LONDON – British airport operator BAA Ltd. says all flights at London's Heathrow Airport have been suspended for the rest of the day, causing travel chaos as ash clouds from Iceland's spewing volcano halted air traffic across Europe.

A BAA spokesman said Thursday that no further flights are expected to arrive or land at the airport, which is Europe's busiest.

Heathrow handles over 1,200 flights and 180,000 passengers per day.

THIS IS A BREAKING NEWS UPDATE. Check back soon for further information. AP's earlier story is below.

LONDON (AP) — Ash clouds from Iceland's spewing volcano halted air traffic across a wide swathe of Europe on Thursday, grounding planes on a scale unseen in years, as authorities stopped all flights over Britain, Ireland and the Nordic countries.

Thousand of flights were canceled, stranding tens of thousands of passengers, and authorities said it was not clear when it would be safe enough to fly again.

One scientist in Iceland said the ejection of volcanic ash — and therefore possible disruptions in air travel — could continue for days or even weeks.

Britain's Civil Aviation Authority said non-emergency flights were banned in all airports until at least 6 p.m. (1700 GMT, 1 p.m. EDT). Irish authorities closed their air space for at least eight hours, and aviation authorities in Denmark, Norway, Sweden and Finland took similar precautions.

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. Shutdowns and cancellations spread to France, Belgium, the Netherlands, Denmark, Ireland, Sweden, Finland and Switzerland.

The volcano's smoke and ash poses a threat to aircraft because it can affect visibility, and microscopic debris can get sucked into airplane engines and can cause them to shut down.

It was not the first time air traffic has been halted by a volcano, but such widespread disruption had not been seen since a trans-Atlantic terror alert in 2006.

The National Air Traffic Service said all flights in British air space had not been halted in living memory, although most flights were grounded after the Sept. 11, 2001 attacks. Heathrow was also closed by fog for two days in 1952.

In Iceland, hundreds of people have fled rising floodwaters since the volcano under the Eyjafjallajokull (ay-yah-FYAH'-plah-yer-kuh-duhl) glacier erupted Wednesday for the second time in less than a month. As water gushed down the mountainside, rivers rose up to 10 feet (3 meters) by Wednesday night, slicing the island nation's main road in half.

The volcano still spewed ash and steam Thursday, but the floods had subsided. Some ash was falling on uninhabited areas, but most was being blown by westerly winds toward northern Europe, including Britain, about 1,200 miles (2,000 kilometers) 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"

In Paris, all flights north were canceled until midnight. At Copenhagen's international airport, spokesman Henrik Peter Joergensen said some 25,000 passengers were affected.

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

Passengers found themselves looking up at departure boards where every flight was canceled.

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

"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.

The U.S. Geological Survey says about 100 aircraft have run into volcanic ash from 1983 to 2000. In some cases engines shut down briefly after sucking in volcanic debris, but there have been no fatal incidents.

Kjartansson said until the 1980s, airlines were less cautious about flying through volcanic clouds.

"There were some close calls and now they are being more careful," he said.

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 (7,500 meters to 3,600) 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.

The ash cloud has not disrupted 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 meters (yards) Thursday, he said, and farmers were advised to keep livestock indoors to protect them from eating the abrasive ash.

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.

If the volcano keeps erupting, it could cause massive flight disruptions.

"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."

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AP reporters Jennifer Quinn, Paisley Dodds, Jill Lawless, Danica Kirka and Chonel LaPorte in London, Ian MacDougall in Oslo, Shawn Pogatchnik in Dublin, Jan Olsen in Copenhagen, Gretchen Mahan in Brussels, Mike Corder in Amsterdam, Adam Schreck in Dubai, Frank Jordans in Geneva and Matti Huuhtanen in Helsinki contributed to this report.

4/16/2010

LONDON – Volcanic ash blanketed parts of rural Iceland on Friday and left a widening arc of grounded aircraft across Europe, as thousands of planes stayed on the tarmac to avoid the hazardous cloud.

Eurocontrol, the European air traffic agency, said the flight disruptions that upended travel in Europe and reverberated throughout the world Thursday were even worse on Friday. Half a dozen European nations have closed their airspaces, the cloud was drifting east, about 60 percent of European flights were not operating and delays will continue into Saturday, it said.

"We expect around 11,000 flights to take place today in European airspace. On a normal day, we would expect 28,000," said Kyla Evans, a spokeswoman for Eurocontrol. "The cloud of volcanic ash is continuing to move east and southeast."

Ice chunks the size of houses tumbled down from a volcano beneath Iceland's Eyjafjallajokull (ay-yah-FYAH'-plah-yer-kuh-duhl) glacier Thursday, as hot gases melted the ice. The volcano began erupting Wednesday for the second time in less than a month.

As torrents of water roared down the steep slopes of the volcano, about 40 people nearby were evacuated because of flash flooding. More floods from melting waters are expected as long as the volcano keeps erupting, said Rognvaldur Olafsson of the Civil Protection Department.

The ash cloud, drifting between 20,000 to 30,000 feet (6,000 to 9,000 meters) high and invisible from the ground, left tens of thousands of travelers stranded around the globe and blocked the main air flight path between the U.S. east coast and Europe.

Trains and hotels in key European cities were packed as people scrambled to make alternate travel plans.

Fearing that microscopic particles of highly abrasive ash could endanger passengers by causing aircraft engines to fail, authorities shut down air space over Britain, Ireland, France, Denmark, Norway, Sweden, Finland and Belgium. That halted flights at Europe's two busiest airports — Heathrow in London and Charles de Gaulle airport in Paris — as well as dozens of other airports, 25 in France alone.

As the cloud moved east, flights were halted Friday at Frankfurt airport, Europe's third-busiest terminal, and at 10 other German airports including Duesseldorf, Berlin, Hamburg and Cologne. No flights were allowed at the Ramstein Air Base, a key U.S. military hub in southwestern Germany.

No more than 120 trans-Atlantic flights reached European airports Friday morning, compared to 300 on a normal day, said Eurocontrol's Evans. About 60 flights between Asia and Europe were canceled Friday, stranding several thousand passengers.



As the cloud moved to the south and east, some European countries reported a slight easing of conditions. The French Civil Aviation said it will allow some planes to land at the three Paris airports during a four-hour window starting at noon Friday.

Sweden and Norway declared skies in the far north to be safe again for travel even as flights in both capitals — Stockholm and Oslo — were still on a lockdown. Aviation authorities in Ireland reopened airports in Dublin and Cork and lifted most restrictions on the country's airspace.

Poland expanded its no-fly zone Friday to most of the country, excluding the southern cities of Krakow and Rzeszow. Anxious Polish officials worried that the ash cloud could threaten the arrival of many world leaders for Sunday's state funeral of President Lech Kaczynski and his wife, Maria, in the southern city of Krakow.

Among those coming are President Barack Obama, Russian President Dmitry Medvedev and German Chancellor Angela Merkel. Officials have said a postponement of the funeral would be an absolute last resort.

The White House says Obama still planned to fly to Poland on Saturday for the funeral.

NATS, the private company which controls British air space, said the air over England would remain closed at least until 1 a.m. Saturday (0000 GMT) but that some international flights might be allowed into Northern Ireland and western Scotland later in the day.

One Toronto-bound flight departed from Glasgow in Scotland on Friday morning and three flights landed.

Professor Jon Davidson of the Department of Earth Sciences at Durham University in England said the dispersal of the cloud is dependent on the weather. The cloud can be blown elsewhere, the ash could all fall to Earth, or the ash particles spread and become diluted, no longer posing a threat to aircraft, he said.

Britain's Meteorological Office said the wind was expected to blow form the north, which would bring further ash across parts of Britain. Small amounts of ash settled in northern Scotland and Norway, but officials said there was little risk to health.

"It's not toxic or poisonous, it's not radioactive ... and shouldn't pose any danger to general health," Scottish first minister Alex Salmond told the BBC.

Officials at the World Health Organization in Geneva disagreed, saying Europeans should try to stay indoors if ash from Iceland's volcano starts raining down from the sky.

WHO spokesman David Epstein says the agency doesn't know the exact health risks from the ash cloud. However, he said the ash is potentially dangerous if it starts to "settle" on the earth because inhaling the particles can cause respiratory problems, especially for those suffering from asthma and respiratory diseases.

Iceland, a nation of 320,000 people, sits on a large volcanic hot spot in the Atlantic's mid-oceanic ridge, and has a history of devastating eruptions.

Explosive volcanic eruptions inject large amounts of highly abrasive ash — essentially very small rock fragments — into the upper atmosphere, the cruising altitude of most jet airliners. It can cause significant damage to both airframes and engines.

The U.S. Geological Survey said about 100 aircraft have run into volcanic ash from 1983 to 2000. In some cases engines shut down briefly after sucking in volcanic debris, but there have been no fatal incidents. Still, authorities are very wary, because ash cannot be detected by a plane's normal weather radar.

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 (7,500 meters to 3,600) 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 windshield. The pilot had to stand and look out a side window to land safely.

4/16/2010

GENEVA – Europeans should try to stay indoors if ash from Iceland's volcano starts settling, the World Health Organization warned Friday as small amounts of ash fell in Iceland, Scotland and Norway.

WHO spokesman Daniel Epstein said the microscopic ash is potentially dangerous for people when it starts to reach the Earth because inhaled particles can enter the lungs and cause respiratory problems.

"We're very concerned about it," Epstein said. "These particles when inhaled can reach the peripheral regions of ... the lungs and can cause problems — especially for people with asthma or respiratory problems."

Other experts, however, weren't convinced the volcanic ash would have a major effect on peoples' health. Ken Donaldson, a professor of respiratory toxicology at the University of Edinburgh, said volcanic ash was much less dangerous than cigarette smoke or pollution.

Volcanic ash is made of fine particles of fragmented volcanic rock. It is light gray to black and can be as fine as talcum powder. During a volcanic eruption, the ash can be breathed deep into the lungs and cause irritation even in healthy people. But once it falls from a greater distance — like from the cloud currently hovering above Europe — its health effects are often minimal, experts say.

The Icelandic volcano that erupted Wednesday has sent an enormous cloud of microscopic basalt ash particles across northern Europe, grounding aircraft across continent. It is drifting above 20,000 feet (6,000 meters), high and invisible from the ground.

"Not all particles are created equal," said Donaldson, who has studied the impact of volcanic ash in people. "In the great scheme of things, volcanic ash is not all that harmful."

Donaldson said most Europeans' exposure to volcanic ash would be negligible and that only those in the near vicinity of the Icelandic volcano would likely be at risk.

"Once the volcanic particles are in the stratosphere, they're getting massively diluted because there's a lot of air and other particles blowing around," he said.

He said after previous volcanic eruptions, little impact has been seen in people's health, except for those with lung problems who were close to the volcano.

Britain's Health Protection Agency said the concentration of volcanic particles that might settle on the ground was likely to be low and should not cause serious harm. The agency said people with respiratory problems like bronchitis and asthma might experience more symptoms like itchy eyes, a sore throat and dry cough. It advised those people to carry their inhalers or medicines with them and said any health effects were likely to be short-term.

Still, WHO's Epstein said Europeans who venture outside might want to consider a mask. He said WHO doesn't fully understand the health risks associated with the ash cloud and was trying to learn more.

4/16/2010

NEW YORK – In 1989, all four engines of a Boeing 747 over Alaska conked out after it flew into a cloud of volcanic ash. The crew was able to restart them, but incidents like that dramatize why hundreds of flights every year are diverted around such gritty debris.

A volcano can blow immense amounts of material into the sky, making the weather cooler and producing spectacular red and orange sunsets. But Thursday's disruption of air travel underlines what airborne ash can mean for jetliners.

Such a huge effect on airline schedules is unusual, because ash plumes usually appear well away from the most crowded airspaces. This week's eruption in Iceland blew debris over Northern Europe, threatening most routes from the East Coast to Europe.

Volcanic ash can stay aloft for days and travel far. Of the more than 20 aircraft damaged by ash from the 1991 eruption of Mount Pinatubo in the Philippines, most were flying more than 600 miles from the volcano.

The tiny particles are invisible to the weather radar on airplanes and cannot be seen at night. So volcano monitoring is serious business in the United States.

"Once we detect an eruption, our first call goes to the FAA," said Tom Murray, director of the U.S. Geological Survey's Volcano Science Center, which oversees five volcano observatories nationwide. USGS scientists work closely with Federal Aviation Administration and the National Weather Service to track ash plumes.

The abrasive ash can sandblast a jet's windshield, block fuel nozzles, contaminate the oil system and electronics and plug the tubes that sense airspeed. But the most immediate danger is to the engines.

"Jet engines are like giant vacuum cleaners. If they're in a volcanic ash cloud, they're just sucking in all that ash and that damages the engines," Murray said.

The most immediate hazard occurs after ash melts or vaporizes in the extreme heat of the engine's combustion chamber, said Michael Fabian of Embry Riddle Aeronautical University's campus in Prescott, Ariz.

The melted ash can then congeal on the blades of the engine's turbine "like spray paint," he said. The deposits can block the normal flow of air through the engine, causing engines to lose thrust or shut down.

What's more, he said, the deposits can coat the fuel system's temperature sensors, fooling them into thinking the engine is running cooler than it is. So the system pours in more fuel, raising the heat and damaging the turbine, which can also make the engine shut down.

The effects can be harrowing. In the 1989 incident, the 747 dropped more than two miles in five minutes as the crew struggled to restart the engines. The 231 passengers could smell the volcanic sulfur of ash that had come from the Redoubt volcano, 150 miles away. Eventually, all the engines were restarted and the plane landed safely at Anchorage. All four engines had to be replaced.

Ash from the Mount Pinatubo eruption in the Philippines drifted more than 5,000 miles to the east coast of Africa. The eruption shot a column of ash and smoke more than 19 miles high, containing enough matter to qualify as perhaps the biggest eruption of the 20th century. The heavy fall of ash left about 100,000 people homeless and forced thousands more to flee.

The effects of that ash were even more widespread. Average world temperature dropped by more than 1 degree over the following two years, an effect seen by many scientists as a counterbalance to global warming.

The weather effect was much bigger for the 1815 eruption of Tambora in Indonesia, often called the biggest eruption in recorded history. The following year was called "the year without summer," with sporadic snowfall and killing frosts in June through August in New England and Europe. Crops failed and soup kitchens opened to feed the hungry.

Ash from the eruption of the Krakatau (sometimes called the Krakatoa) volcano between Java and Sumatra in 1883 darkened the surrounding area for two days. It drifted around the Earth several times, making for brilliant sunsets that live on today, in sketches done in England by artist William Ashcroft.

4/16/2010

REYKJAVIK (Reuters) – An Icelandic volcano is still spewing ash into the air in a massive plume that has disrupted air traffic across Europe and shows little sign of letting up, officials said on Friday.

One expert said the eruption at the volcano, about 120 km (75 miles) southeast of capital Reykjavik, could abate in the coming days, but a government spokesman said ash would keep drifting into the skies of Europe.

The thick, dark brown ash cloud that shot several kilometers (miles) into the air and has drifted away from the north Atlantic island has shut down air traffic across northern Europe and restrictions remained in place in many areas.

Norway and Sweden said they would resume limited flights in their northern areas, but Poland and the Czech Republic joined the list of countries with closed airports.

"It is more or less the same situation as yesterday, it is still erupting, still exploding, still producing gas," University of Iceland professor Armann Hoskuldsson told Reuters.

"We expect it to last for two days or more or something. It cannot continue at this rate for many days. There is a limited amount of magma that can spew out," he added, saying it was the magma, or molten rock beneath the Earth's surface, coming out of the volcano that turned into ash.

Environment Ministry spokesman Gudmundur Gudmundsson said no variation was expected in the outflow of ash.

"The eruption is ongoing and we are not expecting any change in the production of ash...High level winds will keep dispersing the plume over Europe," he said.

The eruption has taken place under the Eyjafjallajokull glacier, normally a popular hiking ground in southern Iceland.

Foreign Ministry spokeswoman Urdur Gudmundsdottir said there was some damage to roads and barriers protecting farms.

"There is still an evacuation of around 20 farms, which is 40 to 50 people," she added, noting this was less than the 800 people who had been evacuated earlier this week.

FLOODS

People living close to the eruption said the main impact on their lives was the flood waters running off the glacier, which have closed roads.

"Obviously it's all been a bit unreal. One is just managing from day to day and doing one's best," said Hanna Lara Andrews, a resident of a farm at the foot of the mountain, who had traveled to Reykjavijk with her one-year-old son.

Speaking by telephone, she said she and her family had felt a big earthquake last week. When the eruption came this week they could see a big white cloud and then ash forming behind it.

Another professor said on Thursday that the heat had melted up to a third of the glacial ice covering the crater, causing a nearby river to burst its banks.

Icelandic radio said part of the ring road that goes around the small north Atlantic island had been swept away.

To the east of the volcano, thousands of hectares of land are covered by a thick layer of ash.

The cloud of ash from the eruption has hit air travel all over northern Europe, with flights grounded or diverted due to the risk of engine damage from sucking in particles of ash from the volcanic cloud.

The volcano under the Ejfjallajokull glacier, Iceland's fifth largest glacier, has erupted five times since Iceland was settled in the ninth century.

Iceland sits on a volcanic hotspot in the Mid-Atlantic Ridge and has relatively frequent eruptions, although most occur in sparsely populated areas and pose little danger to people or property. Before March, the last eruption took place in 2004.

(Reporting by Omar Valdimarsson in Reykkavik and Patrick Lannin in Stockholm; writing by Patrick Lannin; Editing by William Maclean)

4/19/2010

Did you know that [volcanic ash can bring down airplanes](http://www.washingtonpost.com/wp-dyn/content/article/2010/04/17/AR2010041700547.html)? I didn't know. Nor did I know that there were volcanoes in Europe capable of spewing so much of the stuff into the atmosphere. But since last week, when airports in Britain -- and then Germany, France, Poland, Austria, Switzerland and Scandinavia -- began to shut down because of the ash emitted by Eyjafjallajokull, an unpronounceable volcano in Iceland, an army of experts has arisen to explain how floating lava dust damages engines.

Suddenly, almost everyone else seems to have become an expert, too. A friend with no previous interest in airline mechanics explained how two planes had already been affected. Another proffered a detailed description of the scientific process by which ash enters the engine, melts and turns back into stone -- not what one wants inside airplane engines, really.

Others have become mystics. A British friend sees this as "judgment for the bad things we have done to the Earth." Another thinks this is the beginning of many years of volcanic activity, thus heralding the end of civilization as we know it. Poles are unsurprisingly spooked by the coincidence of the ash cloud with the funerals of their [president and other leaders who died in a strange and sad plane crash](http://www.washingtonpost.com/wp-dyn/content/article/2010/04/12/AR2010041201831.html) April 10. [The Icelandic volcano prevented President Obama, among others, from attending President Lech Kaczynski's funeral in Krakow on Sunday](http://www.timesonline.co.uk/tol/news/world/europe/article7101167.ece). German Chancellor Angela Merkel also called to make her apologies, from Italy, whence the leader of the largest European economy was slowly making her way home across the Alps by car.

Of course I do understand why some want science to explain this odd event, and why others see the revenge of the volcano gods. I live in Poland and have spent the past several days at funerals and memorial services, listening to people trying to make sense out of a pointless airplane tragedy. This dust cloud isn't that kind of tragedy. Nevertheless, [the eruption of Eyjafjallajokull could continue](http://www.reuters.com/article/idUSLDE63H07D20100418?type=marketsNews), apparently, into next week, next month or next year. That would turn the volcano into one of those natural events that, like earthquakes and tsunamis, change the economics and politics of an entire region. No wonder we feel the need to focus on the scientific and mystical significance of wind patterns, magma and dust.

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Already, the past several days have revealed that we rely on air travel for far more things than we usually imagine. Things such as supermarkets -- all that fresh fruit -- and florists. Things such as symphony performances, professional soccer matches and international relations. In fact, "European integration," as we have come to understand it, turns out to be utterly dependent on reliable air travel. Over the past two decades -- almost without anyone really noticing -- Europeans have begun, in at least this narrow sense, to live like Americans: They move abroad for work, live for a while in one country and then move to another, eventually going home or maybe not. They do business in countries where they don't know the language, vacation in the Mediterranean and in the Baltic, visit their mothers on the weekends. Skeptics who thought the European single market would never function because there would be no labor mobility in Europe have been proved wrong.

But if, as some are predicting, European air travel were to become unreliable indefinitely all of this would change. The English Channel and the Atlantic Ocean would suddenly seem deeper, the European continent wider and longer -- almost as if we had gone back in time a century.

Within living memory, things were very different. By coincidence, I recently visited Ellis Island with my son and was struck by the photographs on display. They showed the courage, fear and determination on the faces of people who had arrived in 1890 or 1900 from faraway places like Warsaw, knowing they might never return.

A few days later, we hopped a plane to Warsaw, thinking nothing of it. What a different world it would be if that kind of travel suddenly became impossible, or even unreliable, once again.

04/18/2010

AMSTERDAM – Several major airlines safely flew test flights without passengers over Europe on Sunday despite official warnings about the dangers of a volcanic ash plume, fueling a corporate push to end an economically devastating ban on commercial air traffic.

KLM Royal Dutch Airlines said that by midday Sunday it had flown four planes through what it described as a gap in the layer of microscopic dust over Holland and Germany. The ash began spewing from an Icelandic volcano Wednesday and has drifted across most of Europe, shutting down airports as far south and east as Bulgaria.

Air France, Lufthansa and Austrian Airlines have also sent up test flights, although most traveled below the altitudes where the ash has been heavily concentrated.

KLM said its planes of various types flew the 115-mile (185-km) flight from Duesseldorf in western Germany to Amsterdam's Schiphol Airport at an unspecified normal altitude above 10,000 feet (3,000 meters). They did not encounter the thick though invisible cloud of ash, whose main band has floated from 20,000 to 32,000 feet, the height of most commercial flight paths.

The announcement prompted some airline officials to wonder whether authorities had overreacted to concerns that the tiny particles of volcanic ash could jam up the engines of passenger jets. The possibility that the ash had thinned or dispersed over parts of Europe heightened pressure from airline officials losing hundreds of millions of dollars a day to end a flight stoppage that has thrown global travel into chaos and left millions stranded far from home.

"With the weather we are encountering now — clear blue skies and obviously no dense ash cloud to be seen, in our opinion there is absolutely no reason to worry about resuming flights," said Steven Verhagen, vice president of the Dutch Airline Pilots Association and a Boeing 737 pilot for KLM.

"We are asking the authorities to really have a good look at the situation, because 100 percent safety does not exist," Verhagen said. "It's easy to close down air space because then it's perfectly safe. But at some time you have to resume flights."

Meteorologists warned, however, that the situation above Europe remained unstable and constantly changing with the varying winds — and the unpredictability was compounded by the irregular eruptions from the Icelandic volcano spitting more ash into the sky.

KLM had permission from Dutch and European aviation authorities before sending the planes aloft but the Dutch and most other European authorities kept their air space closed to passenger traffic until at least 1800 GMT (1 p.m. EDT) Sunday, saying conditions remained risky.

KLM's first test flight was Saturday and the airline said it planned to return more planes without passengers to Amsterdam from Duesseldorf on Sunday, planning to bring the total number of flights to 10 by the end of the day. Engineers immediately took the aircraft for inspection as they landed.

"We hope to receive permission as soon as possible after that to start up our operation and to transport our passengers to their destinations," said Chief Executive Peter Hartman, who was aboard one of Saturday's flights.



Kyla Evans, spokeswoman for the European air traffic control agency Eurocontrol, said it was up to national aviation authorities to decide whether to open up their airspace. The agency's role was to coordinate traffic once it was allowed to resume.

Daniel Hoeltgen, a spokesman for the European Aviation Safety Agency, said the organization was in contact with airlines and national regulators with a view to allowing commercial aircraft to begin operating again.

"But there is currently no consensus as to what consists an acceptable level of ash in the atmosphere," Hoeltgen said. "This is what we are concerned about and this is what we want to bring about so that we can start operating aircraft again in Europe."

Air France said its first test flight Sunday, from Charles de Gaulle airport to Toulouse in southern France, "took place under normal conditions."

"No anomalies were reported. Visual inspections showed no anomalies," Air France said in a statement soon after it landed. "Deeper inspections are under way."

It did not say how high the planes had flown.

Germany's Lufthansa flew 10 empty long-haul planes Saturday to Frankfurt from Munich at low altitude, between 3,000 and 8,000 meters (9800 and 26000 feet), under so-called visual flight rules, in which pilots don't have to rely on their instruments, said spokesman Wolfgang Weber.

"We simply checked every single aircraft very carefully after the landing in Frankfurt to see whether there was any damage that could have been caused by volcanic ash," Weber said. "Not the slightest scratch was found on any of the 10 planes."

German air traffic control said Air Berlin and Condor airlines had carried out similar flights.

Air Berlin, Germany's second-biggest airline, said it had transferred two planes from Munich to Duesseldorf and another from Nuremberg to Hamburg without problems on Saturday. They flew at 9,840 feet (3,000 meters).

[**Click image to see Icelandic volcano photos**](http://us.rd.yahoo.com/dailynews/news/ap/ap_on_re_eu/storytext/eu_iceland_volcano/35857516/*http:/news.yahoo.com/nphotos/Iceland-volcano-erupts/ss/events/sc/041510icelandvolcano)

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*AP*

A technical inspection of the aircraft after landing "did not reveal any adverse effects," the company said.

Air Berlin Chief Executive Joachim Hunold declared himself "amazed" that the results of the German airlines' flights "did not have any influence whatsoever on the decisions taken by the aviation safety authorities."

Businessman Niki Lauda said Sunday that his Fly Niki airlines planned a test flight from Vienna to Salzburg. Austrian Airlines spokesman Martin Heheman said it was flying an Airbus A320 to the southern city of Graz, where the plane will undero a technical check to see what if any effects the volcanic cloud had. If none, three more test flights from Graz to Vienna are planned.

Austrian Airlines spokeswoman Pia Stradiot, when asked if the firm thought the flights were safe, said: "That's exactily what we want to test and this is why we are immediately checking the planes after they land."

Rognvaldur Olafsson, a spokesman with the Civil Protection Agency in Iceland, said Sunday the eruption is continuing and there are no signs that the ash cloud is thinning or dissipating.

"It's the same as before," he said. "We're watching it closely and monitoring it."

The British Meteorological Office said there was no way to be certain that areas clear of ash will remain that way. The cloud "won't be present at all parts of the area at risk at all times, you can see clear area, but it will change, it won't stand still," said meteorologist John Hammond.

The Met Office said the ash reached up to 20,000 feet, but that the grit also was dropping to low levels in some places and settling on the ground in parts of southern England.

The aviation industry, already reeling from a punishing economic period, is facing at least $200 million in losses every day, according to the International Air Transport Association.

National air safety regulators have the right to close down a country's air space in cases of extreme danger. But they can also grant waivers to airlines to conduct test flights or to ferry empty airliners from one airport to another at lower altitudes not affected by the main ash clouds.

The Swiss Federal Office of Civil Aviation began allowing flights Saturday above Swiss air space as long as the aircraft were at least at 36,000 feet (11,000 meters). It also allowed flights at lower altitudes under visual flight rules, aimed at small, private aircraft.

Ash and grit from volcanic eruptions can sabotage a plane in various ways: the abrasive ash can sandblast a jet's windshield, block fuel nozzles, contaminate the oil system and electronics and plug the tubes that sense airspeed. But the most immediate danger is to the engines. Melted ash can then congeal on the blades and block the normal flow of air, causing engines to lose thrust or shut down.

Scientists say that because the volcano is situated below a glacial ice cap, magma is being cooled quickly, causing explosions and plumes of grit that can be catastrophic to plane engines, depending on prevailing winds.

"Normally, a volcano spews out ash to begin with and then it changes into lava, but here it continues to spew out ash, because of the glacier," said Reynir Bodvarsson, director of Swedish National Seismic Network. "It is very special."

Bodvarsson said the relative weakness of the eruption in Iceland also means the ash remains relatively close to the earth, while a stronger eruption would have catapulted the ash outside of the atmosphere.

In 1989, a KLM Boeing 747 that flew through a volcanic ash cloud above Alaska temporarily lost all four motors. The motors restarted at a lower altitude and the plane eventually landed safely.

04/17/2010

LONDON – A lingering volcanic ash plume forced extended no-fly restrictions over much of Europe on Saturday, as scientists warned that activity at a volcano in Iceland had increased and showed no sign of abating — a portent of more travel chaos to come.

Scientists say that because the volcano is situated below a glacial ice cap, the magma is being cooled quickly, causing explosions and plumes of grit that can be catastrophic to plane engines if prevailing winds are right.

"The activity has been quite vigorous overnight, causing the eruption column to grow," Icelandic geologist Magnus Tumi Gudmundsson told The Associated Press on Saturday. "It's the magma mixing with the water that creates the explosivity. Unfortunately, there doesn't seem to be an end in sight."

An expansive cloud of grit hovered over parts of western Europe on Saturday, triggering extended flight bans that stranded people around the globe. Forecasters said light prevailing winds in Europe — and large amounts of unmelted glacial ice above the volcano — mean that the situation is unlikely to change in the coming days.

"Currently the U.K. and much of Europe is under the influence of high pressure, which means winds are relatively light and the dispersal of the cloud is slow," said Graeme Leitch, a meteorologist at Britain's National Weather Service. "We don't expect a great deal of change over the next few days."

Matthew Roberts, at the Icelandic Meteorological Office, said only about a third of the total quantity of glacial ice in the crater has melted. "There could be days' worth of water and ice mixed with the eruptive products," he told the BBC.

The ash plume was rising to about 30,000 feet (9,144 meters) with intensifying volcanic activity, Leitch said. It is possible for planes to fly over the ash cloud, he said, although it is up to individual countries to decide whether they should open higher airspace.

Aviation experts say the volcanic plume has caused the worst travel disruption Europe — and the world — has ever seen, except during wars.



"I've been flying for 40 years, but I've never seen anything like this in Europe," said Swedish pilot Axel Alegren, after landing his flight from Kabul, Afghanistan, at Munich Airport; he had been due to land at Frankfurt but was diverted.

Anxious passengers have told stories of missed weddings, graduations, school and holidays because of the ominous plume, and some world leaders canceled plans to attend Sunday's state funeral for Polish President Lech Kaczynski and his wife Maria in the southern city of Krakow.

President Barack Obama, Russian President Dmitry Medvedev and German Chancellor Angela Merkel still planned to attend. Slovenian President Danilo Turk will travel to Poland by car.

Most of northern and central Europe's airspace has been shut down, affecting airports from New Zealand to San Francisco.

On Saturday, the French prime minister extended the closure of airspace in northern France until Monday morning. British airspace is closed until at least 0600 GMT Sunday, and forecasters said the ash cloud would progressively cover the whole of the U.K. later Saturday. British Airways is canceling all flights to and from the U.K. Sunday.

Authorities in the U.K. and Iceland told people with respiratory problems to stay indoors, and the World Health Organization said Europeans should not go outdoors if ash starts settling.

Stranded passengers reported the delays were causing financial hardships. Some had to check out of hotels and sleep in the airports.

"I have been staying in a hotel but have now checked out and do not know what I am going to do — I have limited financial resources here," said Anthony Adeayo, 45, who was due to travel from Britain to Nigeria with British Airways.

Others, desperate to return home or get to meetings, rushed to book a ride on ferries, in rental cars or taxis.

Hundreds of weary British travelers were forced to queue up in France for ferry tickets, and P&O Ferries said it was inundated by thousands of calls from stranded air passengers. Ferry crossings between Britain and Spain, Belgium and the Netherlands were also fully booked, while a Virgin Holidays Cruises phone operator said dozens of people have called in to ask about trans-Atlantic crossings to New York aboard the Queen Mary 2 cruiser.

A British taxi firm said it pocketed a fortune from driving a group of clients hundreds of miles to Switzerland. International trains on the continent beefed up services, and the Eurostar was running eight supplementary trains Sunday.

Shoppers were warned Saturday that continued flight bans could spark shortages of imported fresh fruit and vegetables.

"There are no shortages yet, but we may start to see certain ranges affected if this carries on," said Christopher Snelling, head of global supply chain policy for the Freight Transport Association.

The Belgian and Swiss governments extended their ban until Saturday evening. Italian aviation authorities were closing airspace in northern Italy on Saturday until 1800 GMT. Spain's Iberia airline is canceling most of its European flights until further notice.

In the Nordics, air space in the central and southern parts of the region was expected to remain closed at least until Sunday afternoon.

At least 45 flights between Europe and Asia were canceled Saturday. Australia's Qantas canceled all flights to Europe, and passengers were being offered refunds or seats on the next available flight. The airline said it was not known when flights would resume. Cathay Pacific was already canceling some Europe-bound flights leaving Hong Kong on Sunday.

"The British Airways telephone message says check the Web site for updates, but when you check the site it says call the customer services number," said James Kirkman, 41, who was visiting family in Australia with his two children. "There's no information. The kids were due back at school on Monday."

Southern Iceland's Eyjafjallajokull (ay-yah-FYAH'-plah-yer-kuh-duhl) volcano began erupting for the second time in a month on Wednesday, sending ash several miles (kilometers) into the air. Winds pushed the plume south and east across Britain, Ireland, Scandinavia and into the heart of Europe.

The European air navigation safety agency Eurocontrol says that only some 5,000 flights will take place in Europe on Saturday compared to 22,000 in normal circumstances. On Friday, U.S. airlines canceled 280 of the more than 330 trans-Atlantic flights of a normal day.

The International Air Transport Association says the volcano is costing the industry at least $200 million a day.

The disruptions hit tourists, business travelers and dignitaries alike.

German Chancellor Angela Merkel had to go to Portugal rather than Berlin as she flew home from a U.S. visit. China, Japan and Russia and five other Asian nations were missing finance talks with the European Union in Spain.

The military also had to adjust.

Five German soldiers wounded in Afghanistan were diverted to Turkey instead of Germany, while U.S. medical evacuations for troops in Iraq and Afghanistan had to be flown directly from the warfronts to Washington rather than to a care facility in Germany. The U.S. military has also stopped using temporarily closed air bases in the U.K. and Germany.

In Iceland, torrents of water have carried away chunks of ice the size of small houses. Sections of the country's main ring road were wiped out by the flash floods.

More floods from melting waters are expected as long as the volcano keeps erupting — and in 1821, the same volcano managed to erupt for more than a year.

Iceland, a nation of 320,000 people, sits on a large volcanic hot spot in the Atlantic's mid-oceanic ridge and has a history of devastating eruptions. One of the worst was the 1783 eruption of the Laki volcano, which spewed a toxic cloud over Europe, killing tens of thousands.

4/20/2010

PARIS – Applause, cheers and whoops of joy rang out at airports around the world Tuesday as airplanes gradually took to the skies after five days of being grounded by a volcanic ash cloud that has devastated European travel.

But weary passengers might have to tamper their enthusiasm. Only limited flights were allowed to resume at some European airports and U.K. authorities said London airports — a major hub for thousands of daily flights worldwide — would remained closed for at least another day due to new danger from the invisible ash cloud.

And with over 95,000 flights canceled in the last week alone, airlines face the enormous task of working through the backlog to get passengers where they want to go — a challenge that certainly will take days.

Still, in airport hubs that have been cauldrons of anxiety, anger and sleep deprivation, Tuesday marked a day of collective relief.

The boards at Paris' Charles de Gaulle Airport announcing long-distance flights — which had been streaked with red "canceled" signs for five days — filled up with white "on time" signs Tuesday and the first commercial flight out since Thursday left for New York's John F. Kennedy Airport.

"We were in the hotel having breakfast, and we heard an aircraft take off. Everybody got up and applauded," said Bob Basso of San Diego, who has been staying in a hotel near Charles de Gaulle since his flight Friday was canceled.

"There's hope," he said. Basso, 81, and his son have tickets for a flight to Los Angeles later Tuesday.

At New York's JFK, the first flight from Amsterdam in days arrived Monday night.

"Everyone was screaming in the airplane from happiness," said passenger Savvas Toumarides, of Cyprus, who missed his sister's New York wedding after getting stranded in Amsterdam last Thursday. He said the worst part was "waiting and waiting and not knowing."

The Eurocontrol air traffic agency in Brussels said it expects 55 to 60 percent of flights over Europe to go ahead Tuesday, a marked improvement over the last few days. By midmorning, 10,000 of Europe's 27,500 daily flights were scheduled to go.

"The situation today is much improved," said Brian Flynn, deputy head of operations at the Brussels-based agency. "The outlook is that bit by bit, normal flights will be resumed in coming days."

The agency predicted close to normal takeoffs by Friday.

Still, an international pilots group warned that ash remains a danger and meteorologists say Iceland's still-erupting volcano isn't ready to rest yet, promising more choked airspace and flight delays to come.

Ash that had drifted over the North Sea from the volcano in southern Iceland was being pushed back over Britain on Tuesday by shifty north winds, Icelandic scientists said.

"It's a matter of wind directions. The volcano's plume is quite low actually, still below 3 kilometers (1.8 miles) near the volcano," said Gudrun Nina Petersen, meteorologist at the Icelandic Met Office.

A Eurocontrol map showing the ash cloud on Tuesday listed the airspace between Iceland and Britain and Ireland as a no-fly zone, along with much of the Baltic Sea and surrounding area. The ash cloud also spread westward from Iceland, toward Greenland and Canada's eastern coastline.

The volcano in southern Iceland is still spewing smoke and lava, but the ash plume is lower than it previously was, posing less threat to high-flying aircraft.

In Denmark, civil aviation authorities postponed a test flight Tuesday with a propeller-driven ATR 72 to gauge ash concentration, for safety reasons. There is no consensus among on how much ash is too dangerous and even quantities of ash too small to be seen by satellite can be dangerous for aircraft, scientists fear.

Jonathan Astill, head of airspace management at Britain's National Air Traffic Service, told the BBC that London airports would likely remain closed through Wednesday. Flights resumed in Scotland, but only for a handful of domestic flights.

Switzerland reopened its airspace and Germany — which hosts Europe's No. 3 airport at Frankfurt — was to reopen starting Tuesday afternoon.

Some flights resumed early Tuesday from Asia to southern Europe, and flights began flowing to Europe from Cairo, where at least 17,000 people were stranded.

Airports in central Europe and Scandinavia have reopened, and most of southern Europe remained clear, with Spain volunteering to be an emergency hub for overseas travelers trying to get home. Spain piled on extra buses, trains and ferries to handle an expected rush of passengers.

Britain sent navy ships to Spain and France to fetch 800 troops coming home from Afghanistan and passengers who had been stranded by the chaos. The trip on the HMS Albion, a 570-foot (173-meter-long) amphibious assault ship, will take 40 hours from Santander in northern Spain to Portsmouth, England.

One of the 290 civilians, Patricia Quirke of Manchester, said she and nine other families drove all night to catch the Royal Navy ride.

Still, an enormous backlog of stranded passengers remained. Hopeful hitchhikers took to European roads and the technology-savvy headed to Twitter, Facebook and other social media sites to find rides home across the continent.

Ferries on the continent have been so packed that the Viking passenger line between Finland and Sweden opened up its conference rooms so passengers could sleep on the floor.

"No one's complaining," said ferry official Thomas von Hellens. "They are just happy to get across."

Many Asian airports and airlines remained cautious, and most flights to and from Europe remained canceled.

Patrizia Zotti, from Lecce, Italy, carried her 6-month-old son on her back as she waited to finally board a flight out of Tokyo on Tuesday. While happy about getting airborne at last, she was concerned about the ash.

"I've read that the exploratory flights were safe, but I'm still a bit worried," she said.

Australia's Qantas canceled its Wednesday and Thursday flights from Asia to Frankfurt and London, as well as return flights to Asia, saying the situation was too uncertain to resume flights into Europe.

Not everyone who wanted to could get on a flight Tuesday.

Phil Livingstone, a university student from St. Helens, England spent three nights sleeping on chairs at Seoul's Incheon International Airport and living off noodles and the one meal a day authorities provided.

"Hope is high at the minute just because it's the only thing we've got," he said.

Some stranded passengers stuck stickers reading "Lost in Transit" to their chests.

Europe's aviation industry — facing losses of more than $1 billion — has sharply criticized government handling of the disruption that grounded thousands of flights to and from the continent.

But the international pilots' federation said Tuesday that a return to flight operations in Europe will be possible only if the final decisions are left to the pilots themselves, and are based on safety concerns rather than economics.

Gideon Ewers, spokesman of the London-based pilots group, says historical evidence of the effects of volcanic ash demonstrates that it presents a very real threat to flight safety.

Ash and grit from volcanic eruptions can sabotage a plane in many ways, stalling engines, blocking fuel nozzles, and plugging the tubes that sense airspeed.

Truck driver Mike Kelly, 62, and his wife Wendy, 60, of Somerset, England, decided to wait out the ash in Sydney, where their son lives, after being stuck at Singapore's Changi International Airport for five nights.

"We're heading back to Sydney today. We heard there might be another volcano explosion so we'd prefer to wait it out on a beach in Sydney," he said.

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Kirka reported from London. Associated Press writers Slobodan Lekic in Brussels, Alex Kennedy in Singapore, Megan Scott in New York, Jay Alabaster and Malcolm Foster in Tokyo, Tanalee Smith in Adelaide, Australia, Bradley Klapper and Frank Jordans in Geneva and other AP reporters around the world contributed to this report.

4/20/2010

To fly, or not? There's no right answer about when it's safe to fly through a cloud of volcanic ash. But it'll be all too obvious if there's a wrong answer, experts say.

With the volcano in Iceland, Mother Nature is giving high-flying Europe a lesson in risk, aviation technology, scientific uncertainty and economics.

And how these fields intersect is messy.

Experts aren't sure what amount of volcanic ash — made up of sand and tiny abrasive glasslike particles — is dangerous to jet engines and what density is safe. And for that matter, they can't say how much of the ash is floating in any one spot along the air traffic routes or where it is specifically going next.

But airlines know what canceled flights can do to their bottom lines. And passengers know when those canceled flights cross the line from inconvenience to pain.

So Monday night, a smattering of flights took off in northern Europe, followed by more flights on Tuesday. European Union transport ministers divided the northern skies into three areas: a "no-fly" zone immediately over the ash cloud; a caution zone "with some contamination" where planes can fly subject to engine checks for damage; and an open-skies zone.

At one point Monday, the volcano's eruptions were said to be weakening, but by Monday night the plume seemed to intensify, and it was unclear how long newly reopened airports in northern Europe would be able to remain operational.

If airports do reopen, passengers may have to decide for themselves what risk is acceptable.

When people turn to science for answers, they get a lot equivocation.

"There are really no facts about risk. It's just how we interpret the information we have," said David Ropeik, an instructor in risk perception at Harvard and author of the book "How Risky Is It, Really?"

"This is a great example of how the pace of modern technological invention is making a lot more people nervous about just how sure science can be about anything," he said.

It is one of the hardest risk decisions society has faced in a while, agrees Paul Fischbeck, a risk analysis expert at Carnegie Mellon University and a former military pilot.

"With the amount of uncertainty, this now I think is a very hard decision," he said. "How much risk are you willing to accept to reduce economic hardship and inconvenience?"

It isn't a small amount of money at stake. It's billions of dollars with millions of stranded passengers, said Fischbeck. But if an airplane goes down, the company would be shut down by lawsuits, he said.

When the Eyjafjallajokull volcano first spewed, the answer was simple. Authorities usually shut down airspace when there's volcanic ash. It's the precautionary principle of erring on the side of caution, Fischbeck said.

"Standard safety procedure is: Don't go there if you don't know," said Michael Fabian, a professor of mechanical engineering at Embry Riddle Aeronautical University in Prescott, Ariz.

But the days went on and the pain for airline companies and passengers increased and then people started questioning: How bad is it? How do you know?

"Hard questions reveal that the science isn't as settled as first presented," said George Gray, an expert on risk at George Washington University and former science adviser at the U.S. Environmental Protection agency.

The real question about how much risk is acceptable is personal based on the benefits we each get, Gray said.

Fischbeck believes authorities should fly more test flights into the plume to see what kind of damage occurs and at what frequency to help them make a more informed decision.

And the International Air Transport Association accused European governments of offering "no risk assessment, no consultation, no coordination, and no leadership," urging a quicker reopening of European skies.

Engineers worry about immediate catastrophic damage when the ash dust congeals in an engine turbine, blocking air flow and shutting it down, Fabian said. In 1989, when a Boeing 747 flew through volcanic ash over Alaska, all four engines failed and the plane dropped more than two miles in five minutes, before engines restarted. Ash can also cause long-term abrasive damage to planes that could lead to later disasters if not dealt with.

Fabian said the reason engineers know so little about the risks from volcanic ash is that it would take many hours and great expense to do repeated tests. And tests would be needed for the 20 different types of engines currently flown.

And even if engineers knew how much ash a plane's engines could handle, atmospheric scientists can't say how much ash is in any one place or predict what will happen next, said Jon Davidson, a professor of earth sciences at Durham University in England. The ash becomes more diluted as it goes higher in altitude but also clumps together at times like sediments in a river, he said.

"We have built a society that's fairly sensitive to natural changes," Davidson said. "An eruption like this 100 years ago wouldn't have caused any issues in Europe. Possibly we'd not even know about it."

But the more technology and the faster the speed of travel, the more types of risks we are forced to accept, Fischbeck said.

"You can get hurt only so bad walking; you add a horse and you can hurt more," Fischbeck said.

At the same time, with improved technology "you see an evolution of the risks, not necessarily an increase of risks," he said.

Flying is a good example. In the 1950s, there were far more plane accidents than there are now.

That's good because people are less willing to accept low levels of risk, Fischbeck said.

"We set our thresholds so that things that would have been trivial risks in the past would be front page stories now," Fischbeck said. "We demand a much higher level of safety than we did in the past."

So would the risk and engine experts fly through the volcanic plume?

"Imagine being on the first flight out of Heathrow, my stomach would be turning," Gray said.

Fischbeck, a former pilot, and Fabian, an airline engine expert, said they rely on the pilot's judgment.

"To me if the pilot is willing to risk his own life, I'll go," Fabian said.