



International Civil Aviation Organization

SIXTH MEETING OF THE ASIA/PACIFIC METEOROLOGICAL SERVICES WORKING GROUP (MET/S WG/6)

Bangkok, Thailand, 9 – 11 March 2016

Agenda Item 4: Planning and implementation of meteorological services

DEVELOPMENT AND USE OF DIGITAL TAF & METAR AUTOMATIC PRODUCTION PROGRAM

(Presented by the Republic of Korea)

SUMMARY

The Aviation Meteorological Office (AMO) is planning to develop a program provide quick weather information service for the meteorological elements related to the safe operation of the aircraft. This paper introduces the information of this program.

1. INTRODUCTION

1.1 AMO has the purpose of providing aviation weather services that contribute to enhancing stability, regularity and efficiency of air navigation. In order to achieve the purpose, quick and accurate production and provision of the TAF and observation is necessary.

1.2 In the case of aircrafts(helicopters and light aircraft, etc.), they are especially sensitive to meteorological(weather) changes because they try to take-off and land or fly at high speed for a short time. In addition, the weather has a significant effect on the safe and economical aircraft operation ranging from flight plans, airport operations and facilities management to traffic control services.

1.3 AMO is currently faced with a problem about provision of aviation meteorological data for aircraft flying in air-route because of blank area of aviation forecasts and observations. Therefore, AMO has continued to promote research and development project to provide weather forecasts and observations about the risks affecting the safe operation of the aircraft.

2. D-TAF / D-METAR AUTOMATIC PRODUCTION PROGRAM

2.1 In recent years, a gradually growing number of users for low-level flight for the aviation industry and leisure use are increasing potential risks of aircraft accidents caused by weather. Therefore AMO plans to develop the D-TAF and D-METAR automatic production program to provide more accurate and timely forecasts and observations.

2.2 D-TAF will apply the Numerical Weather Prediction (NWP) Model such as vertical series and fog forecast guidance for the Dong-Nae forecasts point (261 points) and will be built to be automatically converted to match the TAF format. D-METAR will be built to use METAR (produced

by AMO), synoptic weather observations and the observation data obtained from the weather observation equipment (such as AMOS, ASOS, AWOS, etc) and it will be also automatically converted to fit the METAR format.

2.3 D-TAF / D-METAR will be established to search the data by latitude and longitude coordinates according to the mouse movement and will have a function of collecting and displaying TAF and METAR data that customers want for the planned flight route. Therefore, D-TAF / D-METAR will make it possible to identify the integrated forecasting and observation data on a screen at a glance, simply by selecting the data.

2.4 Recently, the Korea Meteorological Administration has provided the Dong-Nae forecasts (local forecast) information based on coordinates. D-TAF and D-METAR is also expected to be available in a similar form. Search and display examples are shown below.

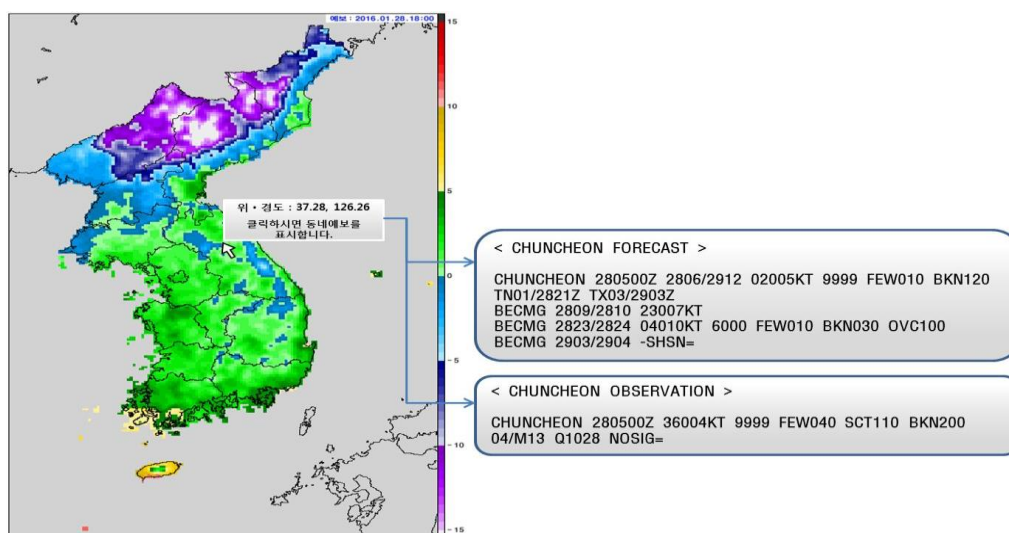


Fig. 1 Search and display examples of D-TAF / D-METAR

2.5 We are supposed to provide D-TAF and D-METAR through our website for the relevant service units such as flight control center, airlines, relevant units for low-level flight, etc. In the future we plan to make it available through mobile apps after gathering and analyzing the opinions of the consumer.

3. FURTHER PROCESS

3.1 AMO has plans to develop the aviation forecast guidance to reflect the local climate and topographic characteristics and integrate and re-analysis the know-how accumulated over 13 years. If this guidance is reflected in the D-TAF, it will be able to provide a more accurate forecast data.

3.2 We are also planning to carry out verification of accuracy by applying the D-TAF in the evaluation system that is currently used in AMO. This verification results will contribute to improvement of forecasting capabilities by feeding back into forecasters.

3.3 In addition, we plan to increase the utilization of the D-TAF and D-METAR by continuously reflecting the opinions of the consumer in the development program and secure a large amount of forecasts and observation data through consultations between the relevant units and information openness.

4. ACTION BY THE MEETING

4.1 The meeting is invited to note the information contained in this paper.
