



ICAO

*International Civil Aviation Organization*

**Fourteenth Meeting of the Air Traffic Management Sub-Group (ATM/SG/14) of APANPIRG**

Bangkok, Thailand, 3 – 7 August 2026

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**Agenda Item 7: AOP, AIM, MET, SAR**

**PROVISION OF NOTAM FOR VOLCANIC ACTIVITY**

(Presented by New Zealand)

**SUMMARY**

This paper presents the latest development from MET Panel and the need to assess the harmonisation on the issuance of NOTAM and text in the APAC region to enhance flight safety for pre-eruption volcanic activities.

**1. INTRODUCTION**

1.1 The 30th Meeting of the Meteorology Sub-group of APANPIRG (MET SG/30), held from 20 to 24 July 2026 in Bangkok, reviewed the status of the current APANPIRG Air Navigation Deficiencies in the MET field (MET SG/30 WP/06), including discussion on the status of AP-MET-17, on the lack of volcanic activity information provision by Tonga.

**2. DISCUSSION**

Status of AP-MET-17

2.1 The status of AP-MET-17 was updated by the Meeting, noting Tonga's presentation to the MET Implementation Workshop. The presentation highlighted the recent signing of a Letter of Agreement between Tonga Meteorological Services, the Natural Resources Division, Tonga Airports Ltd and Lulutai Airlines, in coordination with the Civil Aviation Division, confirming the procedures for sharing information on activity of Tonga's volcanoes into the aviation system.

2.2 The Natural Resources Division hosts Tonga Geological Services, the designated State volcano observatory (SVO) of Tonga. On observing significant volcanic activity at any of Tonga's volcanoes, Tonga Geological Services will issue a volcano observatory notice to aviation (VONA), disseminating it via email to:

- a) the Wellington volcanic ash advisory centre (VAAC) and the Wellington meteorological watch office (both hosted by MetService New Zealand);
- b) Tonga Aeronautical Information Services and Tonga Air Traffic Control (both hosted by Tonga Airports Ltd); and
- c) Auckland Oceanic Control and the New Zealand NOTAM Office (both hosted by Airways New Zealand).

2.3 In addition to the organisations listed above, the VONA is also emailed to a small group of airline contacts, representing Tonga, New Zealand, Australian and Fijian operators. Further, a NOTAM advising of volcanic activity was issued for Nuku'alofa Airport.

#### Availability of Pre-Eruptive Activity Information

2.4 Tonga Geological Service is anticipated to work with MetService New Zealand in the coming year to use the VONA Input Service (web-based VONA creation and dissemination tool) to disseminated Tongan VONA via the aeronautical fixed services and so enable ingestion by airline operator for flight planning and assessment. Until then, for VONA relating to significant pre-eruptive activity, will only be available to via email to a limited set of operators. A NOTAM for volcanic activity is therefore the only other available mechanism to ensure operators are aware of information on the elevated risk of eruption.

2.5 The ATM/SG is invited to refer to Annex 15, Section 6.3.2.3 that outlines the scenarios for which a NOTAM shall be issued, including for an operationally significant change in volcanic activity (text reproduced below) – which includes elevated volcanic unrest, also known as pre-eruptive activity.

w) *an operationally significant change in volcanic activity, the location, date and time of volcanic eruptions and/or horizontal and vertical extent of volcanic ash cloud, including direction of movement, flight levels and routes or portions of routes which could be affected;*

2.6 Annex 3, sections 3.5 and 7.1 outline the requirements for SVOs, the relevant sections are provided below:

*3.5.2 State volcano observatories shall send information on volcanic activity and/or volcanic ash in the atmosphere as quickly as practicable to their associated VAACs, MWOs, NOTAM offices, ACCs/FICs and, in accordance with regional air navigation agreement, international OPMET databanks, when observing:*

*a) significant pre-eruption volcanic activity;*

*[...]*

*7.1.2 Recommendation — Information on volcanic activity and/or volcanic ash in the atmosphere should be issued by a State volcano observatory as a Volcano Observatory Notice for Aviation (VONA).*

2.7 *Procedures for Air Navigation Services – Meteorology* (PANS-MET, Doc 10157) includes the VONA requirements, including the use of aviation colour codes. The assignment of aviation colour code yellow or higher may be considered a “significant change”, with the following definition of yellow is include in PANS-MET (Doc 10157):

*b) YELLOW – the volcano is experiencing signs of elevated unrest above known background levels; or volcanic activity has decreased significantly but continues to be closely monitored for possible renewed increase;*

2.8 It can therefore be inferred that if a SVO issue a VONA with aviation colour code of yellow (or higher), then that can be considered “an operationally significant change in volcanic activity” and therefore a NOTAM for volcanic activity should be issued upon its receipt, for the FIR that the volcano is located within.

2.9 The ATM/SG may recall that **ATM/SG/12 WP/37 NOTAM/ASHTAM For Volcanic Unrest**, described the lack of awareness by international operators of elevated pre-eruptive unrest of many Asia and Pacific (APAC) volcanoes.

2.10 This situation was realised earlier this year, when a commercial international flight flew directly above a volcano assigned aviation colour code orange, which would not have occurred had the airline had awareness of the elevated activity. In this case, a NOTAM was in fact issued but it was for an aerodrome (rather than the relevant FIR) and had been assigned an upper limit of 2000 ft, which reflected the elevation of the steam being emitted from the volcano, rather than the potential vertical extent of airspace that was at elevated risk of eruption and volcanic ash contamination.

2.11 An update to the *Handbook on the International Airways Volcano Watch* (Doc 9766) has recently been approved by the ICAO Meteorology Panel (METP) Working Group Meteorological Operations Group – International Airways Volcano Watch (WG-MOG IAVW), advising NOTAMs for pre-eruptive activity observed within an FIR should have an upper limit of UNL (unless otherwise advised by the relevant SVO), to reflect the risk of volcanic ash eruption reaching high levels.

2.12 With the latest development from METP, we should review the NOTAM practice and text in the APAC region as many States/Administrations have similar considerations for notification of pre-eruption volcanic activities.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) consider including in its activities a review of NOTAM practice in the APAC region for harmonisation, where active or potentially active volcanoes are present<sup>1</sup> to support airline risk management processes and enhance flight safety; and
- c) encourage States/Administrations to share their experience in NOTAM issuance for notification of pre-eruption volcanic activities

— END —

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<sup>1</sup> The Smithsonian Global Volcanism Program maintains a database of Holocene volcanoes, which may be considered as ‘active or potentially active’ - including a [listing of Holocene volcanoes by country](#).