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

SECOND MEETING

Buenos Aires, Argentina, April 27 to 28 2016

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

VAAC WASHINGTON MANAGEMENT REPORT

(Presented by the Jamie Kibler)

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 Washington for the period November 2013 through early March 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 Washington as operated by the United States Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), and is a collaborative effort of both the National Centers of Environmental Prediction (NCEP) of the National Weather Service (NWS) and the Office of Satellite Products and Operations (OSPO), of the National Environmental Satellite, Data, and Information Service (NESDIS).

1.3 VAAC Washington's area of responsibility stretches from 40 degrees West to 130 degrees East and includes the areas of the United States Continental, New York and Oakland Oceanic flight information regions (FIR) and southward through Central America, the Caribbean to 10 degrees South in South America. VAAC Washington supports twenty four meteorological watch offices (MWO)

under its area of responsibility, numerous area control centers (ACC) and the volcano observatories as listed in the CAR/SAM and ASIA/PAC FASID.

2. OPERATIONS OF VAAC WASHINGTON

2.1 This section describes operations of VAAC Washington in accordance with the IAWV on the issuance of volcanic ash advisories (VAA), 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 November 2013 through 29 February 2016, VAAC Washington produced 3716 VAAs with 1356 accompanying in the graphical format (VAG). Advisories were issued for 21 volcanoes within the VAAC Washington area of responsibility and for 7 volcanoes that produced ash that approached or entered the VAAC Washington area including Kliuchevskoi, Sheveluch, Zhupanovsky and Chikurachki - VAAC Tokyo and Pavlof, Shishaldin and Katmai (re-suspension) – VAAC Anchorage.

2.1.1.2 The majority of the VAA issued by VAAC Washington were for Colima volcano in Mexico with 933VAA/ 481 VAG issued. Tungurahua volcano in Ecuador was a distant second with 652 VAA/319 VAG. In general, the eruptions from Colima were short in duration, 6-12 hours and relatively easy to detect through remote sensing, volcano cam and timely information from the Mexico City MWO. Tungurahua volcano produced primarily plumes of ash moving westerly. The ash was sometimes difficult to detect through remote sensing techniques due to weather clouds. Web camera provided very beneficial information to the VAAC Washington. It provided VAAC Washington a better idea when the volcano was done being active or the beginning of another event.

2.1.2 Significant eruptions in the VAAC area of responsibility

2.1.2.1 During the period of this report, eruptions from Cotopaxi volcano in Ecuador, Wolf volcano in the Galapagos Islands and Momotombo volcano in Nicaragua were new and not advised on ever since becoming an official VAAC in 1997. Cotopaxi eruption sent ash to FL500 on August 14, 2015. It was the first eruption since 1940. A total of 316 advisories were sent for the volcano in 2015/2016. Wolf volcano erupted on May 25, 2015 sending a large amount of SO2 and volcanic ash to FL500. It was the first eruption since 1982. A total of 9 advisories were sent for 2015. The Momotombo was the first eruption since 1905 sending ash to FL110 on December 02, 2015. A total of 44 advisories were sent for 2015/2016.

2.1.3 Significant operation or technical changes

2.1.3.1 During the period of this report no significant operational change was made. 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 Testing of backup operations is preformed monthly between the 2nd Air Squadron of the 557th Weather Wing and the VAAC Washington. These tests are conducted for a 4-hour period. Several VAA were issued by 2nd Air Squadron on behalf of the Washington VAAC during the test events.

2.1.4.2 The 2nd Air Squadron of the 557th Weather Wing provided real time operational backup to VAAC Washington (briefly for 1-2 hours) when operations were impacted by technical difficulties due to the loss of communications with National Weather Service Telecommunications Gateway in Silver Spring, MD or during satellite outages. A few VAA were required to be issued on the VAAC Washington's behalf.

2.1.4.3 VAAC Washington provided operational backup to the VAAC Buenos Aires several times during 2014, 2015 and once in early 2016. VAAC Washington issued several VAA on behalf of VAAC Buenos Aires before they returned to service.

2.1.4.4 VAAC Washington is also the backup for both VAAC Anchorage and VAAC Montreal. There were two requests for operational backup services by VAAC Anchorage and one by the VAAC Montreal. There were several successful scheduled backup tests with Anchorage (twice a year) and Montreal (once a year) in 2014 and 2015, each lasting 4-6 hours.

3. IAVW IMPLEMENTATION ISSUES

3.1 VAAC Washington participated in three volcanic exercises in the CAR/SAM region and one in the ASIA/PAC region - 2013-2015.

3.2 VAAC Washington attended the WMO-IUGG Inputs and Outputs Modeling Workshop held in Geneva from 18 to 21 November 2013. VAAC Washington provided an overview of their operations to the workshop.

3.3 VAAC Washington attended the Best Practice meetings held in London from 04 to 08 May 2015 and the WMO 7th International Workshop on Volcanic Ash from 19 to 23 October 2015.

3.4 VAAC Washington performed a site visit with the 2nd Air Squadron of the 557th Weather Wing in early March of 2016. A full test backup was performed during the site visit to improve backup operations.

4. FUTURE DEVELOPMENTS

4.1 VAAC Washington, VAAC Anchorage and VAAC Tokyo hope to continue further communication and collaboration on multi-VAAC ash events to improve operational procedures during these kinds of eruptive events.

4.2 In early 2017 VAAC Washington is scheduled to migrate to a new platform referred to as AWIPS-2 in support VAAC Washington operations. Forecasters will be trained on the operation and management of the new workstations and new standard operating procedures will be developed to support the operations for the forecasts.

4.3 T+24 VAG: Nil

5. ACTION BY THE MOG IAVW WORK STREAM

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

— END —