

# Volcanic ash grounds aircraft across Europe

Half of North American flights likely hit Friday; worst disruption since 9/11



Carl Court / AFP-Getty Images

Ash from Iceland's active volcano creates a scenic sunset Thursday at London's Gatwick Airport, which like most airports in northern Europe was shut down due to the eruption.

.msnbc.com staff and news service reports

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LONDON - An enormous ash cloud from an Icelandic volcano caused the biggest flight disruption since 9/11 as it drifted over northern Europe and stranded travelers on six continents Thursday.

Officials said it could take days for the skies to become safe again in one of aviation's most congested areas.

The cloud, floating miles above Earth and capable of knocking out jet engines, wrecked travel plans for tens of thousands of people — from tourists and business travelers to politicians and royals. They couldn't see the source of their frustration — except indirectly, when the ash created vibrant red and lavender sunsets.

Non-emergency flights in Britain were canceled, and most will stay grounded until at least midday Friday. Authorities in Ireland, Denmark, Norway, Sweden, Finland and Belgium also closed their air space. France shut down 24 airports, including the main hub of Charles de Gaulle in Paris, and several flights out of the U.S. had to double back.

"Depending what happens and what the cloud does, this could last a couple of days," said Kyla Evans, a spokeswoman for air traffic agency Eurocontrol in Brussels.

The agency estimated 5,000 to 6,000 flights were cancelled Thursday.

"We anticipate that 50 percent of all flights from North America to Europe will be impacted tomorrow," it added. "On average, there are 600 flights a day between Europe and North America."

The volcano, beneath Iceland's Eyjafjallajökull (ay-yah-FYAH'-plah-yer-kuh-duhl) glacier, began erupting Wednesday for the second time in less than a month, triggering floods and shooting smoke and steam miles into the air.

An aviation expert said it was the first time in living memory that an ash cloud had affected some of the most congested airspace in the world, while a scientist in Iceland said the ejection of volcanic ash — and therefore disruptions in air travel — could continue for days or even weeks.

"At the present time it is impossible to say when we will resume flying," said Henrik Peter Joergensen, the spokesman for Copenhagen's airport in Denmark, where some 25,000 passengers were affected.

The ash plume, which rose to between 20,000 feet and 36,000 feet, lies above the Atlantic Ocean close to the flight paths for most routes from the U.S. East Coast to Europe.

With the cloud drifting south and east across Britain, the country's air traffic service banned all non-emergency flights until at least noon (8 a.m. ET) Friday. The move shut down London's five major airports including Heathrow, a major trans-Atlantic hub that handles over 1,200 flights and 180,000 passengers per day.

Irish authorities closed their air space for at least eight hours, and aviation authorities in Denmark, Norway, Sweden and Finland took similar precautions. Ireland did say later that it was reopening two airports as the plume had shifted farther east.

In France, officials shut down all flights to Paris and 23 other airports.

Airlines in the United States were canceling some flights to Europe and delaying others. In Washington, the Federal Aviation Administration said it was working with airlines to try to reroute some flights around the massive ash cloud.

Flights from Asia, Africa and the Middle East to Heathrow and other top European hubs were also put on hold.

### **Ash can shut down engines**

The highly abrasive, microscopic particles that make up volcanic ash pose a threat to aircraft because they can affect visibility and get sucked into airplane engines, causing them to shut down. The ash can also block pitot tubes, which supply vital instruments such as air speed indicators, or latch onto engine blades, forming a glassy substance that may cause engines to surge or stall.

Ash will also damage all forward-facing surfaces on an aircraft, such as the cockpit windshields, the wings' leading edges, the landing lights and air filters for the passenger cabin.

It was not the first time air traffic has been halted by a volcano, but such widespread disruption has not been seen since Sept. 11, 2001, terror attacks.

"There hasn't been a bigger one," said William Voss, president of the U.S.-based Flight Safety Foundation, who praised aviation authorities and Eurocontrol, the European air traffic control organization, for closing down airspace. "This has prevented airliners wondering about, with their engines flaming out along the way."

Gideon Ewers, spokesman for the International Federation of Airline Pilots Associations said it was a unique event. "Normally, these volcanic eruptions affect air travel in areas of thin traffic such as the Aleutian islands in Alaska, or in Indonesia and the Philippines," he told The Associated Press.

At Heathrow, passengers milled around, looking at closed check-in desks and gazing up at departure boards listing rows of cancellations.

"It's so ridiculous it is almost amusing," said Cambridge University researcher Rachel Baker, 23, who had planned to meet her American boyfriend in Boston but got no farther than Heathrow.

"I just wish I was on a beach in Mexico," said Ann Cochrane, 58, of Toronto, a passenger stranded in Glasgow.

The National Air Traffic Service said Britain had not halted all flights in its space in living memory, although most flights were grounded after Sept. 11. Heathrow was also closed by fog for two days in 1952.

### **Hundreds more flee**

In Iceland, some 700 more residents were being evacuated Thursday due to rising floodwaters caused by melting ice from the eruption. Several hundred people were escorted out Wednesday night as water gushed down the mountainside, raising rivers up to 10 feet and slicing the island nation's main road in half.

Some ash was falling on uninhabited areas, but most was being blown by westerly winds toward northern Europe, including Britain, about 1,200 miles away.

"It is likely that the production of ash will continue at a comparable level for some days or weeks. But where it disrupts travel, that depends on the weather," said Einar Kjartansson, a geophysicist at the Icelandic Meteorological Office. "It depends how the wind carries the ash."

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## **Flight hazard**

Ash clouds from Iceland's spewing volcano halted air traffic across Europe on Thursday.



SOURCE: ESRI, USGS

AP

The ash cloud did not disrupt operations at Iceland's Keflavik airport or caused problems in the capital of Reykjavik, but has affected the southeastern part of the island, said meteorologist Thorsteinn Jonsson. In one area, visibility was reduced to 150 yards Thursday, he said, and farmers were advised to keep livestock indoors to protect them from eating the abrasive ash.

At Copenhagen's international airport, spokesman Henrik Peter Joergensen said some 25,000 passengers would be affected.

"At the present time it is impossible to say when we will resume flying," Joergensen said.

Volcanic ash is formed from explosive eruptions. Particles as hard as a knife

blade range in size from as small as 1/25,000 inch to 1/12 inch, the Geological Survey says. Ash can melt in the heat of an aircraft engine and then solidify again, disrupting operation.

### **No fatal accidents**

The U.S. Geological Survey said about 100 encounters of aircraft with volcanic ash were documented from 1983 to 2000. In some cases engines shut down briefly after sucking in volcanic debris, but there have been no fatal incidents.

Last month's eruption at the same volcano occurred in an area where there was no glacial ice — lessening the overall risk. Wednesday's eruption, however, occurred beneath a glacial cap. If the eruption continues, and there is a supply of cold water, the lava will chill quickly and fragment into glass.

"When there is lava erupting close to very cold water, the lava chills quickly and turns essentially into small glass particles that get carried into the eruption plume," said Colin Macpherson, a geologist with the University of Durham.

"The risk to flights depends on a combination of factors — namely whether the volcano keeps behaving the way it has and the weather patterns. We're sitting in the north wind at the moment," he added.

Norway's King Harald V and Queen Sonja — who had planned to fly Thursday to Copenhagen for the Danish queen's 70th birthday — were looking to take a "car, boat or train" after Norway shut its airspace.

In 1989, a KLM Royal Dutch Airlines Boeing 747 flew into an ash cloud from Alaska's Redoubt volcano and lost all power, dropping from 25,000 feet to 12,000 feet before the crew could get the engines restarted. The plane landed safely.

In another incident in the 1980s, a British Airways 747 flew into a dust cloud and the grit sandblasted the windscreen. The pilot had to stand and look out a side window to land safely.