

WORLD METEOROLOGICAL ORGANIZATION

**COMMISSION
FOR AERONAUTICAL METEOROLOGY**

**ABRIDGED FINAL REPORT
OF THE
SECOND SESSION
VOLUME I**

Montreal, 1 - 29 September 1959

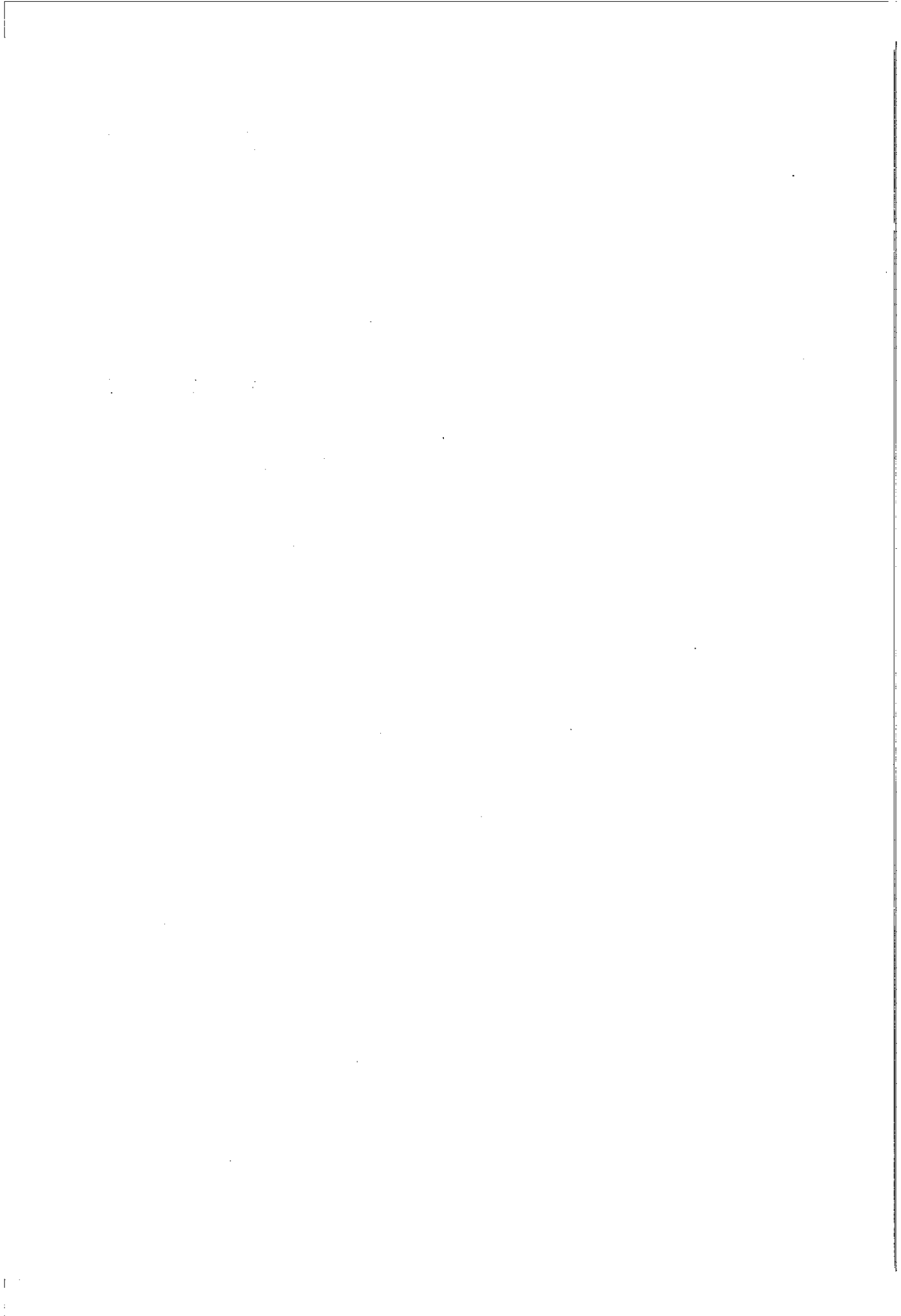
(Held simultaneously with
the fifth session of the
Meteorology Division of ICAO)

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Supplement to WMO Publication No. 91.RP.38 -
Abridged Final Report of the Second Session of
the Commission for Aeronautical Meteorology

(Volume I)

Decisions of the Executive Committee on the
Abridged Final Report of the Second Session
of the Commission for Aeronautical Meteorology

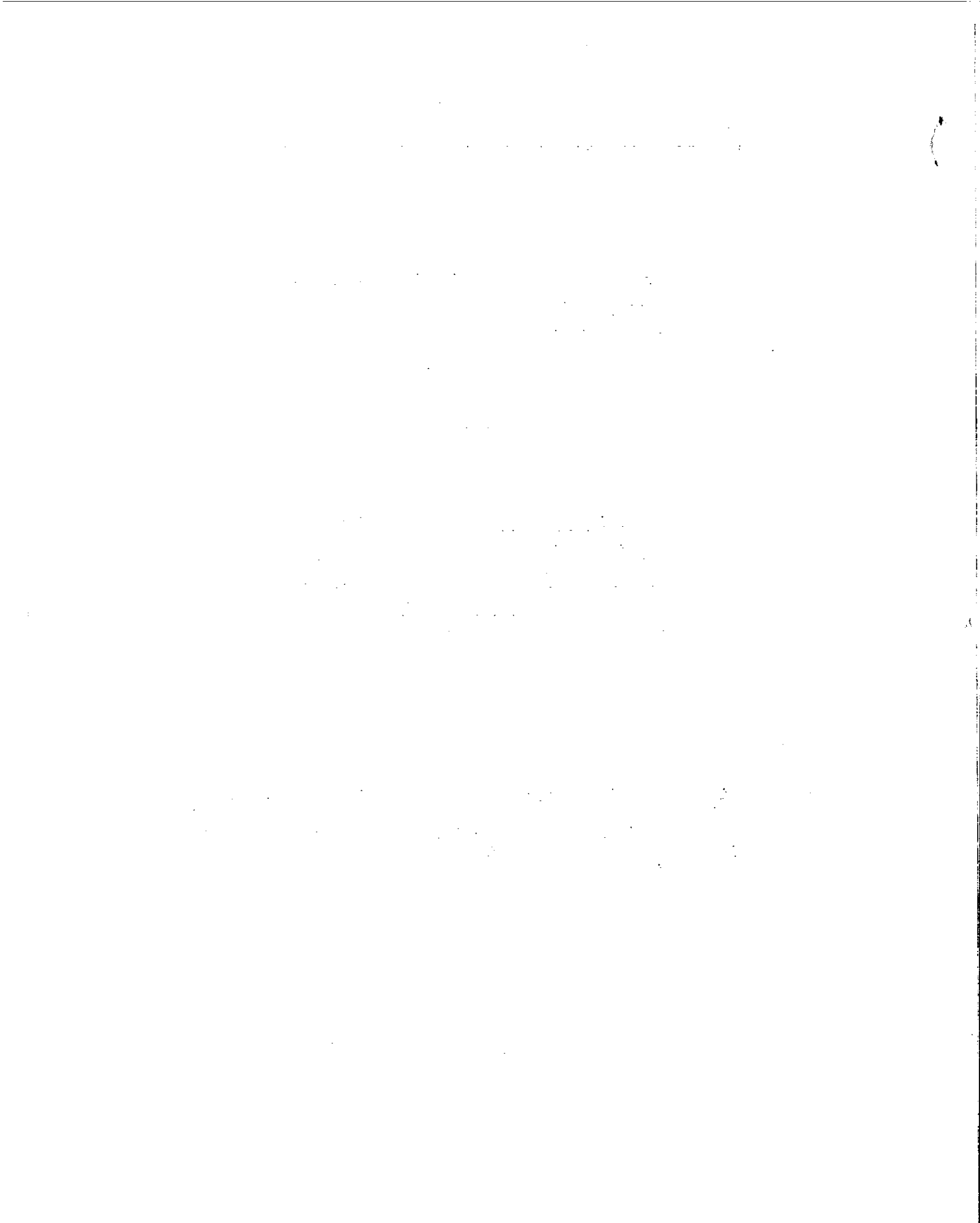
(Separate Session)

This document is a supplement to WMO Publication No. 91.RP.38 -
Abridged Final Report of the Second Session of the Commission
for Aeronautical Meteorology - Volume I - and should be con-
sidered as a guide to the status of the decisions adopted at
that session.

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Resolution 22 (EC-XII)

REPORT OF THE SECOND SESSION OF THE
COMMISSION FOR AERONAUTICAL METEOROLOGY (SEPARATE SESSION)

THE EXECUTIVE COMMITTEE,

HAVING CONSIDERED the Abridged Final Report of the second session of the Commission for Aeronautical Meteorology (Volume I);

DECIDES,

- (1) To note the report of the session;
- (2) To note Resolutions 1, 2, 3 and 4 (CAeM-II);
- (3) To take action as follows on the recommendations :

Recommendation 1 - Meeting of the CAeM Working Group on utilization of aircraft meteorological reports

Endorses the action taken by the President of the Organization in approving this recommendation.

Recommendation 2 - Publication of WMO Guide on the qualifications and training of meteorological personnel employed in the provision of meteorological services for international air navigation

Approves this recommendation and instructs the Secretary-General to prepare the Spanish and Russian versions of the guide in collaboration, if necessary, with the meteorological services of Spain and the Union of Soviet Socialist Republics and to publish the guide in the four official languages of the Organization.

Recommendation 3 - Meetings of the CAeM Working Group on the meteorological aspects of area forecast systems

Notes this recommendation and decides that the Organization will only bear the cost of the attendance of the CSM representative at one meeting of the CAeM Working Group on the meteorological aspects of area forecast systems.

Recommendation 4 - Representation of other international organizations on the CAeM Working Group on the meteorological aspects of area forecast systems

Endorses the action taken by the President of WMO in approving this recommendation.

Recommendation 5 - Publication of WMO Technical Note on the utilization of constant level balloon data

Notes this recommendation and directs the Secretary-General to refer the paper in question to the presidents of CAe, CIMO and CSM for comment.

Recommendation 6 - Amendment of introductory note to WMO Technical Regulations,
Chapter 12, Part 2

Approves this recommendation and transmits it to the Secretary-General for action.

DIRECTS the Secretary-General to inform all concerned.

NOTE : This resolution replaces Resolution 15 (EC-V) which is no longer in force.

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FOREWORD

The abridged final report of the second session of the Commission for Aeronautical Meteorology, which was held, in part, simultaneously with the fifth session of the Meteorology Division of the International Civil Aviation Organization, consists of two volumes.

The present Volume I covers those matters dealt with by the commission in its separate meetings. Volume II covers those matters dealt with in simultaneous meetings with the Meteorology Division of the International Civil Aviation Organization.

The complete final report of the second session comprises :

- (a) the two volumes mentioned above;
 - (b) Minutes of the separate plenary meetings of the commission held on 5, 19, 28 and 29th September, 1959;
 - (c) Minutes of the simultaneous meetings of the second session of the commission and the fifth session of the Meteorology Division of ICAO;
 - (d) Working papers presented to the second session of the commission (CAeM-II/Docs. S.1-S.12);
 - (e) Working papers presented to the second session of the commission and the fifth session of the Meteorology Division of ICAO in simultaneous session (MET V-WP/1, CAeM-II/Doc. 1 to MET V-WP/156, CAeM-II/Doc. 156).
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LIST OF REPRESENTATIVES ATTENDING THE SESSION

1. Officers of the session

A.H. Nagle	president	
A. Silva de Sousa	vice-president	

2. Representatives of Members of the WMO

Australia	J.W. Lillywhite R.A.E. Holmes	principal delegate delegate
Belgium	M.M. Quoilin	principal delegate
Brazil	J.S. Junqueira Schmidt	delegate
British East African Territories including the Seychelles	D. McCallum	principal delegate
Canada	R.C. Graham E.A. Barks E.M. Elsley	principal delegate delegate delegate
Ceylon	K.D.N. de Silva	principal delegate
China	W.S. Kuo	principal delegate
Czechoslovakia	A. Dřevíkovský	principal delegate
Denmark	O. Amundsen	principal delegate
Dominican Republic	J.B. Cambiaso V.	principal delegate
Federal Republic of Germany	H. Schweitzer J.H. Brinkmann W. Rumbaum	principal delegate delegate adviser
Finland	A.L. Nurminen	principal delegate
France	J.P. Barberon J. Alt M. Cambon P.P.M. Corfa P. Duvergé B.M.B. Gosset	principal delegate delegate delegate delegate delegate delegate

LIST OF REPRESENTATIVES ATTENDING THE SESSION

VII

Greece	C. Peroyannakis	delegate
India	P.R. Krishna Rao P. Koteswaram	principal delegate delegate
Ireland	P.K. Rohan J. O'Connor	principal delegate delegate
Israel	Y.L. Tokatly	principal delegate
Italy	U. Luccardi E. Gherzi	principal delegate adviser
Japan	F. Kusakabe Y. Tagaya	principal delegate delegate
Korea, Republic of	K.S. Pak N.K. Lee	principal delegate delegate
Lebanon	N. Ward	principal delegate
Netherlands	K.R. Postma G.A. Lenstra F.H. Schmidt	principal delegate delegate delegate
Netherlands New Guinea	J.C.C. Vis	principal delegate
New Zealand	R.G. Simmers J.D. Kerr	principal delegate delegate
Norway	S. Vedø	principal delegate
Portugal	A. Silva de Sousa	principal delegate
Portuguese East Africa	J.B. Blanc de Portugal	principal delegate
Portuguese West Africa	T.R. do Espirito Santo	principal delegate
Romania	J. Motronea C. Sorodoc	principal delegate delegate
Spain	I. Font Tullo	principal delegate
Sweden	K.W.B. Persson	principal delegate
Switzerland	R. Schneider F. Haldimann	principal delegate delegate
Thailand	C.V. Bunnag	principal delegate
Union of Soviet Socialist Republics	A. Popov N. Petrenko	principal delegate delegate
Union of South Africa	L.Q. Hayward	principal delegate

LIST OF REPRESENTATIVES ATTENDING THE SESSION

United Arab Republic	K.H. Soliman	principal delegate
	A.K.M. Elamly	delegate
	S. Kaddura	delegate
United Kingdom of Great Britain and Northern Ireland	J.C. Cumming	principal delegate
	R.J. Ogden	delegate
	A.A. Worthington	delegate
	N.V. Lindemere	delegate
United States of America	G.D. Cartwright	principal delegate
	W. Halnon	delegate
	H.T. Jacolick	delegate
	R.P. James	delegate
	A.H. Nagle	delegate
	P.H. Peridier	delegate
	S. Simplicio	delegate
	R.H. Clinkscapes	adviser
H.G. Gatlin	adviser	
Venezuela	J.P. Peñaloza	principal delegate
	W.H. Pannenbecker	delegate

3. Representative of a country non-Member of the WMO

Honduras	F. Martínez Flores	observer
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4. Representatives of international organizations

International Airline Navigators Council	A.J. Blackwood	observer
	B.W. Freeman	observer
	W.K. Henderson	observer
	E.L. Van den Driesen	observer
International Air Transport Association	A. Aagaard	observer
	J.A. Browne	observer
	E.B. Buxton	observer
	E. Chambers	observer
	T. Duvedal	observer
	R.R. Frediani	observer
	A.G. Van der Aa	observer
K. Wood	observer	
International Civil Aviation Organization	G.J.W. Oddie	observer
International Federation of Airline Pilots' Associations	W.J. Rodgers	observer

LIST OF REPRESENTATIVES ATTENDING THE SESSION

IX

International Radio W. Stein observer
Air Safety Associa-
tion

International Union R.C. Graham observer
of Geodesy and Geo-
physics

5. Representatives of the WMO Secretariat

K. Langlo Chief, Technical Division
N.L. Veranneman Chief, Operations Section

Note : Mr. A. Avila Valladares, delegate of Mexico to the fifth session
of the ICAO Meteorology Division, was also present.

A G E N D A

<u>Agenda</u> <u>item</u> <u>No.</u>		<u>Relevant Docs.</u> <u>CAeM-II/Doc.S-</u>	<u>Res.</u>	<u>Rec.</u>
<u>PART A</u>				
A-1	Opening of the session			
A-2	Report on examination of credentials			
A-3	Adoption of the agenda			
A-4	Establishment of committees			
A-5	Report of the president	3		
A-6	Reports of chairmen of working groups	2		
<u>PART B</u>				
	This part of the CAeM agenda constitutes also the agenda for the fifth session of the Meteorology Division of ICAO and is reproduced in Volume II of this report.			
<u>PART C</u>				
C-1	Technical items, if any, not covered in Part B	1, 8, 11, 12		1,2,3, 4,5,6
C-2	Establishment of working groups	5,6,7, 9,10	1,2, 3	
C-3	Election of associate members			
C-4	Election of president	4		
C-5	Election of vice-president	4		
C-6	Other business		4	
C-7	Closure of session			

GENERAL SUMMARY OF THE WORK OF THE SESSION

1. TIME AND PLACE OF THE SESSION

The second session of the Commission for Aeronautical Meteorology was held at the Headquarters of the International Civil Aviation Organization in Montreal, Canada. The session opened on Tuesday, September 1 and closed on Tuesday, September 29, 1959. Eleven plenary meetings were held, seven of these being held simultaneously with plenary meetings of the fifth session of the Meteorology Division of ICAO and the remaining four being held as separate meetings of the commission.

2. OPENING OF THE SESSION (Agenda item A-1)

The opening ceremony took place at 11 a.m. on September 1, 1959 in the Council Chamber at ICAO Headquarters, simultaneously with that of the fifth session of the Meteorology Division of ICAO. Mr. R.M. Macdonnell, Secretary General of ICAO, welcomed the delegates on behalf of ICAO and Mr. H.T. Mølgaard, President of the ICAO Air Navigation Commission addressed the meeting in regard to the task before it. Mr. K. Langlo, representative of the WMO Secretariat conveyed good wishes from the Secretary-General of WMO for the success of the session.

3. REPRESENTATION AT THE SESSION

3.1 The session was attended by 90 delegates, observers and advisers, representing the following Members and international organizations :

Members of WMO

Australia	Federal Republic of Germany
Belgium	Finland
Brazil	France
British East African Territories including the Seychelles	Greece
Canada	India
Ceylon	Ireland
China	Israel
Czechoslovakia	Italy
Denmark	Japan
Dominican Republic	Korea, Republic of
	Lebanon

GENERAL SUMMARY

Netherlands	Switzerland
Netherlands New Guinea	Thailand
New Zealand	Union of Soviet Socialist
Norway	Republics
Portugal	Union of South Africa
Portuguese East Africa	United Arab Republic
Portuguese West Africa	United Kingdom of Great Britain
Romania	and Northern Ireland
Spain	United States of America
Sweden	Venezuela

Non-Member of WMO

Honduras

International organizations

International Airline Navigators Council
 International Air Transport Association
 International Civil Aviation Organization
 International Federation of Airline Pilots' Associations
 International Radio Air Safety Association
 International Union of Geodesy and Geophysics

3.2 Mr. A. Avila Valladares, delegate of Mexico to the fifth session of the ICAO Meteorology Division, was also present.

3.3 Mr. K. Langlo and Mr. N. Veranneman attended as representatives of the WMO Secretariat.

4. COMMENTS ON ITEMS IN PART A OF THE AGENDA

4.1 Report on examination of credentials (Agenda item A-2)

At the request of the president, Mr. Langlo, WMO Secretariat, presented the list, prepared in accordance with General Regulation 20, of individuals attending the session. This list comprised the representatives of the Members, non-Members and international organizations given in paragraph 3.1 above. The commission in session accepted the list presented by Mr. Langlo as the first report on credentials and adopted it.

4.2 Adoption of the agenda (Agenda item A-3)

The agenda given on page X of this report was adopted as the agenda for the session.

4.3 Establishment of committees (Agenda item A-4)

4.3.1 The commission established a Nominations Committee consisting of the following :

K.H. Soliman (UAR) - Chairman	G.D. Cartwright (USA)
P.R. Krishna Rao (India)	R.G. Simmers (New Zealand)
J.S. Junqueira Schmidt (Brazil)	J.P. Barberon (France)

4.3.2 The other committees established for the session are referred to in Volume II of the abridged final report of the session.

4.4 Report of the president (Agenda item A-5)

4.4.1 The report of the president of the commission (Annex I hereto) was adopted.

4.4.2 Arising out of this report the commission decided :

- (a) That Mr. A.H. Nagle should continue to represent the commission on the re-established Panel on techniques for high level analysis and forecasting;
- (b) That in view of the participation of Mr. A.H. Nagle as an individual expert, in the activities of the CSM Working Group on networks, arrangements for more formal representation of CAeM on this working group were not necessary;
- (c) That CAeM should continue to be represented on the CAgM Working Group on meteorological services for aircraft employed in agriculture and forestry, provisionally by the president, CAeM.

5. COMMENTS ON ITEMS IN PART B OF THE AGENDA

The items in Part B of the CAeM agenda were those treated in simultaneous meetings with the Meteorology Division of ICAO and comments are given in Volume II of the abridged final report of the session.

6. COMMENTS ON ITEMS IN PART C OF THE AGENDA

6.1 Technical items, if any, not covered in Part B (Agenda item C-1)

6.1.1 WMO guidance material on the utilization of aircraft meteorological reports

The commission noted the desire of the Executive Committee that WMO guidance material on the utilization of aircraft meteorological reports should be produced for publication by WMO as early as possible in

1960 and agreed to the establishment of a working group to undertake this task. The action taken is reported under agenda item C-2. The commission also agreed that production of the required material would be accelerated if arrangements were made for WMO to provide financial support for the meeting and, accordingly, adopted Recommendation 1 (CAeM-II).

6.1.2 WMO Guide on qualifications and training of meteorological personnel employed in the provision of meteorological services for international air navigation

The commission reviewed, under agenda item 18 of Part B of its agenda, the draft of the WMO Guide on the qualifications and training of meteorological personnel employed in the provision of meteorological services for international air navigation, prepared by the president, CAeM, and approved this draft with certain amendments. It agreed to submit the draft, as amended, for publication by WMO (see Recommendation 2 (CAeM-II)).

6.1.3 Consideration of the desirability, from the CAeM point of view, of continuation of the Commission for Instruments and Methods of Observation

In accordance with a request of the Executive Committee, the commission reviewed the need, from the aeronautical meteorological point of view, for continuing the Commission for Instruments and Methods of Observation, taking into account suggested alternative means for accomplishing the tasks at present assigned to that commission. The discussion revealed a strong preponderance of opinion in favor of continuing the Commission for Instruments and Methods of Observation.

6.1.4 Proposed study of the meteorological aspects of area forecast systems

In accordance with the agreement reached in the discussion on agenda item 10 of Part B of the agenda, the commission decided to establish a CAeM Working Group on the meteorological aspects of area forecast systems. The action taken is reported under agenda item C-2. The commission also decided, in view of the urgent need for this study, to request WMO financial support for meetings of this group (Recommendation 3 (CAeM-II)). It further decided to recommend that ICAO be invited to participate in the activities of the working group (Recommendation 4 (CAeM-II)).

6.1.5 Proposed WMO Technical Note on utilization of constant level balloon data

In connexion with the discussions under item 13 of Part B of its agenda, copies of a paper by Mr. J.K. Angell on "The application of constant level balloon data to weather analysis, forecasting and research" were made available. The commission considered that, in view of the

potentialities of constant level balloon techniques, this paper should receive wide circulation and therefore recommended its publication as a WMO Technical Note (Recommendation 5 (CAeM-II)).

6.1.6 Amendment of introductory note to WMO Technical Regulations, Chapter 12, Part 2

The commission considered that it was desirable to insert in the introductory note to Part 2 of Chapter 12 a reference to the significance of the employment of the words "shall" and "should" in this part. This insertion should reflect the manner in which these terms were employed in the corresponding ICAO document (PANS-MET). It accordingly adopted Recommendation 6 (CAeM-II).

6.2 Establishment of working groups (Agenda item C-2)

In accordance with the decisions indicated above, the commission established the following three working groups :

Working Group on meteorological aircraft reconnaissance observing techniques (Resolution 1 (CAeM-II))

Working Group on utilization of aircraft meteorological reports (Resolution 2 (CAeM-II))

Working Group on meteorological aspects of area forecast systems (Resolution 3 (CAeM-II))

6.3 Election of associate members (Agenda item C-3)

There being no nominations for election as associate members, the commission took no action under this item.

6.4 Election of president (Agenda item C-4)

Mr. A. Silva de Sousa (Portugal) was unanimously elected president of the commission, with effect from the closure of the second session.

6.5 Election of vice-president (Agenda item C-5)

6.5.1 The following three candidates were nominated for election to the office of vice-president of the commission, with effect from the closure of the second session :

W. A. Dwyer (Australia)

P. Koteswaram (India)

A. H. Nagle (United States of America)

6.5.2 The results of the first ballot were as follows :

W. A. Dwyer	11
P. Koteswaram	7
A. H. Nagle	19
Abstentions	1

6.5.3 Mr. A. H. Nagle, on having secured a simple majority on the first ballot, was declared elected to the office of the vice-president.

6.6 Other business (Agenda item C-6)

6.6.1 Review of previous resolutions and recommendations

The commission reviewed its previous resolutions and recommendations, other than those adopted in simultaneous session with the Meteorology Division of ICAO, which were examined under item 22 of Part B of its agenda (see Volume II of this abridged final report). By Resolution 4 (CAeM-II) it decided to maintain in force only Resolutions 1 and 2 (CAeM-I) and Recommendations 2 and 3 (CAeM-I), which are reproduced in Annex II hereto.

6.6.2 Next session of the commission

The delegation of France presented on behalf of the French Government an invitation to the commission to hold its third session in Paris in 1962. The commission expressed its warm appreciation of this invitation and noted it for further consideration at the appropriate time.

6.7 Closure of session (Agenda item C-7)

The session closed with expressions of thanks to the presiding officer, to the chairmen and members of the committees and to ICAO for the facilities provided.

RESOLUTIONS ADOPTED BY THE SESSION

Res. 1 (CAeM-II) - ESTABLISHMENT OF CAeM WORKING GROUP ON METEOROLOGICAL RECONNAISSANCE AIRCRAFT OBSERVING TECHNIQUES

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

NOTING that the working group established by Resolution 2 (CAeM-I) was unable to complete the task assigned to it before the present session of the commission;

DECIDES, subject to the approval, under General Regulation 32, of the permanent representatives concerned,

(1) To establish a Working Group on meteorological reconnaissance aircraft observing techniques composed of the following experts :

R. Eyraud (France)
A.L. Maidens (United Kingdom)
A.L. Merlo, (United States of America)

(2) To designate Mr. A.L. Maidens as chairman of the working group;

(3) That the terms of reference of the working group shall be :

"To complete the task assigned to the working group established by Resolution 2 (CAeM-I) by 31 March, 1960 or as soon as possible thereafter."

Res. 2 (CAeM-II) - ESTABLISHMENT OF CAeM WORKING GROUP ON UTILIZATION OF AIRCRAFT METEOROLOGICAL REPORTS

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

NOTING the request of the Executive Committee at its eleventh session (Abridged final report, general summary, paragraph 5.7.4(f)) that steps be taken to prepare a guide on the utilization of aircraft meteorological reports with a view to publication by the Organization as early as possible in 1960;

RESOLUTION 3

DECIDES, subject to the approval, under General Regulation 32, of the permanent representatives concerned,

(1) To establish a Working Group on the utilization of aircraft meteorological reports composed of the following experts :

H.M. de Jong (Netherlands)
 P.K. Rohan (Ireland)
 S. Simplicio (United States of America)
 An expert designated by India

(2) To designate Mr. P.K. Rohan as chairman of the working group;

(3) That the terms of reference of the working group shall be :

"To prepare the draft of a WMO guide on the techniques recommended for use by meteorological services in order to secure the maximum possible benefit from the meteorological information (in-flight reports, post-flight reports and cross sections) furnished by aircraft in accordance with the relevant provisions of the Technical Regulations, Chapter 12";

(4) To request the working group to complete this draft for submission to the president of the commission by 1 July 1960.

Res. 3 (CAeM-II) - ESTABLISHMENT OF CAeM WORKING GROUP ON THE METEOROLOGICAL ASPECTS OF AREA FORECAST SYSTEMS

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

CONSIDERING the urgent need for a study, in the light of the report on item 10 of the agenda of the simultaneous session (ICAO MET V/WMO CAeM-II), of the meteorological aspects and implications of a possible system or systems of area and/or route forecasts for international air navigation to be exchanged and disseminated by designated centres;

DECIDES, subject to the approval, under General Regulation 32, of the permanent representatives concerned,

(1) To establish a CAeM Working Group on the meteorological aspects of area forecast systems composed of the following experts :

W. A. Dwyer (Australia)
E. M. Elsley (Canada)
P. Koteswaram (India)
E. McCallum (British East African Territories)
A. H. Nagle (United States of America)
J. S. Junqueira Schmidt (Brazil)
H. Schweitzer (Federal Republic of Germany)
N. Ward (Lebanon)
An expert designated by France
An expert designated by the United Kingdom
An expert designated by the USSR

together with the representative of those other Members which elect also to participate in the activity of the working group;

(2) To designate Mr. A. H. Nagle as chairman of the working group;

(3) To invite the president of the Commission for Synoptic Meteorology to designate a representative or representatives to participate in the work of the group in a consultative capacity;

(4) That the terms of reference of the working group shall be as follows :

"To study, in the light of the report on item 10 of the agenda of the simultaneous session (ICAO MET V/WMO CAEM-II), and present a report on the meteorological aspects and implications of a possible system or systems of area and/or route forecasts for international air navigation to be exchanged and disseminated by designated centres, taking into consideration :

- (a) That such systems may be intended for world-wide application;
- (b) That such systems may be required mainly for long range operation, 2,000 nautical miles or more;
- (c) That the forecasts may be in the form of forecast charts;
- (d) The problems arising from the fact that air routes cross various climatic zones;
- (e) The availability at the various centres of the basic meteorological information required;
- (f) The possible need for coordination of the forecasts issued by various centres and the possible use of the WMO master analysis scheme for basic synoptic guidance;
- (g) The use of facsimile for the exchange and dissemination of

- forecasts, and the problems arising therefrom, such as transmission over long distances, compatibility of charts, etc.;
- (h) The requirement for transmission of forecasts by morse or teletypewriter where facsimile is not utilized and consequential matters such as the form of codes to be used;
 - (i) The consequences in regard to the requirements for concentration of skilled personnel and the various problems arising out of these requirements, including the possible loss of skill in other meteorological offices;
 - (j) The means for the utilization of newly developed forecasting methods, applicable to extensive areas;
 - (k) The broad route patterns of international civil aviation operations";
- (5) To request the working group to furnish its report to the president of the commission by 1 October, 1960.

Res. 4 (CAeM-II) - FUTURE STATUS OF CAeM RESOLUTIONS AND RECOMMENDATIONS
ADOPTED PRIOR TO CAeM-II

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

HAVING EXAMINED the action taken on the resolutions and recommendations adopted at its first session and by correspondence;

DECIDES,

- (1) To cancel Resolutions 3 (CAeM-I) and 4 (57-CAeM);
- (2) In view of the action taken by the competent bodies of the Organization on Recommendations 1, 4, 5, 6 and 7 (CAeM-I), 8 and 9 (56-CAeM) and 10 (57-CAeM), to regard these recommendations as no longer in force;
- (3) To maintain in force Resolutions 1 and 2 (CAeM-I) and Recommendations 2 and 3 (CAeM-I).*

* See Annex II.

RECOMMENDATIONS ADOPTED BY THE SESSION

Rec. 1 (CAeM-II) - MEETING OF CAeM WORKING GROUP ON UTILIZATION OF AIRCRAFT METEOROLOGICAL REPORTS

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

NOTING the desire expressed by the Executive Committee at its eleventh session that the proposed WMO Guide on the utilization of aircraft meteorological reports should be published in 1960;

CONSIDERING that one meeting of the CAeM working group established by Resolution 2 (CAeM-II) will be necessary to finalize the draft of this guide;

RECOMMENDS that provision be made for the financing by the Organization, under the provisions of General Regulation 33, of one meeting, extending over approximately five working days, of this CAeM working group in 1960.

Rec. 2 (CAeM-II) - PUBLICATION OF WMO GUIDE ON THE QUALIFICATIONS AND TRAINING OF METEOROLOGICAL PERSONNEL EMPLOYED IN THE PROVISION OF METEOROLOGICAL SERVICES FOR INTERNATIONAL AIR NAVIGATION

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

NOTING Resolution 29 (Cg-II);

RECOMMENDS,

(1) That the Guide on the qualifications and training of meteorological personnel employed in the provision of meteorological services for international air navigation, prepared by the president and amended by the second session of the commission, be published by the Organization;

(2) That, in view of the special interest of all Contracting States and Members in this subject and as an exceptional measure, this guide should be published in English, French, Spanish and Russian;

(3) That arrangements be made for the translations of the syllabi and specimen questions to be checked, prior to publication, by qualified specialists in the fields involved.

Rec. 3 (CAeM-II) - MEETINGS OF CAeM WORKING GROUP ON THE METEOROLOGICAL ASPECTS OF AREA FORECAST SYSTEMS

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

CONSIDERING that there is an urgent need for the Working Group on the meteorological aspects of area forecast systems to complete the important and extensive task assigned to it before 1 October, 1960;

RECOMMENDS that provision be made, under General Regulation 33, for the financing by the Organization of one or two meetings of the working group, for a total duration of fifteen working days during 1960.

Rec. 4 (CAeM-II) - REPRESENTATION OF OTHER INTERNATIONAL ORGANIZATIONS ON THE CAeM WORKING GROUP ON THE METEOROLOGICAL ASPECTS OF AREA FORECAST SYSTEMS

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

RECOGNIZING the value of the participation of the International Civil Aviation Organization in the activities of the CAeM Working Group on the meteorological aspects of area forecast systems;

RECOMMENDS that the International Civil Aviation Organization be invited to designate a representative or representatives to participate in the work of the group.

Rec. 5 (CAeM-II) - PUBLICATION OF WMO TECHNICAL NOTE ON THE UTILIZATION OF CONSTANT LEVEL BALLOON DATA

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

NOTING,

(1) The interest of the Organization in further development of constant level balloon sounding techniques;

(2) The paper by Dr. J.K. Angell entitled "The application of constant level balloon data to weather analysis, forecasting and research";

CONSIDERING that it is desirable that this paper should receive wide-spread distribution, in order to assist Members in assessing the potentialities of constant level balloon techniques for development as a possible alternative means of securing, through international co-operation, upper-air data in areas where the conventional type upper-air observing network is inadequate;

RECOMMENDS that the Executive Committee consider the possibility of publishing this paper as a WMO Technical Note.

Rec. 6 (CAeM-II) - AMENDMENT OF INTRODUCTORY NOTE TO WMO TECHNICAL REGULATIONS, CHAPTER 12, PART 2

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

CONSIDERING that it is desirable,

(1) That the introductory note to WMO Technical Regulations, Chapter 12, Part 2, should indicate the significance of the use of "shall" and "should" in Part 2;

(2) That these words must necessarily be used in Part 2 in the same senses as they are used in ICAO PANS-MET;

RECOMMENDS that the introductory note to WMO Technical Regulations, Chapter 12, Part 2 be amended by adding the following sentence to the existing text :

"The word "shall" is employed in this part when the specification in question forms an essential part of the whole procedure; the word "should" is employed when the specification is one in which variations in detail, although undesirable, would not impede successful application of the whole procedure."

A N N E X I

REPORT OF THE PRESIDENT, CAeM, TO THE SECOND SESSION OF THE COMMISSION

1. Introduction

1.1 This report surveys the main developments in the field of interest of the commission during the period from the close of its first session (July, 1954) to the opening of its second session. The present status of the work programme in aeronautical meteorology planned by CAeM-I is also indicated.

2. Promulgation of WMO Technical Regulations, Chapter 12

2.1 The procedures for meteorological services for international air navigation developed by CAeM-I, after further review and amendment in the light of comments of WMO Members and Contracting States of ICAO, were finally adopted by Congress II as Chapter 12 of the WMO Technical Regulations.

2.2 Subsequently a number of further amendments arising out of recommendations by ICAO conferences were adopted by mail ballot (Rec. 8 (56-CAeM), 9 (56-CAeM) and 10 (57-CAeM) which are reproduced in Appendix 1 hereto) and endorsed by the Executive Committee in Resolution 6 (EC-VIII) and Resolution 5 (EC-IX). All other proposals for changes were held over for consideration by CAeM-II.

3. Operational control and area meteorological watch

3.1 At the third ICAO Air Navigation Conference (1956), at which WMO was represented by the president, CAeM, the question of operational control was discussed. The conference established a useful detailed analysis of the meteorological information required in the cockpit and on the ground, by the operator's representative carrying out that part of operational control assigned by the operator as a ground function. It also established certain principles to govern the point-to-point exchange of this operational meteorological information to meet the requirements of operational control. These principles include recognition of the fact

that, beyond certain agreed limits, it is the responsibility of the operator to secure, from the point of origin, meteorological information required by his operational control centre. This constitutes an important contribution to resolution of the problem of centralized operational control which still confronts the commission.

3.2 As regards the supply of information to the pilot-in-command in flight, the conference indicated that, although the procedure of flight meteorological watch should be retained, much more emphasis would be placed, in the future, upon area meteorological watch. A basic feature of the latter, according to the provisions of WMO Technical Regulations and ICAO PANS-MET, is that the meteorological information of significance to flight operations in a flight information region, which is collected by a meteorological office, has to be passed to the associated air traffic services unit. It is this latter unit which is responsible for examining the material and selecting for transmission to a particular aircraft the information which will be of concern to that aircraft.

3.3 The comments of ICAO Contracting States and WMO Members upon the recommendations of the third Air Navigation Conference indicated some reluctance to accept the substantial additional work-load involved for ATS units in any wide-spread adoption of area meteorological watch as presently prescribed in WMO Technical Regulations and ICAO PANS-MET.

3.4 In order to try to resolve this difficulty ICAO established a PIA Panel (Panel for the co-ordination of procedures for the supply of information to aircraft) on which the president CAeM was the panel member nominated by WMO. The panel met in May, 1959, and suggested a number of modifications to the proposals of the third ICAO Air Navigation Conference to meet the objections referred to in para. 3.3 above. The proposals of the third Air Navigation Conference, as amended and amplified by the PIA Panel, are being brought before CAeM-II for consideration. The PIA Panel has now been dissolved.

3.5 In anticipation that the PIA Panel would meet before May, 1959, the commission adopted Resolution 4 (57-CAeM), establishing a CAeM Working Group on operational control to facilitate parallel action by WMO and ICAO if such action was possible and necessary prior to the simultaneous session of CAeM-II and ICAO MET V. This resolution is reproduced in Appendix 1 hereto. The course of events rendered it unnecessary to activate this working group.

4. Aircraft weather reporting

4.1 Throughout the period under review the question of routine in-flight reporting has been continuously under discussion, especially at WMO regional association sessions, ICAO regional air navigation meetings and

certain of the annual conferences of IATA and IFALPA. The discussion at the twelfth Annual Conference of IFALPA resulted in a resolution recognizing the necessity for routine in-flight reports by commercial aircraft and inviting the fullest possible co-operation from pilots. IATA, on the other hand, while not denying the necessity for such reports in appropriate cases, has urged greater reliance upon post-flight reporting and the curtailment to the essential minimum of in-flight reporting, on the grounds that it added appreciably to the cockpit work-load and to the congestion on air-ground communication channels. The IFALPA resolution is reproduced in Appendix 2 hereto.

4.2 Studies by Members have revealed that, with the high density of traffic in certain areas, there now appears to be some redundancy in routine in-flight reporting. It is only reasonable that this redundancy should be eliminated, in fairness to the crews involved. This might be accomplished by suitable exemption or designation formulae applied regionally. All studies to date however, confirm that it is erroneous to assume that curtailment of the number of in-flight weather reports will have any measurable effect upon the congestion on air-ground channels, which is due to other causes.

4.3 In view of the frequently expressed suspicion that meteorological services do not utilize in-flight reports which are made, a survey was made of the extent to which such reports were actually utilized by services. The response of Members to a questionnaire developed by the president, CSM and the president, CAeM was very complete and the considerable amount of information collected leaves no doubt that Members utilize fully all the in-flight reports which they receive under the AIREP scheme. A summary report on the survey was prepared by the Secretary-General and communicated to all interested international organizations.

4.4 In the course of further correspondence between the presidents of CSM and CAeM following this survey, the idea was developed of preparing WMO guidance material on the utilization of aircraft weather reports. This idea was strongly supported by the WMO Panel of Experts on techniques for high level analysis and forecasting (Brussels, 1959) and endorsed by EC-XI which requested CAeM to endeavour to provide material for publication early in 1960. This matter will be discussed under item B.7 of the agenda of CAeM-II. Consequential action under item C-2 may be necessary.

4.5 Compilation of the final draft (No. 4) of the proposed Manual of meteorological observing in aircraft has been delayed by an unfortunate combination of circumstances. This draft is now ready for submission to the Secretariat, as prescribed in Rec. 3 (CAeM-I), except for co-ordination of the recommended procedures for the testing and maintenance of altimeters with the results of recent ICAO studies in this area. The draft

may, however, require further amendment in the light of decisions of CAeM-II in regard to item B.7 of its agenda. It is anticipated that it will be possible to submit a definitive text to CAeM members before the end of 1959.

5. Jet operations

5.1 In 1956 ICAO established a Jet Operations Requirements Panel. WMO was not represented on this panel but the president, CAeM, participated in a national capacity. Three meetings of the panel have been held and a fourth is planned to convene on September 28, 1959.

5.2 Following issue of the report of the third meeting of the panel (1957), which consolidated the meteorological requirements for turbine-engined aircraft, as then foreseen, EC-IX established a "Panel of Experts on meteorological developments in view of commercial jet aircraft operations", to recommend on the measures necessary to meet these requirements. The CAeM was represented on this panel by its president. The panel met in Madrid in March, 1958, and outlined a WMO programme of research and development. This programme the major portion of which was approved by EC-X, calls for special action by a number of other commissions and their working groups. Arising out of a recommendation of the Madrid meeting, EC-X established a further panel of experts to examine the question of improving techniques for forecasting tropopause conditions, upper-winds and upper-air temperatures. The CAeM representative on this panel is its president, who has participated by correspondence in the panel discussions. A meeting of the panel was held in Brussels in March, 1959. EC-XI decided to re-establish the panel, with the same membership. CAeM-II may wish to indicate who should represent it, after the close of its second session, on this panel.

6. Qualifications and training of meteorological personnel employed in the provision of meteorological services for international air navigation

6.1 CAeM-I recommended (Rec. 1 CAeM-I) a text, on the qualifications and training of meteorological personnel, for inclusion in the WMO Technical Regulations. Congress II decided, however, that this material, with certain changes, should be presented in the form of a WMO guide. A revision of the material has been prepared for consideration by CAeM-II as a basis for such a guide.

7. Special studies

7.1 At the request of the Executive Committee, the president, CAeM,

undertook special further studies of the problems of gust measurement and reporting and of visibility reporting. The first resulted in some clarification of the analysis originally prepared by CAeM-I/MET IV. This revised analysis was utilized by ICAO to establish the aeronautical requirements in regard to gust measurement, etc., which will be brought before CAeM-II. The effort to improve the present situation in regard to the reporting of visibility has not, however, achieved any success.

8. Meteorological services for aircraft employed in agriculture and forestry

8.1 An exchange of views between CAgM and CAeM established the potential usefulness of a guide on meteorological services for aircraft engaged in agricultural operations (aerial spraying, seeding, etc.). Aerodrome forecasters are likely to be called upon increasingly to supply information for such operations, which differ appreciably from normal transport operations, both as regards flying techniques and the special requirements of the agricultural side of the operation. It was agreed that the most appropriate course was for CAgM to undertake the drafting of such a guide with assistance from CAeM as necessary on the flying aspect. At its second session, CAgM established a working group for this purpose upon which CAeM is represented provisionally by the president, CAeM.

9. Manual on aerodrome meteorological office practices

9.1 The preparation of the Manual of aerodrome meteorological office practices (Res. 1 CAeM-I) is now proceeding after some initial delay. The first draft, kindly prepared by the Meteorological Office of the United Kingdom, has been circulated to members and a useful number of comments has already been received. The project has had to be somewhat enlarged, owing to the inability of CIMO to undertake the preparation of the Manual on meteorological and reporting duties at aerodromes proposed in Rec. 2 (CAeM-I). An endeavour is being made to cover this subject also, to a limited extent, in the Manual on aerodrome meteorological office practices. It is anticipated that it will be possible to complete the final draft of this manual early in 1960.

10. Aircraft meteorological reconnaissance observing techniques

10.1 Some difficulty was experienced by the CAeM working group charged with the preparation of draft guidance material on aircraft meteorological reconnaissance observing techniques, for consideration by CIMO, in assembling the required basic material. The bulk of this material is now

in hand, however, and it is anticipated that it will be possible to complete this project within a few months. It is suggested that CAeM-II should re-establish the working group under item C.2, to enable this work to be completed.

11. Liaison activities

11.1 Close liaison has been maintained throughout the period under review, by correspondence, by presentation of papers to their sessions and, in certain cases, by representation of CAeM at those sessions, with CSM, CIMO, CCL (climatological summaries and summarization of AIREPS) CBP (Meteorological Lexicon) and CAgM (meteorological services for aircraft employed in agricultural operations). Papers were also submitted, when appropriate, to sessions of the Executive Committee and regional associations. The president, CAeM, attended the second session of CCL and the 1956 session of the Eastern Caribbean Hurricane Committee (RA IV) and represented WMO at the third ICAO CAR RAN meeting, the third ICAO Air Navigation Conference, the ICAO PIA Panel, the 1957 Technical Conference of IATA, and several meetings of the ICAO Air Navigation Commission. The vice president, CAeM, represented the commission at CSM-II.

11.2 Mr. Nagle served, in his capacity as associate member of CSM, as a member of the CSM Working Group on networks until CSM-II. This arrangement has hitherto been regarded as adequately covering the aeronautical meteorological interest in the network problem. CSM-II re-established this working group and Mr. Nagle was again included in the membership in his personal capacity as an aeronautical meteorological expert. The commission may wish to determine whether this arrangement adequately covers the situation from its point of view or whether formal CAeM representation on the CSM working group should be sought. The next meeting of the working group will convene in Stockholm on October 7, 1959.

12. Membership of the commission

12.1 At the present time, sixty-four Members of WMO are represented on the commission.

13. Concluding remarks

13.1 In concluding my last report to the commission, I should like to express to my WMO colleagues in aviation meteorology my appreciation of their unfailing support and consideration throughout the 13 years during which I have served as president of the IMO and WMO Commissions for

Aeronautical Meteorology. I am equally indebted to the presidents of the ICAO Council, the Air Navigation Commissioners, the Secretary-General of ICAO and my friends in the ICAO secretariat and in the airline world for their courtesy and co-operation over the years. My thanks are also due to my fellow presidents of technical commissions and to the Secretaries-General of IMO and WMO, and their staffs, for their co-operation and assistance.

A. H. Nagle
President, CAeM

A P P E N D I X I

RESOLUTIONS AND RECOMMENDATIONS ADOPTED BY
POSTAL BALLOT SINCE THE FIRST SESSION OF THE COMMISSION

Res. 4 (57-CAeM) - WORKING GROUP ON OPERATIONAL CONTROL

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

NOTING,

(1) That the International Civil Aviation Organization has established a Panel for co-ordinating procedures respecting the supply of information for air operations, and that the World Meteorological Organization has been invited to participate in the work of this panel;

(2) That the panel's study will cover matters relating to the provision of meteorological service for operational control;

RESOLVES,

(a) To establish a Working Group on operational control to advise the WMO representative on the panel and eventually to recommend to the Commission for Aeronautical Meteorology on any WMO action which it deems to be necessary in the light of the results of the panel's work;

(b) To authorize the president of the Commission for Aeronautical Meteorology to designate, as members of the working group, appropriate experts associated with the work of the panel;

(c) To designate the president of the Commission for Aeronautical Meteorology as chairman of the working group.

Rec. 8 (56-CAeM) - AMENDMENT OF WMO TECHNICAL REGULATIONS, CHAPTER 12,
PART 2, PARAGRAPH 2.5.5

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

NOTING the proposal of the International Civil Aviation Organization to amend paragraph 2.5.5 of ICAO PANS-MET, first edition, 1955, with effect from 1 December, 1956;

CONSIDERING that a corresponding amendment to the WMO Technical Regulations, Chapter 12, Part 2, paragraph 2.5.5, with effect from the same date, is necessary;

RECOMMENDS that the WMO Technical Regulations, Chapter 12, Part 2, paragraph 2.5.5 be amended, with effect from 1 December, 1956, to read as follows :

"2.5.5

Information for search and rescue

2.5.5.1

The meteorological information to be provided by meteorological offices designated by regional air navigation agreement for rescue co-ordination centres should include such of the following types of information as are required for specific search and rescue operation :

- (a) Past weather - Conditions that existed in the last known position of a missing aircraft, with particular reference to :
- (i) hazardous flying conditions, such as icing, turbulence etc.;
 - (ii) complete description of cloud conditions;
 - (iii) surface visibility and obstructions to vision;
 - (iv) precipitation;
 - (v) wind information, both surface and aloft;
 - (vi) state of the sea, including whenever possible, direction, height and velocity of local wind-driven sea, and the direction, height, length and velocity of the swell system;

- (vii) state of the ground, i.e. snow cover etc.
- (b) Present and forecast weather - Complete and detailed information as to the current and forecast meteorological conditions, including the elements in (a) above, in the search area and current and forecast conditions en route from and returning to the base from which the search is being conducted.
- (c) Flight forecast issued to the missing aircraft - Details of the flight forecast which was provided to the pilot-in-command of the missing aircraft, with particular reference to upper winds and upper-air temperatures, together with any amendments to the forecast, transmitted to the aircraft in flight.

2.5.5.2

The designated meteorological office shall maintain liaison with the rescue co-ordination centre throughout the search and rescue mission. The designated meteorological office shall arrange to obtain any required meteorological information, including the flight forecast and amendments thereto referred to in 2.5.5.1 (c) from other meteorological offices concerned, except when the responsible RCC decides that the use of other channels is likely to secure the required information more rapidly. All meteorological information required by the RCC shall be transmitted in figure code, Q-code and/or plain language as appropriate, except that the form in which this information should be made available to the RCC by the designated meteorological office shall be as agreed between them.

2.5.5.3

On request, the designated meteorological office shall provide, or arrange for the provision of any meteorological information required by ocean station vessels and/or other ships undertaking search and rescue operations, in connection with such operations."

Rec. 9 (56-CAeM) - AMENDMENT TO WMO TECHNICAL REGULATIONS, CHAPTER 12

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

NOTING,

(a) The need to correct certain editorial errors in the WMO Technical Regulations, Chapter 12;

(b) The necessity for providing for the inclusion of the ship's position in meteorological reports for aircraft about to ditch;

(c) The recommendation of the Pacific Regional Air Navigation Meeting of the International Civil Aviation Organization that the provision for the supply to pilots, in the tropics, of current upper-level charts in lieu of prognostic charts for standard pressure surfaces which existed in the former "Specifications for meteorological services for international air navigation", should be continued;

(d) The recommendation of the second Air Navigation Conference of the International Civil Aviation Organization that provision should be made in the AIREP form of air report for indicating how the position of the aircraft was determined;

(e) The action proposed by the Council of the International Civil Aviation Organization to amend the corresponding ICAO texts (Annex 3 and PANS-MET) in accordance with the above, with effect from 1 December 1956;

RECOMMENDS that the WMO Technical Regulations, Chapter 12, be amended with effect from 1 December 1956, as indicated in the annex to this recommendation.*

Rec. 10 (57-CAeM) - AMENDMENTS TO WMO TECHNICAL REGULATIONS, CHAPTER 12

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

NOTING,

(a) The desirability of introducing the concept of "SIGMET information", as developed by the third Air Navigation Conference of the International Civil Aviation Organization into the WMO Technical Regulations and of eliminating the use of the terms "warning message" and "advisory message" therefrom;

(b) The desirability of modifying the procedures for reporting the condition of the surface of the sea in meteorological reports for ditching;

(c) The approval by the President of WMO of Recommendation 10 (CMM-II);

* See WMO publication No. 67.RC.14 Abridged Report of the Ninth Session of the Executive Committee, pp.116-118.

(d) The desirability of introducing into the text of the WMO Technical Regulations provisions on the lines of the material associated with Recommendation 34 (CAeM-I);

(e) The intention of the Council of the International Civil Aviation Organization to amend the corresponding texts of the International Civil Aviation Organization (Annex 3 and PANS-MET) in accordance with the above, with effect from 1 December 1957.

RECOMMENDS that the Technical Regulations of the World Meteorological Organization, Chapter 12, be amended with effect from 1 December 1957, as indicated in the annex to this recommendation.*

A P P E N D I X 2

RESOLUTION OF THE TWELFTH ANNUAL CONFERENCE OF THE INTERNATIONAL FEDERATION OF AIRLINE PILOTS' ASSOCIATIONS

WHEREAS at recent ICAO meetings and elsewhere proposals have been put forward for the reduction of the number and content of routine meteorological reports from aircraft; and

WHEREAS any such reduction must inevitably result in the reduction of the information available to the forecaster; and

WHEREAS any such reduction in information is not only a serious matter in relation to existing operations but will be of critical significance in relation to future high-level flight; and

WHEREAS the proposal arises principally through the inadequacy of existing communications in many regions;

NOW THEREFORE BE IT RESOLVED,

(1) That IFALPA urges that States and operators should concentrate on improvement in communication services rather than on the reduction of routine meteorological reports;

* See WMO publication No. 67.RC.14, Abridged Report of the Ninth Session of the Executive Committee, pp.119-126.

(2) That operators be urged to make adequate arrangements for in-flight reports to be sent regularly in accordance with the regionally approved procedures;

(3) That member organizations of IFALPA take definite steps to impress upon their pilots the necessity for full and regular in-flight meteorological reports;

(4) That the WMO be requested to ensure that such reports are used to the fullest extent for adequate service for aviation.

A N N E X . II

(Annex to Resolution 4 (CAeM-II))
RESOLUTIONS AND RECOMMENDATIONS ADOPTED PRIOR TO THE SECOND SESSION
AND MAINTAINED IN FORCE

Res. 1 (CAeM-I) - MANUAL ON AERODROME METEOROLOGICAL OFFICE PRACTICES

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

CONSIDERING that it is desirable to publish a WMO manual of aerodrome meteorological office practices; and

NOTING that the United Kingdom has already initiated the preparation of a first draft of such a manual;

REQUESTS the president, CAeM to transmit to the United Kingdom an expression of the commission's appreciation for this action and to accept its offer to complete the draft;

DECIDES that this first draft, when completed, shall be circulated for comment to all members of the Commission for Aeronautical Meteorology, that members be requested to forward their comments to the president, CAeM and that the manual shall be finalized by the president, CAeM, in collaboration with the WMO Secretariat, in the light of the comments so received.

Res. 2 (CAeM-I) - ESTABLISHMENT OF A WORKING GROUP ON METEOROLOGICAL RECONNAISSANCE OBSERVING TECHNIQUES

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

CONSIDERING that it is not necessary to issue a separate manual dealing with observing techniques for meteorological reconnaissance flights;

DECIDES,

(a) That a CAeM working group be established to prepare a

draft text, for possible insertion in WMO publication No. 8, on the techniques of meteorological observing in meteorological reconnaissance aircraft and in vertical soundings by aircraft;

(b) That this draft text, when completed, be transmitted by the president, CAeM to the president, CIMO, for consideration and formulation of a definitive recommendation regarding any further action required within WMO.

Rec. 2 (CAeM-I) - MANUAL ON METEOROLOGICAL OBSERVING AND REPORTING DUTIES
AT AERODROMES

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

NOTING that the publication of a WMO instruction manual on meteorological observing from aircraft is already contemplated; and

CONSIDERING that the issue by the WMO, normally in the form of manuals or guides, of similar guidance and instruction material regarding certain of the duties of meteorological personnel employed at aerodromes,

(a) Would be of assistance to new services and services still in the course of development and to technical assistance missions;

(b) Would facilitate the production of appropriate national instructions by some services by providing material which would require only translation and possibly amplification to meet special national needs; and

(c) Would tend to promote the over-all objective of standardizing meteorological practices at all aerodromes serving international aviation;

RECOMMENDS,

(a) That the WMO undertake the preparation of a manual containing instructions and guidance material for meteorological observing and reporting duties at aerodromes, including synoptic observations, routine hourly and special observations and pilot-balloon observations, and appropriate information upon the use and maintenance of the equipment used in surface and pilot-balloon observing;

(b) That the instructions and guidance material given in this manual should be complete and fully detailed, so as to render

the manual suitable for direct use (after translation if necessary) by meteorological personnel employed at aerodromes and for joint use as a textbook by instructors and pupils in technical assistance projects;

(c) That the instructions and guidance material should constitute the procedures (developed, if necessary, in the course of preparation of the material) which are recommended by WMO for carrying out, in conformity with WMO Technical Regulations, the duties specified;

(d) That CIMO should be requested to arrange for the drafting of this manual, utilizing and amplifying as much of WMO publication No. 8 as appears desirable.

Rec. 3 (CAeM-I) -- MANUAL OF METEOROLOGICAL OBSERVING IN AIRCRAFT

THE COMMISSION FOR AERONAUTICAL METEOROLOGY,

NOTING Executive Committee Resolution 49 (EC-II);

RECOMMENDS,

(a) That the draft of the manual of meteorological observing in aircraft prepared by the CAeM working group be finalized by the WMO Secretariat, in consultation with the president, CAeM, taking into consideration any comments which may be received from ICAO and IATA, to which it should be submitted;

(b) That the final text be sent by the WMO Secretariat to Members of the WMO represented on the CAeM and that a mail ballot be taken on a proposal to recommend to the Second Congress of WMO that this text be issued as a WMO publication.

A N N E X I I I

LIST OF DOCUMENTS RELATING TO PARTS A AND C OF THE AGENDA
DISTRIBUTED BEFORE AND DURING THE SESSION

Doc. No.	Title	Agenda Item	Submitted by
S.1	Continuation of WMO Commission for Instruments and Methods of Observation	C.1	President, CAeM
S.2	Report of Working Group on meteorological aircraft reconnaissance observing techniques	A.6	Chairman of the working group
S.3	Report of the president CAeM, to the second session of the commission	A.5	President, CAeM
S.4	Report of the Nominations Committee	C.4 C.5	Chairman of the committee
S.5	Draft resolution. Establishment of CAeM Working Group on meteorological reconnaissance aircraft observing techniques	C.2	President, CAeM
S.6	Draft resolution. Establishment of CAeM Working Group on utilization of aircraft meteorological reports	C.2	President, CAeM
S.7	Draft recommendation. Meeting of CAeM Working Group on utilization of aircraft meteorological reports	C.2	President, CAeM
S.8	Draft recommendation. Publication of WMO Guide on the qualifications and training of meteorological	C.1	President, CAeM

Doc. No.	Title	Agenda Item	Submitted by
S.8 (contd.)	personnel employed in the provision of meteorological services for international air navigation		
S.9	Draft resolution. Establishment of CAeM Working Group on the meteorological aspects of area forecast systems	C.2	President, CAeM
S.10	Draft recommendations. Meeting of CAeM Working Group on the meteorological aspects of area forecast systems. Representation of other international organizations on the CAeM Working Group on the meteorological aspects of area forecast systems	C.2	President, CAeM
S.11	Draft recommendation. Publication of WMO Technical Note on the utilization of constant level balloon data	C.1	President, CAeM
S.12	Draft recommendation. Amendment to introductory note to WMO Technical Regulations, Chapter 12, Part 2	C.1	President, CAeM