



Volcano Observatory Notice to Aviation (VONA)

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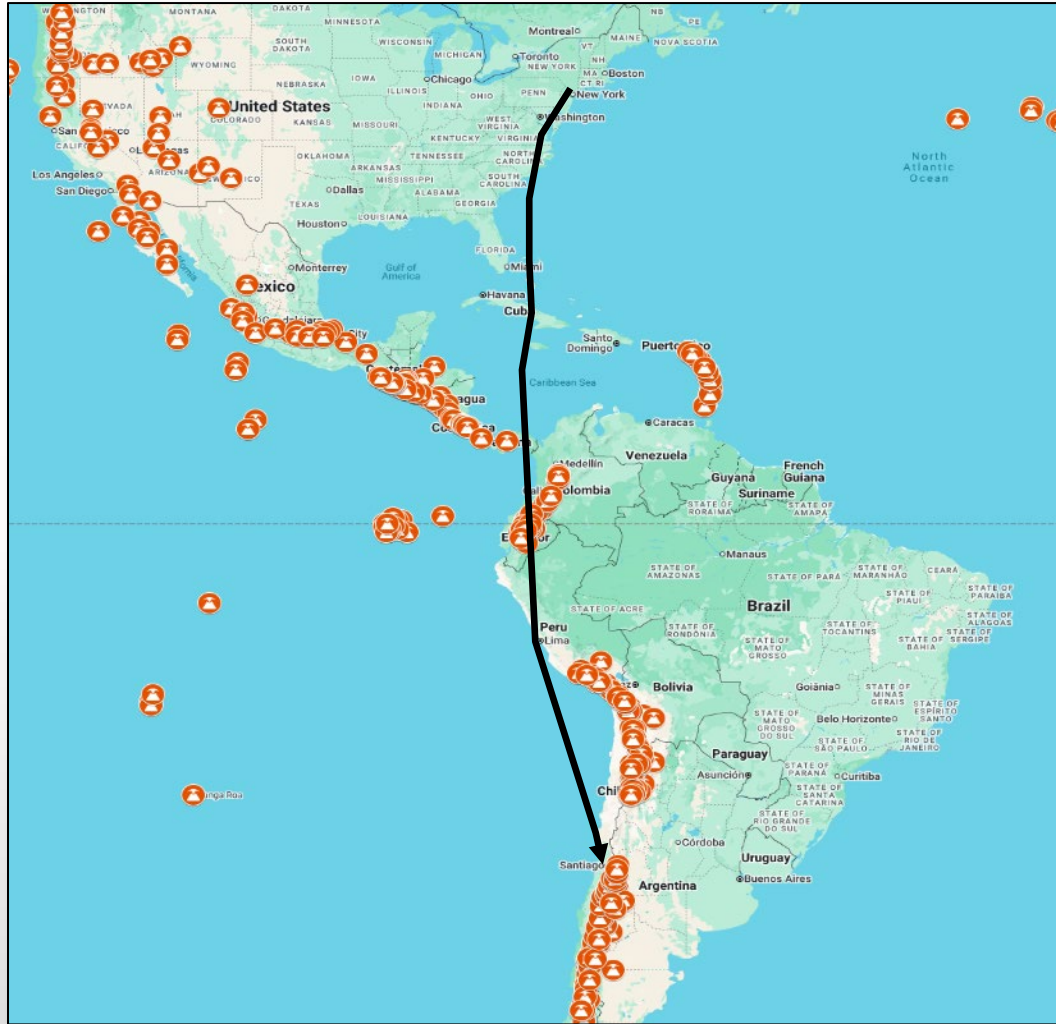


**Federal Aviation
Administration**

Agenda

- Volcano Observatory Notice for Aviation (VONA)
 - What is the VONA
 - Operational use and coordination of the VONA
 - ICAO Annex 3 VONA requirements
- Volcanic Ash Advisory Centers (VAACs)
- State Volcano Observatories (SVOs)
 - Coordination between SVOs and VAACs
- ICAO Annex 3: Meteorological Services for International Air Navigation
- Procedures for Air Navigation Services – Meteorology (PANS-MET, Doc 10157)
- VONA Dissemination
- VONA requirements and guidance material

Consider a flight from New York to Santiago.



Flight planners consider weather and hazards along flight route, adjusting the route accordingly.

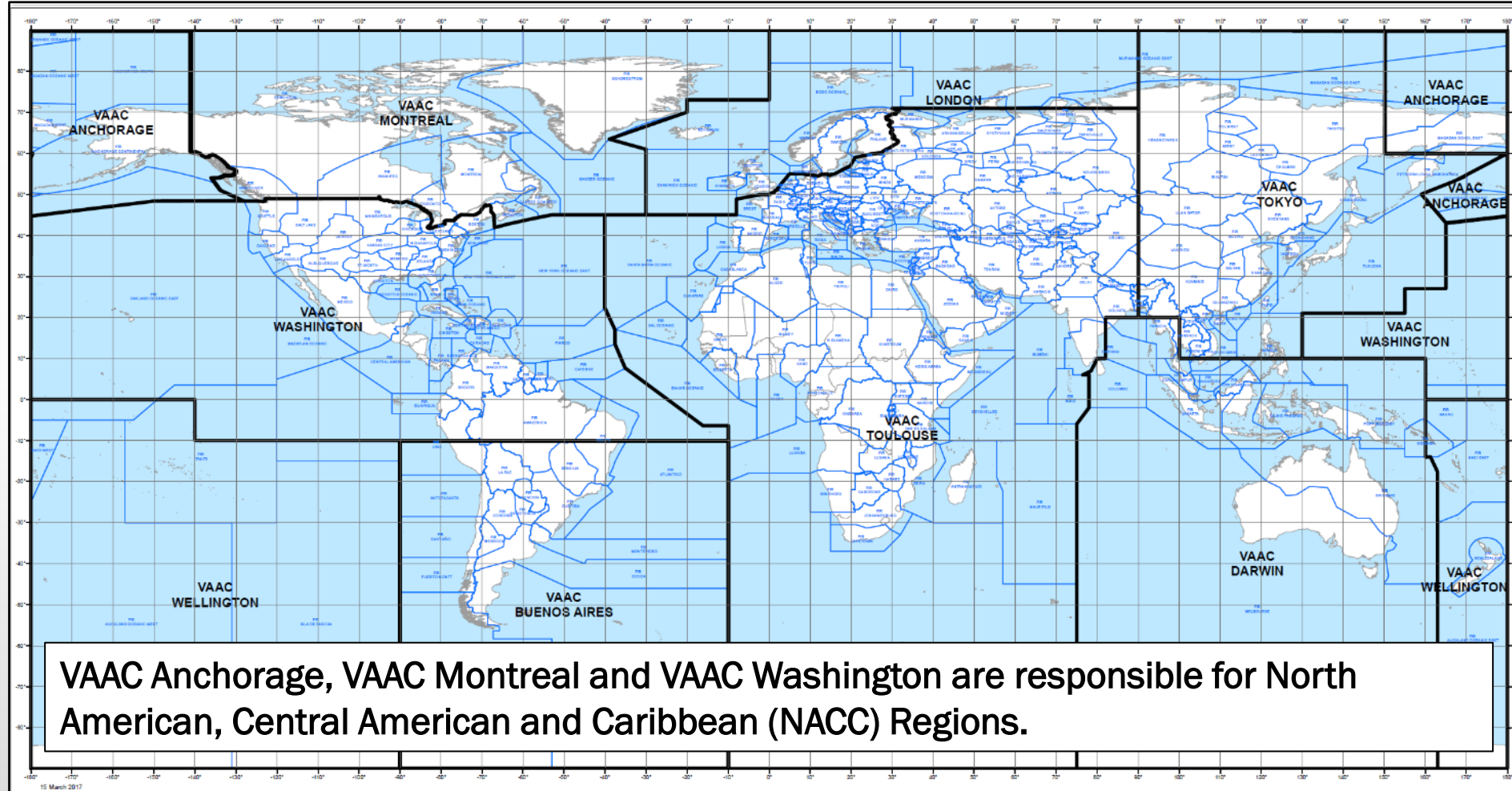
Local volcanic activity is of global aviation interest. Pre-eruption unrest is important for planning, and prompt reporting of ash producing eruptions is vitally important.

The Volcano Observatory Notification for Aviation (VONA) is the primary way that this information is to be communicated.

What is a VONA and who produces it?

- The VONA is a globally standardized message issued by State Volcano Observatories (SVOs) to the aviation community. It is designed to quickly communicate information about pre-eruptive unrest and volcanic activity that may pose a hazard to aviation.
- VONAs are used by Volcanic Ash Advisory Centres (VAACs), Meteorological Watch Offices (MWOs), air traffic managers, pilots, and airline dispatchers.
 - VAACs and MWOs in the NACC region rely on the VONA for the verification of volcanic ash and to produce volcanic ash products, such as volcanic ash advisories and volcanic ash SIGMETs.
- VONAs provide observation information to assist VAACs in their dispersion modelling, when airborne volcanic ash is reported.

Regional Volcanic Ash Advisory Centres (VAACs)



Designated State Volcano Observatories (SVOs)

- SVOs are formally designated 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; and
 - Reporting the presence of volcanic ash in the atmosphere

How are SVOs designated?

- Every ICAO region has an Air Navigation Plan (ANP), outlining services in the region. Volume I contains Table MET-I-1 State Volcano Observatories
- Usually, designation in the ANP is coordinated by the Civil Aviation Authority (CAA).
- Only designated SVOs should issue VONA—reduces risk of conflicting information, promotes single ‘source of truth’.
- For volcanoes that are located on borders, SVOs should coordinate on any VONA being issued.

SVOs in the NACC Regions

Costa Rica

- Observatorio de Volcanes y Sismológico de Costa Rica
- (OVSICORI-UNA), Heredia

El Salvador

- Servicio Nacional de Estudios Territoriales (SNET)
- Ministerio de Medio Ambiente y Recursos Naturales, (MARN)

French Antilles (France)

- Observatoire volcanologique de la Soufriere
- Guadeloupe Observatoire volcanologique de la Pelée, Martinique

Guatemala

- INSIVUMEH Sección Vulcanología, Ciudad de Guatemala

Guyana

- Guyana Geology and Mines Commission

Mexico

- Centro Nacional de Prevención de Desastres (CENAPRED)
- Centro Universitario de Investigaciones en Ciencias del Ambiente
- Universidad de Colima Instituto de Geofísica, UNAM Observatorio de volcanes, Universidad de Colima

SVOs in the NACC Regions

Montserrat (U.K.)

- Montserrat Volcano Observatory

Nicaragua

- Dirección General del Inst. Nicaragüense de Estudios Territoriales (INETER), Dirección de Vulcanología, Managua

Trinidad and Tobago

- Seismic Research Unit, University of Indies, St. Augustine

United States

- U.S. Geological Survey, Alaska Volcano Observatory
- U.S. Geological Survey, California Volcano Observatory
- U.S. Geological Survey, Cascades Volcano Observatory
- U.S. Geological Survey, Yellowstone Volcano Observatory

ICAO Annex 3 VONA requirements

UNCHANGED States with active or potentially active volcanoes shall arrange SVOs to:

- Monitor volcanoes
- Send information on volcanic activity as quickly as practicable to specified aviation organisations when observing:
 - Significant pre-eruption volcanic activity
 - Volcanic eruption or significant change in eruptive activity; and/or
 - Volcanic ash in the atmosphere.

NEW Recommendation.—Information on volcanic activity and/or volcanic ash in the atmosphere should be issued by a SVO as a VONA.

- Includes new requirements as to how and when VONA issued.

ICAO AMD 82 to Annex 3 / PANS-MET: Summary of Key VONA 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.
- 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.
- Distribution via the Aeronautical Fixed Service (AFS), in addition to current methods.
- VONAs can be used for resuspended ash; however, the aviation color code should not change unless volcanic activity itself has changed.

Content of the of VONA as issued by the United States Geological Survey (USGS)

Header information for aviation systems	WMAK01 PAVO 011900
Product type	VONA
Indicator of TEST or EXERCISE message	STATUS: TEST
Date and Time in UTC	DTG: 20260301/1900Z
Volcano name and IAVCEI number	VOLCANO: AVO TEST VOLCANO 99999
Location of volcano	PSN: N6119 W14948
State or region	AREA: ALASKA
Source elevation of volcanic vent	SOURCE ELEV: 300FT AMSL
Notice Number (separate sequence for each volcano)	NOTICE NR: 2026/01
Current Aviation Colour Code	CURRENT COLOUR CODE: RED
Previous Aviation Colour Code	PREVIOUS COLOUR CODE: ORANGE
State Volcano Observatory	SVO: ALASKA VOLCANO OBSERVATORY
Activity Status	ACT STS: ERUPTION OCCURRED
Onset time of activity	ONSET: 20260301/1900Z
Duration (ongoing continuous)	DUR: ONGOING CONS
Volcanic ash cloud height (above mean sea level)	VA CLD HGT: 40000FT AMSL
Source(s) of volcanic cloud height information	HGT SOURCE: SATELLITE
Direction volcanic ash cloud is moving towards	MOV: S
Volcano observatory contact information	CTC: AVO DUTY SCIENTIST, TEL +1-907-786-7497
Remarks (i.e., uncertainty, variability, prognosis)	RMK: SIG VA EM OBS IN SATELLITE AT 20260301/1845Z. VA EM EXP TO BE CONS FOR SEVERAL HR.
Time of next notice	NXT NOTICE: A NEW VONA WILL BE ISSUED IF COND CHANGE SIGNIFICANTLY OR IF THE COLOUR CODE CHANGES

VONA in the new format with an explanation of the aviation abbreviations.

State Volcano Observatories (SVOs) are officially **appointed by each country** (or State) in accordance with regional air navigation agreements to ensure aviation safety.

The **USGS operates five SVOs** that meet the ICAO mandate to oversee active or potentially active volcanoes across the United States and its territories.

International Civil Aviation Organization (ICAO) Location Indicators for USGS SVOs

PAVO: Alaska Volcano Observatory, including Commonwealth of the Northern Mariana Islands

KVOL: California Volcano Observatory

KVWA: Cascades Volcano Observatory

PHVO: Hawaiian Volcano Observatory, including American Samoa

KVWA: Yellowstone Volcano Observatory

Plain language version of Remarks: Significant (SIG) volcanic ash (VA) emissions (EM) were observed (OBS) in satellite data at 20260301/1845Z. Volcanic ash (VA) emissions (EM) are expected (EXP) to be continuous (CONS) for several hours (HR).

What is the Aviation Colour Code?

- The Aviation Colour Code was created by ICAO to enable dispatchers, pilots, and air traffic controllers to rapidly determine the status of multiple volcanoes when planning and managing flights across large areas worldwide.
- The SVO sets the aviation colour code level, which specifically reflects the condition of the volcano itself, rather than the volcanic ash cloud that may be dispersed following an eruption.
- As a result, the aviation colour code can be lowered once eruptive activity ceases, even if the dispersed ash cloud continues to pose a risk to aviation.
- These volcano alert colour codes are essential for the global standardization of information that SVOs provide to aviation stakeholders.

VONA – Modified Colour Code

New UNASSIGNED colour code for poorly monitored volcanoes (e.g., no geophysical monitoring, undersea volcanoes, remote volcanoes) – for when an SVO can't be sure of the volcano's normal background status.

ICAO Colour code	Status of activity of volcano
GREEN	The volcano is in a normal, non-eruptive state; or, volcanic activity is considered to have ceased, and the volcano has reverted to its normal, non-eruptive state.
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;.
ORANGE	The volcano is exhibiting heightened unrest with increased likelihood of an eruption; or a volcanic eruption is underway but with no or minor volcanic ash emission.
RED	A volcanic eruption is expected to be imminent with significant emission of volcanic ash into the atmosphere likely; or, a volcanic eruption is underway with significant emission of volcanic ash into the atmosphere.
UNASSIGNED	There is insufficient information available to assess the <u>current status</u> of the volcano or volcanic activity.

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.
- SVOs are encouraged to work with their VAACs outside of the VONA process on eruption source parameters.
- SVOs encouraged to issue test VONA when upgrading systems or processes
 - ‘Status indicator’ can be used for test or exercise messages – tells users they are not for operational use, but still disseminated the same way.
- To be provided in both traditional alphanumeric code (TAC) and IWXXM (ICAO XML) format, for greater utility in aviation systems.
 - SVOs encouraged to work with associated MET service, Air Navigation Service Provider or VAAC to create/issue IWXXM format.

ICAO AMD 82 to Annex 3 / PANS-MET

New Frequency of Issue for VONA

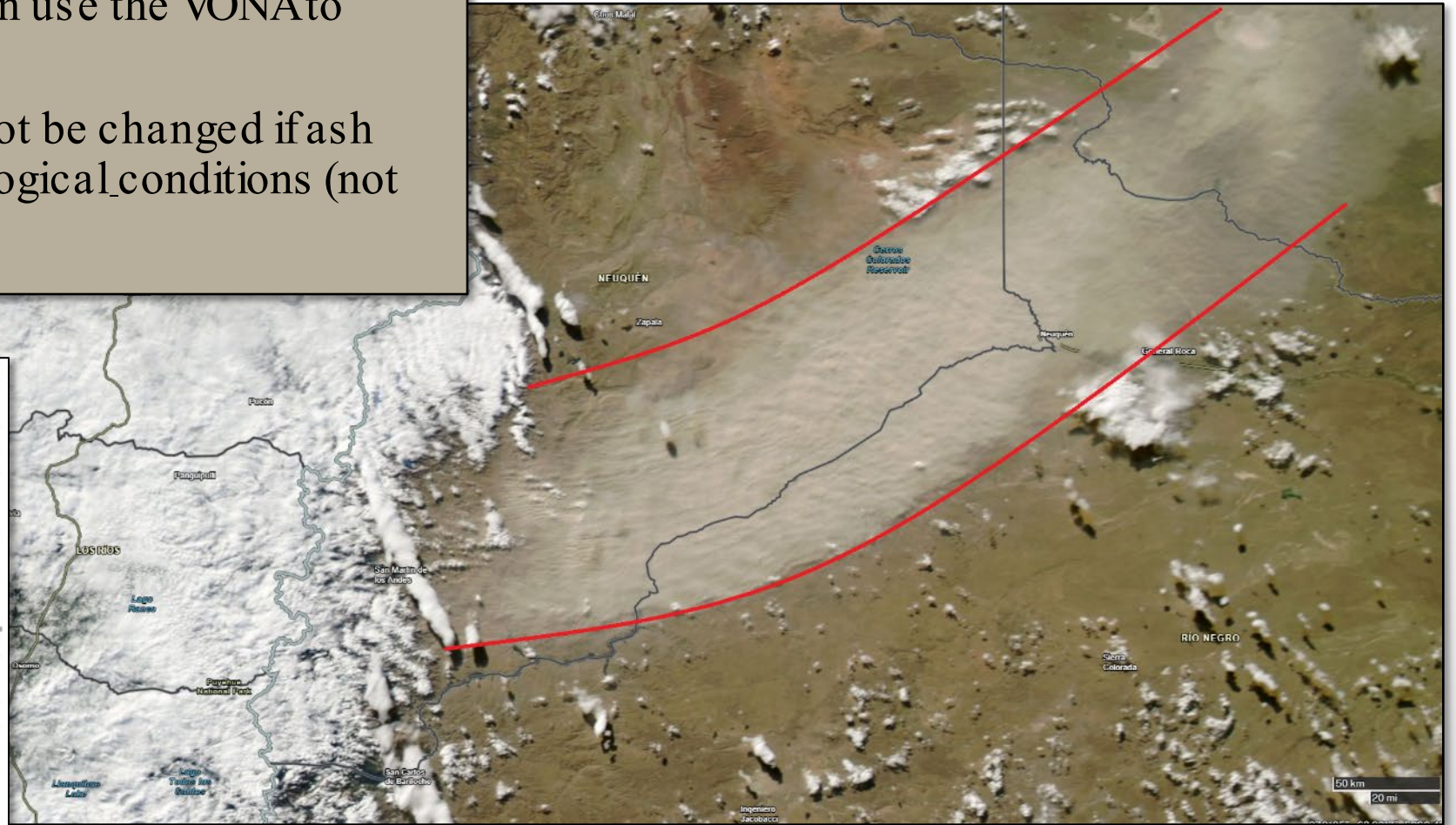
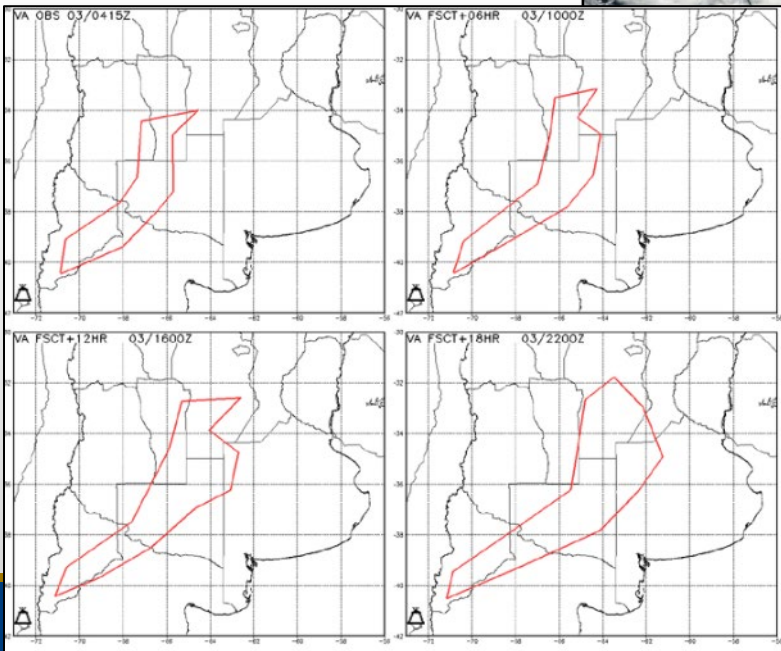
VONAs shall be updated:

- Whenever there is a change in the aviation colour code; or
- At least once every 24 hours whenever the aviation colour code is unchanged at red; or
- At least once every seven days whenever the aviation colour code is unchanged at orange; or
- At least twice per month whenever the aviation colour code is unchanged at yellow.

Note: SVOs should use the colour code in VONAs. If they don't, they'll need to work out an equivalent update schedule with their Civil Aviation Authority (CAA) that meets the intent of the PANS-MET.

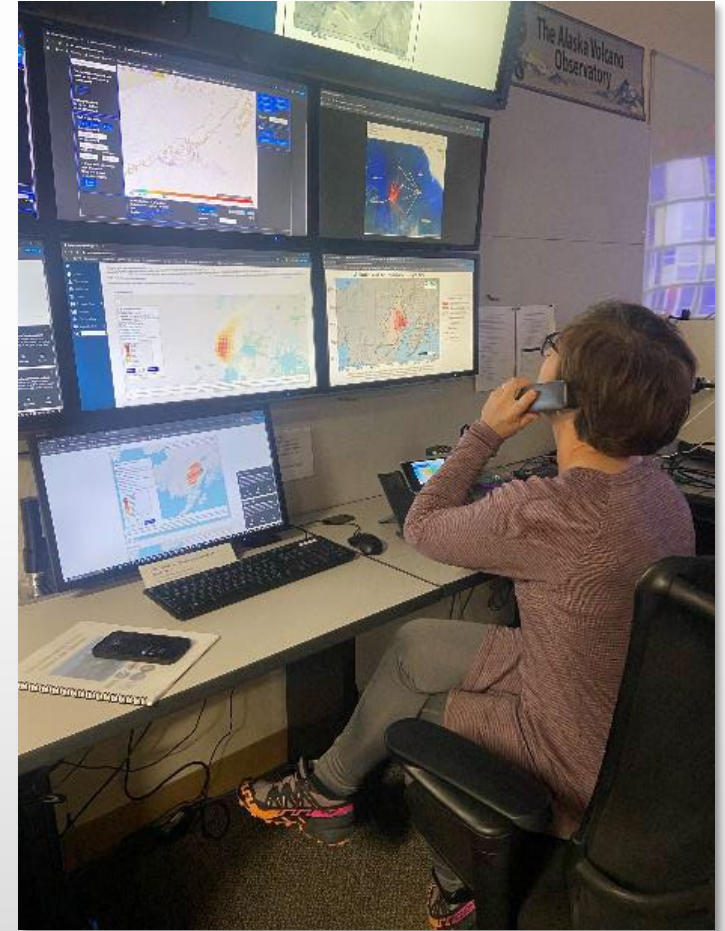
VONA for resuspended ash

- Where capability exists, SVOs can use the VONA to report known resuspended ash.
- The aviation color code should not be changed if ash resuspension is due to meteorological conditions (not due eruptive activity).



Coordination between SVOs and VAACs

- SVOs and VAACs should work to share observations to ensure consistency in VONA and VAAs that are issued during eruptions.
- SVOs may not know whether significant amounts of ash is being produced during an eruption due to poor visibility, darkness, cloud cover, etc. VAACs can provide satellite interpretations of the magnitude of ash emissions as guidance to SVOs.
- Cloud altitude is a critical part of the VONA and VAACs can provide satellite-derived estimates.
- The minimum update frequency for VONA issuance at Aviation Color Code RED is once per day, but SVOs should strive to provide more frequent updates to VAACs during eruptions.



Quantitative Volcanic Ash (QVA)



A new ICAO provision to provide more advanced volcanic ash forecasting by regional VAACs was introduced in November 2025 with AMD82 to Annex 3 and PANS-MET. It includes:

Deterministic gridded data that provides the expected ash concentration.

Probabilistic gridded data that gives the probability that the ash concentration these thresholds.

Collaboration between volcanologists, meteorologists and ash modelers is a critical part of this service provision.



VONA - Dissemination

- By utilizing Aeronautical Fixed Services (AFS), the availability of time sensitive information will be received more often and more effectively reach the Area Control Centers/Flight Information Centers and NOTAM offices than through current means of dissemination.
- It is recognized that most SVOs do not have direct access to the AFS network, nor have a registered location identifier or “CCCC” which identifies the originator of the message.
- The following slides will provide steps on how to disseminate the VONA within the NAM/CAR Regions.
- SVOs can either use the location identifier of their State's National OPMET Centre (NOC) that is disseminating the VONA on their behalf – or they could request a new location identifier to be registered with ICAO.

US Regional OPMET Data Bank (RODB) Washington

- RODBs are responsible for the dissemination of OPMET data within region.
- RODB Washington operated by the National Weather Service (US designated MET Service Provider) serves the NAM/CAR Regions.
- If a State does not have access to the AFS/Aeronautical Message Handling System (AMHS).
 - RODB Washington offers a dissemination tool called the eMail Data Input System (eDIS) that can be used to route the VONA.

Steps for SVOs to disseminate VONA to AFS/AMHS

- Developing the header

1. A station Identifier is needed for VONA dissemination. To address this, the State's Civil Aviation Authority (CAA) will need to assign a location designator or "CCCC" for their SVO.
2. The designated "CCCC" then needs to be sent to the ICAO Air Navigation Bureau Technical Officer and Chief of the Operations Section for coordination and inclusion in ICAO Doc 7910: Location Identifiers

Development of the header:

3. The SVO and CAA agree on WMO IDs and the VONA header is developed using the form "T1 T2A1 A2ii CCCC" where:
 - The TT portion of the VONA WMO ID is always WM for traditional Alpha-numeric code, and LM for IWXXM
 - The AA portion is the States 2 letter prefix, for example, Costa Rica (MR)
 - The ii is the number of WMO IDs needed. For example 2 volcanoes that have perhaps 50-75 eruptions a year may require 2 or 3 WMO IDs.

For example, In the US state of Alaska, the Anchorage Volcano Observatory is defined as PAVO. PA is the ICAO regional prefix for Alaska, and VO is used to represent the Volcanic Observatory.

- WMAK01 PAVO – this is the TAC header and
- LMAK01 PAVO – this is the IWXXM header

Steps for SVOs to disseminate VONA to AFS/AMHS - disseminating via eMail Data Input System (eDIS)

- ❑ eDIS allows the VONA to be submitted to the Washington Inter-Regional OPMET Gateway where it is disseminated to the international community via AFS/AMHS.

- ❑ Once steps 1-3 in the previous slide are accomplished, register for an eDIS account and then submit the VONA information
 - The tool is here: <https://www.weather.gov/tg/emailingest>
 - Click on (Go to EDIS Access Request Information) and fill out the form to register

Where to find requirements and Guidance

- Annex 3 - Meteorological Service for International Air Navigation
 - Contains the requirements for States (what has to be done)
- Procedures for Air Navigation Services – Meteorology (PANS-MET, Doc 10157)
 - Contains the means of compliance (how to do the things that need to be done – e.g. templates)
- Handbook on the International Airways Volcano Watch (Doc 9766)
- Available from [ICAO Store](#) or talk to your Civil Aviation Authority.

SVO VONA Flyer

An information flyer for SVOs on the changes to the VONA has been prepared and will be issued by ICAO Public website later this year.



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 **designated 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

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

New Recommended Practices

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

What Is a VONA?

The Volcano Observatory Notice for Aviation (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 meteorologists, air traffic managers, pilots, airline dispatchers

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.

The International Civil Aviation Organization 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 System (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 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

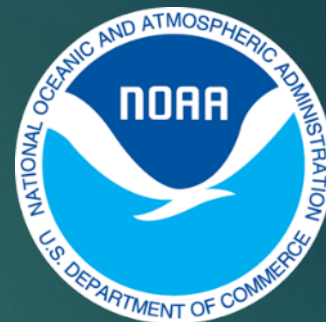
Where possible, SVOs encouraged to include **ranges** for eruption source parameters in the remarks sections.

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

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 Volcanic Ash Advisory Centre (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
- World Organization of Volcano Observatories-Volcanic Ash and Aviation Hazards wovo.iavceivolcano.org/vaah-volcanic-ash-and-aviation-hazards/ wovo.iavceivolcano.org/vona/



NWSChat

A Collaborative Tool

Jamie Kibler – Washington Volcanic Ash Advisory Center Manager

NWSChat – A Collaborative Tool

- ▶ *What is NWSCHAT:*

- ▶ A communication tool that provides a modern and reliable way for the National Weather Service (NWS) and its many domestic and international partners to communicate with each other during weather, water, volcanic and climate events. NWSChat interface is embedded in and uses the software Slack features

- ▶ *How can NWSCHAT help your organization during volcanic ash events or other weather related events:*

- ▶ NWSChat 2.0 connects forecasters and domestic and international partners in real time during extreme weather to support the highest level of collaboration and communication.

NWSChat – A Collaborative Tool

Benefits of using NWSChat

- The exchange of volcanic ash information between Volcanic Ash Advisory Centers (VAACs), Meteorological Watch Offices (MWOs) and State Volcano Observatory (SVO) and other users is crucial during pre-eruptive and eruptive volcanic ash events and aviation operations and safety.
- Updated volcanic ash and weather information can be exchanged between users much more quickly than email, telephone or other communication methods.
- Volcanic Ash Advisories (VAA) and other weather products can automatically be inserted into NWSChat channels like washingtonvaac_mwo_svo channel for easy access to latest volcanic ash and weather information.
- Pictures, graphics and other information can be automatically inserted into channels.
- The ability to have conference calls using the “Huddle” feature. Similar to Google Chat and Microsoft Teams.

NWSChat- A Collaborative Tool

Things to know about NWSChat

- Each individual must have their own NWSChat account. No group accounts and all must be approved by NWSChat Admin
- Login must be performed every 120 days or account will be deactivated and eventually deleted.
- History of conversations are in each channel and can be seen and used as needed.
- Continued collaboration during very active events – 24/7/365.
- Links can be added and will open up in other tabs. They can also be pinned to the top of the channel for future use.

NWSChat Interface Registration

- ▶ **The link to register** - <https://partnerservices.nws.noaa.gov/registration/>
- ▶ **Training Options:** Once approved and logged into Slack, you can access training materials via your browser or the Slack app. Please review the NWSChat 2.0 partner video series and FAQs, which are pinned/bookmarked in the #help-slack-partners channel.
- ▶ **Assigned to Slack channels within NWSChat interface by channel administrators**

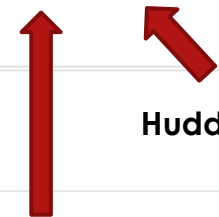
NWSChat Interface

Training and
Help
guidelines



The screenshot displays the NWSChat interface. The left sidebar contains a list of channels under the heading 'National Weather Servi...'. The channels listed include: help-slack (with a 'More unread' badge), help-slack-partners, admins-all, announcements-all, aviation-weather-center, cvo-volcano-coordination, feedback, nesdis-nws-volcano-chat, nhc-jtwc-satellite-collaboration, nws-senior-duty-meteorologist, nws-significant-event, state-hi-volcano-coordination, vaac_collaboration (highlighted), washingtonvaac_mwo_svo, welcome NWSChat 2.0, welcome NWS Internal, wfo-balt-wash-dc, wfo-honolulu-hi, and an 'Add channels' button. Below the channels is a 'Direct messages' section. The main chat area shows a list of messages from 'National Weather Service [WxBot]' and 'NESDIS - Washington VAAC - Paul Lee'. The top navigation bar includes a search bar, a user profile icon, and a help icon. The top right of the chat area shows icons for participants (86), huddle, and search. The bottom of the chat area features a message input box with a rich text editor and a 'Send' button.

Different Channels
including
"washvaac_mwo_svo"

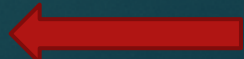


Participants



Huddle

Chat box for
communication,
pics and
graphics etc.



Channel and Pinned
Links/Websites/Bookmarks

NWSChat Interface

The screenshot displays the NWSChat interface. On the left is a sidebar with a dark purple background. At the top, it says "National Weather Servi...". Below this are sections for "help-sla" (with a "More unreads" button), "Channels", and "Direct messages". The "Channels" section lists several channels, including "admins-all", "aviation-weather-center", "cvo-volcano-coordination", "feedback", "nesdis-nws-volcano-chat", "nhc-jtwc-satellite-collaboration", "nws-senior-duty-meteorologist", "nws-significant-event", "state-hi-volcano-coordination", "vaac_collaboration", and "washingtonvaac_mwo_svo" (which is highlighted). Below the channels are "welcome" messages for "NWSChat 2.0" and "NWS Internal", and a list of "wfo" channels: "wfo-balt-wash-dc", "wfo-honolulu-hi", and an "Add channels" button. The main chat area on the right has a header for "washingtonvaac_mwo_svo" with a search bar and a user count of 26. Below the header are tabs for "Messages", "Files", and "Bookmarks". The chat history shows several messages: a message from "AV - Instituto Geofisico - Edwin Teran" dated "Saturday, March 28th" with a link to a VONA link; a message from "NESDIS - Washington VAAC - Boris Konon" dated "8:39 PM" about Boris at Washington VAAC; and three messages from "National Weather Service [WxBot]" dated "9:13 PM", "9:22 PM", and "9:38 PM" about WMO products "FVXX20", "FVXX23", and "FVXX21" respectively. Each WxBot message has a "Show" button. At the bottom is a message input area with a toolbar containing icons for bold, italic, underline, link, unlink, list, list-group, code, and image. The input field contains the text "Message @washingtonvaac_mwo_svo".

Past
conversations

Collaboration on
Reventador
volcano in
Ecuador with the
Geophysical
Institute

Contact

- ICAO Annex 3/PANS-MET questions –
Karen.Shelton-mur@faa.gov
- SVO / VONA–
djschneider@usgs.gov
- VONA dissemination, eDIS or RODB questions –
michael.graf@noaa.gov,
holly.uhlenhake@noaa.gov
- NWSChat, VAAC, VAA/VAG questions –
Jamie.Kibler@noaa.gov

Thank you!

