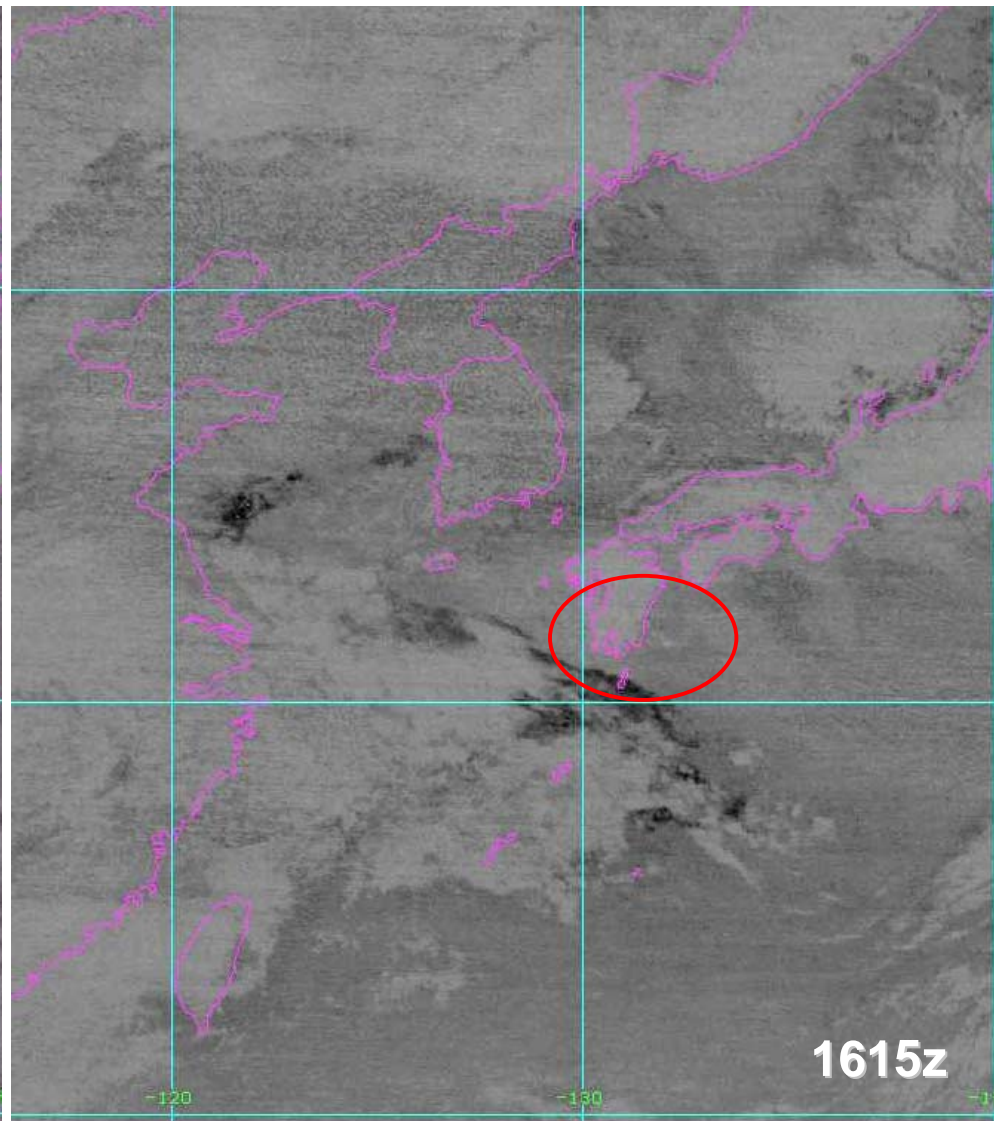
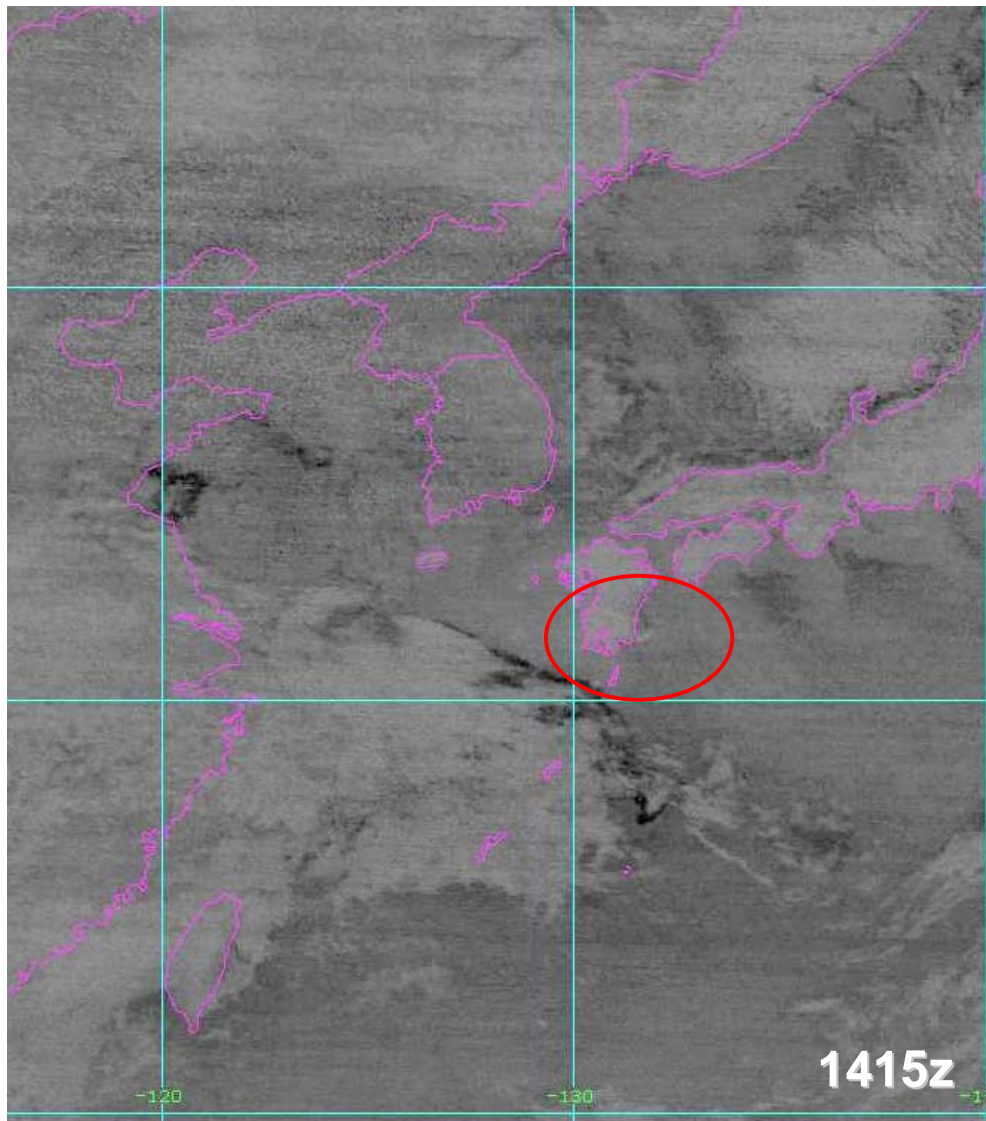


Sakura Jima Eruption 11 January 2013



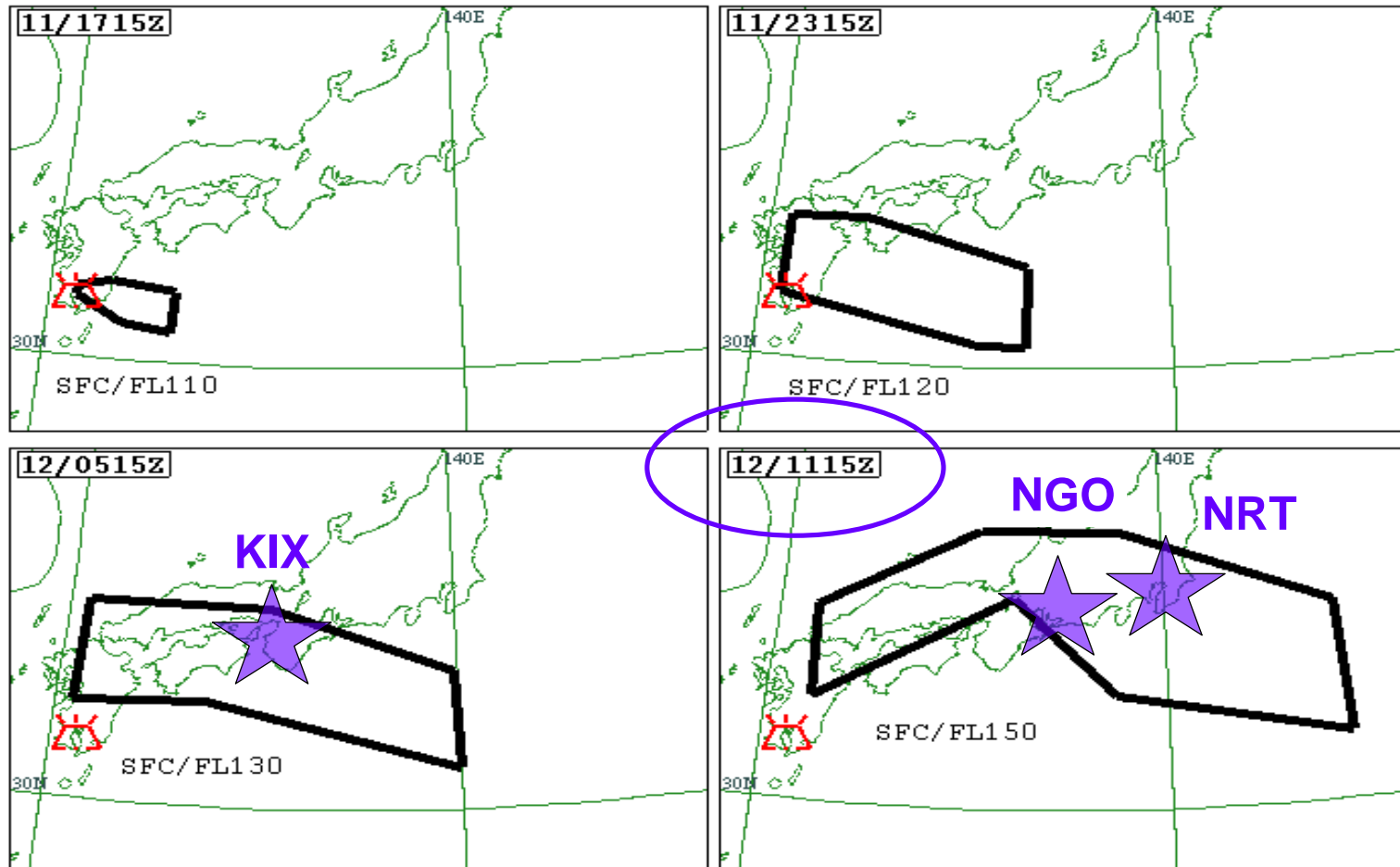
Potential Impact of a small volcanic eruption and associated VAAC products on airline operations

- Typical SakuraJima eruptions are FL060-120 feet with 6-8 hour lifetime.
- Overly conservative VAAC products issued based on:
 - Dispersion models with inadequate sink term
- Airline forecaster monitored plume and compared to models.
- 18Z Airline launch decision timeframe for Asia ops.
- VAG issued by VAAC at 17Z would have precluded a significant portion of operations impacting KIX NGO HND and NRT.
- 18Z forecaster issues 00Z plume position forecast with comments “plume dissipation expected by 03Z.
- 19-22Z TransPacific fleet launches normally
- 2350Z VAAS issued for dissipation of plume.



VAG Issued 11/1715z

VOLCANIC ASH ADVISORY INFORMATION IN GRAPHICAL FORMAT MODEL VAG

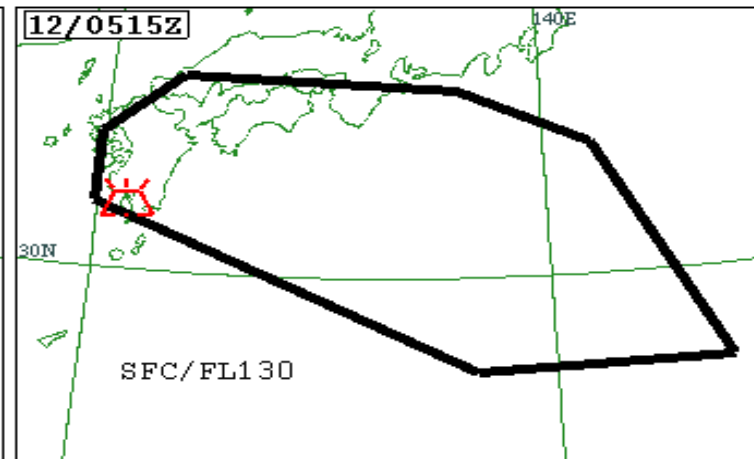
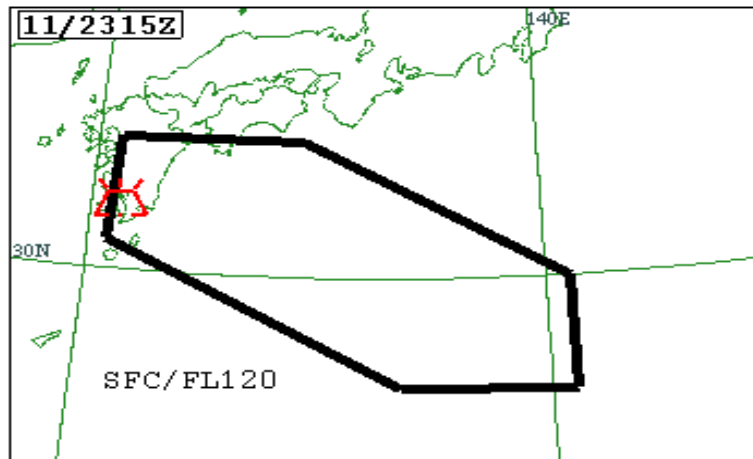
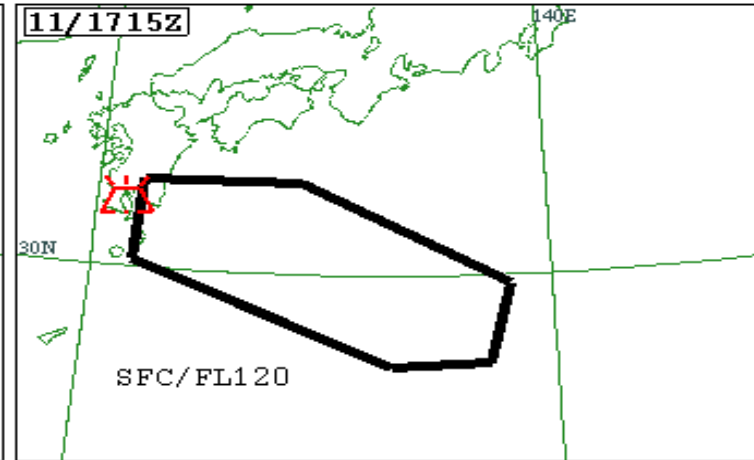
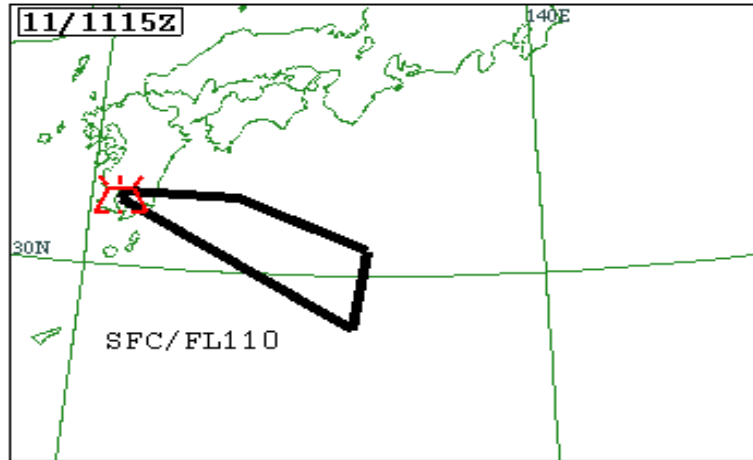


VA ADVISORY
DTG: 20130211/1800Z
VAAC: TOKYO
VOLCANO: SAKURAJIMA 0802-08
AREA: JAPAN
SUMMIT ELEV: 1060M
ADVISORY NR: 2013/148

INFO SOURCE: MTSAT-2
AVIATION COLOUR CODE: NIL
ERUPTION DETAILS: VA EMISSIONS CONTINUING.
RMK: NIL
NXT ADVISORY: 20130212/0000Z

Previous VAG Issued 11/1157z

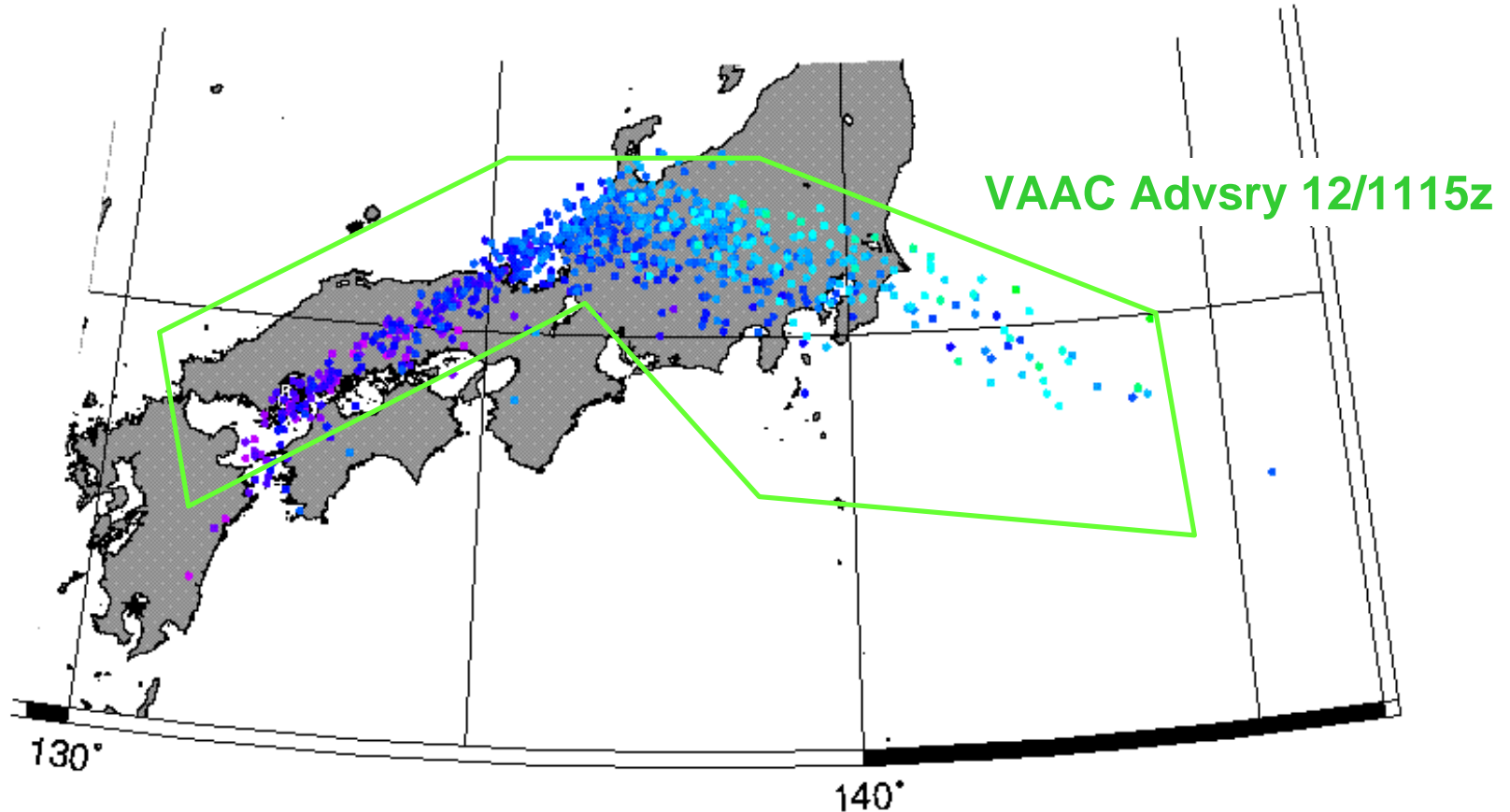
VOLCANIC ASH ADVISORY INFORMATION IN GRAPHICAL FORMAT MODEL VAG



VA ADVISORY
DTG: 20130211/1157Z
VAAC: TOKYO
VOLCANO: SAKURAJIMA 0802-08
AREA: JAPAN
SUMMIT ELEV: 1060M
ADVISORY NR: 2013/147

INFO SOURCE: MTSAT-2
AVIATION COLOUR CODE: NIL
ERUPTION DETAILS: VA EMISSIONS CONTINUING.
RMK: NIL
NXT ADVISORY: 20130211/1800Z

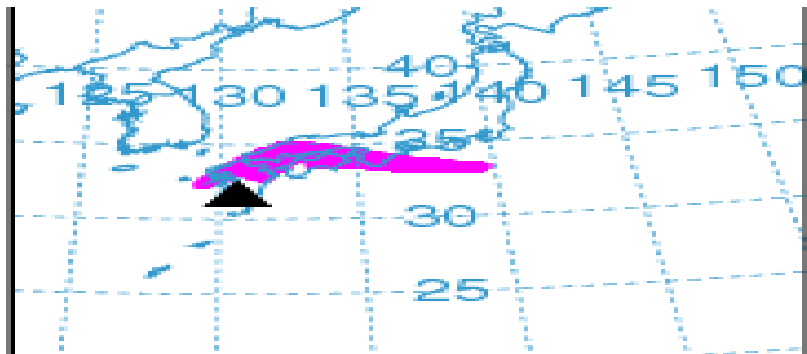
Dispersion Model #1 valid 12/12Z



Simulation from Model: avn and File: 2013021112

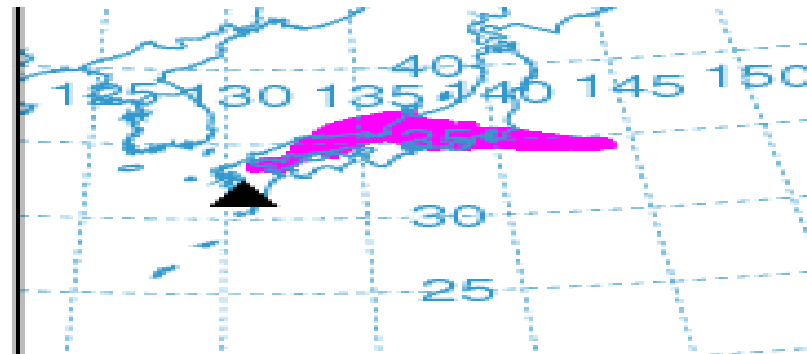
Sakura_jima 2013 02 12 12:00	0	4	8	12	17	21	25	29	34 'K feet	2.20
	0	1	2	3	5	6	7	8	10 km	

Dispersion Model 2

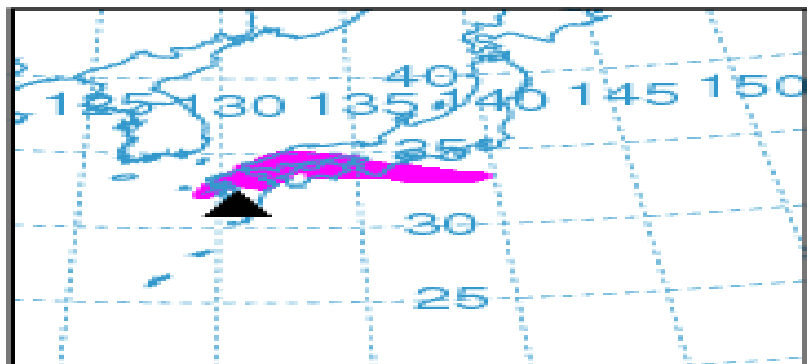


FL200
SURFACE

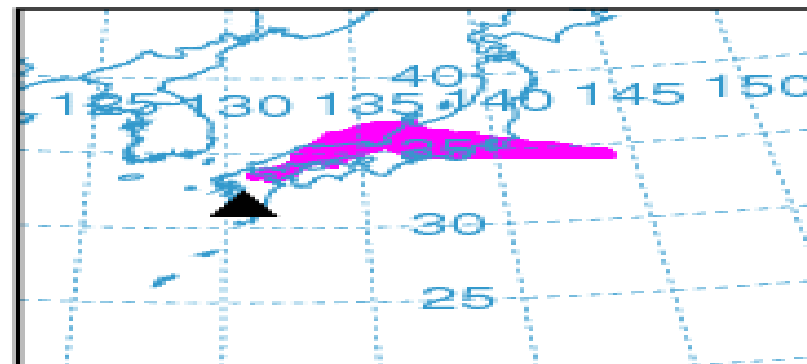
VALID 0600Z 12 FEB 13 (ERUPTION+016H00M)



VALID 1200Z 12 FEB 13 (ERUPTION+024H00M)



FL550
SURFACE
(COMPOSITE)



NOAA HYSPLIT GUIDANCE

▲ SAKURA-JIMA N3135E13039
SUMMIT 3665 FT
ERUPTION 1200Z 11 FEB 13
DURATION 6 HR
ASH COLUMN FL110

■ VISUAL ASH CLOUD

Created: 1537 GMT 20130212

GFSG CYCLE
12Z 11 FEB 13

Produced from the NOAA ARL Website <http://www.ready.noaa.gov/> Job ID: 413404
Wet deposition: Yes

SUBSEQUENT VAAS

- FVFE01 RJTD 112351
VA ADVISORY
DTG: 20130211/2351Z
VAAC: TOKYO
VOLCANO: SAKURAJIMA 0802-08
PSN: N3135E13040
AREA: JAPAN
SUMMIT ELEV: 1060M
ADVISORY NR: 2013/149
INFO SOURCE: MTSAT-2 JMA
AVIATION COLOUR CODE: NIL
ERUPTION DETAILS: EXPLODED AT 20130211/2330Z OVER FL040 EXTD NE
OBS VA DTG: 11/2315Z
OBS VA CLD: VA NOT IDENTIFIABLE FM SATELLITE DATA WIND FL180 270/63KT
FCST VA CLD +6 HR: NO VA EXP
FCST VA CLD +12 HR: NO VA EXP
FCST VA CLD +18 HR: NO VA EXP
RMK: WE WILL ISSUE FURTHER ADVISORY IF VA IS DETECTED IN SATELLITE IM
AGERY. VA OF PREVIOUS VAA DISSIPATED ON SATELLITE IMAGERY. NEW ERUPT
ION REPORTED.
NXT ADVISORY: NO FURTHER ADVISORIES=

NRT is Delta's second most profitable HUB, over 10,000 passengers affected would have caused significant revenue impact and customer dissatisfaction.

Canceled Passenger Impact: 10170

NGO

6 flights affecting 1520 passengers

KIX

6 flights affecting 1520 passengers

NRT

26 flights affecting 7130 passengers