

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CPR AM in figures (End- December 2018)

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