



**INTERNATIONAL
CIVIL AVIATION
ORGANIZATION**



**WORLD
METEOROLOGICAL
ORGANIZATION**

MET/02-IP/20
CAeM-XII/INF. 20
10/7/02

Meteorology (MET) Divisional Meeting
(2002)

Commission for Aeronautical Meteorology
Twelfth Session

Montreal, 9 to 27 September 2002

Agenda Item 1: Meteorological component of CNS/ATM systems
1.1: Final phase of the WAFS

(Presented by China)

SUMMARY

This paper presents WAFS transition issues affecting the Asia and Pacific Regions.

1. INTRODUCTION

1.1 In the Asia and Pacific regions, the responsibility for the production of the required SIGWX charts and wind/temperature charts was transferred from the Regional Area Forecast Centres (RAFCs) at New Delhi, Tokyo, Melbourne and Wellington to the two World Area Forecast Centres (WAFCs) on 1 March 2001.

1.2 This paper discusses WAFS transition issues affecting the Asia and Pacific regions as identified by a survey carried out by the Asia/Pacific WAFS Transition Task Force during February to April 2001 to assess the operational effectiveness of WAFS in the regions.

2. ISSUES AND IMPROVEMENT AREAS

2.1 **Lead time of SIGWX chart broadcasts** — to ensure that SIGWX charts are available in time to support long haul flights between Asia and Europe, a suggestion about an earlier availability of SIGWX chart broadcasts from WRFC London was discussed by the ICAO Asia/Pacific regional sub-group meeting in July 2001. WAFS London had agreed to make available SIGWX charts about 13 hours before validity time, about 3 hours earlier than its previous schedule. Noting that the long haul flights are typically at least 13 hours of duration, and in some cases more than 15 hours, it would be highly desirable that the WAFCs make available SIGWX charts at least 16 hours before validity time.

2.2 **SIGWX chart area and projection** — based on a request raised by Hong Kong, China in response to users' feedback, the ICAO Asia/Pacific regional sub-group meeting in July 2000 formulated a proposal to invite WRFC Washington to issue a new SIGWX chart with the same coverage, scale and map projection as the Mercator projection Northern Pacific SIGWX chart previously issued by RAFC Tokyo to support trans-Pacific flights. After discussion by the WAFS Study Group during April-May 2001, WAFS Washington agreed to provide this new chart, now labelled "M", and started its production and satellite

broadcast on 9 July 2001. There was also a proposal to extend the WAFS chart area “E” by 5 degrees to the north (viz. from 40°N to 45°N) to cover the northern part of Japan. After discussion by the ICAO Asia/Pacific regional sub-group meeting in July 2001; ICAO was invited to consider this proposal.

2.3 **WAFS backup arrangements** — from discussion by the WAFS Study Group during April-May 2001, it was noted that inclusion in both the SADIS and ISCS/2 satellite broadcasts of all WAFS products from both WAFCs was almost complete and would be in place as part of the WAFS backup arrangements.

2.4 Medium-level SIGWX charts — in a previous survey carried out in the Asia and Pacific regions in 2000, a need for additional WAFS medium-level SIGWX (SWM) charts was identified. The ICAO Asia/Pacific regional sub-group meeting in July 2000 deliberated that IATA be requested to urgently confirm the expressed requirement. This matter was subsequently discussed by the ICAO Asia/Pacific regional sub-group meeting in July 2001 and also by the WMO CAeM Working Group on the Provision of Meteorological Information Required by Civil Aviation (PROMET) in October 2001. It was understood that currently IATA had no requirement for additional SWM charts but supported the need to study the requirements and definition of developing new SWM products in the long term. It is suggested that this matter be further discussed under Agenda Item 1.3 “Development of specialized WAFS products for turbulence and icing forecast”.

2.5 **Migration to GRIB and BUFR** — in a GRIB survey undertaken by the Asia/Pacific WAFS Transition Task Force from September to November 2000, it was found that a number of States¹ in the regions did not yet have the capability to receive and/or convert wind/temperature products in GRIB format into wind/temperature charts. The ICAO Asia/Pacific regional sub-group meeting in July 2001 requested the United Kingdom; in coordination with ICAO, WMO and other States as necessary, to arrange for a GRIB training workshop in the Asia and Pacific regions in 2002. This workshop was currently scheduled for late 2002. Considering that decoding and processing of BUFR encoded information could be more complicated than handling of GRIB encoded information, the results of the GRIB survey suggested that without considerable assistance, it will be a number of years before States in the regions will have acquired the capability to convert BUFR products into standard WAFS SIGWX charts required for flight documentation on an operational basis. The planned removal of T4 facsimile charts from the WAFS satellite broadcasts in 2003 (wind/temperature charts) and 2004 (SIGWX charts) is likely to be contingent upon all States that receive GRIB and BUFR products having acquired the capability to convert them into wind/temperature and SIGWX charts operationally. In particular, to replace the T4 facsimile SIGWX charts by BUFR products from WAFS, it is important to start the following work programme as soon as possible:

¹ Applies equally to WMO Member States.

| Tasks | Target Dates |
|--|--------------|
| (a) Software for converting WAFS BUFR products to standard WAFS SIGWX charts be provided to States for evaluation and trial use | 2002 |
| (b) The satellite distribution of global SIGWX products in BUFR format by the two WAFCs | 2003 |
| (c) Training and assistance be provided to States for operational conversion of WAFS BUFR products to standard WAFS SIGWX charts | 2003-2004 |
| (d) States having the ability to operate the software to convert WAFS BUFR products to standard WAFS SIGWX charts | Mid-2004 |
| (e) Removal of T4 Facsimile SIGWX products from the satellite broadcast | Late 2004 |

Close coordination between ICAO, WMO, WAFCs and States will be required to ensure progress of the programme.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this document.

— END —