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Climate changes as an increasingly common cause of flight delays



Approximately 100 EasyJet flights from Gatwick Airport were cancelled due to thunderstorms in just two days.

The bad weather forced more than 15,000 passengers to cancel or postpone their trip, with just one company from one airport in two days.

Welcome to the summer season of travel and vacations, but also the ever-increasing number of delayed or cancelled flights due to bad weather, which disrupts the regularity of global air traffic every year.

The aviation industry and passengers have been immeasurably more interested in the race to reduce harmful gas emissions than in adapting to increasingly unfavourable weather conditions that disrupt their everyday life.

While it only accounts for 2.5% of total greenhouse gas emissions, civil aviation is under constant scrutiny as it adapts to decarbonisation goals.

Two years ago, global civil aviation committed to achieving zero-carbon emissions by 2050.

Technology slower than climate change

At the same time, another climate factor - weather disturbances due to global warming - is causing increasing headaches for the industry.

There are not as many solutions and innovations to overcome this problem as there are for sustainable fuel or engines.

Since the beginning of the year, one in five flights (22%) from US airports has been delayed due to bad weather, and the outlook for the summer traffic rush is even worse.

During the last summer season, as many as 45,000 flights in the US were cancelled due to bad weather and crew problems.

This year could be slightly better, as the Federal Aviation Administration has reorganised part of the flight corridor, which would save companies and passengers some time. But no one will be able to influence the weather in advance.

"Summer weather comes with a range of potential challenges for airports - from thunderstorms to strong seasonal winds, and from heat variations through to visibility issues", said Aidan Flanagan from Airport Council International (ACI) Europe.

Instructions for necessary defence

Carriers and airports have been facing high temperatures that have melted runways, and sudden storms have destroyed or damaged electronic equipment.

Airports that experience the highest traffic during the summer season, on the Greek islands, for example, or transit hubs in the Middle East, are often hit by extreme heat and sudden weather changes.

Eurocontrol and ACI Europe have recently sent their partners a guide and recommendations for expected disruptions due to bad weather conditions during the summer season.

They have identified a dozen factors that could cause traffic disruptions, from heavy showers and heat waves to strong winds and low visibility.

Based on past experiences, they have offered dozens of recommendations that carriers and airport operators could use to mitigate the consequences of disruptions, at least to some extent.

The industry adjustment moves much slower than the progress of disruptive factors, some of which we rarely even think about.

As many as 270 airports in the world, 50 of which are in the US, are exposed to the risk of delayed flights and damage to equipment due to rising sea levels and overflowing salt water. The study that established this estimated that their number might double by 2100.

The heat reduces the number of seats on the plane

You might run out of seats on the plane at the last moment, or your luggage does not fly with you due to a sudden increase in temperature, which happens more often during the summer season.

In such cases, carriers must reduce the aircraft's weight before the flight to avoid risks during take-off.

"As temperatures rise, air becomes less dense, so planes have a harder time generating the lift they need to become airborne. Because of this, some aircraft runways may not be long enough for certain planes to take off. It also might force aircraft operators to reduce the take-off

weight of planes and helicopters", was NASA's explanation regarding this procedure.

This is the most tangible consequence of global warming, even though few passengers pay attention to this factor.

One earlier study estimated that weight restrictions would affect as many as 30% of flights in the coming decades, given that technological solutions have been advancing more slowly than disruptive factors.

The changes in this regard have been mainly reduced to the extension of the runway and the improvement of aircraft design at airports most threatened by high temperatures.

However, not fast enough to prevent the disruptions we are facing today.

Delays will continue

Most of the busiest travel zones, including the US and Europe, have reached and exceeded the figures from 2019, the last year before the significant drop due to the Covid-19 pandemic.

Passenger growth will continue, accompanied by a more substantial number of delays.

As many as half of European flights during the last summer season were delayed, and almost 2,000 were cancelled daily due to insufficient staff to serve the increased number of passengers.

Some problems could be resolved in the short term with better organisation and investments. But climate factors remain an

increasing and much more difficult problem to solve.

To begin with, companies, governments and even passengers could pay much more attention to this issue, and ask for a faster solution than almost obsessively making efforts to reduce greenhouse gas emissions.