



ICAO

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INFORMATION PAPER

Twenty-fourth Meeting of the Meteorology Sub-group (MET SG/24) of the Asia and Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG)

Web-conference, 16 – 20 November 2020

Agenda Item 5: Research, development and other initiatives

VAAC TOKYO MANAGEMENT REPORT

(Presented by Japan)

SUMMARY

This paper presents the VAAC Tokyo IAVW Management Report for the period from 1 May 2019 through 30 September 2020.

1. INTRODUCTION

1.1 The Volcanic Ash Advisory Centre (VAAC) Tokyo is operated by the Japan Meteorological Agency (JMA). The VAAC Tokyo coverage includes the East Asia region, the Northwest Pacific region and part of the Arctic Circle. This report covers operations from 1 May 2019 to 30 September 2020.

2. DISCUSSION

VAAC Tokyo Operations

2.1 VAAC Tokyo issued 4406 volcanic ash advisories (VAAs) during the period from 1 May 2019 through 30 September 2020 for 16 volcanoes within the VAAC Tokyo area of responsibility (AoR). Figure next page shows the total number of VAAs issued by VAAC Tokyo since 2009.

2.2 VAAC Tokyo issued no VAA on behalf of VAAC Darwin for its backup operations during this term. Test VAAs were provided for the Asia/Pacific SIGMET test in November 2019.

Agenda Item 5

16-20/11/20

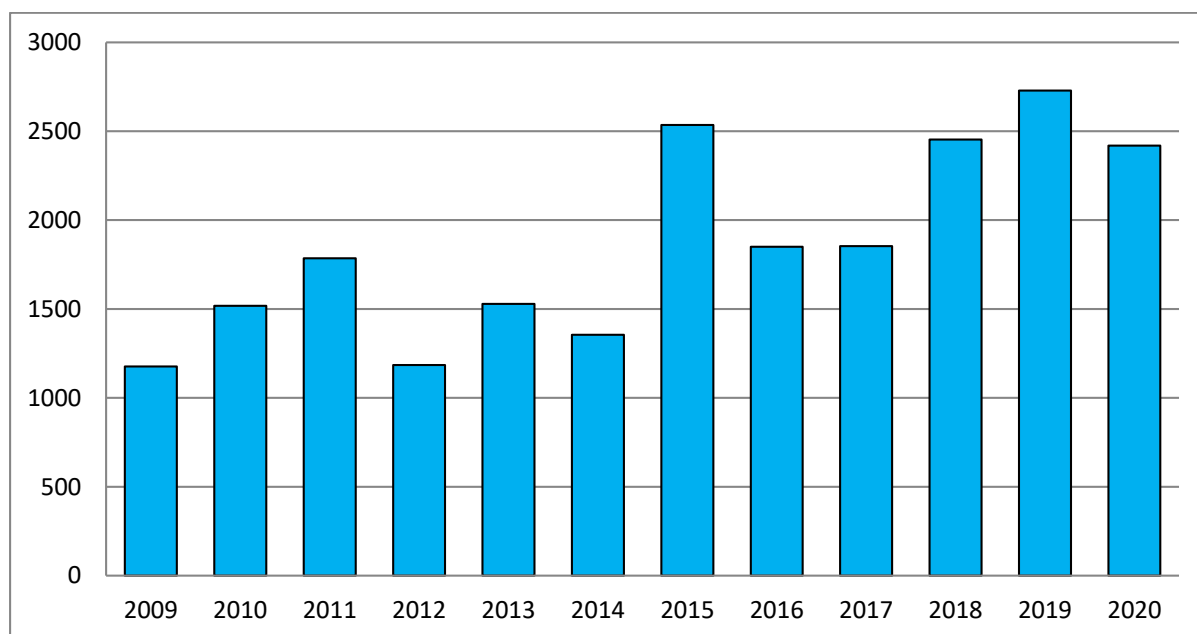


Figure: Total number of Volcanic Ash Advisories (VAA) issued by VAAC Tokyo since 2009 to 30 September 2020.

Significant Eruptions

2.3 During the period, volcanoes in the Kamchatka Peninsula and the Kuril Islands, such as Sheveluch, and Raikoke periodically erupted with plume height to more than FL300; some of these events affected aviation operations with volcanic ash expanding across Northern Pacific (NOPAC) routes or towards Pacific Organized Track System (PACOTS) routes.

2.4 Among these events, a series of eruptions of Raikoke starting on 21 June 2019 is a remarkable one. The volcanic ash emitted from the eruptions was estimated to reach up to maximum FL430. The ash cloud was being identifiable on satellite imagery for about one week. During the event, the ash cloud migrated from VAAC Tokyo's AoR to VAAC Anchorage's. VAAC Tokyo coordinated with VAAC Anchorage and handed over the responsibility to VAAC Anchorage.

2.5 Active volcanoes in Japan, such as Asosan, Sakurajima, Kuchinoerabujima, and Nishinoshima, also periodically erupted. VAAC Tokyo issued the largest number of VAAs (1320) for Asosan in VAAC Tokyo AoR during the period.

2.6 Another remarkable event in the AoR is the eruption of Thar volcano, Philippines, which started on 12 January 2020. Its most recent eruption was recorded in 1977, making it the first significant eruption in about 42 years. The eruption, which had a maximum height of FL550, lasted for about 18 hours, and ash emission continued until 2 February. It forced international airports in the Philippines to close and many flights were cancelled. It prompted the Philippine Institute of Volcanology and Seismology (PHIVOLCS) to raise the alert level to four on a scale of five.

Significant Operational and Technical Changes

2.7 In light of the impact of the COVID-19 pandemic, many staff of VAAC Tokyo has begun working from home from April 2020, except some essential officers and operational shift forecasters. Forecasters are operating from the JMA HQ office, but in case unlikely outbreak occurs, VAAC Tokyo

has a plan to move its operational functions to the backup operating room in the JMA HQ office or the other JMA office located in the suburbs of Tokyo, to maintain continuous monitoring and advisory services. During the relocation, VAAC Tokyo and VAAC Darwin have mutually confirmed that VAAC Tokyo ask VAAC Darwin to provide backup operations.

VAAC Back-up between Darwin and Tokyo

2.8 VAAC Darwin and VAAC Tokyo concluded a mutual backup agreement in March 2014; VAAC Darwin provides backup operations for VAAC Tokyo AoR, and VAAC Tokyo provides backup operations for the area north of 20 degrees south in VAAC Darwin AoR.

2.9 During the period, VAAC Tokyo performed back-up operations for VAAC Darwin on 23 October 2019 and back-up operations for VAAC Tokyo were performed by VAAC Darwin on 24 March 2020.

Volcanic Ash Exercise

2.10 VAAC Tokyo participated in the Asia/Pacific Volcanic Ash Exercises (APAC VOLCEX) steering group meeting in July 2019 and APAC VOLCEX 19/02 conducted in September 2019. At the APAC VOLCEX 19/02, VAAC Tokyo demonstrated exercise handover coordination with VAAC Darwin, which had been not conducted in the real operations.

2.11 VAAC Tokyo also participated in the APAC VOLCEX 20/02 in July 2020 as an observer.

Regional cooperation

2.12 On 27 August 2019 and 16 September 2020, with an invitation from VAAC Darwin, VAAC Tokyo participated in Vulcan Working Group Meeting held by the Bureau of Meteorology of Australia through a web conference. At the meeting, VAAC Tokyo presented research and development status.

Future Development

2.13 VAAC Tokyo is planning to replace our operating system in March 2021, and then will be able to create IWXXM ver 3.0 advisories.

3. ACTION BY THE MEETING

3.1 Note the information contained in this paper.
