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Ref.: ICAO AN 10/18.3-13/53
WMO WDS/AN/VA

31 May 2013

Subject: Detection of volcanic ash in the atmosphere

Action required: Support activities to improve the availability of, and access to, satellite-based, ground-based and airborne volcanic ash detection data

Sir/Madam,

1. We have the honour to inform you that the International Volcanic Ash Task Force (IVATF), which was established by the International Civil Aviation Organization (ICAO) in close coordination with the World Meteorological Organization (WMO), has completed its work in respect of the response to the disruption caused to civil aviation by the eruption of the Eyjafjallajökull volcano in Iceland in April 2010.

2. One of the most important considerations of the IVATF was flight planning to avoid volcanic ash in the atmosphere that poses a significant hazard to flight safety and efficiency. During a volcanic eruption, flights will be planned on the basis of forecasts, prepared to internationally agreed standards, of the location and extent of volcanic ash clouds.

3. To ensure that data on the location and extent of volcanic ash clouds are made available to States that maintain volcanic ash advisory centres and/or meteorological watch office(s) within the framework of the ICAO international airways volcano watch, we kindly urge you to encourage and support necessary activities within your State to improve the availability of, and access to, satellite-based, ground-based and airborne volcanic ash detection data, taking into account where there is a need to establish a bilateral agreement as described in the attachment.

Accept, Sir/Madam, the assurances of our highest consideration.

Raymond Benjamin
Secretary General
ICAO

Michel Jarraud
Secretary-General
WMO

Enclosure:
Background on detection of volcanic ash in the atmosphere

ATTACHMENT to State letter AN 10/18.3-13/53

BACKGROUND ON DETECTION OF VOLCANIC ASH IN THE ATMOSPHERE

1. One of the most important considerations of the International Volcanic Ash Task Force (IVATF) was flight planning to avoid volcanic ash in the atmosphere that poses a significant hazard to flight safety and efficiency. During a volcanic eruption, flights will be planned on the basis of forecasts, prepared to internationally agreed Standards, of the location and extent of volcanic ash clouds. These are issued by volcanic ash advisory centres (VAACs) and/or meteorological watch offices (MWOs) within the framework of the international airways volcano watch (IAVW). Improved availability and access to volcanic ash observational data, including eruption source parameters, by the VAACs and the MWOs from satellite-based, ground-based and airborne detection systems, will lead to enhanced knowledge about the presence of volcanic ash in the atmosphere. The result of this will be increased observational capability and forecast accuracy, which in turn will lead not only to economic benefits for civil aviation through more efficient flight profiles, but also safety benefits through increased common situational awareness and user confidence.

2. Detection of volcanic ash in the atmosphere is currently possible through satellite-based remote-sensing technologies and ground-based and airborne detection systems. However, Eyjafjallajökull and similar eruptions, before and since, have demonstrated that observational data from such systems available at the VAACs and MWOs was often insufficient to enable these meteorological service providers to issue forecasts with a high level of confidence to the users. The issuance of forecasts uncorroborated by observations may have resulted in cancellations or deviations of scheduled flights which might otherwise have been conducted safely had better information been available.

3. Occasionally, observing networks used for the detection of volcanic ash in the atmosphere are maintained by a State only for non-operational, research-oriented purposes rather than for 24/7 operational decision-support purposes. Nevertheless, collaboration between non-operational and operational communities can often prove mutually beneficial. Where research-oriented resources are made available to assist the operational response, a bilateral agreement between the parties concerned may be necessary to ensure that requirements for the level of services and any associated costs are clearly specified.

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