

ADVICE FOR AIRPORT OPERATORS

VOLCANIC ASH IS: HARD, HIGHLY ABRASIVE, MILDLY CORROSIVE AND CONDUCTIVE WHEN WET.

ASH IMPACTS TO AIRPORTS

ASH IS HAZARDOUS TO AIRCRAFT.

- It can cause engine failure and severe abrasion to exposed surfaces

ASHFALL MAY REQUIRE AIRPORTS TO CLOSE. TYPICAL IMPACTS INCLUDE:

- Difficult landing conditions due to reduced runway friction, especially when ash is wet.
- Loss of local visibility when ash on the ground is disturbed by engine exhausts during takeoff and landing.
- Ingestion of remobilised ash into jet engines during taxi-ing, takeoff and landing.
- Deposition of ash on hangars and parked aircraft, with structural loading considerably worsened if ash becomes wet.
- Contaminated ground-support systems.

ASH ACCUMULATIONS OF LESS THAN 1 MILLIMETRE MAY BE SUFFICIENT TO TEMPORARILY CLOSE SOME AIRPORTS.

Cleaning up airports after an ashfall is a time-consuming, costly and resource intensive operation. The complexity and immensity of this task should not be underestimated.

ASH IN AIRSPACE IN THE VICINITY OF AIRPORTS MAY ALSO CAUSE DISRUPTIONS TO AIRPORTS EVEN IF IT DOES NOT ACCUMULATE ON THE GROUND.



3-5 mm of ash fall at Mariscal Sucre International Airport in Quito, Ecuador, following the 3 November 2002 eruption of Reventador volcano. The airport closed for 8 days due to the ash deposition on aircraft and runways.



5-10 mm of ash fall at San Carlos de Bariloche International Airport in Bariloche, Argentina, following the June 2011 eruption of Peyuhue Cordon-Caulle volcano in Chile. The airport closed for 31 days due to the on-going ash falls, remobilisation of ash and cleanup.

WARNING INFORMATION

WHERE TO FIND WARNING INFORMATION

- **ASH CLOUD FORECAST** (ash suspended in atmosphere): The Wellington Volcanic Ash Advisory Centre (VAAC) will issue Volcanic Ash Advisories (VAA) and Graphics (VAG) forecasts on suspended ash in the atmosphere affecting aviation. See: <http://vaac.metservice.com/>
- **ASHFALL FORECAST** (ash falling to ground): GeoNet (GNS Science) will provide ashfall forecasts in the event of an explosive eruption (see: geonet.org.nz).
- **AVIATION COLOUR & VOLCANO ALERT LEVEL** (ash falling to ground): GeoNet (GNS Science) sets the Aviation Colour Codes and Volcano Alert Level for New Zealand's volcanoes (see: geonet.org.nz).



RECOMMENDED ACTIONS

HOW TO PREPARE

At-risk airports should develop comprehensive operational plans for ashfall events (including cleanup – see companion “Advice for Urban Clean-Up Operations” poster). These plans should, where possible, be integrated with airline plans.

A more comprehensive summary of ashfall consequences to airports and detailed planning guidelines are available from:

- ICAO: www.paris.icao.int/news/pdf/9691.pdf

The ICAO resource provides guidance on:

- a) standing arrangements prior to volcanic eruptions;
- b) responses during an eruption
- c) post-eruption cleanup and re-opening of the airport.

Field crews should use safe operating procedures when operating in an ‘ashy’ environment.

- Protective clothing (full-length clothing, face masks and goggles) should be worn and care must be taken on ash-covered surfaces, particularly roofs.
- See www.IVHHN.org for further advice on protecting people from ash hazards.

ROLES AND RESPONSIBILITIES

The NZ Civil Aviation Authority (CAA) has a comprehensive document outlining roles and responsibility in managing volcanic ash in New Zealand for the aviation sector.

- www.caa.govt.nz/meteorology/living_with_volcanic_ash.pdf

FURTHER INFORMATION ON DEALING WITH VOLCANIC ASH MAY BE FOUND IN THE FOLLOWING LOCATIONS:

- <http://www.geonet.org.nz>
- <http://www.ivhnn.org>
- <http://volcanoes.usgs.gov/ash/trans/index.php#airports>
- <http://www.caa.govt.nz/>

DRAFTED BY TOM WILSON AND CAROL STEWART.

7 February 2013