



Responding to the hazards posed to aviation by volcanic ash

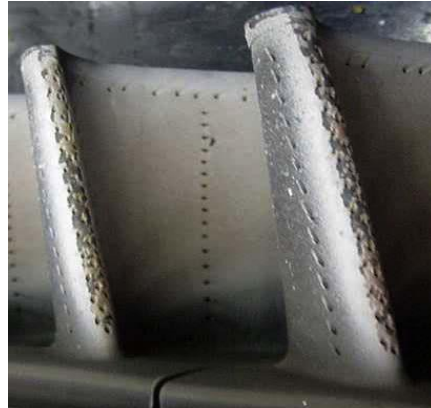
Albert Aidoo Taylor
Regional Officer, ATM

Cameroon / 4 to 7 September 2017



The identified hazard to aviation

- 24 June 1982, B747 from Kuala Lumpur to Perth lost power on all four engines, diverted safely.
- Three weeks later, another B747 en route to Melbourne reported a similar incident.
- Suspicion: Galunggung Volcano.
- Serious threat, potential to cause a major aircraft accident.



Examples



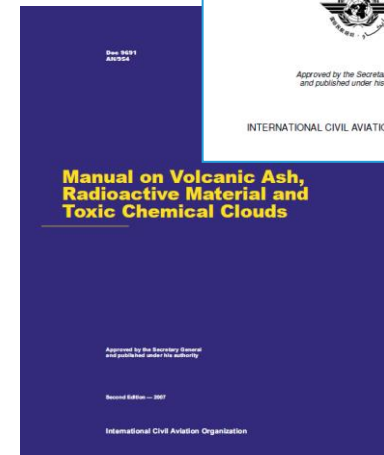
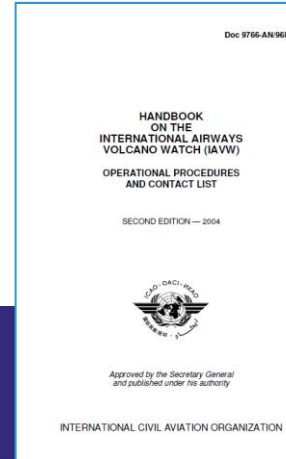
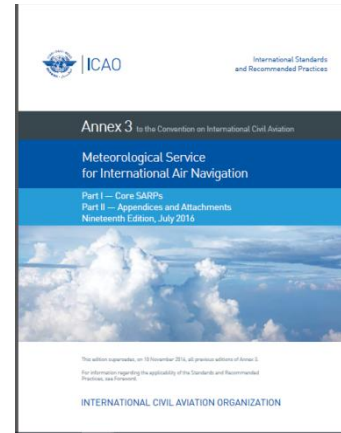


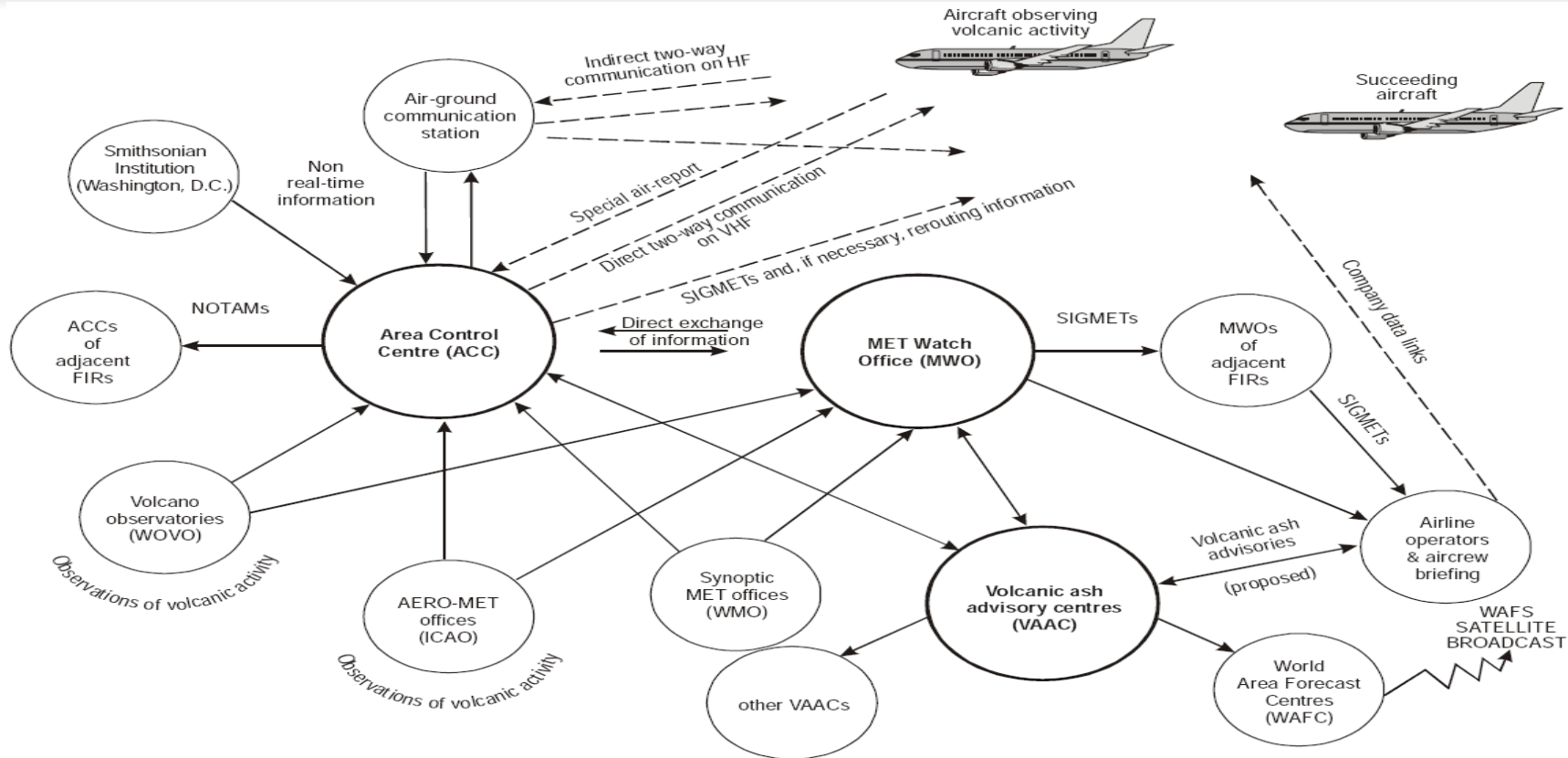
Action taken by ICAO

- ICAO Air Navigation Commission
 - Interim guidelines developed
- Formal amendments of Annexes and procedures in 1987 (assistance of VAWSG, States and International Organizations)
- How?
 - AIREP (Pilots)
 - SIGMETs (Meteorological Watch Offices - MWOs)
 - NOTAMs (Air traffic Control - ACCs)
 - Management of air routes (Regulators)

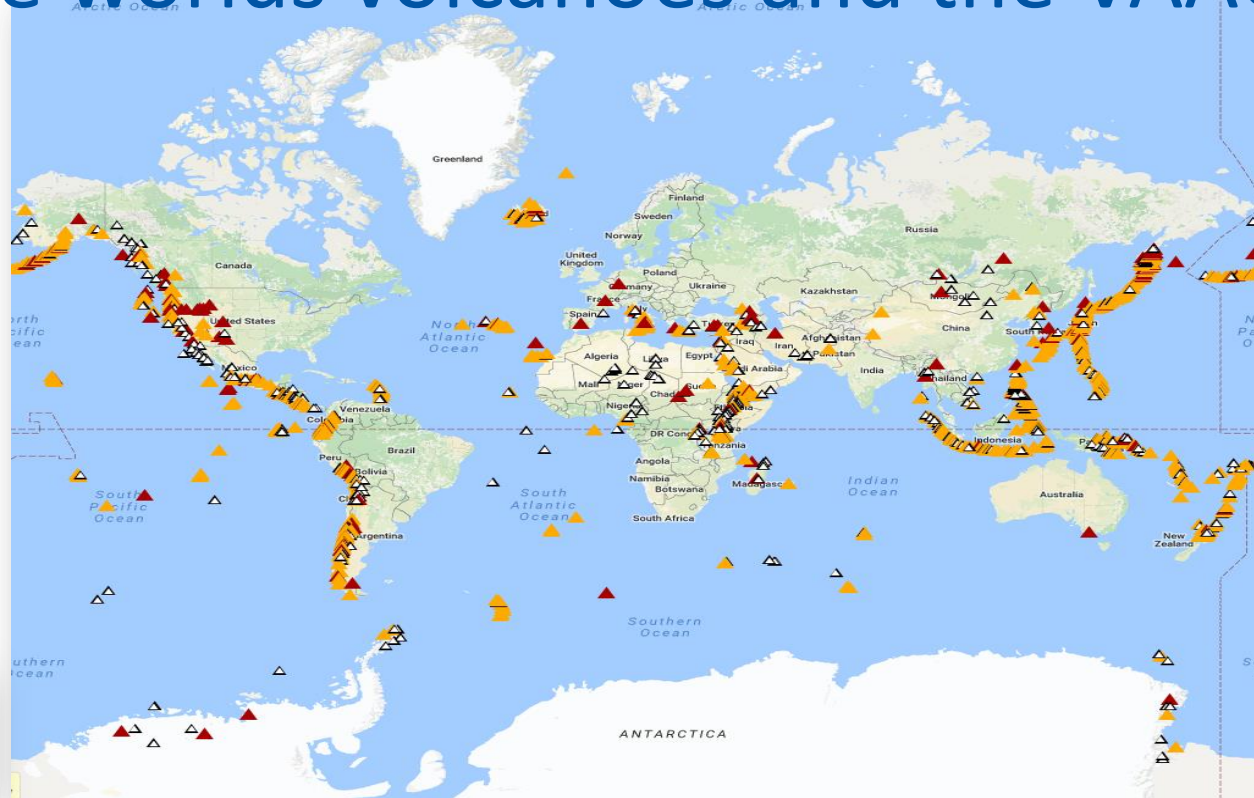
International provisions and guidance

- Establishment of the International Airways Volcano Watch (IAVW) in Annex 3 (Nov 1998):
 - Standards and Recommended Practices for monitoring and providing warnings to aircraft of volcanic ash in the atmosphere.
- Additional provisions in Annexes 11 and 15
- Guidance and operational procedures in ICAO Doc 4444, Doc 9766, Doc 9691, and others
- IAVW Operations Group (IAVWOPSG)
 - since 2002
 - States, International Organizations and users



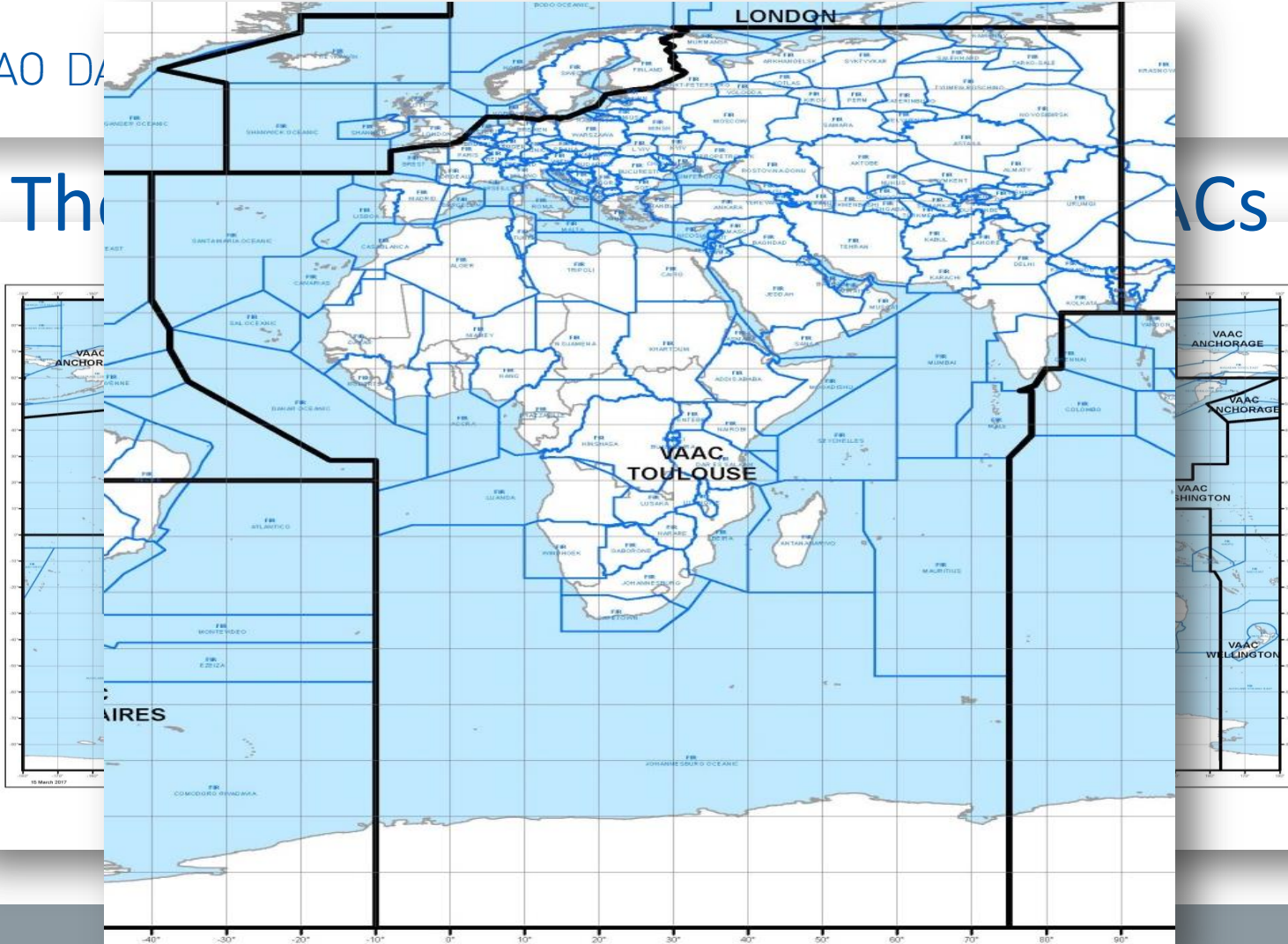


The worlds volcanoes and the VAACs





The



VAACs



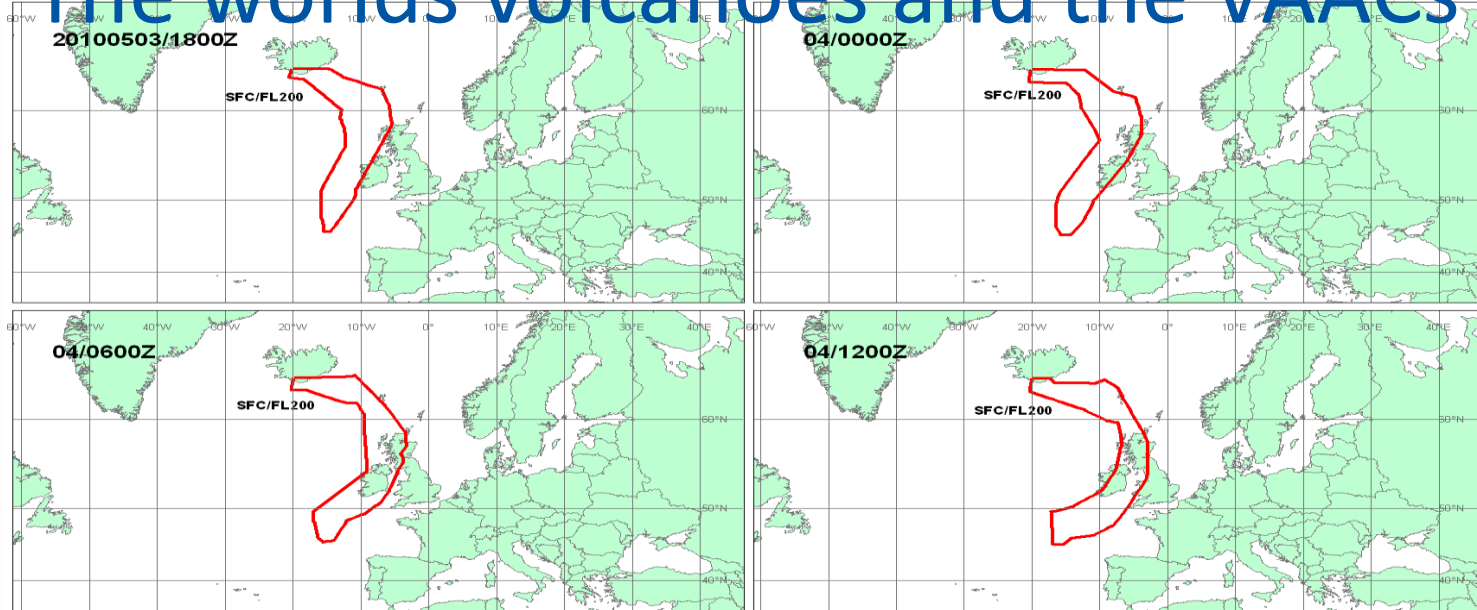
The worlds volcanoes and the VAACs

- Issued at least every six hours
- Valid T+0 to T+18 hours
- Sent to MWO, ACCs, airlines (to extent possible), WAFCs, other VAACs, and international OPMET data banks.

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FVXX01 EGRR 031728

VA ADVISORY
DTG: 20100503/1800Z
VAAC: LONDON
VOLCANO: EYJAFJALLAJOKULL 1702-02
PSN: N6338 W01937
AREA: ICELAND
SUMMIT ELEV: 1666M
ADVISORY NR: 2010/075
INFO SOURCE: ICELAND MET OFFICE
AVIATION COLOUR CODE: RED
ERUPTION DETAILS: ERUPTION CONTINUING. AT 1430Z ICELANDIC AIRCRAFT
REPORTED PLUME TOPS TO FL180.
OBS VA DTG: 03/1800Z
OBS VA CLD: SFC/FL200 N6352 W02016 - N6352 W01443 - N6309 W01232 -
N6201 W00654 - N6031 W00546 - N5843 W00529 - N5124 W01045 - N4958
W01108 - N4547 W01437 - N4551 W01533 - N4740 W01556 - N5113 W01556 -
N5617 W01221 - N5749 W01227 - N5912 W01307 - N6004 W01249 - N6256
W01828 - N6306 W02038 - N6352 W02016
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The worlds volcanoes and the VAACs



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 EYJAFJALLAJOKULL 1702-02
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SUMMIT ELEV: 1666M
 ADVISORY NR: 2010/075
 INFO SOURCE: ICELAND MET OFFICE
 AVIATION COLOUR CODE: RED
 ERUPTION DETAILS: ERUPTION CONTINUING.
 AT 1430Z ICELANDIC AIRCRAFT REPORTED
 PLUME TOPS TO FL180.

RMK: NO SIG ASH ABOVE FL200. LATEST MODEL RUNS HAVE TAKEN
 INTO ACCOUNT REPORTED INCREASED ASH CONCENTRATIONS AND
 ERUPTION OBSERVATIONS FROM ICELAND.
 NXT ADVISORY: 20100504/0000Z

Eyjafjallajökull eruption April 2010

- Airlines cost impact of €1.7 billion
- Much bigger global economic effect
- Largest closure of airspace since WWII
- Extreme disruption to air traffic in Europe (western and northern parts) and eastern North Atlantic





Responding to Eyjafjallajökull

- International Volcanic Ash Task Force (IVATF) established by ICAO on 18 May 2010
- Prompted by the urgency to address the crisis
- Tasked to:
 - assess global aviation needs in anticipation of additional volcanic activity
 - determine actions needed to address aviation risk
 - review, and learn from, the European response
 - actively involve all the stakeholders/disciplines
- Four IVATF Sub-Groups:
 - ATM, Airworthiness, Science and IAVW Coordination





IVATF progressing

- Second meeting of IVATF held 11 to 15 July 2011
- Reviewed progress of the tasks assigned to the four Sub-Groups of the IVATF
- Agrees on actions to be taken over the next 12 months, and elements for consideration by other ICAO bodies (including IAVWOPSG)
- Updated work programme (Deliverables)





AFI Region: *How did we get here?*

APIRG/17: Core Team of experts established under APIRG Decision 17/84 on Volcanic Ash Contingency

APIRG DECISION 18/13: The Core Team of experts established under APIRG Decision 17/84 is dissolved, and the AFI ATM/MET Task Force be established



Establishment of AFI ATM VACP

CONCLUSION 18/14: That,

- a) the ATM/AIM/SAR and the MET Sub-Groups finalize development of the AFI Volcanic Ash Contingency Plan;
- b) the Plan be provided to States for implementation, without awaiting the next meeting of APIRG.



Awareness Seminars On The AFI ATM VACP

- APIRG CONCLUSION 18/53: That ICAO Dakar and Nairobi Regional Offices through the ATM/MET Task Force, conduct regional awareness seminars on the AFI ATM Volcanic Ash Contingency Plan in view of:
 - a) Making all aviation stockholders in the AFI region aware of ATM VACP;
 - b) Supporting its implementation; and
 - c) Proposing further improvements to the plan.



CONCLUSION 19/19: INTEGRATION OF THE VOLCANIC ASH CONTINGENCY PLAN TO THE AIR TRAFFIC MANAGEMENT CONTINGENCY PLAN

- That, the AFI Volcanic Ash Contingency Plan at Appendix 3.2J to this report be integrated as an Appendix to the AFI ATM Contingency Plan.**

Note: States are thus required to integrate Volcanic Ash Contingency Plan in their ATM Contingency Plans



ICAO DAKAR UNITING AVIATION



ICAO

North American
Central American
and Caribbean
(NACC) Office
Mexico City

South American
(SAM) Office
Lima

ICAO
Headquarters
Montréal

Western and
Central African
(WACAF) Office
Dakar

European and
North Atlantic
(EUR/NAT) Office
Paris

Middle East
(MID) Office
Cairo

Eastern and
Southern African
(ESAF) Office
Nairobi

Asia and Pacific
(APAC) Sub-office
Beijing

Asia and Pacific
(APAC) Office
Bangkok



THANK YOU