

UK study expected to improve ash cloud forecasts, may thwart future flight chaos

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USPA News - Predictions of where planes can safely fly during volcanic eruptions may soon be improved following new discoveries about ash clouds, the University of Edinburgh said on Tuesday, indicating that the European flight chaos seen in 2010 may be avoidable in the future. British and Icelandic scientists studied ash grains recovered from recent and previous Icelandic eruptions to compare satellite-based measurements of ash clouds with ash deposits on the ground.

Their findings are expected to help improve methods of mapping ash concentration, in order to identify zones where it is safe to fly. Researchers studied volcanic ash recovered in the United Kingdom from the recent Eyjafjallajökull and Grämsvötn eruptions, as well as prehistoric samples from peat bogs in Scotland, Ireland and England. Another sample, from an 1875 eruption, had been in a museum for 140 years. The scientists hoped to understand the range of sizes of grains and how far they had traveled from Iceland, and ash grains were found to be much larger than typically estimated by satellites. Calculations showed that even moderately sized eruptions could disperse large grains as far as the United Kingdom. The group also used computer models to simulate how clouds of various ash particle sizes would appear to satellite sensors and found that sensors can underestimate the size of larger particles. "Mapping volcanic ash clouds and their risk to aircraft is hard. Large regions of airspace can be contaminated by particles that are invisible to the naked eye. Combining the expertise of volcanologists and atmospheric scientists should help improve forecasts," said Dr. John Stevenson, of the University of Edinburgh's School of GeoSciences, who led the study. More than 100,000 flights were canceled in 2010 when the eruption of Eyjafjallajökull in Iceland ejected huge amounts of volcanic ash into the sky. Large parts of European airspace was closed to air traffic for days, marking the largest air traffic shut down since the end of World War II.

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