



METEOROLOGY PANEL



International Civil Aviation Organization (ICAO) Volcano Observatory Notice for Aviation (VONA) Guidance for State Volcano Observatories (SVOs)

Volcanic eruptions may happen unexpectedly and can impact aircraft well beyond the eruption site, **making SVOs essential** to the worldwide aviation network. Volcanic threats, particularly ash clouds, have the potential to interrupt both **regional and international** flight paths. Aviation authorities depend **on prompt and precise** volcanic data to ensure the **safe planning and execution** of flights.

State Volcano Observatories (SVOs)

State Volcano Observatories are formally **designed by each country** (or State) under regional air navigation agreements to support aviation safety.

Under ICAO requirements, SVOs are tasked to monitor active or potentially active volcanoes within their assigned regions.

Their **core responsibilities** include:

- Detecting signs of volcanic unrest
- Forecasting possible eruptions
- Reporting the presence of volcanic ash in the atmosphere

What Is a VONA?

The VONA is a **globally standardized message** issued by SVOs to the aviation community. It is designed to quickly communicate information about volcanic activity that may pose a hazard to aviation.

VONAs are used by volcanic ash advisory centres (VAACs), meteorological watch offices, air traffic managers, pilots, airline dispatchers.

Current ICAO Requirement

States with active or potentially active volcanoes **shall arrange** SVOs to monitor these volcanoes and to send information on volcanic activity as quickly as practicable to specified aviation organizations when observing:

- Significant pre-eruptive volcanic activity
- Volcanic eruption or significant change in eruptive activity; and/or
- Volcanic ash in the atmosphere.

Note, guidance for 'significant' is in the Handbook on the International Airways Volcano Watch (Doc 9766)

New Recommended Practice

Information on volcanic activity and/or volcanic ash in the atmosphere **should** be issued **by a SVO as a VONA**, using the **updated template** and meeting the **new requirements** for means of distribution and update frequency.

Why Must SVOs Issue VONAs?

- **Flight planners** must know about hazards along potential routes.
- **Local** volcanic activity is of **global** aviation interest.
- **SVOs** serve as the source of **authoritative** volcanic information.

ICAO has **updated** the global VONA format. These changes became a **Recommended Practice** for SVOs beginning 28 November 2025. The updated requirements ensure consistency, clarity, and seamless distribution across international aviation systems.

Summary of Key Updates

- A new **standardized** content and format.
- **Mandatory fields** with prescribed wording and aviation-standard abbreviations.
- Dual output format: a text bulletin and a machine-readable XML product.
- Distribution via the Aeronautical Fixed Service (AFS), in addition to current methods.
- Use of the **ICAO Aviation Colour Code** (RED, ORANGE, YELLOW, GREEN), with the addition of UNASSIGNED.
- **Minimum update frequencies** based on color code:– YELLOW: at least every 14 days– ORANGE: at least every 7 days– RED: at least every 1 day.
- VONAs can be used for **resuspended ash**; however, the aviation color code should not change unless volcanic activity itself has changed.

VONA – Wider Group of Users

- Once the VONA is provided to operators in the AFS systems, it can be delivered in the **same way** as any other aviation meteorological advisory or warning.
- **Globally harmonized**, can be ingested into flight planning software, information decision making tools.
- **Vitally important** to follow the template precisely so that the VONA can be machine readable.

VONA – Enhanced Information

Where possible, SVOs encouraged to include **ranges** for eruption source parameters in the remarks sections.

- This could include **variation** in eruption cloud height or other factors like course-grained tephra, or significant water content.
- Supports modelling by the VAACs and issuance of **probabilistic** quantitative volcanic ash concentration information (QVA).

VONA should be issued in **both** traditional alphanumeric code (**TAC**) and **IWXXM** (ICAO XML) formats to enhance its applicability within aviation systems. SVOs are strongly **encouraged** to collaborate with their national meteorological and air navigation service provider and/or regional VAAC to produce VONAs in **IWXXM format** and ensure their dissemination **through the AFS**.

Where to Find Detailed Guidance

- *Handbook on the International Airways Volcano Watch* (Doc 9766), available at: www.icao.int/airnavigation/aeronautical-meteorological-service/documents/IAVW
- World Organization of Volcano Observatories - Volcanic Ash and Aviation Hazards wovo.iavceivolcano.org/vaah-volcanic-ash-and-aviation-hazards/
wovo.iavceivolcano.org/vona/