



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP  
THIRTEENTH MEETING (APIRG/13)**

(Sal, Cape Verde, 25-29 June 2001)

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**Agenda Item 4: Review of the Report of the MET/SG**

**4.4 EVALUATION OF WAFC LONDON SIGNIFICANT WEATHER  
FORECASTS**

(Presented by Senegal)

**Summary**

This paper takes stock of the situation of the evaluation of significant weather forecasts (SIGWX) in the Area of coverage 'C' of London by the Regional Area Forecast Centre of Dakar within the framework of the transition to the WAFS final phase.

**1. INTRODUCTION**

- 1.1 Within the framework of the planning towards the WAFS final phase in the AFI Region, the Dakar Regional Area Forecast Centre was requested to provide reports on the quality and accuracy of SIGWX charts of the World Area Forecast Centre in London.
- 1.2 The evaluation exercise of these SIGWX charts was conducted for the period from 1 November to 31 December 2000.

**2. DISCUSSIONS**

- 2.1 As of 31 December 2000, 164 situations were exploited. The elements studied related mainly to storms, intertropical front and jet streams.
- 2.2 The results, expressed in percentage of success of the forecast models used by the WAFC, were included in the tables below according to pre-established models by the London Centre.

**3. STORMS**

- 3.1 The follow-up of storms in the Dakar Centre responsibility area concerns the following elements :

<b>Hours</b>	<b>0</b>	<b>6</b>	<b>12</b>	<b>18</b>	<b>Aggregate percentage Average</b>
<b>Storms</b>					
<b>Coverage area (%)</b>	48	45	45	48	46
<b>Frequency (%)</b>	54	48	52	52	51
<b>Flight level (%)</b>	60	53	56	58	57

### 3.2 Coverage areas

Judgements are made on the scope of storm areas on London SIGWX charts in relation to satellite pictures and surface synoptic situations.

Globally, the average percentage of success of coverage areas forecasts is around 46%.

### 3.3 Frequency

Judgements are made on the quality of forecast of the number of festooned storm areas in relation to photosatellites and synoptic situations. The percentage rate of success is around 51%.

### 3.4 Flight Level

Judgements are made on altitudes (base and peak) of CB of storm areas by using available TEMP messages. The average percentage is around 57%.

## 4. SURFACE FRONT

4.1 We have limited our study to the location and ITCZ fluctuations in relation to synoptic situations.

<b>Hours</b>	<b>0</b>	<b>6</b>	<b>12</b>	<b>18</b>	<b>Aggregate percentage Average</b>
<b>Intertropical Front (FIT)</b>					
<b>LOCATION (%)</b>	56	48	55	57	54

4.2 Judgements are made on the ITCZ location in relation to surface situations. The average percentage is around 54 %.

5.1 For this specific element, the evaluation covers 10 days (25 January - 5 February 2001)

<b>Hours Jet Stream</b>	<b>0</b>	<b>6</b>	<b>12</b>	<b>18</b>	<b>Aggregate percentage Average</b>
LOCATION	73	76	73	76	74
FLIGHT LEVEL	73	72	73	73	73
WIND DIRECTION	86	88	88	89	88
WIND SPEED	61	65	64	67	64

5.2 Judgements are made on the various elements by taking mainly into account the London WAFC altitude charts and satellite colour print. The average percentages are around 74, 73, 88 and 64% for the four parameters listed in the table above.

## 6. CONCLUSION

6.1 The results obtained show an acceptable performance of the models used by the WAFC of London. However, improvements should be made to the forecast of storms which are of a particular interest to the AFI Region bearing in mind the complexity of convection, which is the main cause of precipitation in the AFI Region.

## 7. RECOMMENDATIONS

7.1 For a smooth transition to the WAFS final phase, it is recommended the following:

7.2 The holding of regular consultations between the WAFC London and the Dakar Regional Area Forecast Centre.

7.3 The exchange of experts between the two centres with a view to improving the storm forecast bearing in mind the specificity of intertropical regions and complexity of convection phenomena.

## 8. ACTION SUGGESTED

8.1 The Meeting is invited to note the information in this document and recommend measures aimed at supplying automated SIGWX charts.

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