

AVIATION WEATHER PRODUCTS

Volcanic Ash Advisories

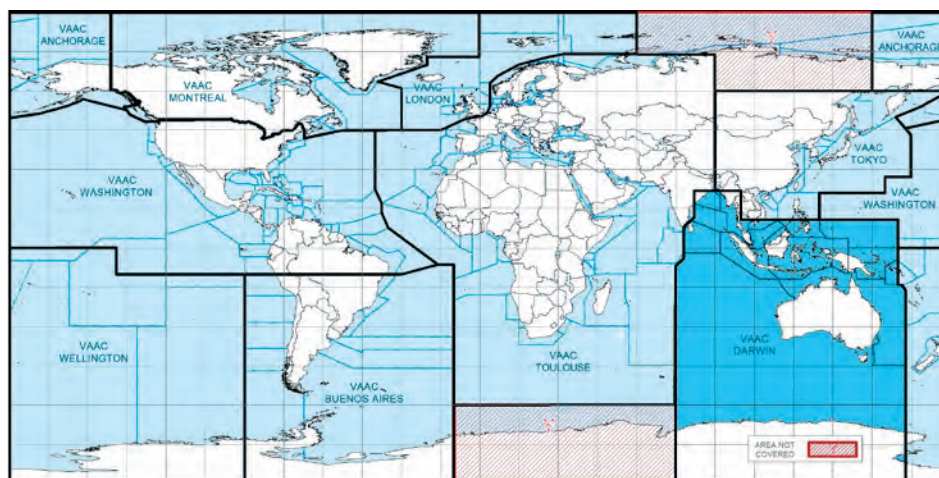


The Bureau of Meteorology operates one of nine Volcanic Ash Advisory Centres providing monitoring and reporting of volcanic ash for the aviation industry.

Volcanic Ash Advisories

Information on volcanic ash is initially issued by Volcanic Ash Advisory Centres (VAACs) in the form of Volcanic Ash Advisory (VAA) messages. Volcanic ash SIGMET messages are prepared by the relevant Meteorological Watch Offices (MWO) from the information contained in the VAA. All Australian Volcanic Ash SIGMETs are issued by the Bureau's MWO in Darwin.

The Bureau of Meteorology operates a VAAC in Darwin. The VAAC Darwin is staffed by meteorologists specially trained in the forecasting of volcanic ash. The Darwin VAAC is responsible for the area that encompasses the active volcanic regions of Indonesia, Papua New Guinea and the southern Philippines, and extends southwards to the pole. This area encompasses the active volcanic regions of Indonesia, Papua New Guinea and the southern Philippines. The other VAACs are located at Anchorage, Buenos Aires, London, Montreal, Tokyo, Toulouse, Washington and Wellington. The various areas of responsibility are shown in the following diagram:



Volcanic Ash Advisory Centres areas of responsibility.

Message Structure

WMO Header

The World Meteorological Organization header is included to facilitate the international exchange of messages.

VA Advisory

The message type is identified as VA (volcanic ash) ADVISORY.

VA ADVISORY

Date/Time (of issue) Group (DTG)

Year, month, day and time of issue followed by the letter Z (universal time coordinated, UTC).

DTG: 20061007/0140Z

Aviation Color Code

RED

- Eruption is forecast to be imminent with significant emission of ash into the atmosphere likely; or
- Eruption is underway with significant emission of ash into the atmosphere occurring

ORANGE

- Volcano is exhibiting heightened unrest with increased likelihood of eruption; or
- Volcanic eruption is underway with no, or minor, ash emission.

YELLOW

- Volcano is experiencing signs of elevated unrest above known background levels; or (after a change from a higher alert level)
- Volcanic activity has decreased significantly but continues to be closely monitored for possible renewed increase.

GREEN

- Volcano is in normal non-eruptive state; or (after a change from a higher alert level)
- Volcano activity considered to have ceased and volcano reverted to its normal, non-eruptive state.

VAAC

Name of issuing office (the Volcanic Ash Advisory Centre).

VAAC: DARWIN

Volcano Name and Number

The volcano name is followed by the IAVCEI (International Association of Vulcanology and Chemistry of the Earth's Interior) reference number for the erupting volcano.

VOLCANO: RABAU 0502-14

Volcano Position

Volcano position is given by latitude and longitude in degrees and minutes.

PSN: S0416 E15212

Area

Gives the State, or region if the VA is not reported over a State, within which the ash is located.

AREA: NEW_BRITAIN SW_PAC

Summit Elevation

Gives the volcano's summit height above sea level, in metres and/or feet.

SUMMIT ELEV: 688M/2257FT

Advisory Number

Each volcano has its own numbering sequence, giving the number of advisories issued for that volcano in the current calendar year. Given in the format YYYY/N.

ADVISORY NR: 2006/7

Information Source

Describes the means (e.g. pilot reports, satellite imagery, vulcanological authority) by which the VAAC was notified of the volcanic ash.

INFO SOURCE: RVO, MTSAT-1R, NOAA/AVHRR

Aviation Color Code

The aviation colour code is an alert level developed by the IAVW (International Airways Volcano Watch) and recommended for use by vulcanological agencies to report volcanic activity information for inclusion in VAA (and NOTAMS). See left column for the four levels of alert.

AVIATION COLOUR CODE: RED

Eruption Details

Gives a summary of the details of the eruption as provided by the information source.

ERUPTION DETAILS: RVO ADVISE ERUPTION AT 06/2245Z, SAT IMAGE INDICATES TO FL600

Observation Date/Time Group

Gives the day of the month and the time (UTC) of the observation in the format DD/HHMMZ.

OBS VA DTG: 07/0130Z

Observed Ash Cloud

Gives horizontal and vertical extent of the observed or estimated ash cloud, if known, plus an indication of the movement of the cloud.

OBS VA CLD: SFC/FL200 S0430 E15200 - S0340 E15200 - S0420 E15250 - S0430 E15200 - S0430 E15200 MOV NE 15KT FL200/600 S0355 E15150 - S0500 E15135 - S0435 E15235 - S0355 E15150 MOV SW 30KT



Shinmoe-dake volcano, Kyushu, 2011, courtesy of NASA

Forecast

Gives the horizontal and vertical extent of the ash cloud at +6, +12, and +18 hours from the time of the observed cloud.

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FCST VA CLD +6HR: 07/0730Z SFC/FL200 S0445 E15150 - S0300 E15150 - S0410 E15345 - S0535 E15320 - S0445 E15150 FL200/600 S0350 E15140 - S0400 E14940 - S0645 E15025 - S0445 E15240 - S0350 E15140
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Remarks

Includes any further pertinent information, e.g. identifying what has changed if the message is a correction.

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RMK: NOAA 07/0015Z, MTSAT 07/0033Z SATELLITE IMAGERY INDICATES ERUPTION TO FL600. COLOUR CODE BASED ON SATELLITE OBSERVATIONS GRAPHIC AT http://www.bom.gov.au/info/vaac/advisories.shtml
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Next Advisory

Gives the approximate date/time of the next advisory issue. The normal frequency of issue is every six hours, but will be more often if significant new information becomes available. However, under certain circumstances such as when precautionary advisories are being issued, or when regular information is being received indicating an eruption is ongoing and ash is not evident on satellite imagery, advices may be issued every twenty four hours.

Will also indicate if the ash cloud is expected to move into an adjacent VAAC's area of responsibility.

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NXT ADVISORY: NO LATER THAN 20061007/0730Z
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Volcanic Ash Advisory Example

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VA ADVISORY
DTG: 20061007/0140Z
VAAC: DARWIN

VOLCANO: RABAU 0502-14
PSN: S0416 E15212
AREA: NEW_BRITAIN SW_PAC
SUMMIT ELEV: 688M/2257FT

ADVISORY NR: 2006/7
INFO SOURCE: RVO, MTSAT-1R, NOAA/AVHRR
AVIATION COLOUR CODE: RED
ERUPTION DETAILS: RVO ADVISE ERUPTION AT 06/2245Z, SAT IMAGE INDICATES TO FL600

OBS VA DTG: 07/0130Z
OBS VA CLD: SFC/FL200 S0430 E15200 - S0340 E15200 - S0420 E15250 - S0430 E15200 - S0430 E15200 MOV NE 15KT FL200/600 S0355 E15150 - S0500 E15135 - S0435 E15235 - S0355 E15150 MOV SW 30KT

FCST VA CLD +6HR: 07/0730Z SFC/FL200 S0445 E15150 - S0300 E15150 - S0410 E15345 - S0535 E15320 - S0445 E15150 FL200/600 S0350 E15140 - S0400 E14940 - S0645 E15025 - S0445 E15240 - S0350 E15140

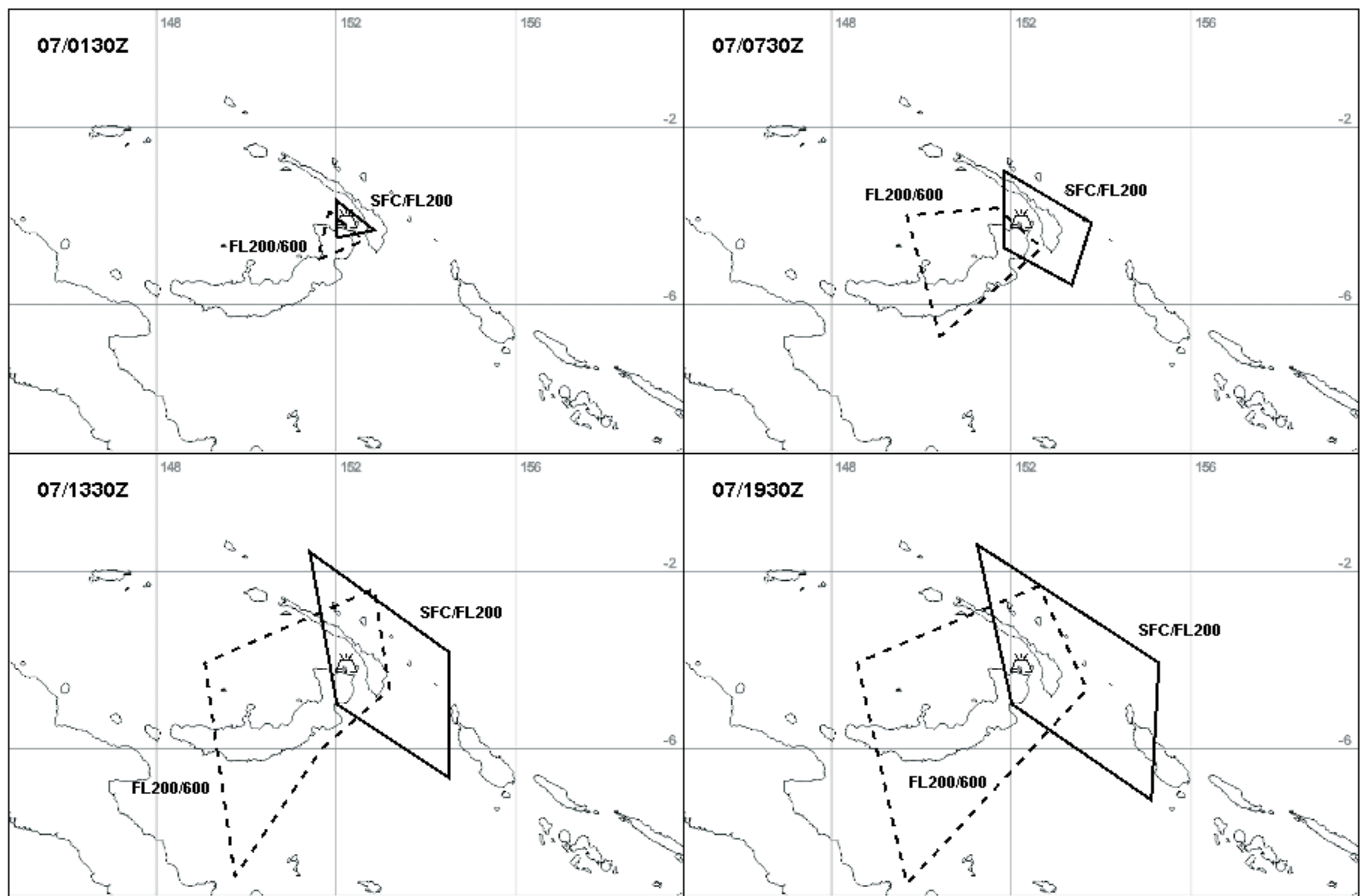
FCST VA CLD +12HR: 07/1330Z SFC/FL200 S0500 E15200 - S0135 E15125 - S0350 E15430 - S0640 E15430 - S0500 E15200 FL200/600 S0440 E15310 - S0225 E15250 - S0405 E14905 - S0855 E14945 - S0600 E15140 - S0440 E15310

FCST VA CLD +18 HR: 07/1930Z SFC/FL200 S0500 E15200 - S0125 E15115 - S0405 E15515 - S0710 E15505 - S0500 E15200 FL200/600 S0220 E15235 - S0405 E14835 - S0905 E14940 - S0440 E15340 - S0220 E15235

RMK: NOAA 07/0015Z, MTSAT 07/0033Z SATELLITE IMAGERY INDICATES ERUPTION TO FL600. COLOUR CODE BASED ON SATELLITE OBSERVATIONS GRAPHIC AT http://www.bom.gov.au/info/vaac/advisories.shtml
NXT ADVISORY: NO LATER THAN 20061007/0730Z
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Volcanic Ash Advisory Graphic (VAG)

Advisory messages for volcanic ash are also issued in graphical format whenever a text product is issued. The VAG uses all the information from the VAA, and displays the OBS VA CLD and FCST parts of the Volcanic Ash Advisory as polygons in four panels. Different line styles are used to distinguish between the different layers of ash.



VOLCANIC ASH ADVISORY
 ISSUED: 20061007/0140Z
 VAAC: DARWIN
 VOLCANO: Rabaul 0502-14=
 LOCATION: S0416 E15212
 AREA: New_Britain SW_Pac

SUMMIT_ELEVATION: 688M/2257FT
 ADVISORY NUMBER: 2006/7
 INFORMATION SOURCE: RVO, SATELLITE IMAGERY,
 AVIATION COLOUR CODE: RED
 ERUPTION DETAILS: RVO ADVISE ERUPTION AT
 06/2245Z, SAT IMAGE INDICATES TO FL600

REMARKS: NOAA 07/0015Z, MTSAT 07/0033Z SATELLITE IMAGERY INDICATE
 ERUPTION TO FL600. COLOUR CODE BASED ON SATELLITE OBSERVATIONS
 NEXT ADVISORY: NO LATER THAN 20061007/0730Z



Australian Government
 Bureau of Meteorology

Airservices Australia is the official distributor of aviation forecasts, warnings and observations issued by the Bureau of Meteorology. Flight briefing services are available at: www.airservicesaustralia.com. Telephone contact details for elaborative briefings are contained in Airservices' *Aeronautical Information Publication Australia* (AIP), which is available online through their website.

The Australian Bureau of Meteorology provides a wide range of observations, synoptic charts, satellite and radar images, forecast and warnings via the internet at www.bom.gov.au.