WORLD METEOROLOGICAL ORGANIZATION

WMO AMDAR PANEL
(Fifteenth Session)

(BOULDER, USA, 6-9 NOVEMBER 2012)

AMDAR Panel-15/Doc.3.3.6

(23.X.2012)

ITEM: 3.3

Original: ENGLISH ONLY

AMDAR PROGRAMME STATUS

Status Reports on National and Regional Programmes

AMDAR Programme Status Report for Japan

(Submitted by Japan Meteorological Agency)

SUMMARY AND PURPOSE OF DOCUMENT

Provides a progress and activity report for the Japan AMDAR Programme.

ACTION PROPOSED

1. The Panel is invited to note the information contained in the document.

PROGRESS AND ACTIVITY REPORT

Current Status

Airline	Country of Airline	Aircraft Type (e.g. B737-400)	Number of Aircraft	AMDAR Software	Format On GTS (BUFR / FM42)
ANA	Japan	B777-200/300/300ER B767-300/300ER B747-400D	80	ACMS	BUFR and FM42
JAL	Japan	B787, B777-300/200 B767, B737-800	140	ACMS	BUFR and FM42

1. Since April 2003, the Japan Meteorological Agency (JMA) has been receiving AMDAR weather data of airplanes in the Japan domestic airspace from the two Japanese airlines, All Nippon Airways (ANA) and Japan Airlines (JAL). While ANA airplanes report observation data only in level flight, JAL airplanes report during all the flight phases including ascent and descent.

2. Approximately 16,000 reports (about 3,000 and 13,000 reports from ANA and JAL, respectively) are collected from 200 airplanes per day over Japan via the VHF data link. The data are generally of satisfactory quality, although they usually show slight high temperature biases.

3. JMA started to disseminate AMDAR data operationally in April 2006 and also in the BUFR format in December 2006, in which QNH-corrected altitudes are converted to flight levels.

4. Temperature and wind AMDAR data are used to make the initial field of the Global model (GSM) with a horizontal resolution of 20km and Mesoscale model (MSM) with a horizontal resolution of 5km, as well as the Hourly Analysis which is a real-time product to monitor the atmospheric condition. The data make positive impacts on these products.

5. The quality control (QC) procedure for the GSM data assimilation (DA) system is as follows. The QC system corrects temperature biases of each aircraft by using previous one month statistics and rejects the data if the bias exceeded 2.5K. The data are thinned so that distance between each data is at least 100 km.

6. The QC for the MSM DA system is as follows. We don’t perform any bias correction based on the MSM DA system. The distance to thin the data is 50km and 15km for the data higher than 500hPa and the data lower than the height, respectively.

7. Forecasters use the AMDAR data to issue aerodrome and area forecasts. The data are also important for investigation by forecasters.

Development & Other Activities

8. We have started the operation of Local Forecast Model (LFM) with a horizontal resolution of 2km since August 2012. The quality control system for the LFM is almost the same as that for the MSM, but the distance to thin the data is 28km.

_____