



International Civil Aviation Organization

**SIXTEENTH MEETING OF THE
COMMUNICATIONS/NAVIGATION/SURVEILLANCE AND
METEOROLOGY SUB-GROUP (CNS/MET SG/16) OF APANPIRG**

Bangkok, Thailand, 23 – 27 July 2012

Agenda Item 10: Regional Implementation of International Tropical Cyclone Watch (ITCW)

CURRENT ACTIVITIES AND FUTURE PROGRESS OF TCAC TOKYO

(Presented by Japan)

SUMMARY

This paper presents the information on the current activities and future progress of TCAC Tokyo.

This paper relates to –

Strategic Objectives:

A: Safety - *Enhance global civil aviation safety*

C: Environmental Protection and Sustainable Development of Air Transport - *Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

GPI-19 Meteorological Systems

1. Introduction

1.1 The services of the Tropical Cyclone Advisory Center (TCAC) Tokyo have been provided since 1993, for meteorological watch offices, within its area of responsibility as shown figure 1., with information on analyses and forecasts of tropical cyclones (TC) in the western North Pacific and the South China Sea.

2. Discussion

Advisory information improvements

2.1 The accuracy of TCA has been gradually improved since the start of its operation. The verification results of operational TC track forecasts utilized in the issuance of TCA are shown in Figure 2. The annual mean error of 24-hour forecast of the center position has been steadily decreasing mainly due to the improvement of the numerical weather prediction model.

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23/07/12

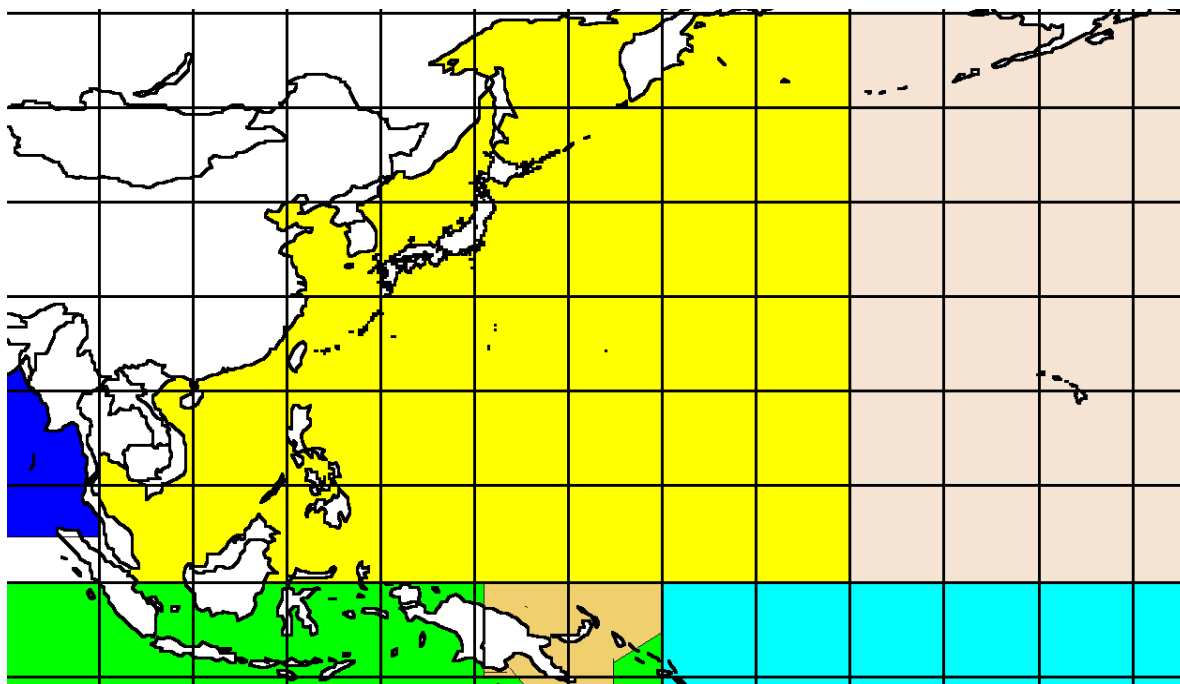


Figure 1. Area of responsibility of Tokyo TCAC

2.2 To improve operational tropical cyclone analysis, TCAC Tokyo is currently developing objective tropical cyclone satellite analysis using MTSAT called “Cloud grid information objective Dvorak analysis (CLOUD)” and plans to introduce it into operation in a few years. The unique points of CLOUD are that it covers both early-stage Dvorak analysis (EDA) and Dvorak analysis and that it can be used with cloud grid information (CGI) – an objective cloud product operationally prepared by Japan Meteorological Agency since June 2005. The method has been provisionally verified and shown to have a level of accuracy comparable to those of manual EDA and Dvorak analysis. Objective microwave analyses for complementary intensity estimation are also to be introduced together with CLOUD.

Other progress

2.3 On 1 July 2010, JMA switched over imaging satellite operations to the Multi-functional Transport Satellite-2 (MTSAT-2, also known as Himawari-7), which is located at 145 degrees east, from MTSAT-1R (Himawari-6), which is located at 140 degrees east and now operates as an in-orbit stand-by for MTSAT-2.

2.4 TCA of TCAC Tokyo has been changed according to the implementation of Amendment 75 since Nov. 2010. Identification of unnamed cyclones; the term “NIL” was replaced by “NN”.

Future Issuance of graphical TC advisory (TCG)

2.5 As indicated in the Manual of Aeronautical Meteorological Practice (Doc 8896), the information on TCs in graphical format provided by TCAC Tokyo is shown in the JMA’s website (<http://www.jma.go.jp/en/typh/>). In addition to this, based on the techniques utilizing the CGI for the analysis of existing CB areas, TCAC Tokyo plans to provide graphical TCA referring to a format of MODEL TCG in the Appendix 1 of ICAO Annex 3 within a few years.

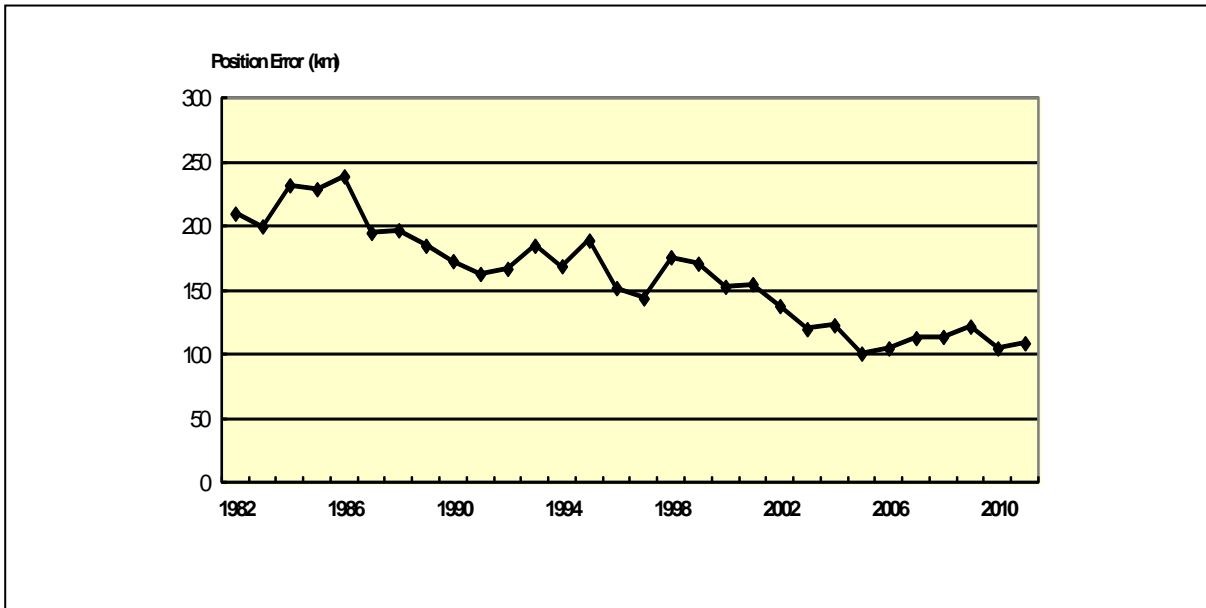


Figure 2. Annual mean position errors of 24-hour track forecast
vertical axis: position error (km), horizontal axis: year

3. Action by the Meeting

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate.
