



ICAO Meteorology Panel (METP)

Sixteenth Meeting of the Working Group on MET Operations Group (WG-MOG) International Airways Volcano Watch (IAVW) Work Stream, and

Eighth Meeting of the WG on MET Information and Service Development (WG-MISD) Volcanic Ash and Sulphur Dioxide (VASD) Work Stream

Virtual, 1 - 4 November 2021

PPT/04 - QVA METP/5 summary

by VAAC London

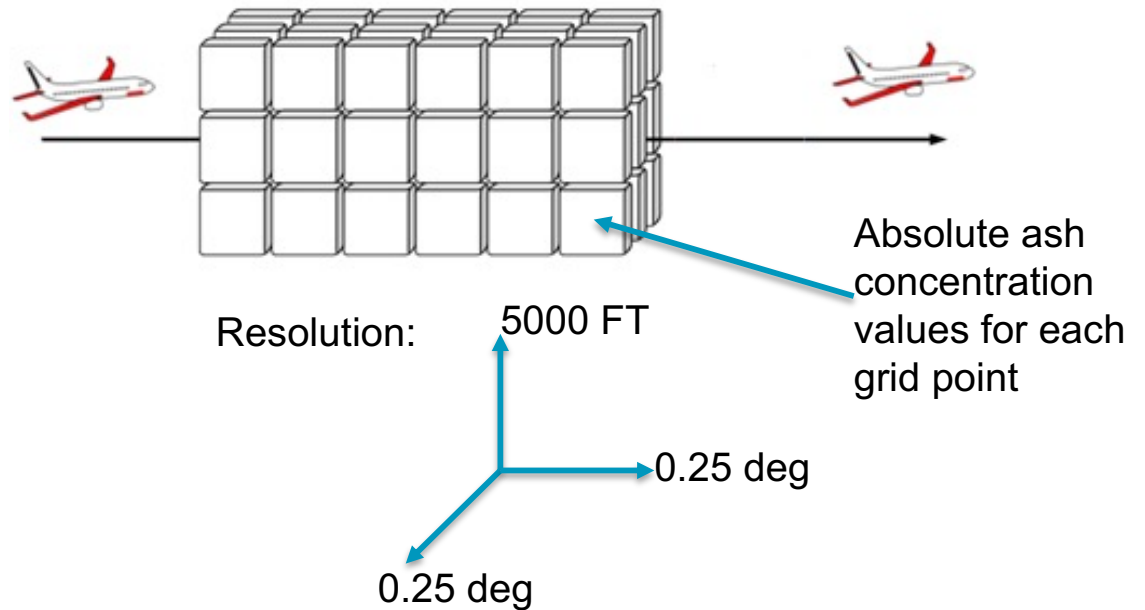




PANS-MET: gridded data (deterministic)

→ 5.3.1 Grid point forecasts of quantitative volcanic ash concentration shall be prepared by a VAAC in a regular grid with a horizontal resolution of 0.25° of latitude and longitude and vertical height ranges in accordance with Appendix 9. Table A9-1.

From mean sea level to and including flight level (FL) 50
Above FL 50 to and including FL 100
Above FL 100 to and including FL 150
Above FL 150 to and including FL 200
Above FL 200 to and including FL 250
Above FL 250 to and including FL 300
Above FL 300 to and including FL 350
Above FL 350 to and including FL 400
Above FL 400 to and including FL 450
Above FL 450 to and including FL 500
Above FL 500 to and including FL 550
Above FL 550 to and including FL 600



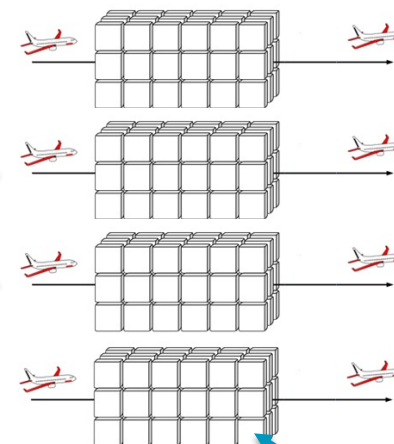


PANS-MET: gridded data (probabilistic)

→ 5.3.2 In addition to 5.3.1, a VAAC shall prepare relative frequency of exceedance probabilities for the volcanic ash concentration thresholds of 10, 5, 2 and 0.2 mg/m³.

Descriptor	Ranges
Very high	Equal to or above 10 mg/m ³
High	Equal to or above 5 and below 10 mg/m ³
Medium	Equal to or above 2 and below 5 mg/m ³
Low ^{a)}	Equal to or above 0.2 and below 2 mg/m ³
Very low ^{b)}	Below 0.2 mg/m ³

a) 0.2 mg/m³ is the agreed quantitative threshold for discernible ash.
b) Ash that may be detectable by more sensitive satellite and other remote sensing or in-situ monitoring capabilities.



Frequency of exceedance value (e.g. percentage) for each grid point



PANS-MET: objects (based on deterministic data in 5.3.1)

➔ 5.3.6 In addition to 5.3.5 quantitative volcanic ash concentration information shall be made available as objects in IWXXM form for the very high, high, medium and low quantitative volcanic ash concentration ranges given in Appendix 9, Table A9-2.

Grid-point forecast objects:

Descriptor	Ranges
Very high	Equal to or above 10 mg/m ³
High	Equal to or above 5 and below 10 mg/m ³
Medium	Equal to or above 2 and below 5 mg/m ³
Low ^{a)}	Equal to or above 0.2 and below 2 mg/m ³
Very low ^{b)}	Below 0.2 mg/m ³

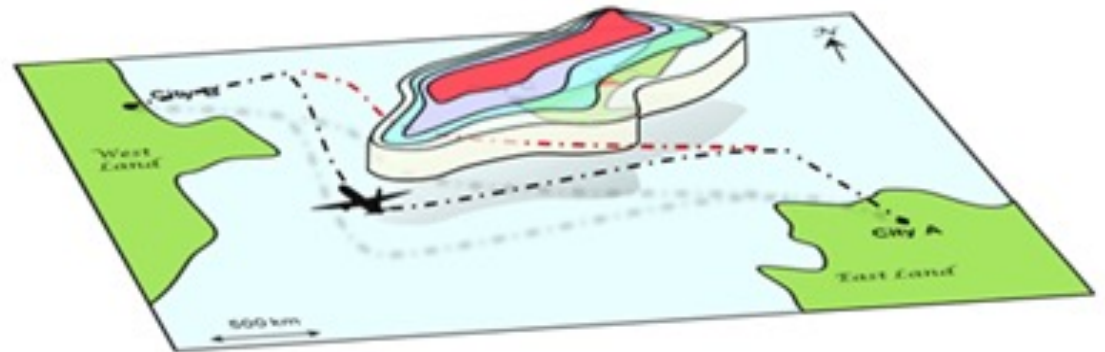
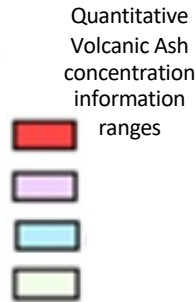


Diagram courtesy of R.Clarkson

a) 0.2 mg/m³ is the agreed quantitative threshold for discernible ash.
 b) Ash that may be detectable by more sensitive satellite and other remote sensing or in-situ monitoring capabilities.

Note: we are not anticipating providing IWXXM objects for the probabilistic data (ref 5.3.2) as we have not included specific % probability thresholds in PANS-MET.



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For data, this means:

Gridded data; PANS ref 5.3.1	Gridded data; PANS ref 5.3.2	IWXXM objects; PANS ref 5.3.6
Absolute ash concentration values for each grid point – 11 vertical levels	Probabilistic Four concentration thresholds – 11 vertical levels Each grid point gives the probability of exceedance	1 file All four thresholds represented as polygons Calculated from the absolute ash concentration values (ref 5.3.1)
Slices per timestep: 11	Slices per timestep: 44	Files per timestep: 1