MET PANEL (METP)
MET OPERATIONS GROUP (MOG)
VOLCANIC ASH (VA)

SECOND MEETING

Buenos Aires, Argentina, April 27-28 2016

Agenda Item 6: VAAC Management Reports
6.1: VAAC Management Reports: Anchorage, Buenos Aires, Darwin, London, Montreal, Tokyo, Toulouse, Washington, Wellington

VAAC ANCHORAGE MANAGEMENT REPORT

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SUMMARY

Pursuant to Conclusion 1/2 of the IAVWOPSG/1 Meeting, VAAC Provider States were invited to provide a concise IAVW management report to be presented at every IAVWOPSG meeting covering the period elapsed since the previous meeting and addressing the main features of the IAVW operations, highlighting any recent developments and difficulties and future planned developments. This report presents the IAVW Management Report for VAAC Anchorage for the period January 2014 through February 2016.

1. INTRODUCTION

1.1 The Federal Aviation Administration (FAA), the United States Meteorological Authority, has accepted the responsibility for establishing a VAAC within the framework of the International Airways Volcano Watch (IAVW) as defined in Annex 3 — *Meteorological Service for International Air Navigation.* The United States operates and maintains two VAAC, Anchorage and Washington.

1.2 This management report presents information on the operations of VAAC Anchorage by the U.S. Department of Commerce (DOC) National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS). Within the NWS, the Alaska Aviation Weather Unit (AAWU) is designated as VAAC Anchorage. VAAC Anchorage supports the Anchorage Meteorological Watch Office (MWO) which is responsible for aviation forecasting and warning support within the Anchorage flight information region (FIR). In addition to the MWO, the NWS also operates a Center Weather Service Unit (CWSU) co-located in the Anchorage Air Route Traffic Control Center (ARTCC) that also advises traffic management supervisors based on input from the VAAC. Volcanic ash response for aviation is a team effort and this management report summarizes how the VAAC interacts and works with the ARTCC, MWO, CWSU and Alaska Volcano Observatory (AVO) under its mandate in meeting the IAVW programme.

1.3 VAAC Anchorage's area of responsibility includes the entire Anchorage FIR in addition to an area of far Eastern Russian bounded by 150 E longitude, and on the south by a newly agreed boundary which includes the additional acquisition area. This area includes all the volcanoes within the state of Alaska and, in addition, VAAC Anchorage closely monitors adjacent volcanoes located in the Kamchatka Peninsula and the Northern Kurile Islands of Russia.

2. OPERATIONS OF VAAC ANCHORAGE

2.1 This section describes the operations of VAAC Anchorage in accordance with the IAVW in describing the issuance of volcanic ash advisories (VAAs), identification of significant eruptions that influenced the performance of operations, changes in operational procedures or use of technology to enhance operational capability of the VAAC, and issues related to backup operations.

2.1.1 Issuance of VAAs

2.1.1.1 During the period from 1 January 2014 through 29 February 2016, VAAC Anchorage issued 766 VAAs. 505 of those VAAs were to direct users to a VAA issued by VAAC Tokyo as a result of ash near VAAC Anchorage's area of responsibility (AoR). 260 VAAs and accompanying VAGs were issued for VA in VAAC Anchorage's AoR.

VAAs and VAGs were issued for 9 different volcanoes, 5 of which are located on the Kamchatka Peninsula. The VAAs for the Kamchatka Peninsula volcanoes were a result of ash spreading from VAAC Tokyo's AoR into VAA Anchorage's AoR. 135 of the VAAs issued were for the Russian volcanoes Bezymianny, Karymisky, Kliuchevskoi, Sheveluch, and Zhupanovsky. The remaining 125 VAAs were for Alaskan volcanoes Cleveland, Katmai area resuspension events (1912 Novarupta ash), Pavlof, and Shishalden. 2015 had the greatest number of VAAs issued for resuspened ash (33) compared to any other year. Also of note, VAAs for two volcanoes dominate the statistics. 147 of the 260 VAAs issued by VAAC Anchorage were for the Alaskan volcano, Pavlof, and Kamchatka Peninsula volcano Sheveluch.

2.1.2 Significant eruptions in the VAAC area of responsibility

2.1.2.1 While Pavlof volcano was very active in May and June of 2014 and again in November 2014, the majority of the eruptions were below FL300. However on 03 June 2014 Pavlof erupted to a height of FL300 and on 15 November 2015 erupted to a height of FL370. 11 VAAs were issued for those two events. Pavlof was the only Alaska Volcano that erupted to a height of at least FL300 between 2014 January and 2016 February.

49 VAAs for 12 different events with ash to at least FL300 in VAAC Anchorage's AoR were issued for Kamchatka Peninsula volcanoes Bezymianny, Sheveluch, and Zhupanovsky. More notable Sheveluch events occurred on 01-02 February 2015, and 04-05 March 2015. More notable Zhupanovsky events occurred on 07 September 2014, 12-13 July 2015, and 13 February 2016.

2.1.3 Significant operation or technical changes

2.1.3.1 An operational enhancement was made to the coordination with VAAC Tokyo. In late 2015 VAAC Anchorage began routinely using NWSchat as a method of coordinating handover of ash in from VAAC Tokyo's AoR to VAAC Anchorage's AoR in real time. Prior to this, a test evaluation was in place for several months prior. The use of NWSchat allows VAAC Anchorage and VAAC Tokyo to communicate more rapidly on existing ash events. The only technical change was the way the Smithsonian/Volcano number is reported in the VAA. This change took place in 2014.

2.1.4 VAAC Backup

2.1.4.1 Washington VAAC provided backup on two separate occasions for VAAC Anchorage. The longest period was in May 2015 where backup was provided for several consecutive days. There were not volcanic eruptions requiring a forecast of VA during that time.

3. IAVW IMPLEMENTATION ISSUES

3.1 VAAC Anchorage participated annually in the VOLKAM exercise in 2014 and 2015 along with VAAC Tokyo. Transfer of responsibility for VA between the VAACs was simulated in each exercise.

3.2 VAAC Anchorage attended the Best Practice meetings held in London from 04 to 08 May 2015, WMO SCOPE Satellite-based Volcanic Ash Intercomparison Workshop 2015, and WMO 7th International Workshop on Volcanic Ash from 19 to 23 October 2015. VAAC Anchorage also hosted a one day meeting with all remaining VAACs a day prior to this WMO 7th International Workshop on Volcanic Ash.

4. FUTURE DEVELOPMENTS

4.1 VAAC Anchorage, VAAC Washington, and VAAC Tokyo will continue further communication and collaboration on multi-VAAC ash events to improve operational procedures for events that involve the 3 VAACs.

4.2 VAAC Anchorage has developed software to issue a T+24 VAG. The T+24 VAG will be incorporated in the next VOLKAM exercise in April 2016 to gather feedback. Additional outreach will also be done as well as coordination with the remaining VAACs prior to implementation.

5. ACTION BY THE MOG IAVW WORK STREAM

5.1 The Work Stream is invited to note the information in this paper.

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