



Volcanic Ash

Overview

- ✦ Volcanic eruptions produce fragments of pulverised rock, minerals and volcanic glass. Fragments less than 2 mm in diameter are termed volcanic ash.
- ✦ Explosive eruptions often produce significant quantities of fine volcanic ash, which can be carried by the wind for long distances.
- ✦ Atmospheric dispersion models and a variety of observations e.g. satellite instruments are used in the monitoring and forecasting of volcanic ash.
- ✦ Volcanic ash can cause damage to aircraft engines and components, and where airspace restrictions are put in place to avoid these impacts, transport disruption results.
- ✦ The Met Office, UK, hosts the London Volcanic Ash Advisory Centre (VAAC) for volcanoes originating in Iceland and the North East Atlantic.

Impacts

Potential impacts from volcanic ash include:

Aviation including damage to aircraft engines through ingestion of ash, with possible engine surge and/or failure. Aircraft components can be damaged by abrasion e.g. to cockpit windows. Flight restrictions which are put in place for safety purposes can result in disruption to transport and associated financial losses.

Other impacts (e.g. health, infrastructure and agriculture) are more likely to affect areas local to the source of the volcanic eruption rather than pose any significant risk further afield, though UK scientists will provide advice to government.

Recent Icelandic volcanic ash rich eruptions

May 2011 - Grímsvötn

April to May 2010 - Eyjafjallajökull

Volcanic Hazard in the UK

Large or long-lived volcanic eruptions in Iceland and other parts of Europe pose the biggest risk to the UK. On average, there is a volcanic eruption in Iceland every 5 years, with around three quarters of these producing ash.

The eruption of Eyjafjallajökull in Spring 2010, while not particularly large, lasted for 6 weeks and a persistent area of high pressure maintained a predominantly north-westerly airflow, transporting ash from Iceland toward congested European airspace. To avoid the hazard posed by volcanic ash, aircraft were grounded in the UK and other countries.

NHP Partners collaborate with the Icelandic Met Office, through a Memorandum of Understanding, in the fields of volcanic ash modelling, observing and alerting.

Toxic volcanic gases are a related hazard, but a plume of volcanic gas will not necessarily coincide with volcanic ash.



More information can be found at: www.naturalhazardspartnership.org.uk/hazards/volcanic-ash