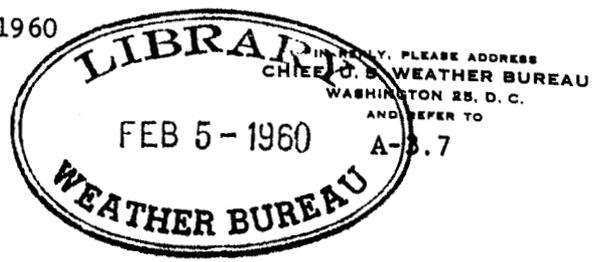


UNITED STATES DEPARTMENT OF COMMERCE

U.S. WEATHER BUREAU  
WASHINGTON

January 19, 1960



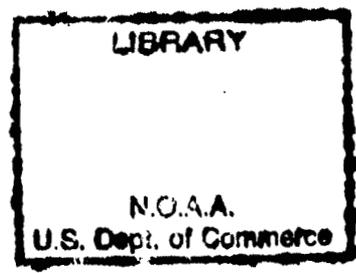
CIRCULAR LETTER NO. 1-60

TO : All First Order Stations  
FROM : Chief of Bureau  
SUBJECT: Retention of Circular Letters

Attached to this letter is a list of Circular Letters in effect on January 1, 1960. All Circular Letters not listed in the attachment to this letter should be removed from files and destroyed.

*F. W. Reichelderfer*  
F. W. Reichelderfer  
Chief of Bureau

Attachment



RAREBOOK  
PC  
875  
, 415  
465  
1960

# **National Oceanic and Atmospheric Administration Weather Bureau Circular Letters**

## **ERRATA NOTICE**

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HOV Services  
Imaging Contractor  
12200 Kiln Court  
Beltsville, MD 20704-1387  
December 6, 2007

## Attachment to Circular Letter 1-60

UNITED STATES DEPARTMENT OF COMMERCE  
 WEATHER BUREAU  
 Washington 25, D. C.

A-3.7

Circular Letters for Years 1941-59  
 in effect on January 1, 1960

Serial Number	Date of Issue	Issued By	Subject	File Number
71-41	6/17/41	Chief-ms	Official visits by representatives of Government Departments & Bureaus	070.1 (030.6)
26-45	3/26/45	SR&F-Jm	Amendments to "Preparation of Weather Maps"	730.4
45-45	5/10/45	Asst-Ch Adm-Hi	Regional authority to issue letters of authority for employment of emergency assistance	103
70-46	8/21/46	Chf-Wd	Interdepartmental policy on publication of weather forecasts	620.1 (622.2) (621.5) (622.1)
18-47	3/18/47	Pers-Fo	Interview of applicants for appointment	110
19-47	3/19/47	SR&F-Be	Reply to inquiries regarding air carrier operations	620.11 603.51 070.2
55-47	7/7/47	SSS-in	Artificial inducement of precipitation	045
65-47	8/4/47	SR&F-cjc	Code for transmission of micro-seismic data	040 610.3 621.6
75-47	8/26/47	Chf's Ofc	Artificial inducement of precipitation	045
22-48	3/9/48	Chf's-Ofc Oc	Policy with respect to private practice of meteorology and instructions regarding cooperation with private meteorologists	070.2 000 420.3 620.8

Serial Number	Date of Issue	Issued By	Subject	File Number
58-48	6/30/48	Chfs-Ofc Wd	Cooperation with Amateur Weather- men of America	070.2
37-49	4/11/49	CWB	Policy development of general public service wherever practicable in lieu of replies to individual inquiries	622.1 600.8
46-49	4/27/49	O-5.31	Minimum ceiling and visibility requirements for VFR flight and use of the term VFR in pilot briefing	600.21
78-49	7/27/49	A-3.53	Transfer of property	750 400.3
80-49	8/1/49	CWB	Reports of inadequacies in airways weather service	600.21 070.2
84-49	8/12/49	O-4.1	Policy concerning establishment of cooperative climatological substations at Radio Stations, newspapers, and public agencies	531.2
87-49	8/15/49	O-5.31	Weather Bureau liaison with state aviation officials	070.2 080 600.21
106-49	9/27/49	A-3.5	Property regulations	400 400.3 400.4
146-49	12/21/49	O-5.21	Reporting Height of 700 mb Surface Leadville, Colorado	610
4-50	1/10/50	O-5.21	Weather Analysis Symbols	730.4
5-50	1/13/50	A-3.5	Excess property	401.4 750
8-50	1/18/50	O-4.1	Administration of Hydroclimatic Network	532.21 080
17-50	2/17/50	A-3.5	Sale of surplus property	401.5

Serial Number	Date of Issue	Issued by	Subject	File Number
33-50	4/6/50	A-3.5	Unserviceable and obsolete instrumental equipment	401
40-50	5/11/50	O-4.1	First amendment to Circular Letter 8-50	532.21 080
55-50	8/11/50	CWB	Release of WB Reserve Personnel to the military service	153.2
73-50	10/11/50	A-4	Policy and procedures in requesting delay in call to active duty of members of reserve components of the Armed Forces and interim policy governing requests for deferment under the Selective Service Act of 1948	130.4
95-50	12/22/50	O-4.2	Artificial rain making	045
9-51	3/1/51	O-5.23	Encoding correction messages for 6-hourly, 3-hourly, & upper wind reports	630
10-51	3/6/51	CWB	Statement on artificial rainmaking	814.1
37-51	10/3/51	A-4.5	Inauguration of training course Wx briefers	131
18-52	4/23/52	O-4.1	Participation of WB in Tower-INSAC consolidations	041 520 630
22-52	5/29/52	O-5.32	Television	657.1
40-52	11/14/52	O-4.11	Substation activities at SAWRS	520
44-52	12/18/52	A-3.3	Disposition of money received in connection with the location of vending machines in government offices	250

Serial Number	Date of Issue	Issued by	Subject	File Number
7-53	2/12/53	A-4	Executive training & development	130
Amendment to CL 7-53 11/13/58				
Amendment No. 2 to CL 7-53 1/4/60				
9-53	2/16/53	CWB	Review of operating programs	000
12-53	4/14/53	A-4.3	Placement follow-up plan	110
14-53	6/1/53	O-5.31	Newspaper publication of aviation weather outlooks	652.1 x657
21-53	8/31/53	O-4.1	Local distribution of weather information by weather telautograph circuit	657 x430.0
<hr/>				
5-54	3/10/54	O-5.32	Localized Forecasts and Advices for Agriculture	653.1 x630.1
6-54	3/11/54	O-5	Specialized forecasts for Agriculture	653.1
7-54	3/16/54	O-5.31	Use of Winds Aloft Forecasts	652.1
10-54	3/25/54	O-5.23	Service A transmission of aviation weather forecasts	630.1
13-54	4/20/54	CWB	Cooperation with meteorologists in industry	042.1
17-54	6/9/54	O-5.31	Recognition of outstanding pilot weather reporting	611 x037
22-54	7/20/54	O-2.13	Section Center consolidation	051
22-54	8/10/54	O-2.13	Section Center consolidation	(Addendum)
22-54	8/13/54	O-2.13	List of Climatologist Offices	(Addendum)
22-54	10/20/54	A-3.5	Section Center consolidation	(Addendum)
22-54	11/4/54	O-2.13	Section Center consolidation	(Addendum)
26-54	8/23/54	O-5.32	Participation in TV weather programs	657.1

<u>Serial Number</u>	<u>Date of Issue</u>	<u>Issued by</u>	<u>Subject</u>	<u>File Number</u>
30-54	10/21/54	O-5.23	Serv. A transmission of aviation weather forecasts	630.1
34-54	12/15/54	O-5.32	Local public service weather circuits	432
2-55	1/18/55	O-5.23	Use of contraction "DO" in 24-hr terminal forecasts	630.1
4-55	2/7/55	O-5	Need for continued close liaison between field stations & forecast centers	000 x650
6-55	2/21/55	CWB	Policy in relation to private business	000 x042
9-55	3/2/55	O-5.32	Furnishing weather forecasts to newspapers, radio, & TV stations	657 x657.1 x432
20-55	4/6/55	O-5	Training course for pilot briefers	131 x652.11
25-55	5/4/55	O-5.31	Briefing Air Force Pilots	652.11
30-55	5/31/55	O-3.4	Recovered radiosondes	458.0
38-55	7/26/55	O-5.32	Local Public Weather Teletypewriter Circuits	432
4-56	2/7/56	O-5.23	Teletypewriter identifications for locations in Mexico	633
7-56	2/28/56	O-4.4	Runway Visual Range Program, Newark, N. J.	610
12-56	3/19/56	O-5.31	Policy with respect to Pilot Wx Briefing & use of standard briefing displays	652.11
15-56	4/19/56	O-5.32	Keeping local forecasts current	652.3 x657
16-56	4/24/56	O-5	Information on barotropic forecasts prepared by the JNWP Unit	630.1 x811.4
17-56	5/4/56	O-5.31	Special emphasis on pilot weather reporting	611

<u>Serial Number</u>	<u>Date of Issue</u>	<u>Issued By</u>	<u>Subject</u>	<u>File Number</u>
21-56	5/22/56	O-5.32	Use of automatic telephone - answering devices	657.2 x431
24-56	6/1/56	O-5.31	Operational use of terms: "Instability Line," "Squall Line", & "Line Squall"	650.2
28-56	7/19/56	A-3.3	Accounting for supplies & equipment & other items used in connection with reimbursable projects	250
29-56	8/15/56	O-4.23	Computation of CD Fallout Winds	610.2
Amendment to CL 29-56 1/24/58				
36-56	10/9/56	O-6.14	Transmission of 24-hr amounts of precipitation - SR Sequence Service "C"	630.1
40-56	11/2/56	O-5.34	Community & Industrial Planning for Potential Disasters	656 x042
<hr/>				
4-57	2/11/57	O-5.31	Adequacy of Weather Briefing Service for Pilots	652.11 x131
7-57	3/14/57	A-5	Slides illustrating operations of Tornado Warning Service	038.3 x656.6
8-57	3/18/57	R-3.7	Preparation of Mean Layer Winds	610 x630.1
10-57	4/22/57	O-5.32	Weather Bureau Cooperation in Distributing Road Conditions	041
13-57	6/4/57	CWB	Correspondence with Foreign Met'l Service	054.1
15-57	8/8/57	O-5	Use of Printed Daily Weather Map	753
17-57	9/12/57	O-4.23	Discontinuance transmission 0600 and 1800 GCT raob data	630 x610.2
18-57	10/15/57	O-4.23	Effects of Exposure to Radiation by Radar	145 x458.5

Serial Number	Date of Issue	Issued by	Subject	File Number
2-58	1/9/58	O-5.34	Use of the CONELRAD Alerting Signal in Dissemination of Emergency Weather and Flood Warnings	657.1 x656
Addendum No. 1 to CL 2-58			4/29/58	
4-58	5/5/58	O-5.34	Radar Observations from Stations of the Air Defense Command	041 x610.3 x458.5
7-58	6/25/58	O-5.23	Use of Dash (-) or Slant (/) on Service C and RAWARC	630
9-58	7/14/48	O-4.23	Mean-layer winds for National Hurricane Research Project	610 x630.1
10-58	8/18/58	A-4.3	Training Program and Promotion Schedule for Observer-Briefer Trainees	131 x113
11-58	8/22/58	A0-1	Radiation Dosage Calculators	041
12-58	9/30/58	A-2.2	Program Accomplishment Report	051
13-58	10/27/58	A-4.2	Excused Absence for Voting	120
<hr/>				
2-59	2/2/59	O-5.32	Telecast of Images from Weather Bureau Radar Scopes	657.1
4-59	3/26/59	O-5.34	Radar Observations from Stations of Air Weather Service and Navy	041 x610.3 x467
Amendment to CL 4-59			6/23/59	
5-59	4/16/59	A-4.3	Amendment to Chapter D-35 "Promotion Policy," of the Weather Bureau Manual	113
6-59	6/23/59	O-5.34	3-Hourly Radar Analysis	610.3 x630
7-59	10/13/59	O-4.25	Effects of Exposure to Radiation from WSR-57	145 x467
9-59	11/19/59	O-5.32	Use of "Downtown Data"	630
10-59	12/1/59	O-5.23	Service A Transmission of Notams by Weather Bureau Personnel	630.1

UNITED STATES DEPARTMENT OF COMMERCE  
WEATHER BUREAU  
WASHINGTON

February 8, 1960

IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.  
AND REFER TO

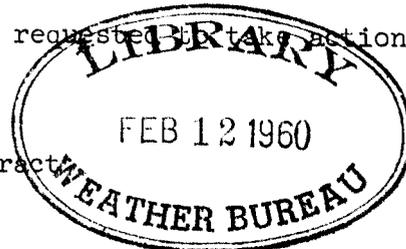
0-4.12

CIRCULAR LETTER NO. 2-60

TO : All First Order Stations  
(See Article No. 1 below for stations requested to take action.)

FROM : Chief of Bureau

SUBJECT: Obtaining Substation Services by Contract



The Weather Bureau is considering a plan to contract with observers for substation services that are now performed on a fee basis or fixed wage rate under a personnel appointment. This plan does not apply to cooperative (non-paid) substation observers. Before such a plan is made Bureau-wide, we would want to introduce it on a trial basis in a few areas to appraise its feasibility. Although it is not necessary, there is some advantage in making contracts effective at the beginning of the quarter. Accordingly, contracts may be made effective January 1, 1960, if agreeable to both parties. Details of the procedure follow:

1. The paid substations that will be considered for this plan are only those under the supervision (as shown in Circular II) but within the respective states of WBAS, Montgomery, Alabama; WBAS, Raleigh, North Carolina; WBO, Minneapolis, Minnesota; and all substations in Montana. This will require the close coordination of offices having the supervision of substations in Montana (as shown in Circular II) with WBAS, Helena; viz., WRPC, San Francisco, California; WBAS, Billings, Montana; WBO, Havre, Montana; RFC, Portland, Oregon and WBAS, Spokane, Washington.

2. WB Form 530-6, "Contract for Meteorological Reports", will be used. A supply of these forms is being sent to base stations of Field Aides (HC) at Montgomery, Raleigh, Minneapolis and Helena. There has been previous correspondence with these offices concerning the contract plan. In this connection the term "report" shall be construed to include all record forms, charts changed and other activities rendered by the contractor for which payment is indicated.

3. The change-over to the contract plan should be done in a manner that will not weaken the cooperative observer concept which now prevails. The program of awards in recognition of long or especially effective service will apply to contract personnel in the same manner as to appointed observers.

4. We should like all observers in the designated area to accept the contract plan but we should not insist at the expense of losing observers. Observers not willing to accept the contract plan may be continued as employees previously appointed on WB Form 530-3, "Fee Basis Personnel Action".

FILE: 530  
x403

CL 2-60

(Obtaining Substation Services by Contract)

WASHINGTON, D. C.  
2-8-60

5. Distribution of Forms 530-6 will be the same as that for Form 530-3: the original to the RAO, copies to WRPC, supervising office (if other than WRPC), Field Aide (HC) and the contractor.

6. The signature should include the full first name, middle initial and last name of the contractor. If he is representing an organization he should also give his title, (the date of course, is the date he signs the contract, however, the effective date indicated at the top of the form can be prior to the date of signature if agreed to by both parties to the contract). No oath or witness is required. The Weather Bureau representative making the contract agreement will sign for the Weather Bureau and his title and date of signature should be given as indicated.

7. A contract and cooperative agreement with observer (Form 530-4) should not be in effect concurrently for the same substation. Accordingly, Form 530-6 should include, under Item 5, all services rendered. Description of "reports" to be furnished may be expressed in general terms so that a slight variation in services will not require a new contract. While both paid and unpaid services will be listed under Item 5 only those services for which payment is authorized will be listed under Item 7.

8. All persons who are authorized to appoint substation observers as Weather Bureau employees are also authorized to execute the contract form under which substation observers become substation contractors for rendering substation "reports".

9. In an effort to make this contract as simple as possible, reference only was made to the general provisions of Standard Form 32, General Provisions Supply Contract. Because of the very nature of our work it is highly unlikely that it will become necessary to invoke any of the provisions contained on this form. Nevertheless, the Weather Bureau representative should have a working knowledge of the content of the General Provisions to answer questions or allay fears that some contractors may have. A copy of Standard Form 32 should be in the hands of all Weather Bureau representatives who will be using Form 530-6. A copy of SF-32 is attached.

10. Most occasions for the use of this contract, Form 530-6 "Contract for Meteorological Reports", would be with persons already appointed on Forms 530-3. The nature of the approach will depend upon the circumstances and no procedure for the Weather Bureau representative making the contact is given. Needless to say, considerable tact must be exercised as no increase in payment is planned. Observers may be contacted personally or by mail as appropriate. (See back of Form 530-3 for terminating employee agreements.)

11. Contractors will not be subject to having a portion of their remuneration withheld for social security which will result in a small increase in "take home pay". While this will be an advantage to some, it will be a disadvantage to those who are planning on the social security credit. While there must be a beginning and ending date for the contract, it may be con-

tinued (if neither party has given notice of termination) if action is taken on it; i.e., if reports are continued and payments are made in accordance with terms of the contract. In effect, the contract may be considered a continuing document unless either party gives a notice of termination.

12. If the contract is for a new station or if meteorological equipment is moved to a new location, or other significant changes are made, Form 531-1, "Report on Substations", should be prepared.

13. The rates of payment for the substation services as listed in Circular II and amendments thereto will also apply to "reports" rendered by the contractors.

14. Remarks should be indicated on the back of Form 530-6 which would require "OVER" to be placed on the bottom of the form. In the change-over it would be well to indicate the following:

- a. The name of the former observer if one is being replaced.
- b. Authorization - date of authorizing memorandum or Circular II if listed therein and date of memorandum is not available.
- c. Other pertinent information concerning the station or the contractor.

15. By April 1, 1960, all offices requested to implement this plan (see No. 1 above) are requested to forward the following information to the Central Office (O-4.12):

- a. Number of observers contacted.
- b. Number of observers accepting the contract plan.
- c. How contract plan was received by observers.
- d. Evaluation of the contract plan.
- e. Suggestions for possible changes in Form 530-6.

We appreciate the cooperation of the implementing offices in the trial use of the contract plan.



F. W. Reicheiderfer

Attachment:

1. SF Form-32

cc: Field Aides (HC)

(See over for sample form)

WB FORM 530-6 (11-59)		U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU		CONTRACT NO.
<b>CONTRACT FOR METEOROLOGICAL REPORTS</b>				
Incorporating by reference the General Provisions of Standard Form-32, October 1957 edition.		EFFECTIVE DATE January 1, 1960	TO CONTINUE THRU June 30, 19 <u>60</u>	
1. STATION Homeville (46-1234-1)	COUNTY Pendleton	STATE West Virginia		
2. EQUIPMENT LOCATION (Street address or other identification) 321 Pine Street				
3. CONTRACTOR (First name, middle initial(s), last name) Richard J. Roe				
ADDRESS (Number, street, city and State) 321 Pine Street, Homeville, West Virginia				
4. W.B. SUPERVISING STATION Parkersburg, West Virginia		PAYMENT THRU RAO AT New York		
5. DESCRIPTION OF REPORTS TO BE FURNISHED Rainfall (river), temperature and precipitation, recording precipitation (FC-1)				
6. Contractor agrees to furnish meteorological reports as described in Item 5, from the location specified in Item 2. Contractor also agrees to give reasonable care and protection to the instruments and equipment furnished by the Weather Bureau, and to permit free ingress and egress by Weather Bureau representatives for the purpose of taking observations or servicing the equipment, but assumes no liability for injuries which might occur to such persons while on the premises.				
7. Government agrees to pay contractor for meteorological reports specified in Item 5 (rates apply throughout the year unless otherwise stated) as follows:				
		S & E FUNDS	OTHER FUNDS (Specify)	
			FC-1	
PER MONTH				
Recording precipitation (FC-1)	\$		\$	3.50
PER EACH REPORT				
Rainfall (river) Mdt.-7 a.m.	\$	.60	\$	
PER EACH EXTRA REPORT				
Rainfall (river) 7 a.m.-Mdt.	\$	.30	\$	
8. This contract or any renewal or extension thereof may be terminated in writing by either party hereto at any time; such notice to be effective from date of mailing. Notice of termination by the contractor to be given to the supervising station designated in Item 4.				
9. This contract shall be considered to be renewed from year to year on the same terms as specified herein by mutual agreement between Contractor and the Weather Bureau on July 1 of each year PROVIDED THAT notice of termination is not given by either party on or before June 30 of the same year. PROVIDED FURTHER that this contract and any renewal thereof is conditioned on the passage of an appropriation by the Congress of the United States from which expenditures thereunder may be made and shall not otherwise obligate the Government.				
IN WITNESS WHEREOF, the parties hereto have executed this agreement as of the effective date given above.				
SIGNATURE OF CONTRACTOR <i>Richard J. Roe</i>		SIGNATURE OF WB REPRESENTATIVE <i>William A. Lurris</i>		
TITLE IF REPRESENTING AN ORGANIZATION		TITLE Field Aide (HC)		
DATE OF SIGNATURE <i>Dec. 28, 1959</i>		DATE OF SIGNATURE December 22, 1959		

(OVER)

USCOMM-WB-DC

(Back of Form)

- a. Former observer was John C. Doe who moved from the area.
- b. Authorization - CO memorandum, 0-4.12, dated February 6, 1959.
- c. Instruments were not relocated.

# GENERAL PROVISIONS

(Supply Contract)

## 1. DEFINITIONS

As used throughout this contract, the following terms shall have the meanings set forth below:

- (a) The term "Secretary" means the Secretary, the Under Secretary, or any Assistant Secretary of the Department, and the head or any assistant head of the Federal agency; and the term "his duly authorized representative" means any person or persons or board (other than the Contracting Officer) authorized to act for the Secretary.
- (b) The term "Contracting Officer" means the person executing this contract on behalf of the Government, and any other officer or civilian employee who is a properly designated Contracting Officer; and the term includes, except as otherwise provided in this contract, the authorized representative of a Contracting Officer acting within the limits of his authority.
- (c) Except as otherwise provided in this contract, the term "subcontracts" includes purchase orders under this contract.

## 2. CHANGES

The Contracting Officer may at any time, by a written order, and without notice to the sureties, make changes, within the general scope of this contract, in any one or more of the following: (i) Drawings, designs, or specifications, where the supplies to be furnished are to be specially manufactured for the Government in accordance therewith; (ii) method of shipment or packing; and (iii) place of delivery. If any such change causes an increase or decrease in the cost of, or the time required for, the performance of any part of the work under this contract, whether changed or not changed by any such order, an equitable adjustment shall be made in the contract price or delivery schedule, or both, and the contract shall be modified in writing accordingly. Any claim by the Contractor for adjustment under this clause must be asserted within 30 days from the date of receipt by the Contractor of the notification of change: *Provided, however,* That the Contracting Officer, if he decides that the facts justify such action, may receive and act upon any such claim asserted at any time prior to final payment under this contract. Where the cost of property made obsolete or excess as a result of a change is included in the Contractor's claim for adjustment, the Contracting Officer shall have the right to prescribe the manner of disposition of such property. Failure to agree to any adjustment shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes." However, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.

## 3. EXTRAS

Except as otherwise provided in this contract, no payment for extras shall be made unless such extras and the price therefor have been authorized in writing by the Contracting Officer.

## 4. VARIATION IN QUANTITY

No variation in the quantity of any item called for by this contract will be accepted unless such variation has been caused by conditions of loading, shipping, or packing, or allowances in manufacturing processes, and then only to the extent, if any, specified elsewhere in this contract.

## 5. INSPECTION

(a) All supplies (which term throughout this clause includes without limitation raw materials, components, intermediate assemblies, and end products) shall be subject to inspection and test by the Government, to the extent practicable at all times and places including the period of manufacture, and in any event prior to acceptance.

(b) In case any supplies or lots of supplies are defective in material or workmanship or otherwise not in conformity with the requirements of this contract, the Government shall have the right either to reject them (with or without instructions as to their disposition) or to require their correction. Supplies or lots of supplies which have been rejected or required to be corrected shall be removed or, if permitted or required by the Contracting Officer, corrected in place by and at the expense of the Contractor promptly after notice, and shall not thereafter be tendered for acceptance unless the former rejection or requirement of correction is disclosed. If the Contractor fails promptly to remove such supplies or lots of supplies which are required to be removed, or promptly to replace or correct such supplies or lots of supplies, the Government either (i) may by contract or otherwise replace or correct such supplies and charge to the Contractor the cost occasioned the Government thereby, or (ii) may terminate this contract for default as provided in the clause of this contract entitled "Default." Unless the Contractor corrects or replaces such supplies within the delivery schedule, the Contracting Officer may require the delivery of such supplies at a reduction in price which is equitable under the circumstances. Failure to agree to such reduction of price shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes."

(c) If any inspection or test is made by the Government on the premises of the Contractor or a subcontractor, the Contractor without additional charge shall provide all reasonable facilities and assistance for the safety and convenience of the Government inspectors in the performance of their duties. If Government inspection or test is made at a point other than the premises of the Contractor or a subcontractor, it shall be at the expense of the Government except as otherwise provided in this contract: *Provided,* That in case of rejection the Government shall not be liable for any reduction in value of samples used in connection with such inspection or test. All inspections and tests by the Government shall be performed in such a manner as not to unduly delay the work. The Government reserves the right to charge to the Contractor any additional cost of Government inspection and test when supplies are not ready at the time such inspection and test is requested by the Contractor or when reinspection or retest is necessitated by prior rejection. Acceptance or rejection of the supplies shall be made as promptly as practicable after delivery, except as otherwise provided in this contract; but failure to inspect and accept or reject supplies shall neither relieve the Contractor from responsibility for such supplies as are not in accordance with the contract requirements nor impose liability on the Government therefor.

(d) The inspection and test by the Government of any supplies or lots thereof does not relieve the Contractor from any responsibility regarding defects or other failures to meet the contract requirements which may be discovered prior to acceptance. Except as otherwise provided in this

contract, acceptance shall be conclusive except as regards latent defects, fraud, or such gross mistakes as amount to fraud.

(e) The Contractor shall provide and maintain an inspection system acceptable to the Government covering the supplies hereunder. Records of all inspection work by the Contractor shall be kept complete and available to the Government during the performance of this contract and for such longer period as may be specified elsewhere in this contract.

#### 6. RESPONSIBILITY FOR SUPPLIES

Except as otherwise provided in this contract, (i) the Contractor shall be responsible for the supplies covered by this contract until they are delivered at the designated delivery point, regardless of the point of inspection; (ii) after delivery to the Government at the designated point and prior to acceptance by the Government or rejection and giving notice thereof by the Government, the Government shall be responsible for the loss or destruction of or damage to the supplies only if such loss, destruction, or damage results from the negligence of officers, agents, or employees of the Government acting within the scope of their employment; and (iii) the Contractor shall bear all risks as to rejected supplies after notice of rejection, except that the Government shall be responsible for the loss, or destruction of, or damage to the supplies only if such loss, destruction or damage results from the gross negligence of officers, agents, or employees of the Government acting within the scope of their employment.

#### 7. PAYMENTS

The Contractor shall be paid, upon the submission of proper invoices or vouchers, the prices stipulated herein for supplies delivered and accepted or services rendered and accepted, less deductions, if any, as herein provided. Unless otherwise specified, payment will be made on partial deliveries accepted by the Government when the amount due on such deliveries so warrants; or, when requested by the Contractor, payment for accepted partial deliveries shall be made whenever such payment would equal or exceed either \$1,000 or 50 percent of the total amount of this contract.

#### 8. ASSIGNMENT OF CLAIMS

(a) Pursuant to the provisions of the Assignment of Claims Act of 1940, as amended (31 U. S. Code 203, 41 U. S. Code 15), if this contract provides for payments aggregating \$1,000 or more, claims for monies due or to become due the Contractor from the Government under this contract may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this contract and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. Notwithstanding any provisions of this contract, payments to an assignee of any monies due or to become due under this contract shall not, to the extent provided in said Act, as amended, be subject to reduction or set-off. *(The preceding sentence applies only if this contract is with the Department of Defense, the General Services Administration, the Atomic Energy Commission, or any other department or agency of the United States designated by the President pursuant to clause 4 of the proviso of section 1 of the Assignment of Claims Act of 1940, as amended by the Act of May 15, 1951, 65 Stat. 41.)*

(b) In no event shall copies of this contract or of any plans, specifications, or other similar documents relating to work under this contract, if marked "Top Secret," "Secret," or "Confidential," be furnished to any assignee of any claim arising under this contract or to any other person not entitled to receive the same: *Provided*, That a copy of any part or all of this contract so marked may be furnished, or any information contained therein may be disclosed, to such assignee upon the prior written authorization of the Contracting Officer.

#### 9. ADDITIONAL BOND SECURITY

If any surety upon any bond furnished in connection with this contract becomes unacceptable to the Government, or if any such surety fails to furnish reports as to his financial condition from time to time as requested by the Government, the Contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the Government and of persons supplying labor or materials in the prosecution of the work contemplated by this contract.

#### 10. EXAMINATION OF RECORDS

(The following clause is applicable if the amount of this contract exceeds \$1,000 and was entered into by means of negotiation, but is not applicable if this contract was entered into by means of formal advertising.)

(a) The Contractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of three years after final payment under this contract, have access to and the right to examine any directly pertinent books, documents, papers, and records of the Contractor involving transactions related to this contract.

(b) The Contractor further agrees to include in all his subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of three years after final payment under the subcontract, have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, involving transactions related to the subcontract. The term "subcontract" as used in this clause excludes (i) purchase orders not exceeding \$1,000 and (ii) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.

#### 11. DEFAULT

(a) The Government may, subject to the provisions of paragraph (c) below, by written notice of default to the Contractor, terminate the whole or any part of this contract in any one of the following circumstances:

(i) if the Contractor fails to make delivery of the supplies or to perform the services within the time specified herein or any extension thereof; or

(ii) if the Contractor fails to perform any of the other provisions of this contract, or so fails to make progress as to endanger performance of this contract in accordance with its terms, and in either of these two circumstances does not cure such failure within a period of 10 days (or such longer period as the Contracting Officer may authorize in writing) after receipt of notice from the Contracting Officer specifying such failure.

(b) In the event the Government terminates this contract in whole or in part as provided in paragraph (a) of this clause, the Government may procure, upon such terms and in such manner as the Contracting Officer may deem

appropriate, supplies or services similar to those so terminated, and the Contractor shall be liable to the Government for any excess costs for such similar supplies or services: *Provided*, That the Contractor shall continue the performance of this contract to the extent not terminated under the provisions of this clause.

(c) Except with respect to defaults of subcontractors, the Contractor shall not be liable for any excess costs if the failure to perform the contract arises out of causes beyond the control and without the fault or negligence of the Contractor. Such causes may include, but are not restricted to, acts of God or of the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case the failure to perform must be beyond the control and without the fault or negligence of the Contractor. If the failure to perform is caused by the default of a subcontractor, and if such default arises out of causes beyond the control of both the Contractor and subcontractor, and without the fault or negligence of either of them, the Contractor shall not be liable for any excess costs for failure to perform, unless the supplies or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the Contractor to meet the required delivery schedule.

(d) If this contract is terminated as provided in paragraph (a) of this clause, the Government, in addition to any other rights provided in this clause, may require the Contractor to transfer title and deliver to the Government, in the manner and to the extent directed by the Contracting Officer, (i) any completed supplies, and (ii) such partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (hereinafter called "manufacturing materials") as the Contractor has specifically produced or specifically acquired for the performance of such part of this contract as has been terminated; and the Contractor shall, upon direction of the Contracting Officer, protect and preserve property in possession of the Contractor in which the Government has an interest. Payment for completed supplies delivered to and accepted by the Government shall be at the contract price. Payment for manufacturing materials delivered to and accepted by the Government and for the protection and preservation of property shall be in an amount agreed upon by the Contractor and Contracting Officer; failure to agree to such amount shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes."

(e) If, after notice of termination of this contract under the provisions of paragraph (a) of this clause, it is determined that the failure to perform this contract is due to causes beyond the control and without the fault or negligence of the Contractor or subcontractor pursuant to the provisions of paragraph (c) of this clause, such notice of default shall be deemed to have been issued pursuant to the clause of this contract entitled "Termination for Convenience of the Government," and the rights and obligations of the parties hereto shall in such event be governed by such clause. (*Except as otherwise provided in this contract, this paragraph (e) applies only if this contract contains such clause.*)

(f) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition

to any other rights and remedies provided by law or under this contract.

## 12. DISPUTES

(a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the Secretary. The decision of the Secretary or his duly authorized representative for the determination of such appeals shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

(b) This "Disputes" clause does not preclude consideration of law questions in connection with decisions provided for in paragraph (a) above: *Provided*, That nothing in this contract shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

## 13. NOTICE AND ASSISTANCE REGARDING PATENT INFRINGEMENT

The provisions of this clause shall be applicable only if the amount of this contract exceeds \$5,000.

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of litigation against the Government on account of any claim of patent infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or service performed hereunder, the Contractor shall furnish to the Government, upon request, all evidence and information in possession of the Contractor pertaining to such litigation. Such evidence and information shall be furnished at the expense of the Government except in those cases in which the Contractor has agreed to indemnify the Government against the claim being asserted.

## 14. BUY AMERICAN ACT

(a) In acquiring end products, the Buy American Act (41 U. S. Code 10 a-d) provides that the Government give preference to domestic source end products. For the purpose of this clause:

(i) "components" means those articles, materials, and supplies, which are directly incorporated in the end products;

(ii) "end products" means those articles, materials, and supplies, which are to be acquired under this contract for public use; and

(iii) a "domestic source end product" means (A) an unmanufactured end product which has been mined or

produced in the United States and (B) an end product manufactured in the United States if the cost of the components thereof which are mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. For the purposes of this (a) (iii) (B), components of foreign origin of the same type or kind as the products referred to in (b) (ii) or (iii) of this clause shall be treated as components mined, produced, or manufactured in the United States.

(b) The Contractor agrees that there will be delivered under this contract only domestic source end products, except end products:

(i) which are for use outside the United States;

(ii) which the Government determines are not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality;

(iii) as to which the Secretary determines the domestic preference to be inconsistent with the public interest; or

(iv) as to which the Secretary determines the cost to the Government to be unreasonable.

(The foregoing requirements are administered in accordance with Executive Order No. 10582, dated December 17, 1954.)

#### 15. CONVICT LABOR

In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment at hard labor.

#### 16. EIGHT-HOUR LAW OF 1912—OVERTIME COMPENSATION

This contract, to the extent that it is of a character specified in the Eight-Hour Law of 1912, as amended (40 U. S. Code 324-326) and is not covered by the Walsh-Healey Public Contracts Act (41 U. S. Code 35-45), is subject to the following provisions and exceptions of said Eight-Hour Law of 1912, as amended, and to all other provisions and exceptions of said Law:

No laborer or mechanic doing any part of the work contemplated by this contract, in the employ of the Contractor or any subcontractor contracting for any part of said work contemplated, shall be required or permitted to work more than eight hours in any one calendar day upon such work, except upon the condition that compensation is paid to such laborer or mechanic in accordance with the provisions of this clause. The wages of every laborer and mechanic employed by the Contractor or any subcontractor engaged in the performance of this contract shall be computed on a basic day rate of eight hours per day; and work in excess of eight hours per day is permitted only upon the condition that every such laborer and mechanic shall be compensated for all hours worked in excess of eight hours per day at not less than one and one-half times the basic rate of pay. For each violation of the requirements of this clause a penalty of five dollars shall be imposed for each laborer or mechanic for every calendar day in which such employee is required or permitted to labor more than eight hours upon said work without receiving compensation computed in accordance with this clause, and all penalties thus imposed shall be withheld for the use and benefit of the Government.

#### 17. WALSH-HEALEY PUBLIC CONTRACTS ACT

If this contract is for the manufacture or furnishing of materials, supplies, articles, or equipment in an amount which exceeds or may exceed \$10,000 and is otherwise subject to the Walsh-Healey Public Contracts Act, as amended (41 U. S. Code 35-45), there are hereby incorporated by reference all representations and stipulations required by said Act and regulations issued thereunder by the Secretary of Labor, such representations and stipulations being subject to all applicable rulings and interpretations of the Secretary of Labor which are now or may hereafter be in effect.

#### 18. NONDISCRIMINATION IN EMPLOYMENT

(a) In connection with the performance of work under this contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, religion, color, or national origin. The aforesaid provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of the nondiscrimination clause.

(b) The Contractor further agrees to insert the foregoing provision in all subcontracts hereunder, except subcontracts for standard commercial supplies or raw materials.

#### 19. OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

#### 20. COVENANT AGAINST CONTINGENT FEES

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

#### 21. UTILIZATION OF SMALL BUSINESS CONCERNS

(a) It is the policy of the Government as declared by the Congress that a fair proportion of the purchases and contracts for supplies and services for the Government be placed with small business concerns.

(b) The Contractor agrees to accomplish the maximum amount of subcontracting to small business concerns that the Contractor finds to be consistent with the efficient performance of this contract.

UNITED STATES DEPARTMENT OF COMMERCE

U.S. WEATHER BUREAU  
WASHINGTON

August 1, 1960

IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.  
AND REFER TO

0-4.12

FILE: 530  
x103

Addendum No. 1 to  
CL 2-60

(Obtaining Substation Services by Contract)

WASHINGTON, D.C.  
8-1-60

ADDENDUM NO. 1 TO CIRCULAR LETTER NO. 2-60

TO : All First Order Stations  
FROM : Chief of Bureau  
SUBJECT: Obtaining Substation Services by Contract

As a result of the trial to contract with observers for substation services, previously performed on a fee or fixed wage basis under a personnel appointment (WB Form 530-3), the contract plan will now be adopted Bureau-wide. The trial was conducted in four widely separated areas and involved nearly 200 observers. Comments from offices participating in the trial program were enthusiastic over the use of contracts.

The procedure to obtain substation services by contract outlined in Circular Letter No. 2-60 now applies to all supervising offices of substations throughout the Bureau. Accordingly, Items 1, 2, 14, and 15 should be deleted. In Item 4, delete "in the designated area."

Beginning with the date of this Circular Letter, this plan will be followed:

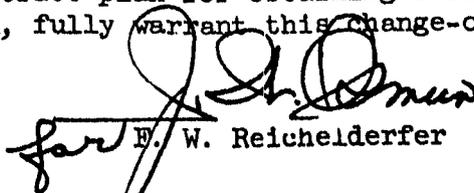
1. All new paid substation services should be obtained under the contract plan.
2. Change presently appointed substation observers to the contract plan as soon as practicable. We hope all will accept it but they should not be coerced. The supervising offices should take the initiative in this and contact may be made personally or by mail. It is not planned to have the Field Aides (HC) make special trips to obtain signatures of contractors.
3. While no specific date is set to accomplish this conversion, each supervising office should develop a plan to complete it in a reasonable length of time, but not later than March 1, 1961.
4. By March 15, 1961, each supervising office, as listed in Circular II, is asked to submit to the Central Office a list of substations where the conversion of the observer to the contract plan was not feasible, along with the reason.



Additional information applicable to the Bureau-wide substation contract plan:

1. WB Form 530-6, "Contract for Meteorological Reports", has been revised to include several suggestions from those implementing the plan on the trial basis. The form has been arranged so that all information can be included on the front. Please destroy all blank Forms 530-6 of the 11-59 printing. A supply of the revised forms will be available at the Regional Administrative Offices in a few days. We are requesting these offices to ship a sufficient number of forms to each supervising office, as listed in Circular II, to convert observers under their supervision to the contract plan. NOTE: Only a limited number need be sent to the offices which participated in the trial program. Also, 150 forms should be shipped to each Field Aide (HC).
2. It is not planned to reprint WB Forms 530-3, "Fee Basis Personnel Action." Any supplies on hand should be used for those observers, if any, not willing to accept the contract plan. Unneeded quantities should be returned to the RAO's.
3. The term "report" should be construed to cover any of the various activities, such as changing charts, telephoning messages, keeping records, etc., rendered by the contractor.
4. Observers serving on the appointment basis who earn over \$350 per year from fixed salaries qualify for the Health Benefits Program, but Contractors do not.
5. Change-over from the appointment to contract plan should be made effective at the beginning of a quarter (either previous or subsequent as agreeable) to facilitate computing withholding fees, etc.
6. It should not be necessary for observers on the contract plan to sign for each check received as payments were certified by the supervising office.

We believe the advantages of the contract plan for obtaining substation services, which have now been proved, fully warrant this change-over.

  
E. W. Reichelderfer

cc: Field Aides (HC)

Note to RAO's: We should appreciate your distributing Forms 530-6 when received as indicated in Item 1 on page 2.

UNITED STATES DEPARTMENT OF COMMERCE

WEATHER BUREAU

WASHINGTON

February 10, 1960

JPW  
2/18

IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.  
AND REFER TO

CIRCULAR LETTER NO. 3-60

0-6.12

TO : All First-Order Stations  
FROM : Chief of Bureau  
SUBJECT: Experiment in Quantitative Precipitation Forecasting

An experiment in Quantitative Precipitation Forecasting will be conducted at the SELS Center in Kansas City, Mo. from March 1 through May 31, 1960, inclusive. Messages marked experimental will be transmitted on the RAWARC circuit regularly at 0900 CST, irregularly at 2100 CST and at other times when conditions warrant. The messages will consist of the locations of the forecast isohyetal lines plus a descriptive explanation of the forecast similar to the FT-1. A sample of such a message is attached. The location of the isohyets is given in five-digit groups. The first three digits give the station number; the next digit gives the direction to eight points of the compass and the last digit gives the distance in tens of nautical miles. For example, 34051 means 10 nautical miles southwest of Little Rock, Arkansas.

Two papers accompanying this letter explain some of the physical and synoptic considerations that will be used in the explanation. Some of the terms discussed in these papers may be used from time to time in the descriptive explanations.

Several stations have been asked to comment on the usefulness of the forecasts. Other stations should feel free to comment if they desire to do so.

*J. W. Reichelderfer*  
LIBRARY  
F. W. Reichelderfer  
FEB 20 1960  
WEATHER BUREAU

These are:

1. U.S.W.B.

A procedure for rapidly drawing frictionless dynamic trajectories, by Charles S. Gilman. Jan. 27, 1960

2. U.S.W.B.

Notes on a procedure for quantitative precipitation forecasting, by Charles S. Gilman and Kendall R. Peterson. Jan. 25, 1960

(both papers were detached and given to Miss Edwards 2/18/60 for inclusion in Library as separates.)

Attachments

FILE: 652.2

CL 3-60

(Experiment in Quantitative Precipitation Forecasting)

WASHINGTON, D.C.  
2-10-60

APPENDIX I  
SAMPLE MESSAGE

EXPERIMENTAL QUANTITATIVE PRECIPITATION FORECAST

QP1 MKCC 041500Z

LOW IN OKLA PNHDL PROGGED ESEWD TO CNTRL OKLA BY 1900E TDA. SLY FLOW BTN  
LOW AND HI OVER S ATLC STATES XPCTD TO INCR RPDLY DUE TO PRES RISES FLA  
AND S ATLC STATES TOGETHER WITH PRES FALLS OKLA AND TEX. MOISTURE ADVN SLY  
FLOW WL INCR DUE TO INCRG GRAD AND PRECIPITABLE WATER CONTENT INCR MARKEDLY  
OVR GLFMEX. TRAJECTORIES FM ERN GLFMEX RCH ARK BY 1900E. TRAJECTORIES  
ACRS ISOBARS WL PREVENT GLFMEX MOISTURE FM MOVG INTO ALA AND NRN MISS. VRY  
HVY PCPN FCST SE OF LOW PRES CNTR ALG GRAD SHEAR. MOST LKLY PSN FOR HVYR  
PCPN NOW INDCD SWRN ARK. IF LOW CNTR MOVS FASTER THAN INDCD PCPN WL BE  
FTHR E. SHOULD CNTR DVLP OR REFORM FTHR S PCPN AREA SHOULD BE SHFTD S.  
HVYR PCPC AREA MAY XTND SWD TO GLF CST OF TEX AND W LA IF SHEAR IN TROF  
INCRS S OF LOW CNTR.

4 IN.	34051	24/15	PBF64							
2 IN.	33463	ARG42	34073	24/63	ELD72	PBF00				
1 IN.	MAW00	34832	34431	25823	CLL13	MLU00	33425			
.5 IN.	32700	43211	43441	44000	35600	ADM00	25621	LFK33	GRW32	
.25 IN.	43800	53241	44632	35321	25900	LKF33	GRW32	32724	42262	

UNITED STATES DEPARTMENT OF COMMERCE  
U.S. WEATHER BUREAU  
WASHINGTON

April 8, 1960

IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.

AND REFER TO

A-1

CIRCULAR LETTER NO. 4-60

TO : All Field Officials "In Charge"

FROM : Chief of Bureau

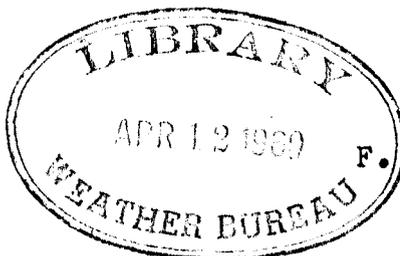
SUBJECT: *Amendment* to Position Descriptions of Field Officials "In Charge"

Effective immediately, position descriptions of all field officials "in charge" are hereby brought into line with the Bureau's practices, as follows under "Supervision and Guidance Received" to reflect organizational relationships as currently established and followed for many years.

Each official in charge of a field operating unit will receive necessary guidance and direction from the appropriate Regional Administrative Officer (Pacific Supervisory Officer for the Pacific) in all matters pertaining to administrative and support services. For this purpose "administrative" is defined as personnel, fiscal, and procurement and supply matters. Examples of support services include space, local communications, instrumental installation and maintenance, station staffing, work load determinations, public relations, and routine day-to-day operations where programs and standards are clearly defined and established in administration and operating manuals or in program letters. The Regional Administrative Officers and the Pacific Supervisory Officer have the responsibility for the preparation of annual and interim performance ratings, as appropriate, for each field official in charge.

On technical matters (observations and facilities, forecasts and synoptic reports, instrumental engineering, and hydrologic services) where the subject is not clearly defined in administration and operating manuals or in program letters, each field official in charge receives direction and guidance from the responsible technical division under the Assistant Chief for Technical Services. On other subject matters, such as aviation, climatology, and research, direction and guidance will be received from the office of the responsible director of these activities.

A copy of this Circular Letter should be attached to the official position description of each official in charge of a field operating unit.



*F. W. Reichelderfer*  
F. W. Reichelderfer

FILE: 102  
CL 4-60

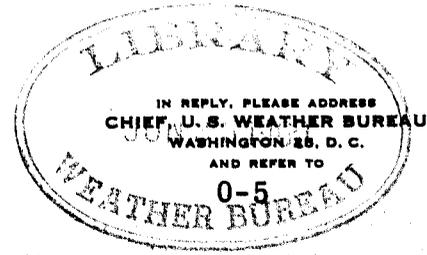
(Amendment to Position Descriptions of Field Officials "In Charge")

WASHINGTON, D. C.  
4-8-60

UNITED STATES DEPARTMENT OF COMMERCE

U.S. WEATHER BUREAU  
WASHINGTON

June 10, 1960



FILE 650

CL 5-60

(Adjustments of the U. S. Weather Bureau Forecasting Organization)

WASHINGTON, D. C.  
6-10-60

CIRCULAR LETTER NO. 5-60

**TO:** All First-Order Stations and WBRAO's

**FROM:** Chief of Bureau

**SUBJECT:** Adjustments of the U. S. Weather Bureau Forecasting Organization

**REFERENCE:** MAL 40-59, December 9, 1959; and Addendum No. 1, MAL 40-59, February 5, 1960

The reference letters have given a general statement of the plan for adjusting the forecasting organization and have provided details together with requests for comments and recommendations on certain phases. The comments and recommendations have been studied and, so far as practicable, incorporated into the plan. This letter will outline the amended plan and set the time schedule for its implementation.

Each combined Forecast Office will be staffed with an aviation unit of at least 6 GS-12 and 3 GS-11 forecasters and a state unit of at least 4 GS-12 forecasters. However, since personnel actions necessary to provide such staffing may not be completed in all cases by July 1, 1960 (the original target date) implementation will be accomplished on a stepwise basis taking into account the dates on which staffs will be complete.

AVIATION FORECASTING

All elements of the aviation portion of the realignment plan will become effective on or about July 1, 1960, the exact date and time to be confirmed later by GENOT. This will involve

- (1) Revision of Area Forecast (FA) boundaries as outlined on Appendix I;
- (2) Revision of Regional Forecast (FN) boundaries as outlined on Appendix II;
- (3) Revision of terminal forecast (FT) assignments as listed on Appendix III; and

- (4) Revision of Upper Wind forecast (AW) assignments as listed on Appendix IV.

### STATE FORECASTING

The state forecasting portion of the realignment program will be implemented in two steps. On July 1, 1960 the state forecast (FP) assignments will be placed in full effect in the Rocky Mountain and Pacific Coast areas. On the same date, interim assignments of certain responsibilities will be made in the remainder of the country to be followed by full implementation of the "two-state" plan in these areas on September 1, 1960.

The specific details of these changes are as follows for the two steps:

1. BEGINNING 0600Z JULY 1st

Mapped Forecasts by Kansas City and Washington will be discontinued.

FP-1's will be made by the offices and for the areas shown on Appendix V. FP-1's by Seattle, Los Angeles, and Atlanta will be discontinued.

State Forecasts (FP) will be prepared by the offices and for the areas shown in Appendix VI from 0600Z July 1 through 0500Z September 1.

Extended Forecasts (FE) and Quantitative Precipitation Forecasts (QPF) will continue to be made by the offices to which presently assigned, until September 1.

Shippers' Temperature Bulletins (FM) will be made by offices as listed in Appendix VII from July 1 until September 1.

Coastal Marine Forecasts - No change.

2. BEGINNING AFTER 0500Z SEPTEMBER 1st

Forecast assignments will correspond to those shown on the following appendices:

FP-1's - Appendix VIII

State Forecasts (FP) - Appendix IX

Extended Forecasts (FE) - Appendix X

Quantitative Precipitation Forecasts (QPF) - Appendix XI

Shippers' Temperature Bulletins - Appendix XII

Coastal Marine Forecasts - See comments below and Appendix IX.

Discussion of the above follows:

The FE's will be prepared by the combined forecast centers using guidance material sent over the facsimile circuit from the Extended Forecast Section at NMC. The corresponding unit area designators for use in transmissions via teletypewriter are given in Appendix X<sub>A</sub>. Weekly and daily precipitation and maximum and minimum temperature normals for each forecast center's area of responsibility are being provided by separate mail.

The QP forecast areas do not coincide exactly with other forecast areas since the QPF zones correspond to particular watersheds. A unique situation requires that Knoxville continue to prepare QP forecasts for the Tennessee Valley Authority. Consideration is being given to having full-time specialists issue QPF guidance material for states east of the Rockies in the form of isohyetal patterns on facsimile charts. This guidance would be issued in the early morning.

The FM's have been expanded to include several additional cities.

Press deadlines - Every possible effort should be extended to meet the presently established press deadlines for distribution of forecasts to the press. Service C is the basic net for distributing FP's and every effort should be made to serve news distributors from forecasts received on these circuits. All offices should avoid making new commitments for deliveries earlier than can be supported by Service C. Where Service C schedules do not make it possible to meet presently established deadlines, authorization to use RAWARC (where available) or telephone will be considered. However, all cases where delivery time cannot be met by Service C schedules should be referred to the Central Office.

The Central Office is keeping the national headquarters of the press and radio services informed about these problems, and the headquarters offices will pass along essential information to their own field units. A copy of our letter to the wire services is attached. As soon as practicable after receipt of this letter, Weather Bureau stations should contact the local office of the wire services which they serve and discuss the matter with a view to adjusting any local problems.

Adaptive forecasts, both zone and local vicinity, will continue to be issued by forecast offices now preparing and distributing them except at a few places where immediate adjustments have been found advisable. Forecast zones are outlined in Appendix XIV and zone forecast assignments are listed in Appendix XII.

Both FP and FP-1 transmission times will continue as at present, although some adjustments may be possible when Service C is speeded up later this year. (Details of Service A and C schedule changes will be issued separately.) The FP-1's will consist of prognostic reasoning messages dealing with synoptic features pertinent to the 12- to 48-hour forecasts for the designated areas. They will supplement and update the prognostic reasoning messages and progs issued by NMC, and will serve as guidance material for coordination of forecasts for the districts within the respective areas. The FP-1's should give special attention to severe storm threats such as heavy snow, blizzard, cold wave, etc.

Coordination - Forecast centers will be expected to give careful consideration to the FP-1 and NMC Progs for the areas in which their districts lie, but will have considerable latitude in the extent to which such guidance material is followed. Consistency of forecasts between adjoining districts is an important consideration and, in general, sharp discontinuities at district boundaries should be avoided except where it is determined by coordination between offices that the discontinuities are in reasonable conformance with the synoptic outlook. To achieve the desired degree of consistency, it will at times be necessary that forecast centers for adjoining districts confer over RAWARC or by telephone. However, it is desired that the need for such coordination be kept within reasonable limits. This can be achieved to a considerable degree if forecast centers will carefully consider the NMC Progs as supplemented by the FP-1's and initiate coordination with adjoining centers only when they feel it necessary to make a notable departure from the FP-1 guidance.

Coordination of forecasts will also be achieved to an important degree through area forecasts as described in the FA's and FN's as well as through use of NMC and FP-1 guidance material. Forecasters are urged to make maximum use of guidance material. However, use of independent professional judgment on the basis of alertness to later data and other significant factors is required, and will not be subordinated to a blind reliance on guidance aids. In the main, departure from guidance material (based on later data) would be for the earlier part of the forecast period. For example, pure extrapolation of a low center's movement based on an acceleration or deceleration in the past three hours should not ordinarily lead a forecaster to change the prognostic position for 36-48 hours hence since this position may involve filling of a decelerating low

and cyclogenesis further ahead. This plan facilitates the coordination of forecasts within each forecast area since one center will be making the various types of basic forecasts for its area.

Bulletins - In addition, the centers shown in Appendix VIII will prepare for public issuance and for distribution on RAWARC, numbered bulletins in connection with severe winter storms (Manual Chapter III-B-1607a) and with tropical cyclones that move inland (Manual Chapter III-B-5006b). These bulletins will be consistent with warnings issued by the cognizant forecast centers and will be supplemented by the issuance of local bulletins as deemed necessary by the individual forecast centers (Manual Chapter III-B-1104).

The SELS coordination required in Manual Chapter III-B-18 will be accomplished between SELS and the FP-1 centers. The remaining forecast offices will accept the coordinated SELS forecasts in the same sense that the present FAWS centers accept them. This is necessary because the time factors involved in issuance of severe local weather forecasts are such that SELS is unable to coordinate with more than two or rarely three centers in regard to a single forecast.

Hurricane Warning responsibilities for the North Atlantic and North Pacific areas as now assigned to Hurricane Forecast Centers will continue unchanged. Similarly, Washington will continue to issue marine forecasts and warnings for the western North Atlantic and San Francisco and Honolulu for the eastern and central North Pacific high sea areas, respectively.

Coastal Forecasts and Warning responsibility areas to be assigned to Forecast Offices are as follows:

Boston: Block Island to Eastport.

New York: Long Island Sound; Cape May to but not including Block Island.

Washington: Hatteras to but not including Cape May, Chesapeake Bay and Lower Potomac, Delaware Bay.

Raleigh: Savannah to but not including Hatteras.

Miami: Florida Straits to but not including Savannah; Florida Straits to but not including Apalachicola; East Gulf and western Caribbean Sea.

New Orleans: Apalachicola to but not including Sabine Pass, (Tex.), Middle and West Gulf.

San Antonio: Sabine Pass, (Tex.) to Brownsville.

San Juan: Eastern Caribbean.

Chicago: Great Lakes.

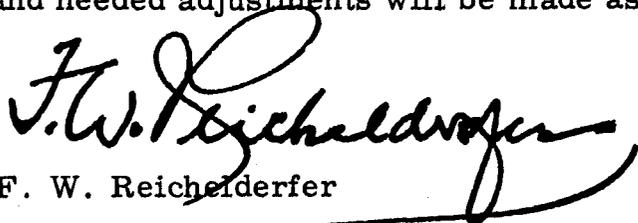
Pacific Coastal Waters: No changes.

It will be noted that the area Savannah to Florida Straits and others on the Gulf Coast cover unusually large areas along the coast and a further breakdown of these coastal forecast areas appears necessary. However, this matter will be made the subject of separate correspondence with WBO's concerned to obtain their comments and recommendations.

In cases when a hurricane or tropical storm first threatens a coastal or water area for which a Forecast Office other than a Hurricane Forecast Center is responsible, the Hurricane Center will initiate the necessary coordination with the Forecast Office concerned. Thereafter, the Forecast Office concerned will be responsible for initiating coordinating calls with the Hurricane Forecast Center. Final decision with reference to ordering warning displays during periods of hurricane and tropical storm situations is left with the responsible hurricane warning center.

Each forecast center is requested to check carefully the forecast assignments given in this letter for any possible errors or inconsistencies with respect to its own forecast boundaries.

Implementation of the forecast organization realignment program is expected to be a major step toward clarifying goals, planning for the future, and concentrating maximum attention within each forecast office on all forecast problems within its given area. Ideas for improvement of the forecast program will continue to be welcomed and needed adjustments will be made as the program goes forward.

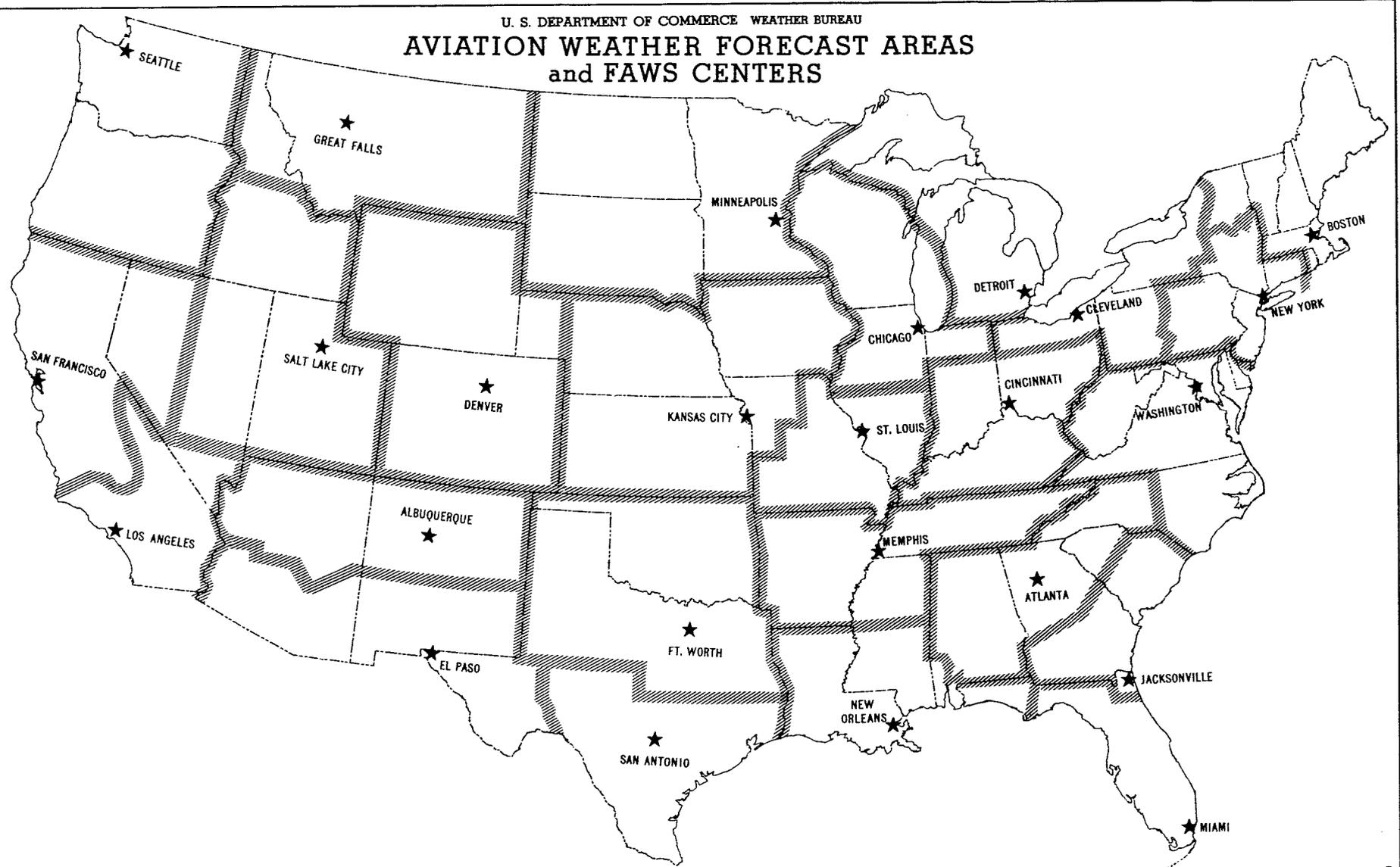
  
F. W. Reichelderfer

Appendices

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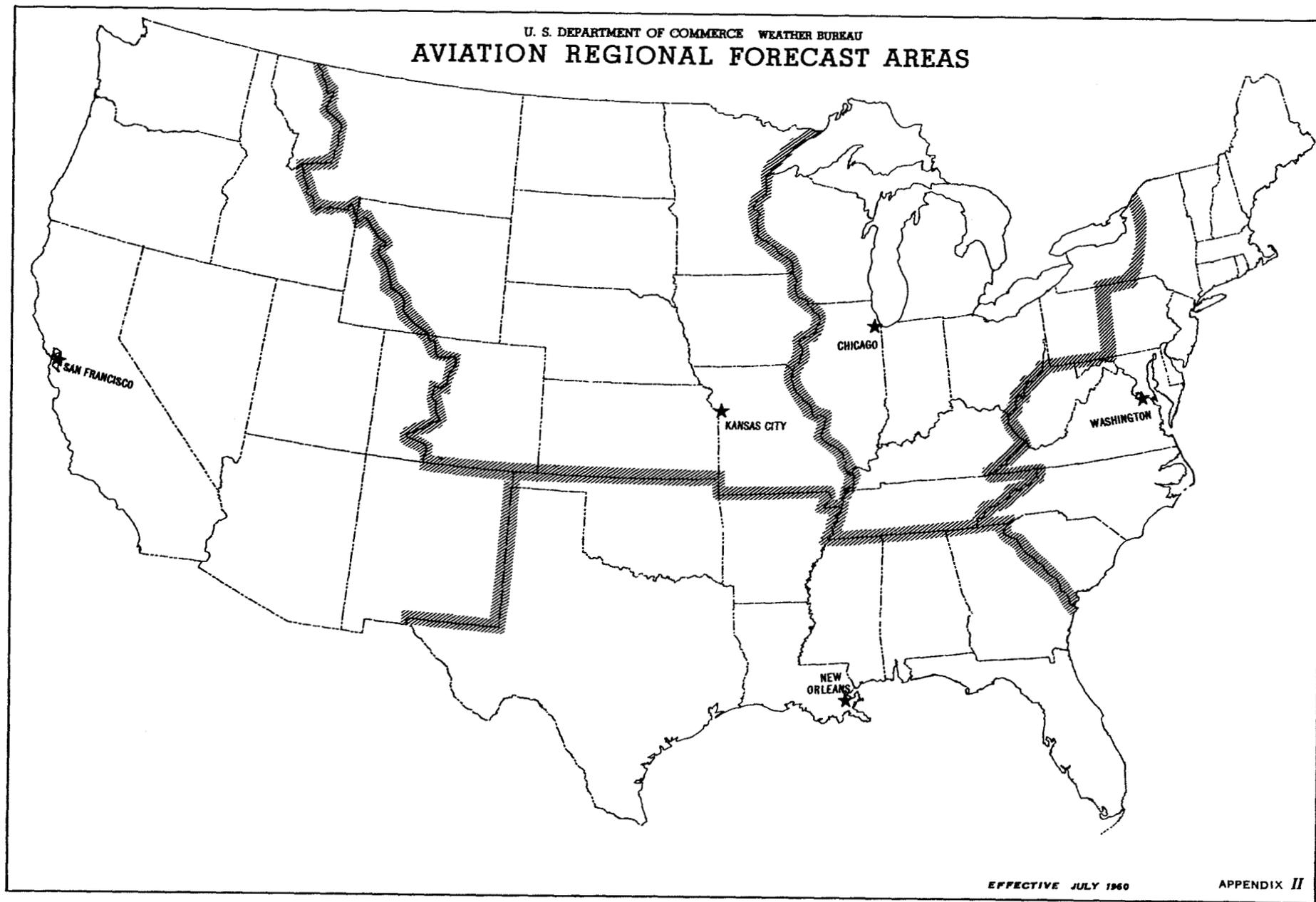
U. S. DEPARTMENT OF COMMERCE WEATHER BUREAU  
**AVIATION WEATHER FORECAST AREAS  
and FAWS CENTERS**



EFFECTIVE JULY 1960

APPENDIX I

U. S. DEPARTMENT OF COMMERCE WEATHER BUREAU  
**AVIATION REGIONAL FORECAST AREAS**



EFFECTIVE JULY 1960

APPENDIX II

## TERMINAL FORECAST ASSIGNMENTS

(\*denotes terminal for which both 12- and 24-hour forecasts are issued)

## ALBUQUERQUE

TCC	Tucumcari, N. Mex.	*ABQ	Albuquerque, N. Mex.
LVS	Las Vegas, N. Mex.	SAF	Santa Fe, N. Mex.
FMN	Farmington, N. Mex.	INW	Winslow, Ariz.
FLG	Flagstaff, Ariz.	PRC	Prescott, Ariz.

## ATLANTA

MSL	Muscle Shoals, Ala.	TCL	Tuscaloosa, Ala.
*BHM	Birmingham, Ala.	DHN	Dothan, Ala.
MGM	Montgomery, Ala.	AHN	Athens, Ga.
*ATL	Atlanta, Ga.	CSG	Columbus, Ga.
MCN	Macon, Ga.	AVL	Asheville, N. C.
AND	Anderson, S. C.	SPA	Spartanburg, S. C.
INT	Winston-Salem, N. C.	GRL	Greenville, S. C.
*CLT	Charlotte, N. C.	HKY	Hickory, N. C.
HSV	Huntsville, Ala.	GSO	Greensboro, N. C.

## BOSTON

CAR	Caribou, Me.	MLT	Millinocket, Me.
OLD	Old Town, Me.	AUG	Augusta, Me.
PWM	Portland, Me.	CON	Concord, N. H.
LEB	Lebanon, N. H.	BTV	Burlington, Vt.
MPV	Montpelier, Vt.	MSS	Massena, N. Y.
*BOS	Boston, Mass.	UCA	Utica, N. Y.
ACK	Nantucket, Mass.	ORH	Worcester, Mass.
		PVD	Providence, R. I.

## CHICAGO

EAU	Eau Claire, Wis.	AUW	Wausau, Wis.
GRB	Green Bay, Wis.	LSE	La Crosse, Wis.
MSN	Madison, Wis.	*MKE	Milwaukee, Wis.
DBQ	Dubuque, Ia.	BRL	Burlington, Ia.
RFD	Rockford, Ill.	*MLI	Moline, Ill.
PIA	Peoria, Ill.	*ORD	O'Hare (Chicago) Ill.
*MDW	Chicago, Ill.	*SBN	South Bend, Ind.
*FWA	Fort Wayne, Ind.		

CINCINNATI

LAF	Lafayette, Ind.	ZZV	Zanesville, O.
*IND	Indianapolis, Ind.	HUF	Terre Haute, Ind.
*DAY	Dayton, Ohio	EVV	Evansville, Ind.
LUK	Cincinnati, O. (Lunken Airport)	*CVG	Cincinnati, O. (Greater Cincinnati Airport)
PUK	Paducah, Ky.	BWG	Bowling Green, Ky.
*SDF	Louisville, Ky.	LEX	Lexington, Ky.
PKB	Parkersburg, W. Va.	HTW	Huntington, W. Va.
HLG	Wheeling, W. Va.	*CMH	Columbus, O.

CLEVELAND

TOL	Toledo, O.	MFD	Mansfield, O.
*CLE	Cleveland, O.	*CAK	Akron-Canton, O.
YNG	Youngstown, O.	*BUF	Buffalo, N. Y.
*ROC	Rochester, N. Y.	ERI	Erie, Pa.
BFD	Bradford, Pa.	*PIT	Pittsburgh, Pa. (Greater Pittsburgh Airport)
AGC	Pittsburgh, Pa. (Allegheny County Airport)	PSB	Philipsburg, Pa.
AOO	Martinsburg, (Altoona), Pa.	*SYR	Syracuse, N. Y.
ART	Watertown, N. Y.	ELM	Elmira, N. Y.

DENVER

SHR	Sheridan, Wyo.	*CPR	Casper, Wyo.
RKS	Rock Springs, Wyo.	RWL	Rawlins, Wyo.
LAR	Laramie, Wyo.	*CYS	Cheyenne, Wyo.
BFF	Scottsbluff, Neb.	GJT	Grand Junction, Colo.
*DEN	Denver, Colo.	COS	Colorado Springs, Colo.
*PUB	Pueblo, Colo.	ALS	Alamosa, Colo.

DETROIT

INR	Kinross, Mich.	CMX	Houghton, Mich.
PLN	Pellston, Mich.	*TVC	Traverse City, Mich.
MKG	Muskegon, Mich.	GRR	Grand Rapids, Mich.
BTL	Battle Creek, Mich.	LAN	Lansing, Mich.
JXN	Jackson, Mich.	MBS	Saginaw, Mich.
FNT	Flint, Mich.	*DTW	Detroit, Mich. (Wayne County Airport)
*YIP	Detroit, Mich. (Willow Run Airport)	DET	Detroit, Mich. (City Airport)

EL PASO

TCS Truth or Consequences,  
N. Mex.  
CNM Carlsbad, N. Mex.  
\*ELP El Paso, Tex.  
\*PHX Phoenix, Ariz.

\*TUS Tucson, Ariz.  
ROW Roswell, N. Mex.  
HOB Hobbs, N. Mex.  
INK Wink, Tex.  
DUG Douglas, Ariz.  
\*MAF Midland, Tex.

FORT WORTH

GAG Gage, Okla.  
\*TUL Tulsa, Okla.  
\*AMA Amarillo, Tex.  
BGS Big Spring, Tex.  
SPS Wichita Falls, Tex.  
DAL Dallas, Tex.  
ACT Waco, Tex.  
GGG Longview, Tex.

PNC Ponca City, Okla.  
\*OKC Oklahoma City, Okla.  
LBB Lubbock, Tex.  
\*ABI Abilene, Tex.  
\*ACF Fort Worth, Tex. (Amon  
Carter Field)  
TYR Tyler, Tex.  
LFK Lufkin, Tex.

GREAT FALLS

LWS Lewiston, Idaho  
CTB Cut Bank, Mont.  
\*GTF Great Falls, Mont.  
BTM Butte, Mont.  
LWT Lewiston, Mont.  
\*MLS Miles City, Mont.

FCA Kalispell, Mont.  
MSO Missoula, Mont.  
HLN Helena, Mont.  
BZN Bozeman, Mont.  
\*BIL Billings, Mont.

JACKSONVILLE

FLO Florence, S. C.  
\*CHS Charleston, S. C.  
\*SAV Savannah, Ga.  
SSI Brunswick, Ga.  
CAE Columbia, S. C.

MYR Myrtle Beach, S. C.  
AGS Augusta, Ga.  
AMG Alma, Ga.  
\*JAX Jacksonville, Fla.  
ABY Albany, Ga.  
VLD Valdosta, Ga.

KANSAS CITY

*LBF North Platte, Neb.	GRI Grand Island, Neb.
LNK Lincoln, Neb.	*OMA Omaha, Neb.
SUX Sioux City, Ia.	MCW Mason City, Ia.
ALO Waterloo, Ia.	CID Cedar Rapids, Ia.
*DSM Des Moines, Ia.	OTM Ottumwa, Ia.
GLD Goodland, Kan.	GCK Garden City, Kan.
DDC Dodge City, Kan.	HUT Hutchinson, Kan.
SLN Salina, Kan.	*ICT Wichita, Kan.
TOP Topeka, Kan.	CNU Chanute, Kan.
STJ St. Joseph, Mo.	*MKC Kansas City, Mo.
OFK Norfolk, Neb.	

LOS ANGELES

SBA Santa Barbara, Calif.	*PMD Palmdale, Calif.
DAG Daggett, Calif.	*BUR Burbank, Calif.
*LAX Los Angeles, Calif.	ONT Ontario, Calif.
LGB Long Beach, Calif.	*SAN San Diego, Calif.
TRM Thermal, Calif.	IPL Imperial, Calif.
EED Needles, Calif.	BLH Blythe, Calif.
*LAS Las Vegas, Nev.	YUM Yuma, Ariz.

MEMPHIS

FYV Fayetteville, Ark.	FSM Fort Smith, Ark.
TXK Texarkana, Ark.	*LIT Little Rock, Ark.
PBF Pine Bluff, Ark.	ELD El Dorado, Ark.
*MEM Memphis, Tenn.	GRW Greenwood, Miss.
*TYS Knoxville, Tenn.	*BNA Nashville, Tenn.
CHA Chattanooga, Tenn.	TRI Tri-Cities, Tenn.

MIAMI

TLH Tallahassee, Fla.	*EYW Key West, Fla.
DAB Daytona Beach, Fla.	ORL Orlando, Fla.
*TPA Tampa, Fla.	MLB Melbourne, Fla.
VRB Vero Beach, Fla.	FMY Fort Meyers, Fla.
*PBI West Palm Beach, Fla.	*MIA Miami, Fla.

MINNEAPOLIS

ISN Williston, N. D.  
DIK Dickinson, N. D.  
JMS Jamestown, N. D.  
\*FAR Fargo, N. D.  
PIR Pierre, S. D.  
ATY Watertown, S. D.  
FSD Sioux Falls, S. D.  
DLH Duluth, Minn.  
\*MSP Minneapolis, Minn.

MOT Minot, N. D.  
BIS Bismarck, N. D.  
GFK Grand Forks, N. D.  
\*RAP Rapid City, S. D.  
ABR Aberdeen, S. D.  
\*HON Huron, S. D.  
INL International Falls, Minn.  
AXN Alexandria, Minn.  
\*RST Rochester, Minn.

NEW ORLEANS

\*SHV Shreveport, La.  
AEX Alexandria, La.  
LFT Lafayette, La.  
\*MSY New Orleans, La.  
\*PNS Pensacola, Fla.  
\*JAN Jackson, Miss.

MLU Monroe, La.  
\*LKC Lake Charles, La.  
\*BTR Baton Rouge, La.  
\*MOB Mobile, Ala.  
MEI Meridian, Miss.

NEW YORK

BGM Binghamton, N. Y.  
\*LGA La Guardia, N. Y.  
HPN White Plains, N. Y. (Westchester County Airport)  
AVP Avoca, Pa.  
RDG Reading, Pa.  
\*PHL Philadelphia, Pa. (International Airport)  
ACY Atlantic City, N. J.  
TEB Teterboro, N. J.  
\*BDL Bradley, (Windsor Locks), Conn.

POU Poughkeepsie, N. Y.  
\*IDL Idlewild, N. Y.  
IPT Williamsport, Pa.  
HAR Harrisburg, Pa.  
ABE Allentown, Pa.  
PNE Philadelphia, Pa. (North Philadelphia Airport)  
\*EWR Newark, N. J.  
BDR Bridgeport, Conn.  
GFL Glens Falls, N. Y.  
\*ALB Albany, N. Y.

ST. LOUIS

UIN Quincy, Ill.  
\*STL St. Louis, Mo.  
JLN Joplin, Mo.

\*SPI Springfield, Ill.  
CBI Columbia, Mo.  
\*SGF Springfield, Mo.

SALT LAKE CITY

\*BOI Boise, Idaho  
\*PIH Pocatello, Idaho  
EKO Elko, Nev.  
\*SLC Salt Lake City, Utah  
CDC Cedar City, Utah

BYI Burley, Idaho  
IDA Idaho Falls, Idaho  
ELY Ely, Nev.  
OGD Ogden, Utah  
DTA Delta, Utah

SAN ANTONIO

\*AUS Austin, Tex.  
AOE Victoria, Tex.  
\*HOU Houston, Tex.  
LRD Laredo, Tex.  
\*CRP Corpus Christi, Tex.  
BPT Beaumont, Tex.  
SJT San Angelo, Tex.

CLL College Station, Tex.  
\*SAT San Antonio, Tex.  
PSX Palacios, Tex.  
\*GLS Galveston, Tex.  
ALI Alice, Tex.  
\*BRO Brownsville, Tex.  
DRT Del Rio, Tex.

SAN FRANCISCO

ACV Arcata, Calif.  
UKI Ukia, Calif.  
SCK Stockton, Calif.  
\*SFO San Francisco, Calif.  
SNS Salinas, Calif.  
PRB Paso Robles, Calif.  
SMX Santa Maria, Calif.  
TPH Tonopah, Nev.

RBL Red Bluff, Calif.  
\*SAC Sacramento, Calif.  
\*OAK Oakland, Calif.  
MRY Monterey, Calif.  
\*FAT Fresno, Calif.  
\*BFL Bakersfield, Calif.  
\*RNO Reno, Nev.  
CEC Crescent City, Calif.

SEATTLE

BLI Bellingham, Wash.  
\*SEA Seattle, Wash.  
AST Astoria, Ore.  
\*YKM Yakima, Wash.  
\*GEG Spokane, Wash.  
DLS The Dalles, Ore.  
TTD Troutdale, Ore.  
BKE Baker, Ore.  
EUG Eugene, Ore.  
MFR Medford, Ore.

\*BFI Boeing Field, Wash.  
OLM Olympia, Wash.  
LMT Klamath Falls, Ore.  
EPH Ephrata, Wash.  
ALW Walla Walla, Wash.  
\*PDX Portland, Ore.  
PDT Pendleton, Ore.  
SLE Salem, Ore.  
OTH North Bend, Ore.

WASHINGTON

MGW Morgantown, W. V.	*BAL Baltimore, Md.
EKN Elkins, W. Va.	*DCA Washington, D. C.
ILG Wilmington, Del.	LYH Lynchburg, Va.
SBY Salisbury, Md.	*RIC Richmond, Va.
ROA Roanoke, Va.	RMT Rocky Mount, N. C.
DAN Danville, Va.	EWN New Bern, N. C.
*ORF Norfolk, Va.	*RDI Raleigh, N. C.
CRW Charleston, W. Va.	ECG Elizabeth City, N. C.
MRB Martinsburg, W. Va.	ILM Wilmington, N. C.
BLF Bluefield, W. Va.	

APPENDIX IV

WINDS ALOFT FORECAST ASSIGNMENTS  
 (\*indicates temperature aloft forecasts provided)

SEATTLE

*SEA	Seattle-Tacoma, Wash.	EUG	Eugene, Ore.
YKM	Yakima, Wash.	*MFR	Medford, Ore.
*GEG	Spokane, Wash.	PDT	Pendleton, Ore.
*PDX	Portland, Ore.		

SAN FRANCISCO

RBL	Red Bluff, Calif.	*RNO	Reno, Nev.
SAC	Sacramento, Calif.	FAT	Fresno, Calif.
*SFO	San Francisco, Calif.	*SMX	Santa Maria, Calif.
		TPH	Tonopah, Nev.

LOS ANGELES

SDB	Sandberg, Calif.	BUO	Beaumont, Calif.
*LAX	Los Angeles, Calif.	*LAS	Las Vegas, Nev.
*SAN	San Diego, Calif.	YUM	Yuma, Ariz.

GREAT FALLS

MSO	Missoula, Mont.	BIL	Billings, Mont.
BTM	Butte, Mont.	MLS	Miles City, Mont.
*GTF	Great Falls, Mont.	GGW	Glasgow, Mont.
LWS	Lewiston, Idaho		

SALT LAKE CITY

*BOI	Boise, Idaho	*SLC	Salt Lake City, Utah
*PIH	Pocatello, Idaho	MLF	Milford, Utah
EKO	Elko, Nev.		

ALBUQUERQUE

*INW	Winslow, Ariz.	FMN	Farmington, N. Mex.
*ABQ	Albuquerque, N. Mex.	RTN	Raton, N. Mex.

EL PASO

\*ELP El Paso, Tex.  
\*MAF Midland, Tex.  
ROW Roswell, N. Mex.

MRF Marfa, Tex.  
PHX Phoenix, Ariz.  
\*TUS Tucson, Ariz.

DENVER

SHR Sheridan, Wyo.  
\*CPR Casper, Wyo.  
RKS Rock Springs, Wyo.  
CYS Cheyenne, Wyo.

\*GJT Grand Junction, Colo.  
\*DEN Denver, Colo.  
PUB Pueblo, Colo.

MINNEAPOLIS

ISN Williston, N. Dak.  
\*BIS Bismarck, N. Dak.  
FAR Fargo, N. Dak.  
INL International Falls, Minn.  
\*DLH Duluth, Minn.

\*RAP Rapid City, S. Dak.  
PIR Pierre, S. Dak.  
FSD Sioux Falls, S. Dak.  
\*MSP Minneapolis, Minn.

KANSAS CITY

\*LBF North Platte, Neb.  
\*OMA Omaha, Neb.  
GLD Goodland, Kan.  
\*DDC Dodge City, Kan.

CNK Concordia, Kan.  
ICT Wichita, Kan.  
DSM Des Moines, Iowa  
\*MKC Kansas City, Mo.

FORT WORTH

\*AMA Amarillo, Tex.  
ABI Abilene, Tex.  
\*OKC Oklahoma City, Okla.

\*ACF Fort Worth, Tex.  
ACT Waco, Tex.  
TUL Tulsa, Okla.

SAN ANTONIO

\*SAT San Antonio, Tex.  
\*HOU Houston, Tex.  
LRD Laredo, Tex.

CRP Corpus Christi, Tex.  
BRO Brownsville, Tex.  
DRT Del Rio, Tex.

CHICAGO

LSE La Crosse, Wis.  
\*GRB Green Bay, Wis.  
\*MKE Milwaukee, Wis.

\*MLI Moline, Ill.  
\*MDW Chicago, Ill.  
FWA Fort Wayne, Ind.

ST. LOUIS

IRK Kirksville, Mo.  
CBI Columbia, Mo.  
SGF Springfield, Mo.

\*STL St. Louis, Mo.  
MAW Malden, Mo.  
SPI Springfield, Ill.

MEMPHIS

\*LIT Little Rock, Ark.  
\*MEM Memphis, Tenn.

\*BNA Nashville, Tenn.  
\*TYS Knoxville, Tenn.

NEW ORLEANS

SHV Shreveport, La.  
\*LKC Lake Charles, La.

\*MSY New Orleans, La.  
\*MOB Mobile, Ala.  
\*JAN Jackson, Miss.

DETROIT

MQT Marquette, Mich.  
INR Kinross, Mich.  
APN Alpena, Mich.

MKG Muskegon, Mich.  
\*DET Detroit, Mich.

CLEVELAND

\*CLE Cleveland, Ohio  
\*PIT Pittsburgh, Pa.

\*BUF Buffalo, N. Y.  
SYR Syracuse, N. Y.  
\*ELM Elmira, N. Y.

CINCINNATI

\*IND Indianapolis, Ind.  
\*EVV Evansville, Ind.  
\*CVG Cincinnati, Ohio

\*CMH Columbus, Ohio  
LEX Lexington, Ky.  
\*HTW Huntington, W. Va.

ATLANTA

\*BHM Birmingham, Ala.  
MGM Montgomery, Ala.

\*ATL Atlanta, Ga.  
\*GRL Greenville, S. C.

JACKSONVILLE

\*CHS Charleston, S. C.  
AMG Alma, Ga.

\*JAX Jacksonville, Fla.

MIAMI

TLH Tallahassee, Fla.  
\*TPA Tampa, Fla.

\*MIA Miami, Fla.  
EYW Key West, Fla.  
\*VRB Vero Beach, Fla.

WASHINGTON

EKN Elkins, W. Va.  
\*DCA Washington, D. C.  
\*ILM Wilmington, N. C.  
\*ORF Norfolk, Va.

\*ROA Roanoke, Va.  
\*RIC Richmond, Va.  
\*RDU Raleigh, N. C.

NEW YORK

HAR Harrisburg, Pa.  
\*ALB Albany, N. Y.

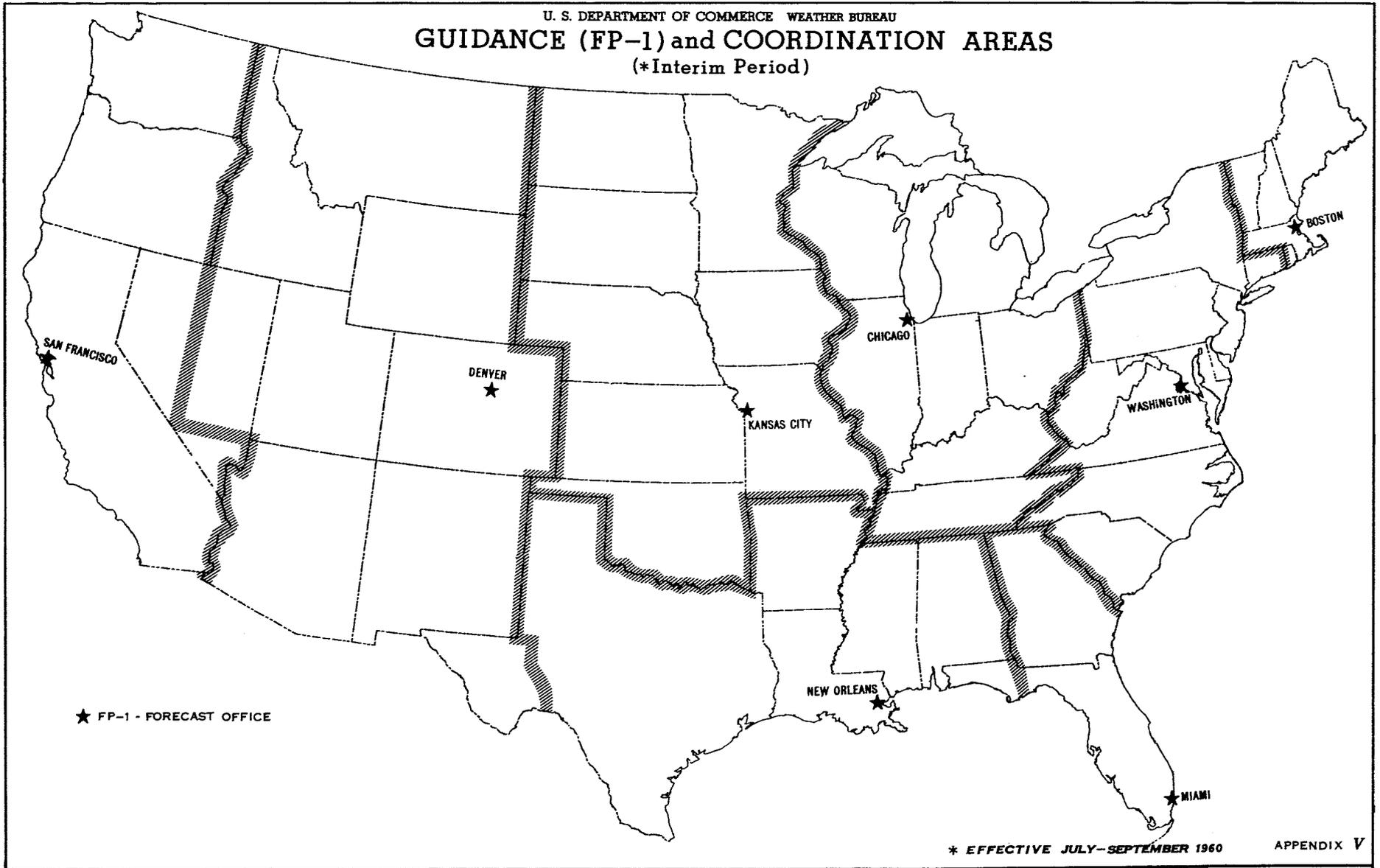
\*PHL Philadelphia, Pa.  
\*IDL Idlewild, N. Y.

BOSTON

BTV Burlington, Vt.  
CAR Caribou, Maine

\*PWM Portland, Maine  
\*BOS Boston, Mass.

U. S. DEPARTMENT OF COMMERCE WEATHER BUREAU  
**GUIDANCE (FP-1) and COORDINATION AREAS**  
(\*Interim Period)

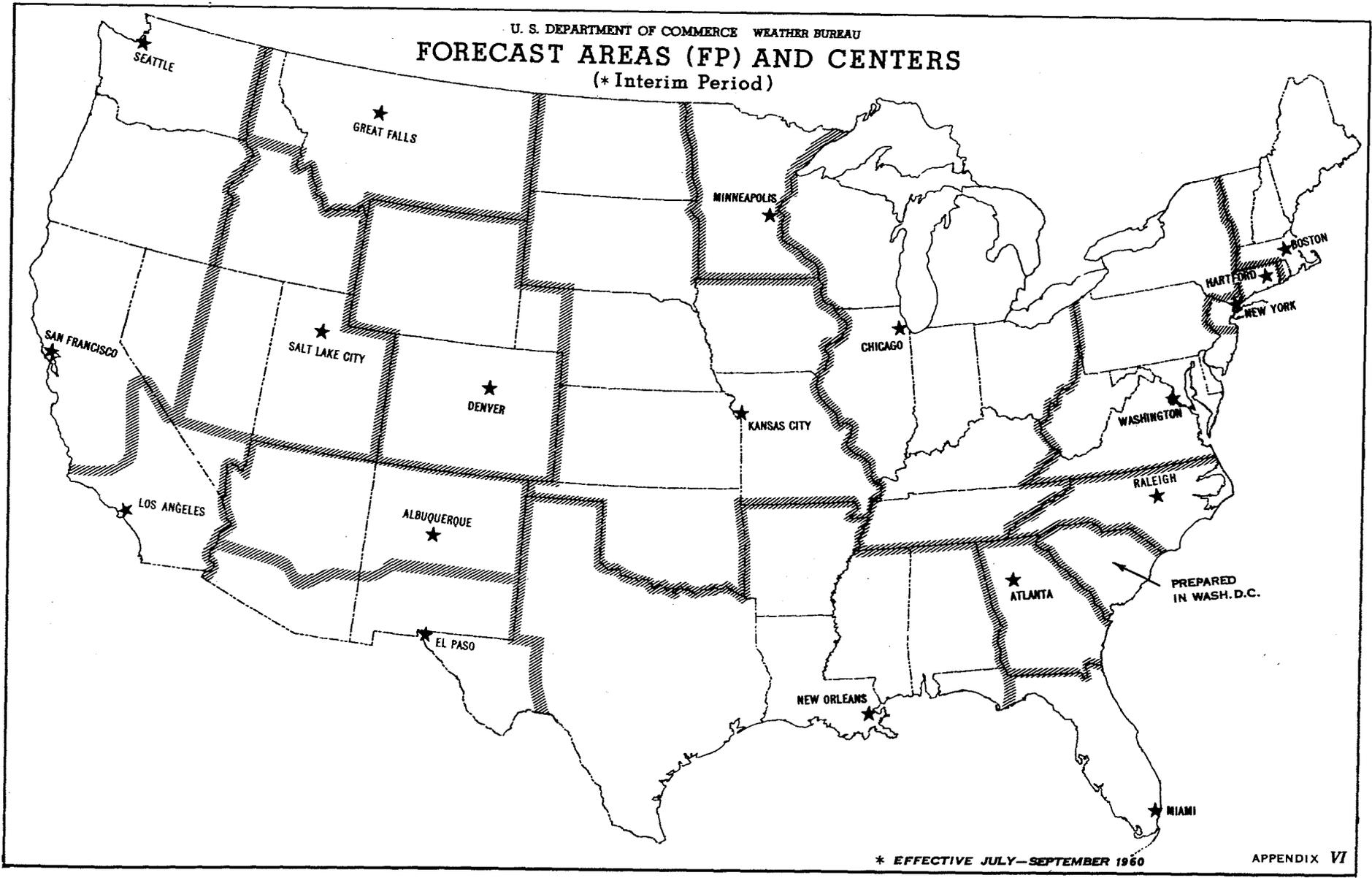


★ FP-1 - FORECAST OFFICE

\* EFFECTIVE JULY-SEPTEMBER 1960

APPENDIX V

U. S. DEPARTMENT OF COMMERCE WEATHER BUREAU  
**FORECAST AREAS (FP) AND CENTERS**  
(\* Interim Period)



\* EFFECTIVE JULY-SEPTEMBER 1960

APPENDIX VI

STATE FORECASTS (INTERIM)

FP PREPARATION FOR JULY 1 TO AUGUST 31, 1960

Where a change in the point of origin has been made  
the city of previous origin is shown below at right

ALBUQUERQUE

Northern New Mexico  
Northern Arizona

Los Angeles

ATLANTA

Georgia

BOSTON

Eastport to Block Island  
Maine  
Massachusetts  
New Hampshire  
Vermont  
Rhode Island

CHICAGO

Wisconsin  
Illinois  
Upper Michigan  
Lower Michigan  
Indiana  
Ohio  
Kentucky  
Tennessee  
Weather synopsis  
Lake Erie  
Lake Huron  
Lake Michigan  
Lake Ontario  
Lake Superior  
(Lake StClair)

DENVER

Colorado  
Wyoming  
Panhandle of Nebraska

Omaha

**EL PASO**

Southern Arizona  
Southern New Mexico  
Extreme Southwestern Texas

Los Angeles  
Albuquerque  
New Orleans

**GREAT FALLS**

Montana East of the Continental Divide  
Montana West of the Continental Divide  
Northern Idaho

Seattle

**HARTFORD**

Connecticut

**KANSAS CITY**

North Dakota  
South Dakota  
Nebraska except Panhandle  
Kansas  
Oklahoma  
Iowa  
Missouri

Bismarck  
Sioux Falls  
Omaha  
Topeka  
Oklahoma City  
Des Moines

**LOS ANGELES**

Southern California  
Los Angeles  
Point Conception to Mexican Border  
Southern California Coastal Valleys  
Southern California Interior and Desert Region  
Southern California Intermediate Valleys  
Southern California Mountain Areas  
Extreme Southern Nevada

San Francisco

**MIAMI**

Florida except Extreme Northwest  
East Gulf  
Hatteras to Jacksonville  
Jacksonville to Florida Straits  
Western Caribbean  
Florida Straits to Apalachicola

**MINNEAPOLIS**

Minnesota

**NEW ORLEANS**

East Texas  
North Central Texas  
South Central Texas  
Northwest Texas  
Southwest Texas (East of Pecos River)  
Arkansas  
Alabama  
Louisiana  
Mississippi  
Extreme Northwest Florida  
West Gulf  
Middle Gulf  
Brownsville to Apalachicola

**NEW YORK CITY**

New York City and Vicinity  
Long Island  
Northern New Jersey  
Long Island Sound

**RALEIGH**

North Carolina

**SALT LAKE CITY**

Utah  
Southwest Idaho  
Southeast Idaho  
Eastern Nevada

Seattle  
Seattle  
San Francisco

**SAN FRANCISCO**

Northern and Central California  
Cape Blanco to Point Conception  
Mt. Shasta - Siskiyou Area  
Sacramento Valley  
San Francisco Bay Region  
Sierra Nevada  
Salinas Valley  
San Joaquin Valley  
Santa Maria - San Luis Obispo Coastal Area  
Western Nevada

SEATTLE

Eastern Oregon  
Eastern Washington  
Western Oregon  
Western Washington  
Tatoosh to Cape Blanco  
Inland waters of Western Washington  
Strait of Juan de Fuca

WASHINGTON

Interior Eastern New York  
Western New York (and Erie County Pa.)  
Central and Northeastern Pennsylvania  
Southeastern Pennsylvania  
Southern New Jersey  
Delaware Bay  
Western Pennsylvania  
West Virginia  
Virginia  
Block Island to Hatteras  
District of Columbia  
Lower Potomac and Chesapeake Bay  
South Carolina  
Maryland  
Delaware

Albany  
Buffalo  
Harrisburg  
Philadelphia  
Philadelphia  
Philadelphia  
Pittsburgh

Baltimore  
Baltimore

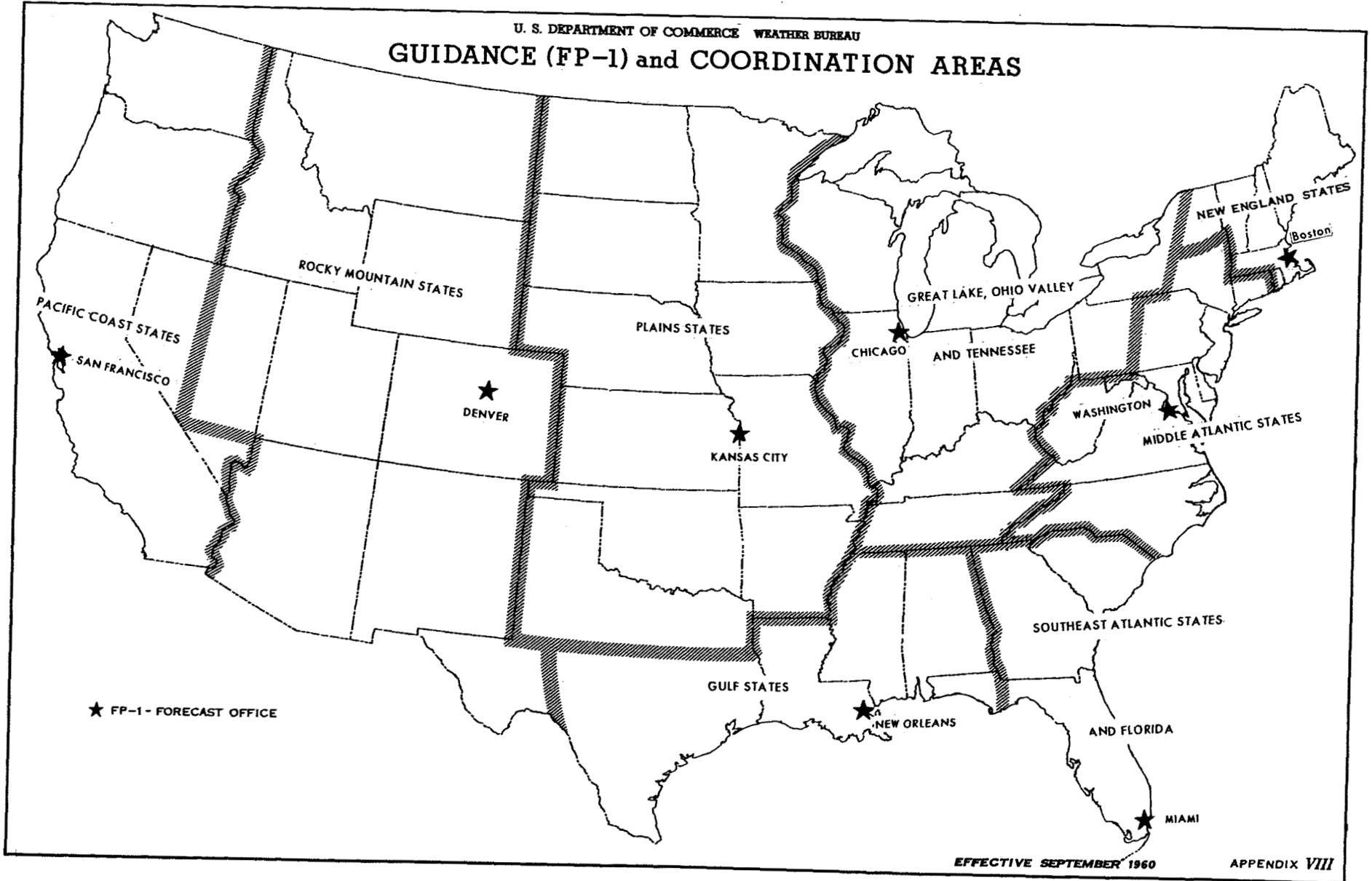
## Appendix VII

NATIONAL SHIPPERS' TEMPERATURE FORECAST (FM) BULLETIN  
 July 1 to August 31, 1960

<b>ALBUQUERQUE</b> Albuquerque Flagstaff	<b>DENVER</b> Alamosa Cheyenne Denver Grand Junction Rock Springs Sheridan	<b>LOS ANGELES</b> Daggett Imperial Las Vegas Los Angeles San Bernardino San Diego	<b>RALEIGH</b> Charlotte Raleigh Wilmington, N.C.
<b>ATLANTA</b> Albany, Ga. Atlanta Augusta, Ga. Charleston, S.C.	<b>EL PASO</b> El Paso Midland Phoenix Tucson	<b>MIAMI</b> Jacksonville Miami Tampa	<b>SALT LAKE CITY</b> Boise Elko Ely Milford Pocatello Salt Lake City
<b>BOSTON</b> Boston Burlington Caribou	<b>GREAT FALLS</b> Billings Glasgow Great Falls Havre	<b>MINNEAPOLIS</b> Duluth Fargo Minneapolis	<b>SAN FRANCISCO</b> Bakersfield Fresno Red Bluff Reno Sacramento San Francisco
<b>CHICAGO</b> Alpena Chicago Cleveland Columbus Detroit Grand Rapids Indianapolis Louisville Madison Marquette Memphis Milwaukee Moline Nashville Wausau	<b>HARTFORD</b> Hartford	<b>NEW ORLEANS</b> Amarillo Brownsville Ft. Worth Houston Jackson Laredo Little Rock Montgomery New Orleans San Antonio Shreveport	<b>SEATTLE</b> Baker Klamath Falls Medford Portland Seattle Spokane Walla Walla
	<b>KANSAS CITY</b> Dodge City Huron Kansas City Minot North Platte Oklahoma City Omaha Rapid City St. Louis	<b>NEW YORK</b> New York	<b>WASHINGTON</b> Albany Buffalo Elkins Philadelphia Pittsburgh Roanoke Scranton Washington

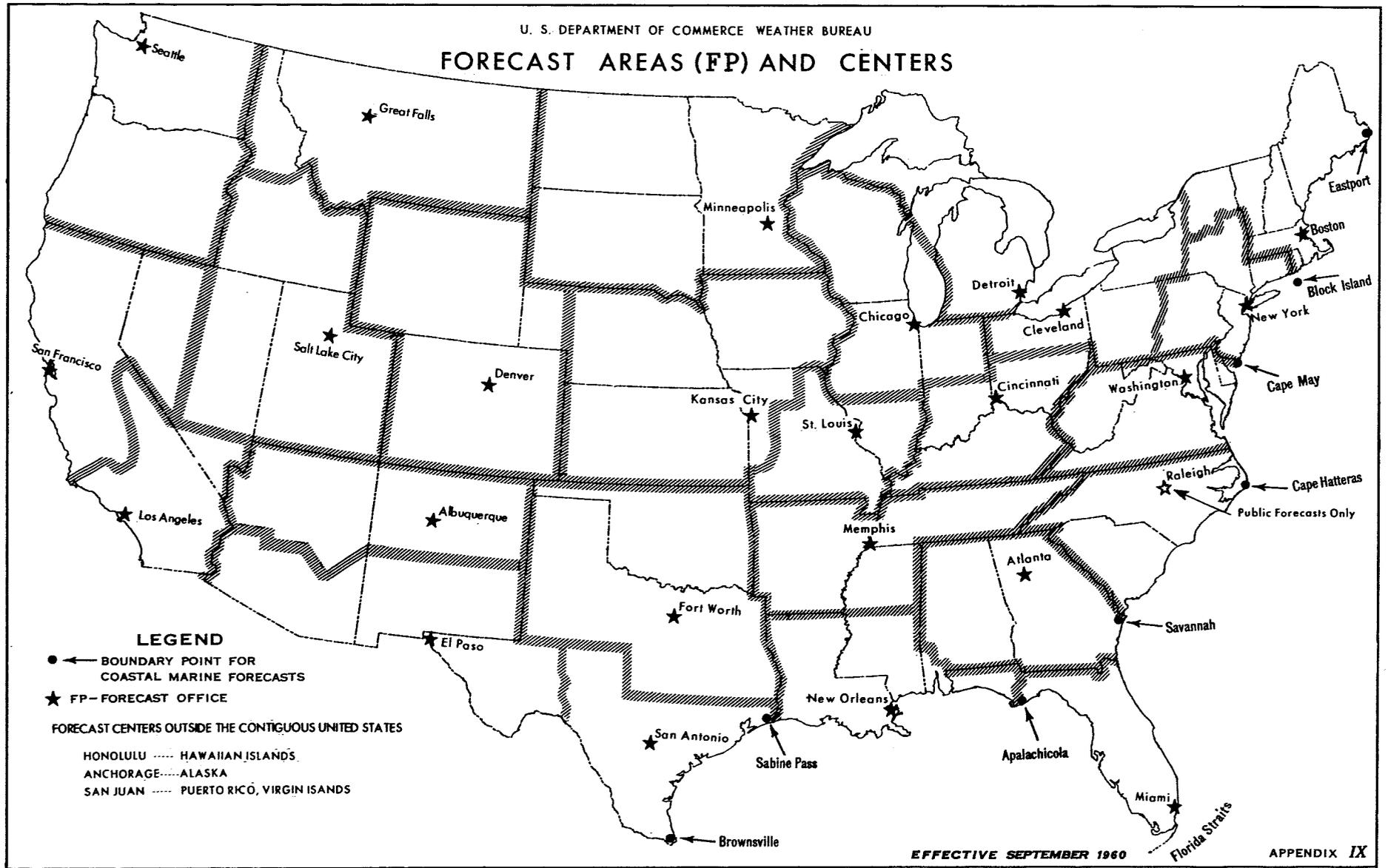
U. S. DEPARTMENT OF COMMERCE WEATHER BUREAU

# GUIDANCE (FP-1) and COORDINATION AREAS



U. S. DEPARTMENT OF COMMERCE WEATHER BUREAU

# FORECAST AREAS (FP) AND CENTERS



## STATE FORECASTS

FP ASSIGNMENTS ON/AFTER SEPTEMBER 1, 1960

Where a change in point of origin has been made, city of previous origin (prior to July 1, 1960) is shown below at the right.

## ALBUQUERQUE

Northern New Mexico

Northern Arizona

Los Angeles

## ATLANTA

Georgia

Alabama except Extreme Southwestern

New Orleans

## BOSTON

Maine

New Hampshire

Vermont

Northeastern New York

Massachusetts

Rhode Island

Eastport to Block Island

Albany

## CHICAGO

Wisconsin

Northern Illinois

Northern Indiana

Weather Synopsis

Lake Erie

Lake Huron

Lake Michigan

Lake Ontario

Lake Superior

(Lake St. Clair)

## CINCINNATI

Central and Southern Indiana

Central and Southern Ohio

Kentucky

Panhandle of West Virginia

Chicago

Chicago

Chicago

Washington

## CLEVELAND

Northern Ohio

Western New York

Western Pennsylvania

Chicago

Buffalo

Pittsburgh

<b>DENVER</b> Colorado Wyoming Panhandle of Nebraska	Omaha
<b>DETROIT</b> Upper Michigan Lower Michigan	Chicago Chicago
<b>EL PASO</b> Southern Arizona Southern New Mexico Extreme Southwestern Texas	Los Angeles Albuquerque New Orleans
<b>FORT WORTH</b> Oklahoma Northeastern Texas North Central Texas Northwestern Texas	Oklahoma City New Orleans New Orleans New Orleans
<b>GREAT FALLS</b> Montana East of Continental Divide Western Montana West of Continental Divide Northern Idaho	Seattle
<b>KANSAS CITY</b> Nebraska except Panhandle Kansas Iowa Northwestern Missouri	Omaha Topeka Des Moines
<b>LOS ANGELES</b> Southern California Los Angeles Point Conception to Mexican Border Southern California Coastal Valleys Southern California Interior and Desert Region Southern California Intermediate Valleys Southern California Mountain Areas Extreme Southern Nevada	San Francisco
<b>MEMPHIS</b> Tennessee Arkansas Northern Mississippi	Chicago New Orleans New Orleans

**MIAMI**

Florida except Extreme Northwest  
Savannah to Florida Straits  
Florida Straits to Apalachicola  
East Gulf  
Western Caribbean

**MINNEAPOLIS**

Minnesota  
North Dakota  
South Dakota

Bismarck  
Sioux Falls

**NEW ORLEANS**

Louisiana  
Southern Mississippi  
Extreme Southwestern Alabama  
Extreme Northwestern Florida  
Apalachicola to Sabine Pass (Texas)  
West Gulf  
Middle Gulf

**NEW YORK**

New York City and Vicinity  
Southeastern New York  
Long Island  
Connecticut  
New Jersey  
Northeastern Pennsylvania  
Southeastern Pennsylvania  
Long Island Sound  
Block Island to Cape May

Albany  
Hartford  
(Southern New Jersey)-Phila.  
Harrisburg  
Philadelphia  
Boston

**RALEIGH**

North Carolina  
South Carolina  
Hatteras to Savannah

Washington  
Miami

**ST. LOUIS**

Southern Illinois  
Missouri except Northwest

Chicago  
Kansas City

**SALT LAKE CITY**

Utah

Southwestern Idaho

Southeastern Idaho

Eastern Nevada

Seattle

Seattle

San Francisco

**SAN ANTONIO**

Southeastern Texas

South Central Texas

Southwestern Texas

Sabine Pass (Texas) to Brownsville

New Orleans

New Orleans

New Orleans

New Orleans

**SAN FRANCISCO**

Northern and Central California

Cape Blanco to Point Conception

Mt. Shasta-Siskiyou Area

Sacramento Valley

San Francisco Bay Region

Sierra Nevada

Salinas Valley

San Joaquin Valley

Santa Maria-San Luis Obispo Coastal Area

Western Nevada

**SEATTLE**

Eastern Oregon

Eastern Washington

Western Oregon

Western Washington

Tatoosh to Cape Blanco

Inland Waters of Western Washington

Strait of Juan de Fuca

**WASHINGTON**

Delaware

Maryland

District of Columbia

Virginia

West Virginia

Cape May to Hatteras

Lower Potomac and Chesapeake Bay

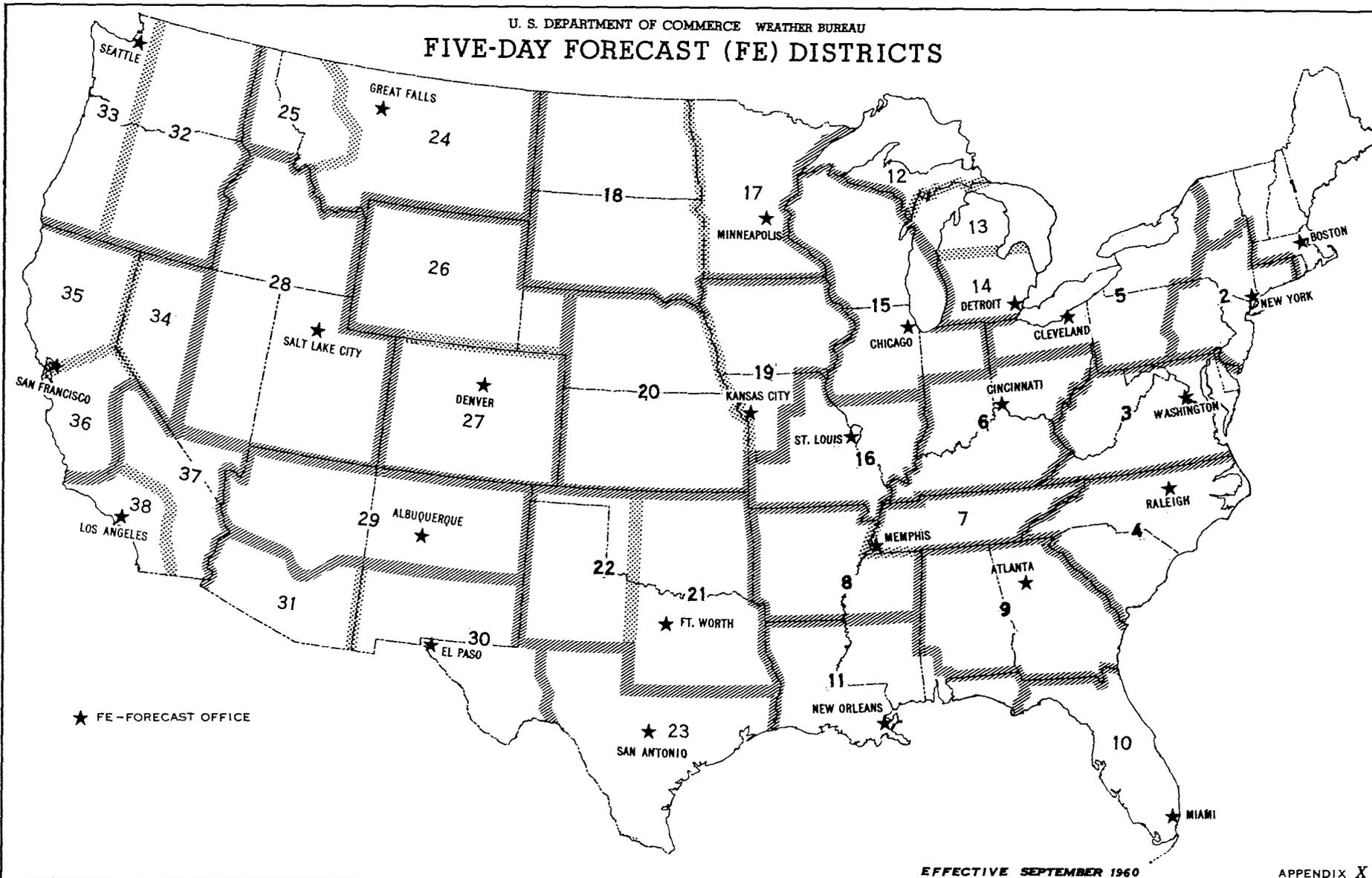
Delaware Bay

Baltimore

Baltimore

Philadelphia

U. S. DEPARTMENT OF COMMERCE WEATHER BUREAU  
**FIVE-DAY FORECAST (FE) DISTRICTS**



EFFECTIVE SEPTEMBER 1960

APPENDIX X

## FIVE-DAY FORECASTS (FE) LIST

District  
Number

1. Maine, New Hampshire, Vermont, Massachusetts,  
Rhode Island, and Northeastern New York
2. Southeastern New York, Connecticut,  
Eastern Pennsylvania, and New Jersey
3. Delaware, Maryland, Virginia, and West Virginia
4. North Carolina and South Carolina
5. Northern Ohio, Western Pennsylvania, and  
Western New York
6. Kentucky, Southern and Central Ohio, and  
Southern and Central Indiana
7. Tennessee
8. Arkansas and Northern Mississippi
9. Georgia and Alabama
10. Florida except Extreme Northwest
11. Louisiana, Southern Mississippi, Extreme Northwestern  
Florida, and Extreme Southwestern Alabama
12. Upper Michigan
13. Northern Lower Michigan
14. Southern Lower Michigan
15. Wisconsin, Northern Illinois, and Northern Indiana
16. Southern Illinois and Missouri except Northwest
17. Minnesota
18. North and South Dakota
19. Iowa and Northwestern Missouri
20. Kansas and Nebraska except Panhandle
21. Northeastern and North Central Texas and  
Central and Eastern Oklahoma
22. Northwestern Texas and Western Oklahoma
23. Southern Texas except Extreme Southwest
24. Montana east of the Divide
25. Northern Idaho and Montana west of the Divide
26. Wyoming and Nebraska Panhandle
27. Colorado
28. Utah, Eastern Nevada and Southern Idaho
29. Northern Arizona and Northern New Mexico
30. Southern New Mexico and Extreme Southwestern Texas
31. Southern Arizona
32. Eastern Washington and Eastern Oregon
33. Western Washington and Western Oregon
34. Western Nevada
35. Northern California
36. Central California

FIVE-DAY FORECASTS (FE) LIST

District  
Number

- 37. Southern California Interior and Desert Regions and  
Extreme Southern Nevada
- 38. Southern California Coastal and Mountains

# QUANTITATIVE RAINFALL FORECAST ZONES



- LEGEND**
- Forecast District Boundary
  - Zone Boundary
  - CG 12 Zone Number
  - ★ Forecast District Center
  - △ ENGINEER DIVISION OFFICE
  - ▲ ENGINEER DISTRICT OFFICE
  - WEATHER BUREAU OFFICES
- 24-hour service—near district center—7 AM or 10 AM service in Engineer Office
  - ⊙ 24-hour service—near district center at city or airport
  - ⊕ 24-hour service at airport
  - ⊖ 12-hour service—near district center
  - 12-hour service

100 50 0 100 200 300 Miles

**APPENDIX XI**  
Based on U. S. Coast and Geodetic Survey Map No. 3060

## QUANTITATIVE PRECIPITATION FORECAST ASSIGNMENTS

## Albuquerque

LA 5, 6, 7, 8, 9, 13 DV 8, 9, 10, 11

## Atlanta

AG 8, 9, 10, 13, 14, 16, 17

## Boston

BW 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 WA 1

## Chicago

CG 9, 14, 15, 18, 19, 20

## Cincinnati

WA 17 CG 29, 30, 31, 32, 33, 34

## Cleveland

CG 28 WA 11, 12, 13, 16

## Denver

BI 16, 17, 18, 19 SL 2, 6, 12, 13 KC 8, 9, 10, 16 DV 1, 2, 3, 4, 6, 7

## Detroit

CG 10, 11, 12, 23, 24, 25, 26, 27

## El Paso

DV 12, 13, 14, 15, 16 LA 12, 18, 19, 20

## Ft. Worth

KC 23, 24, 26, 28, 31 FV 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12 NO 6

## Great Falls

BI 1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 13 SA 5, 6, 11, 12, 16

## Kansas City

CG 16, 17 KC 4, 6, 7, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 25, 27,  
29, 30 DV 5

## Knoxville, Tenn.

AG 5, 6, 7, 11, 12

## Los Angeles

LA 1, 2, 3, 4, 10, 11, 14, 15, 16, 17

## Memphis

KC 32, 33, 35 NO 2, 3, 4, 5

(OVER)

Appendix XI<sub>A</sub> - continued

Miami

MM 1, 2, 3

Minneapolis

CG 1, 2, 3, 4, 5, 6, 7, 8, 13 KC 1, 2, 3, 5 BI 8, 9, 14, 15, 20

New Orleans

NO 7, 8, 9, 10 AG 15

New York

BW 14 WA 2, 3, 4, 5, 6

Raleigh

AG 1, 2, 3, 4

St. Louis

CG 21, 22 KC 22, 34 NO 1

Salt Lake City

SA 23, 24, 26, 27, 28 SF 11, 12 SL 1, 3, 4, 5, 7, 8, 9, 10, 11

San Antonio

FV 10, 13, 14, 15, 16, 17, 18, 19, 20, 21

San Francisco

SF 1, 3, 4, 5, 6, 7, 8, 9, 10, 13N, 13S, 14, 15, 16, 17, 18

Seattle

SA 1, 2, 3, 4, 7, 8, 9, 10, 13, 14, 15, 17, 18, 19, 20, 21, 22, 25 SF 2

Washington

WA 7, 8, 9, 10, 14, 15, 18

Appendix XII

NATIONAL SHIPPERS' TEMPERATURE FORECAST BULLETIN

<b>ALBUQUERQUE</b> Albuquerque Flagstaff	<b>DETROIT</b> Alpena Detroit Grand Rapids Marquette Sault Ste. Marie	<b>MEMPHIS</b> Chattanooga Little Rock Memphis Nashville	<b>ST. LOUIS</b> St. Louis
<b>ATLANTA</b> Albany, Ga. Atlanta Augusta Montgomery	<b>EL PASO</b> El Paso Midland Phoenix Tucson	<b>MIAMI</b> Jacksonville Miami Tampa	<b>SALT LAKE CITY</b> Boise Elko Ely Milford Pocatello Salt Lake City
<b>BOSTON</b> Boston Burlington Caribou	<b>FT., WORTH</b> Amarillo Ft. Worth Oklahoma City	<b>MINNEAPOLIS</b> Duluth Fargo Huron International Falls Minneapolis Minot Rapid City	<b>SAN ANTONIO</b> Brownsville Houston Laredo San Antonio
<b>CHICAGO</b> Chicago Madison Milwaukee Moline Wausau	<b>GREAT FALLS</b> Billings Glasgow Great Falls Havre	<b>NEW ORLEANS</b> Jackson Lake Charles New Orleans Shreveport	<b>SAN FRANCISCO</b> Bakersfield Fresno Red Bluff Reno Sacramento San Francisco
<b>CINCINNATI</b> Columbus Indianapolis Louisville	<b>KANSAS CITY</b> Dodge City Kansas City North Platte Omaha	<b>NEW YORK</b> Albany Atlantic City Hartford New York Philadelphia Scranton	<b>SEATTLE</b> Baker Klamath Falls Medford Portland Seattle Spokane Walla Walla
<b>CLEVELAND</b> Buffalo Cleveland Pittsburgh	<b>LOS ANGELES</b> Daggett Imperial Las Vegas Los Angeles San Bernardino San Diego	<b>RALEIGH</b> Charleston, S. C. Charlotte Columbia Raleigh Wilmington	<b>WASHINGTON</b> Elkins Richmond Roanoke Washington
<b>DENVER</b> Alamosa Cheyenne Denver Grand Junction Rock Springs Sheridan			

## ZONE FORECAST ASSIGNMENTS

Alphabetical by states and offices responsible. Where a state is not listed, zone forecasts are not prepared.

Prepares

## ALABAMA

WBAS, Birmingham	Zones 1, 2, 3, 4
WBAS, Montgomery	5, 6, 7, 8, 9
WBO, New Orleans	10 (as FP, Extreme SW Alabama)

## ARKANSAS

WBAS, Little Rock	All zones
-------------------	-----------

## CALIFORNIA

WBAS, Los Angeles	Santa Monica Bay Area San Bernardino Valley Imperial-Coachello Valleys Antelope Valley Owens Valley
WBAS, San Francisco	No breakdown beyond the FP

## COLORADO

WBAS, Denver	All zones
--------------	-----------

## CONNECTICUT

WBAS, Hartford	All zones
----------------	-----------

## DELAWARE

see Maryland and Delaware

## FLORIDA

WBO, Miami	Florida zones B through K
WBO, New Orleans	Florida zone A (as FP Extreme north-western Florida)

## GEORGIA

WBAS, Atlanta	All zones
---------------	-----------

## ILLINOIS

WBFC, Chicago	Zones 1, 2, 3
WBAS, St. Louis	Illinois Zones 4, 5, 6

INDIANA

WBFC, Chicago  
WBAS, Indianapolis

Indiana Zones 1 and 2  
Zones 3, 4, 5, 6, 7

IOWA

WBAS, Des Moines

All zones

KANSAS

WBAS, Dodge City  
WBAS, Goodland  
WBAS, Topeka  
WBAS, Wichita

Zone 6  
5  
1, 3  
2, 4

KENTUCKY

WBAS, Louisville

Zones SW, SCentral, SE, NE

MARYLAND AND DELAWARE

WBAS, Baltimore

All zones

MASSACHUSETTS

WBAS, Boston

All zones

MICHIGAN

WBAS, Detroit (Wayne  
County Airport)

All zones

MINNESOTA

WBAS, Minneapolis

All zones

MISSISSIPPI

WBAS, Jackson  
WBO, New Orleans

Zones 1, 2, 4, 5  
Mississippi Zones 3, 6

MISSOURI

DMO, Kansas City  
WBAS, St. Louis

Zones 1 and 7  
2, 3, 4, 5, 6

NEBRASKA

WBAS, Omaha  
WBAS, Denver

Zones 1, 2, 3  
Nebraska Zone 4 (as FP, Nebraska Pan-  
handle)

NEW JERSEY

WBO, New York

Northern N. J.

Southern N. J.

NEW YORK

WBO, Albany

Zones 5, 6, 7, 8, 9

WBAS, Buffalo

1, 2, 3, 4

NORTH CAROLINA

WBAS, Raleigh

All zones

NORTH DAKOTA

WBAS, Bismarck

All zones

OHIO

WBAS, Cleveland

Zones 1, 2

OKLAHOMA

WBAS, Oklahoma City

Zones 1, 2, 3, 4, 5

WBAS, Tulsa

6

PENNSYLVANIA

WBAS, Harrisburg

Upper Susquehanna, Middle Susquehanna,

Lower Susquehanna, Poconos

WBAS, Philadelphia

SE

WBAS, Pittsburgh

NW and SW, Mountains

SOUTH DAKOTA

WBAS, Rapid City

Western

WBAS, Sioux Falls

North Central and Northeastern

South Central

Southeastern

TENNESSEE

WBAS, Knoxville

East Tennessee (Zones 1, 2, 3, 4)

WBAS, Memphis

West Tennessee

WBAS, Nashville

Middle Tennessee

TEXAS

WBAS, El Paso  
WBAS, Fort Worth  
WBAS, San Antonio

No breakdown beyond the FP  
No breakdown beyond the FP  
No breakdown beyond the FP

VIRGINIA

DMO, Washington

All zones

WASHINGTON

WBAS, Seattle

All zones

WISCONSIN

WBAS, Milwaukee

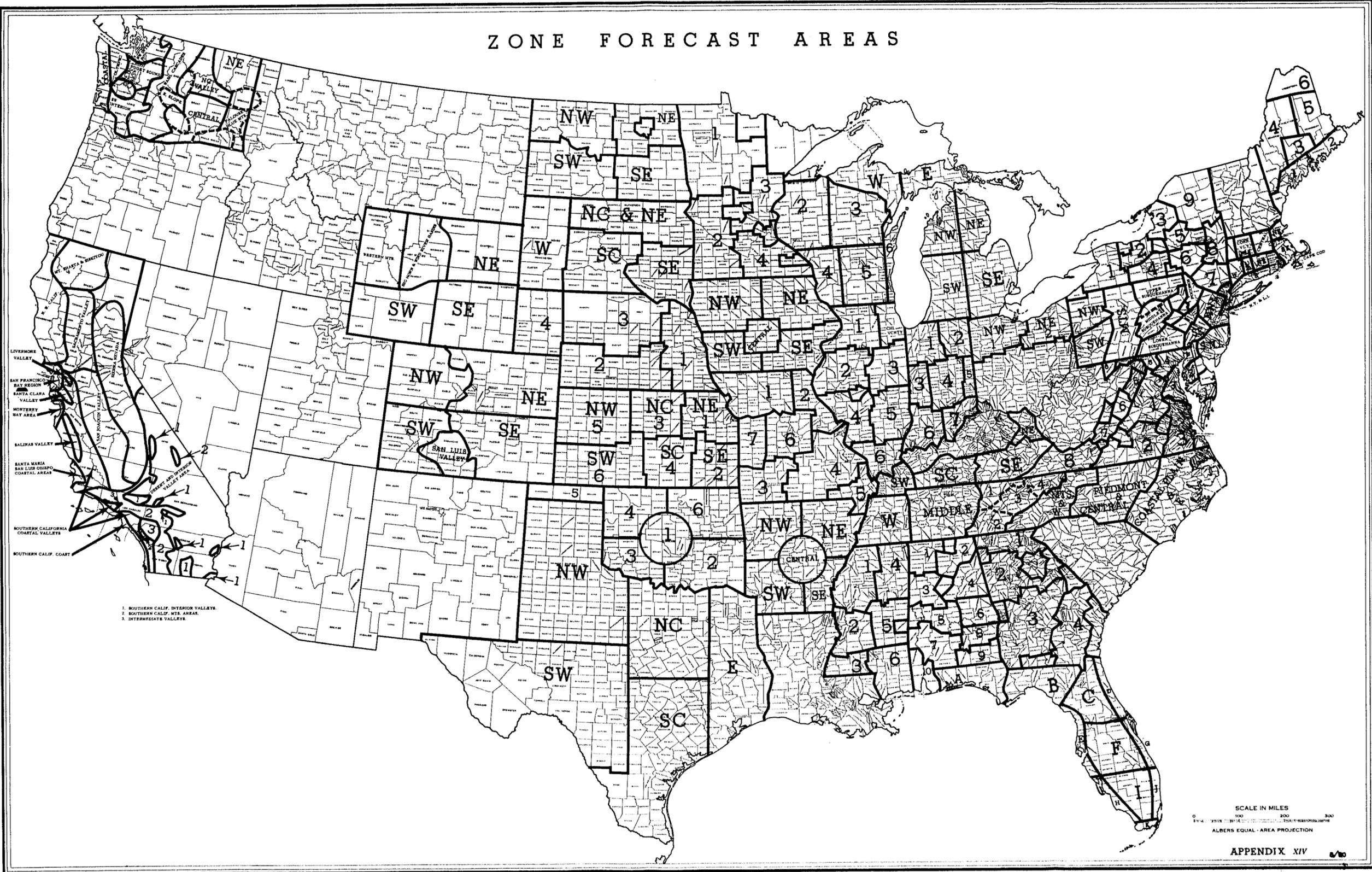
All zones

WYOMING

WBAS, Cheyenne

Big Horn and Wind River Basin  
Northeast Wyoming  
Southwest Wyoming  
SE & Western Mts. not presently prepared

# ZONE FORECAST AREAS



LIVERMORE VALLEY  
SAN FRANCISCO BAY REGION  
SANTA CLARA VALLEY  
MONTEREY BAY AREA  
SALINAS VALLEY  
SANTA MARIA  
SAN LUIS OBISPO  
COASTAL AREAS  
SOUTHERN CALIFORNIA COASTAL VALLEYS  
SOUTHERN CALIF. COAST

- 1. SOUTHERN CALIF. INTERIOR VALLEYS
- 2. SOUTHERN CALIF. MTS. AREAS
- 3. INTERMEDIATE VALLEYS

SCALE IN MILES  
0 100 200 300  
ALBERS EQUAL AREA PROJECTION

SRVF

UNITED STATES DEPARTMENT OF COMMERCE  
WEATHER BUREAU  
WASHINGTON

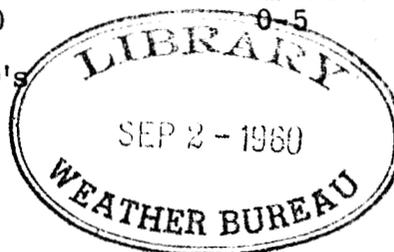
August 26, 1960

JPW  
9/1

IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.  
AND REFER TO

AMENDMENT TO CIRCULAR LETTER NO. 5-60

To: All First-Order Stations and WBRAO's  
From: Chief of Bureau  
Subject: Forecast Realignment



Reference: Circular Letter No. 5-60 dated June 10, 1960

Implementation Date

Due to unavoidable delays in completing personnel actions associated with the realignment program, it has become necessary to postpone implementation of the second step. The new time of implementation is now set at 0001Z September 15, 1960 to be confirmed by GENOT at least one week prior to its effective date. In order that this date may be met it is urged that personnel selected for transfer to the forecast centers be released for such transfers without delay.

Warning Responsibilities

Questions of responsibility for issuance of warnings have arisen since the distribution of the reference Circular Letter. This amendment will detail warning assignments.

Primary warning responsibility is assigned as follows:

1. Hurricane Warnings - will be prepared and issued by the Hurricane Forecast Centers in accordance with Weather Bureau Manual III-B-50.
2. Severe Local Storm Warnings - this responsibility is assigned to the local Weather Bureau Office. This warning responsibility is separate and distinct from the Severe Local Storm Forecast responsibility assigned to the SELS Center.
3. Coastal and Marine Warnings - including the Great Lakes are essentially as assigned in Circular Letter 5-60. Details for additional breakdown of large coastal waters are being worked out with responsible centers by separate correspondence.

FILE: 650  
Amendment to CL 5-60

(Forecast Realignment)

WASHINGTON, D. C.  
8-26-60

4. Other Warnings - primary responsibility for warnings not covered in the foregoing paragraphs is assigned to Forecast Centers preparing the state forecasts (FP). Guidance and coordination between FP centers will be the function of the responsible FP-1 office. Local offices will continue to issue such warnings on their own authority in case of emergency. Normally they should consult with the office preparing the FP before issuing or materially altering a warning but when time does not permit such coordination, they may act on their own responsibility and then advise the forecast center (FP) of action taken.

#### Forecast Clarification

1. FE Forecasts - Appendix X of Circular Letter 5-60 assigned numerical identifiers while Appendix XA listed the teletypewriter headings for 5-day forecasts. In general it was thought that by leaving the entire area intact, the responsible forecast center could select varying boundaries to give detail. This arrangement permits a flexible breakdown of areas to match the orientation of weather systems.

The FE forecasts prepared by Chicago, Detroit and Cleveland are for the land areas and the waters of the Great Lakes are to be excluded.

2. Weather Synopsis - the weather synopsis, prepared by WBFC, Chicago is a separate forecast as are the various forecasts for the Great Lakes.

#### Corrections and Additions

Please make the following hand corrections to Circular Letter No. 5-60:

1. Circular Letter 5-60, page 2, 14th line, delete "and Atlanta." Sentence should read "FP-1's by Seattle and Los Angeles will be discontinued."

2. Circular Letter 5-60, page 5, Coastal Forecasts and Warnings.

Under Raleigh

Add: Note: Washington will order displays at Hatteras and Miami at Savannah.

Under Miami

Delete: Florida Straits to but not including Savannah

Insert: Savannah to Cape Canaveral  
Cape Canaveral to Florida Straits

Note: When Service C teletypewriter speed is increased, further breakdown in these areas will be implemented. Marine forecasts from Miami will then be prepared for the following areas:

Savannah to Cape Canaveral  
Cape Canaveral to Key West and Florida Bay  
Cape Sable to Tarpon Springs  
Tarpon Springs to Apalachicola  
Florida Straits east of Key West  
Northwest Caribbean Sea (North of 15°N)  
Southwest Caribbean Sea (South of 15°N)  
East Gulf  
Southwest Atlantic Waters (20°N to 35°N, West of 65°W)

3. Appendix III, page 3, under Fort Worth, add asterisk in front of DAL Dallas, Texas.
4. Appendix III, page 7, under Washington, (a) add asterisk in front of CRW Charleston, West Virginia, (b) change RDI to RDU Raleigh, North Carolina.
5. Appendix VI, add boundary between Seattle and San Francisco areas along southern border of Oregon.
6. Appendix VII, (a) under Atlanta, delete Charleston, South Carolina, (b) under Washington add Charleston, South Carolina.
7. Appendix VIII, adjust the FP-1 area boundary so that the Panhandle of Nebraska will become the responsibility of WBAS, Denver.
8. Appendix IXA, page 1

Under Chicago, change Northern Indiana to read Northern Third of Indiana.

After Weather Synopsis, add: (for the Great Lakes).

Correction: The Great Lakes forecasts should not be indented.

9. Appendix IX, page 3

Under Miami

Delete: Line 2.

Insert: Savannah to Cape Canaveral  
Cape Canaveral to Florida Straits

10. Appendix IX<sub>A</sub>, page 3, under New York, sixth and seventh lines, delete "Northeastern Pennsylvania" and "Southeastern Pennsylvania," add "Eastern Pennsylvania."

11. Appendix XIII, Under Chicago, change WBFC to read WBO.

12. Appendix XIII, page 2, following Kentucky insert MAINE, WBAS, Portland, Zones 1, 2, 3, 4, 5 and WBAS, Caribou, Zone 6.

13. Appendix XIII, page 3, under OHIO add WBAS, Columbus - Central and South Central.

14. Appendix XIII, page 3, under SOUTH DAKOTA delete WBAS, Rapid City. (Note: Western becomes the responsibility of WBAS, Sioux Falls.)

15. Circular Letter 5-60, page 5, Bulletins, line 6, add a period after centers, and delete remainder of paragraph.



F. W. Reichelderfer  
Chief of Bureau

UNITED STATES DEPARTMENT OF COMMERCE

U.S. WEATHER BUREAU  
WASHINGTON

July 19, 1960

IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.

AND REFER TO  
0-5.34

FILE: 011  
x610.3  
x167  
CL 6-60

(Radar Weather Observations from Cooperative Agencies)

WASHINGTON, D.C.  
7-19-60

CIRCULAR LETTER NO. 6-60

TO : All First-Order Stations

FROM : Chief of Bureau

SUBJECT : Radar Weather Observations from Cooperative Agencies

REFERENCE : Circular Letters Nos. 4-58 and 4-59 with amendment of  
June 23, 1959

The purpose of this circular letter is to consolidate and to bring up to date existing information and instructions on the receipt of radar weather observations from cooperative agencies and to include the locations of non-military cooperators. The attached pages include an alphabetical listing of the cooperative facilities along with their latitude and longitude for location purposes. The listing should be kept readily available for utilization of radar reports from these cooperators when their reports are transmitted on teletypewriter circuits.

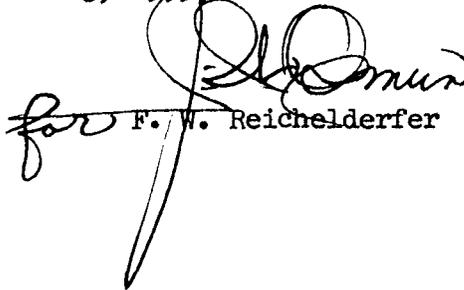
Meteorologists in Charge who have not availed themselves of the opportunity to receive radar reports from nearby cooperative agencies are encouraged to make the necessary arrangements for receiving reports of radar echoes indicative of severe storms. Arrangements can be made by contacting the nearby radar installation to discuss the program. The terms used by the cooperative agency in defining radar observations should be determined. For example, distances may be in statute miles, speed in miles per hour and orientation in degrees magnetic. The radar reports transmitted on teletypewriters should be in terms of true bearings and nautical miles. These reports can be used locally, in conjunction with other data, as a basis for severe weather warnings. When reports of a "significant" echo that is in or approaching another Weather Bureau station's area of county responsibility are received, the office having the information should communicate it to the other office by special RAWARC message or in emergency by telephone. "Significant" as used in the foregoing sentence refers to echoes of unusual brightness, unusual height, or of a form indicating the presence of heavy hail or possibility of a tornado.

Meteorologists in Charge are encouraged to work as closely as possible with the cooperative radar station to insure that significant reports will be furnished and that arrangements will work in an emergency. The agency should be given the unlisted telephone number of the Weather Bureau to insure quick delivery of the radar observations and should be informed of the precedential indicator for priority calls. Collect calls to our offices, if necessary, are authorized.

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Additional provisions in regard to hurricane radar observations are covered in separate interdepartmental agreements distributed to offices concerned.

These instructions cancel those contained in Circular Letters Nos. 4-58 and 4-59 with amendment of June 23, 1959, which should be destroyed.

A handwritten signature in cursive script, appearing to read "F. W. Reichelderfer", is written over the printed name. The signature is written in black ink and is somewhat stylized, with a large loop at the end of the last name.

for F. W. Reichelderfer

Attachment

<u>RADAR STATION</u>	<u>ORGANI- ZATION</u>	<u>RADAR TYPE</u>	<u>NEARBY WEATHER BUREAU STATION</u>	<u>LOCATION</u>	
				<u>N. LAT.</u>	<u>W. LONG.</u>
Aiken AFS, S. C.	ADC	FPS-20	Augusta	33-39	81-41
Almaden AFS, Calif.	ADC	FPS-20	San Francisco	36-55	121-35
Altus AFB, Okla.	AWS	APQ-13	Oklahoma City	34-39	99-16
Amarillo AFB, Tex.	ADC	FPS-20	Amarillo	35-30	101-40
Andrews AFB, Md.	AWS	CPS-9	Washington, D.C.	38-48	76-53
Antigo AFS, Wis.	ADC	FPS-20	Green Bay	45-02	89-14
Antigua, B.W.I.	AMRS#	SCR-584	Miami (from Cape Canaveral)	17-04	61-50
Arlington Hts., Ill.	ADC	FPS-3	Chicago	42-05	87-55
Baker AFS, Ore.	ADC	FPS-35	Pendleton	44-35	117-55
Barksdale AFB, La.	AWS	CPS-9	Shreveport	32-30	93-40
Bartlesville AFB, Okla.	ADC	FPS-10	Tulsa	36-45	96-04
Baudette AFS, Minn.	ADC	FPS-3	International Falls	48-20	93-55
Bedford AFS, Va.	ADC	FPS-20 & MPS-11	Lynchburg	37-31	79-31
Bellefontaine AFS, Ohio	ADC	FPS-20	Columbus	40-22	83-43
Belleville AFS, Ill.	ADC	FPS-3	St. Louis	38-28	89-54
Belmar, N. J. (U.S. Army Signal R. & D. Lab.)	ARMY	CPS-9	New York	40-10	74-02
Benton AFS, Pa.	ADC	CPS-6B	Scranton	41-21	76-17
Bergstrom AFB, Tex.	AWS	APQ-13	Austin	30-13	97-40
Biggs AFB, Tex.	AWS	APS-42 (interim)	El Paso	31-51	106-23
Blaine AFS, Wash.	ADC	FPS-20	Seattle	48-55	122-44
Boron AFS, Calif.	ADC	FPS-10	Los Angeles	35-05	117-35
Brookfield AFS, Ohio	ADC	FPS-3	Youngstown	41-13	80-33
Brookley AFB, Ala.	AWS	APQ-13	Mobile	30-38	88-04
Brunswick AFS, Me.	ADC	GPS-3	*Portland	43-53	69-55
Brunswick NAS, Me.	NAVY	GPS-3	Portland	43-53	69-55
Bucks Harbor AFS, Me.	ADC	MPS-11	*Portland	44-38	67-24
Burns AFS, Ore.	ADC	MPS-7	Spokane	43-34	119-09
Calumet AFS, Mich.	ADC	FPS-20	Marquette	47-22	88-10
Cambria AFS, Calif.	ADC	FPS-3	Santa Maria	35-31	121-04
Cambridge, Mass.	M.I.T.	CPS-9 & SCR-615B	Boston	42-22	71-06
Cannon AFB, N.Mex.	AWS	APQ-13	Roswell	34-23	103-19
Cape Canaveral, Fla.	AMRS#	SCR-584	Miami	28-30	80-35

#Atlantic Missile Range Station

\*Syracuse enters reports from these sites on RAWARC

<u>RADAR STATION</u>	<u>ORGANI- ZATION</u>	<u>RADAR TYPE</u>	<u>NEARBY WEATHER BUREAU STATION</u>	<u>LOCATION</u>	
				<u>N. LAT.</u>	<u>W. LONG.</u>
Cape Charles, AFS, Va.	ADC	FPS-3	Norfolk	37-07	75-57
Carswell AFB, Tex.	AWS	CPS-9	Fort Worth	32-47	97-26
Caswell AFS, Me.	ADC	GPS-3	*Caribou	46-55	67-45
Champaign, Ill.	Ill. Water Survey	CPS-9	Springfield	42-02	88-16
Chandler AFS, Minn.	ADC	FPS-20	Sioux Falls	43-53	95-56
Chanute AFB, Ill.	AWS	APQ-13	Springfield	40-20	88-10
Charleston AFS, Me.	ADC	FPS-20	*Portland	45-05	69-05
Charleston AFS, S.C.	ADC	FPS-20	Charleston	32-54	80-02
Cherry Point MCAS, N. C.	ADC	FPS-8	Wilmington	34-54	76-53
Cherry Point (MCAS) N. C.	NAVY	TPS-1D	Wilmington	34-54	76-53
Claysburg AFS, Pa.	ADC	FPS-20	Harrisburg	40-17	78-33
Clinton County AFB, Ohio	AWS	APQ-13	Cincinnati	39-26	83-48
Clinton-Sherman AFB, Okla.	AWS	APQ-13	Oklahoma City	35-21	99-11
College Station, Texas	A&M Col.	CPS-9	Houston	30-37	96-21
Columbus AFB, Miss.	AWS	APQ-13	Jackson	33-38	88-26
Colville AFS, Wash.	ADC	FPS-20	Spokane	48-36	117-34
Condon AFS, Oreg.	ADC	FPS-20	+Portland	45-14	120-18
Continental Divide AFS, N. Mex.	ADC	FPS-3	Albuquerque	35-24	108-21
Coral Gables, Fla.	Univ. of Miami	SP-1M	Miami	25-43	80-17
Corpus Christi, NAS, Texas	NAVY	FPS-8	Corpus Christi	27-42	97-17
Corvallis, Ore.	State Col.	APS-23	Portland	44-34	123-16
Cottonwood AFS, Ida.	ADC	MPS-7	Lewiston	46-00	116-25
Craig AFB, Ala.	AWS	APQ-13	Montgomery	32-21	86-59
Cross City AFS, Fla.	ADC	FPS-20	Tallahassee	29-55	83-10
Crystal Springs AFS, Miss.	ADC	FPS-27	Jackson	31-55	90-20
Curlew AFB, Wash.	ADC	FPS-3	Spokane	48-53	118-47
Custer AFS, Mich.	ADC	FPS-20	Lansing	42-20	85-20
Cutbank AFS, Mont.	ADC	FPS-20	Great Falls	48-56	112-48

\*Syracuse enters reports from these sites on RAWARC

+Spokane enters reports from these sites on teletypewriter

<u>RADAR STATION</u>	<u>ORGANI- ZATION</u>	<u>RADAR TYPE</u>	<u>NEARBY WEATHER BUREAU STATION</u>	<u>LOCATION</u>	
				<u>N. LAT.</u>	<u>W. LONG.</u>
Dauphin Is. AFS, Ala.	ADC	FPS-20	Mobile	30-20	88-10
Davis Monthan AFB, Ariz.	AWS	APQ-13	Tucson	32-11	110-53
Dickinson AFS, N. D.	ADC	FPS-3	Bismarck	46-50	102-50
Dobbins AFB, Ga.	AWS	APQ-13	Atlanta	33-56	84-31
Donaldson AFB, S.C.	AWS	APQ-13	Greenville	34-45	82-22
Dover AFB, Del.	AWS	APQ-13	Wilmington	39-08	75-28
Duncanville, FAS, Tex.	ADC	FPS-10	Dallas	32-38	96-51
Eagle Pass, AFS, Tex.	ADC	FPS-20	Laredo	28-50	100-30
Eglin AFB, Fla.	AWS	CPS-9	Pensacola	30-29	86-31
Eleuthera	AMRS#	SCR-584	Miami (from Cape Canaveral)	25-16	76-18
Ellington AFB, Tex.	AWS	APQ-13	Houston	29-37	95-10
Ellington AFS, Tex.	ADC	FPS-10	Houston	29-36	95-10
Ellsworth AFB, S. Dak.	AWS	CPS-9	Rapid City	44-09	103-06
Ellsworth AFS, S. Dak.	ADC	FPS-20	Rapid City	44-20	103-10
Empire AFS, Mich.	ADC	CPS-6B	Muskegon	44-48	86-03
England AFB, La.	AWS	APQ-13	New Orleans	31-20	92-33
England AFB, La.	ADC	FPS-20	New Orleans	31-19	92-32
Eufaula AFS, Ala.	ADC	FPS-24	Columbus	32-00	85-15
Fairchild AFB, Wash.	AWS	APQ-13	Spokane	47-38	117-38
Fallon NAS, Nev.	ADC	MPS-7	Reno	39-25	118-43
Finland AFS, Minn.	ADC	FPS-20	Duluth	47-27	91-14
Finley AFS, N. Dak.	ADC	FPS-20	Fargo	47-30	97-52
Flintstone AFS, Ga.	ADC	MPS-11	Chattanooga	34-57	85-23
Forbes AFB, Kans.	AWS	APQ-13	Topeka	38-57	95-40
Fordland AFS, Mo.	ADC	FPS-3	Springfield	37-09	92-52
Ft. Custer AFS, Mich.	ADC	FPS-20	Lansing	42-20	85-16
Fort Fisher, AFS, N.C.	ADC	MPS-7	Wilmington	33-59	77-56
Ft. George G. Meade, Md.	ADC	FPS-3	Baltimore	39-10	76-45
Fort Heath AFS, Mass.	FAA	ARSR-1	Boston	42-15	71-05
Ft. Knox AFB, Ky.	AWS	APQ-13	Louisville	37-58	85-59
Ft. Lawton, Wash.	FAA	ARSR-1	Seattle	47-45	122-15
Fortuna AFS, S. Dak.	ADC	FPS-20	Williston	48-54	103-52
Freeport, Tex.	DOW	SCR-784	Galveston	28-57	95-19
	CHEMICAL CO.				
Gainesville, Fla.	Fla. U.	SCR-615B	Jacksonville	29-39	82-21
Georges Shoal, Mass.	ADC	FPS-20	Boston	41-45	67-50
Gettysburg AFS, S.D.	ADC	FPS-20	Huron	45-02	99-58
Gibbsboro, N. J.	ADC	FPS-20	Atlantic City	39-50	74-50
Goodfellow AFB, Tex.	AWS	APQ-13	San Angelo	31-26	100-25

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<u>RADAR STATION</u>	<u>ORGANI- ZATION</u>	<u>RADAR TYPE</u>	<u>NEARBY WEATHER BUREAU STATION</u>	<u>LOCATION</u>	
				<u>N. LAT.</u>	<u>W. LONG.</u>
Grand Bahama Is.	AMRS#	SCR-584	Miami (from Cape Canaveral)	26-37	78-20
Grand Rapids, AFS, Minn.	ADC	FPS-20	Duluth	47-10	93-25
Grand Turk	AMRS#	SCR-584	Miami (from Cape Canaveral)	21-28	71-08
Great Falls AFB, Mont.	ADC	MPS-7	Great Falls	45-02	99-58
Greenville AFB, Miss.	AWS	APQ-13	Jackson	33-29	91-00
Griffis AFB, N. Y.	AWS	APQ-13	Syracuse	43-14	75-25
Guantanamo Bay, NAS, Cuba	NAVY	FPS-6			
Guthrie AFS, W. Va.	ADC	FPS-20	Charleston	38-26	81-40
Hanna City AFS, Ill.	ADC	FPS-20	Peoria	40-51	89-49
Hastings AFS, Nebr.	ADC	FPS-20	Grand Island	40-50	99-05
Havre AFS, Mont.	ADC	FPS-3	Havre	48-52	109-55
Highlands AFS, N. J.	ADC	FPS-7	Newark	40-23	73-59
Hill AFB, Utah	AWS	APQ-13	Salt Lake City	41-07	111-58
Houma NAS, La.	ADC	FPS-20	New Orleans	29-40	90-40
Hunter AFB, Ga.	ADC	FPS-20	Savannah	32-01	81-10
Hunter AFB, Ga.	AWS	CPS-9	Savannah	32-02	81-09
Hutchinson AFS, Kans.	ADC	FPS-20	Wichita	37-55	97-53
Jacksonville NAS, Fla.	ADC	FPS-8	Jacksonville	30-14	81-41
Jacksonville NAS, Fla.	NAVY	CPS-9	Jacksonville	30-14	81-41
James Connally AFB, Tex.	AWS	APQ-13	Waco	31-38	97-04
Joelton AFS, Tenn.	ADC	FPS-8	Nashville	36-05	87-00
Kalispell AFS, Mont.	ADC	FPS-7	Kalispell	48-05	114-10
Keesler AFB, Miss.	AWS	CPS-9	Mobile	30-25	88-55
Kelly AFB, Tex.	AWS	CPS-9	San Antonio	29-23	98-35
Keno AFS, Ore.	ADC	FPS-20	Mount Shasta	42-00	122-00
Key West NAS, Fla.	NAVY	SPS-12	Key West	24-35	81-41
Killeen AFS, Tex.	ADC	FPS-20	Waco	97-55	31-05
Kirksville AFS, Mo.	ADC	FPS-10	Columbia	40-17	92-34
Kirtland AFB, N. Mex.	AWS	APQ-13	Albuquerque	35-04	106-52
Klamath AFS, Calif.	ADC	FPS-20	Eureka	41-34	124-05
Koko Crater, Honolulu	ADC	FPS-8 & FPS-6A	Honolulu	21-17	157-42
Lackland AFS, Texas	ADC	FPS-20	San Antonio	29-23	98-37
Lake Charles AFS, La.	ADC	FPS-3	Lake Charles	30-05	92-50
Lake City AFS, Tenn.	ADC	FPS-10	Knoxville	36-11	84-13
Lakehurst NAS, N. J.	NAVY	APS-20	Atlantic City	40-02	74-21
Langley AFB, Va.	AWS	APQ-13	Norfolk	37-05	76-22
Las Cruces AFS, N.Mex.	ADC	MPS-7	El Paso	32-20	106-58

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<u>RADAR STATION</u>	<u>ORGANI- ZATION</u>	<u>RADAR TYPE</u>	<u>NEARBY WEATHER BUREAU STATION</u>	<u>LOCATION</u> <u>N. LAT. W. LONG.</u>	
Las Vegas AFS, Nev.	ADC	FPS-20	Las Vegas	36-19	115-34
Laughlin AFB, Tex.	AWS	APQ-13	Del Rio	29-22	100-47
Lawson AFB, Ga.	AWS	APQ-13	Columbus	32-21	85-00
Lewistown, AFS, Mont.	ADC	FPS-3	Billings	47-10	109-10
Little Rock, AFB, Ark.	AWS	APQ-13	Little Rock	34-55	92-09
Lockbourne AFB, Ohio	AWS	APQ-13	Columbus	39-49	82-56
Lockport AFS, N. Y.	ADC	CPS-6B	Buffalo	43-08	78-50
Lompoc AFS, Calif.	ADC	FPS-20	Santa Maria	34-35	120-30
Loring AFB, Me.	AWS	CPS-9	Caribou	46-57	67-53
Lowry AFB, Colo.	AWS	CPS-9	Denver	39-43	104-54
Lufkin AFS, Tex.	ADC	FPS-3	Port Arthur	31-20	94-45
Luke AFB, Ariz.	AWS	APQ-13	Phoenix	33-33	112-22
Luke Williams AFS, Ariz.	ADC	FPS-20	Phoenix	32-10	112-50
MacDill AFB, Fla.	ADC	FPS-20	Tampa	27-55	82-30
MacDill AFB, Fla.	AWS	CPS-9	Tampa	27-51	82-30
Madera AFS, Calif.	ADC	FPS-20	Fresno	37-02	120-03
Makah AFS, Wash.	ADC	GPS-3	Seattle	48-20	124-45
Malmstrom AFS, Mont.	ADC	MPS-7	Great Falls	45-02	99-58
Malmstrom AFB, Mont.	AWS	CPS-9	Great Falls	47-31	111-11
Manassas AFS, Va.	ADC	FPS-3	Washington	38-30	77-25
Marietta AFS, Ga.	ADC	MPS-11	Atlanta	33-54	84-28
Mather AFS, Calif.	ADC	CPS-6B	Sacramento	38-33	121-16
Maxwell AFB, Ala.	AWS	CPS-9	Montgomery	32-23	86-22
Mayaguez, P. R.	AMRS#	SCR-584	Miami (from Cape (Canaveral))	18-12	67-09
McChord AFB, Wash.	ADC	CPS-6B	Seattle	47-06	122-28
McChord AFB, Wash.	AWS	CPS-9	Seattle	47-09	122-29
McClellan AFB, Calif.	AWS	APQ-13	Sacramento	38-40	121-24
McConnell AFB, Kans.	AWS	APQ-13	Wichita	37-38	97-16
McCoy AFB, Fla.	AWS	APQ-13	Orlando	28-27	81-20
McGuire AFB, N.J.	AWS	CPS-9	Atlantic City	40-01	74-35
Mica Peak AFS, Wash.	ADC	FPS-20	Spokane	47-34	117-05
Miles City AFS, Mont.	ADC	FPS-20	Billings	46-25	105-50
Mill Valley AFS, Calif.	ADC	GPS-3	San Francisco	37-56	122-35
Milton, Mass. (AF Research Center, Cambridge, Mass.)	AF	CPS-9	Boston	42-13	71-07
Minot AFS, N. Dak.	ADC	FPS-20	Bismarck	48-00	101-17
Miramar NAS, Calif.	NAVY	FPS-8	San Diego	32-53	117-07
Mitchell AFB, L.I.N.Y.	AWS	CPS-9	New York	40-44	73-36
Montauk AFS, N.Y.	ADC	FPS-20	New York (WBO)	41-04	71-52
Monterey NAF, Calif.	NAVY	SPS-6	San Francisco	36-36	121-51
Moody AFB, Ga.	AWS	APQ-13	Valdosta	30-59	83-12

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<u>RADAR STATION</u>	<u>ORGANI- ZATION</u>	<u>RADAR TYPE</u>	<u>NEARBY WEATHER BUREAU STATION</u>	<u>LOCATION</u>	
				<u>N. LAT.</u>	<u>W. LONG.</u>
Moriarity AFS, N. Mex.	ADC	FPS-20	Albuquerque	35-02	105-49
Mt. Hebo AFS, Ore.	ADC	MPS-11	Portland	45-13	123-45
Mt. Laguana AFS, Calif.	ADC	FPS-3	Los Angeles	32-53	116-25
Mt. Lemmon AFS, Ariz.	ADC	FPS-20	Tucson	32-26	110-48
Myrtle Beach AFS, S.C.	AWS	APQ-13	Charleston	33-41	78-56
Nantucket Shoals, Mass.	ADC	FPS-20	Nantucket	40-00	69-30
Naselle AFS, Wash.	ADC	FPS-20	Seattle	46-25	123-47
New York Shoal, N.J.	ADC	FPS-20	New York	39-40	72-40
Norfolk, Va.	FAA	FPS-8	Norfolk	36-53	76-12
Norfolk FWC, Va.	NAVY	CPS-9	Norfolk	36-56	76-17
North Bend AFS, Ore.	ADC	FPS-3	Roseburg	43-32	124-10
North Concord AFS, Vt.	ADC	MPS-11	*Burlington	44-40	71-46
North Truro AFS, Mass.	ADC	GPS-3	Boston	42-01	70-03
Oakdale, Pa.	ADC	ARSR-1	Pittsburgh	80-15	40-20
Offutt AFB, Nebr.	AWS	CPS-9	Omaha	41-08	95-55
Oklahoma City, AFS, Okla.	ADC	FPS-10	Oklahoma City	35-20	97-25
Olathe NAS, Kans.	ADC	FPS-20	Kansas City (WBAS)	38-50	94-54
Olmstead AFB, Pa.	AWS	APQ-13	Harrisburg	40-12	76-45
Omaha AFS, Nebr.	ADC	FPS-20	Omaha	41-21	96-01
Opheim AFS, Mont.	ADC	FPS-3	Glasgow	48-52	106-24
Osceola AFS, Wis.	ADC	CPS-6B	Minneapolis	45-15	92-38
Othello AFS, Wash.	ADC	FPS-20	+Walla Walla	46-43	119-12
Otis AFB, Mass.	AWS	APQ-13	Boston	41-40	70-32
Ozona AFS, Tex.	ADC	FPS-3	Del Rio	30-45	101-05
Palermo AFS, N. J.	ADC	FPS-20	Atlantic City	39-14	74-41
Palm Beach AFB, Fla.	AWS	APQ-13	West Palm Beach	26-41	80-06
Patrick AFB, Fla.	AWS	CPS-9	Miami	28-14	80-36
Patuxent River NAS, Md.	NAVY	TPS-10	Washington, D. C.	38-17	76-25
Pensacola NAS, Fla.	NAVY	SPS-6	Pensacola	30-28	87-12
Perrin AFB, Tex.	AWS	APQ-13	Dallas	33-43	96-40
Pickstown AFS, S. Dak.	ADC	FPS-20	Huron	43-05	98-30
Pinecastle AFB, Fla.	AWS	APQ-13	Orlando	28-30	81-20
Point Arena AFS, Calif.	ADC	GPS-3	San Francisco	38-53	123-33
Pope AFB, N. C.	AWS	CPS-9	Raleigh	35-11	79-01
Port Austin, AFS, Mich.	ADC	FPS-20	Detroit (WBAS) City Airport	44-01	83-00
Port Isabel AFS, Tex.	ADC	FPS-3	Brownsville	26-05	97-10
Post Field, Okla.	AWS	APQ-13	Oklahoma City	34-38	98-23
Pyote AFS, Tex.	ADC	FPS-3	Midland	31-25	103-05

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+Spokane enters reports from these sites on teletypewriter

<u>RADAR STATION</u>	<u>ORGANI- ZATION</u>	<u>RADAR TYPE</u>	<u>NEARBY WEATHER BUREAU STATION</u>	<u>LOCATION N. LAT. W. LONG.</u>
Quonset Point NAS, R.I.	NAVY	FPS-8	Providence	41-36 71-25
Ramey AFB, Aquadilla, P. R.	AWS		San Juan	
Randolph AFB, Tex.	AWS	APQ-13	San Antonio	29-32 98-17
Red Bluff AFS, Calif.	ADC	MPS-11	Red Bluff	40-08 122-18
Reese AFB, Tex.	AWS	CPS-9	Lubbock	33-36 102-02
Richmond NAS, Fla.	FAA	ARSR-1	Miami	25-35 80-25
Roanoke Rapids, AFS, N.C.	ADC	FPS-8	Raleigh	36-25 77-50
Robins AFB, Ga.	AWS	CPS-9	Macon	32-39 83-37
Rockport AFS, Tex.	ADC	FPS-3	Corpus Christi	28-00 97-05
Rockville AFS, Ind.	ADC	FPS-10	Indianapolis	39-46 87-15
St. Albans AFS, Vt.	ADC	CPS-6B	*Burlington	44-43 73-03
San Clemente Is. AFS, Calif.	ADC	FPS-3	Los Angeles	32-39 118-33
San Pedro Hill, Calif.	FAA	ARSR-1	Los Angeles	33-50 118-10
San Salvador, Bahama Islands	AMRS#	SCR-584	Miami, (from Cape Canaveral)	24-05 74-30
Saratoga Springs AFS, N. Y.	ADC	FPS-20	Albany	43-01 73-41
Sault Ste. Marie AFS, Mich.	ADC	FPS-20	Sault Ste. Marie	46-27 84-23
Schilling AFB, Kans.	AWS	CPS-9	Topeka	38-48 97-39
Scott AFB, Ill.	AWS	CPS-9	St. Louis	38-33 89-51
Selfridge AFB, Mich.	AWS	CPS-9	Detroit City AP (WBAS)	42-37 82-50
Selfridge AFB, Mich.	ADC	CPS-6B	Detroit City AP (WBAS)	42-37 82-49
Sewart AFB, Tenn.	AWS	CPS-9	Nashville	36-01 86-31
Seymour Johnson AFB, N. C.	AWS	APQ-13	Raleigh	35-20 77-58
Shaw AFB, S. C.	AWS	APQ-13	Columbia	33-58 80-28
Snow Mt. AFS, Ky.	ADC	FPS-20	Louisville	37-53 86-00
State College, Pa.		M-33	Harrisburg	40-48 77-52
Stewart AFB, N. Y.	AWS	APQ-13	Albany	41-30 74-06
Sundance AFS, Wyo.	ADC	FPS-7	Cheyenne	44-30 104-30
Sweetwater AFS, Tex.	ADC	MPS-11	Abilene	32-28 100-28
Texarkana AFS, Ark.	ADC	FPS-20	Texarkana	33-30 94-00
Thomasville AFS, Ala.	ADC	FPS-35	Montgomery	31-55 87-50
Tinker AFS, Okla.	ADC	FPS-10	Oklahoma City	35-24 97-21
Tinker AFB, Okla.	AWS	CPS-9	Oklahoma City	35-24 97-24
Tonapah AFS, Nev.	ADC	MPS-7	Reno	38-00 117-10
Turner AFB, Ga.	AWS	APQ-13	Columbus	31-36 84-06
Tyndall AFB, Fla.	ADC	FPS-20	Pensacola	30-04 85-34
Tyndall AFB, Fla.	AWS	APQ-13	Pensacola	30-04 85-34

#Atlantic Missile Range Station

\*Syracuse enters reports from these sites on RAWARC

<u>RADAR STATION</u>	<u>ORGANI- ZATION</u>	<u>RADAR TYPE</u>	<u>NEARBY WEATHER BUREAU STATION</u>	<u>LOCATION</u>	
				<u>N. LAT.</u>	<u>W. LONG.</u>
Union City AFS, Tenn.	ADC	FPS-20	Memphis	36-25	89-00
Vance AFB, Okla.	AWS	APQ-13	Oklahoma City	36-21	97-55
Victoria, Texas	Copano	ACR-784	Victoria	28-47	97-05
Vincent AFS, Ariz.	ADC	MPS-7	Yuma	32-40	114-35
Wadena AFS, Minn.	ADC	FPS-20	St. Cloud	46-30	95-06
Walker AFB, N. Mex.	ADC	MPS-7	Roswell	33-19	104-33
Walker, AFB, N. Mex.	AWS	APQ-13	Roswell	33-18	104-31
Walnut Ridge AFS, Ark.	ADC	MPS-11	Memphis	36-08	90-55
Watertown AFS, N. Y.	ADC	FPS-20	Syracuse	43-55	75-54
Waverly AFS, Iowa	ADC	FPS-10	Des Moines	42-41	92-29
Webb AFB, Texas	AWS	APQ-13	Midland	32-13	101-31
West Mesa AFS, N.Mex.	ADC	MPS-7	Albuquerque	35-04	106-52
Westover AFB, Mass.	AWS	APQ-13	Hartford	42-12	72-32
Whiteman AFB, Mo.	AWS	APQ-13	Kansas City	38-44	93-33
Williams AFB, Ariz.	AWS	APQ-13	Phoenix	33-19	111-40
Williams Bay AFS, Wis.	ADC	CPS-6B	Milwaukee	42-37	88-32
Willmar AFS, Minn.	ADC	FPS-8	Minneapolis	45-10	95-00
Winnemucca AFS, Nev.	ADC	FPS-20	Winnemucca	41-01	117-46
Winslow AFS, Ariz.	ADC	MPS-11	Winslow	35-05	110-50
Winston-Salem AFS, N.C.	ADC	FPS-8	Winston-Salem	36-03	80-08
Wright-Patterson AFB Ohio	AWS	CPS-9	Dayton	39-49	84-03
Yaak AFS, Mont.	ADC	GPS-3	Spokane	45-51	115-42
Zapata AFS, Texas	ADC	FPS-3	Laredo	27-00	99-20

CHARACTERISTICS OF THE RADARS

APQ-13 is a 3 cm. radar having a peak power output of 40 kw. with three pulse lengths -

0.5	microseconds	with	pulse	repetition	rate	of	1350	pps.,		
0.75	"	"	"	"	"	"	675	"	and	
2	"	"	"	"	"	"	270			

The horizontal beam width is 3 degrees and the effective range is 75 statute miles. A 200-mile range delay circuit makes target data possible to 300 miles.

APS-20 is a 10 cm. radar having a peak power output of 2.5 megawatts.

APS-23 characteristics are classified military information.

APS-42 " " " " " "

ARSR-1 is a 23 cm. radar with a peak power output of 500 kw., pulse length 2 microseconds, pulse repetition rate of 360 pps, beamwidth of 1.4° in horizontal and 6.2° in vertical and 200 n.mi. range. When operated in the "circular polarization" mode, virtually all weather echoes are suppressed.

CPS-6B is a 10 cm. radar having a peak power output of 700 kw., with pulse lengths of 1 and 2 microseconds, pulse repetition rates of 600 and 300 pps., a horizontal beamwidth of 1 degree, and a range of more than 200 nautical miles. Vertical beamwidth is 1 degree.

CPS-9 is a 3.2 cm. radar having a peak power output of 225 kw., with pulse lengths of 0.5 and 5 microseconds, pulse repetition rates of 931 and 186 pps., circular beamwidth of 1 degree and range of 400 statute miles.

FPS-3 is a 23 cm. radar having a peak power output of 650 kw., with pulse lengths of 3 and 6 microseconds, pulse repetition rates of 400 and 200 pps., a horizontal beamwidth of 1.3 degrees, and range of more than 200 nautical miles. Vertical beamwidth is 1.8 degrees.

FPS-6 is a 10 cm. radar (primarily a height finder with RHI presentation only) with a peak power output of 5 megawatts, beamwidth of 3.2 degrees in horizontal and .85 degrees in vertical and 200 mile range.

FPS-6A - Characteristics are classified military information.

FPS-7 - " " " " " "

FPS-8 is a 22 cm. radar having a peak power output of 1000 kw. with pulse length of three microseconds at pulse repetition rate of 360 pps., a beamwidth of 30° vertical and 2.5° horizontal, and a range of 90 n.mi.

FPS-10 is similar to the CPS-6B.

FPS-20 is a 23 cm. radar having a peak power output of 2.5 megawatts with pulse lengths of 3 and 6 microseconds at pulse repetition rates of 400

and 200 pps., respectively, a horizontal beamwidth of 1.3° and a range of more than 200 n.mi. Vertical beamwidth is 1.8 degrees.

FPS-24 - Characteristics are classified military information.  
FPS-27 - " " " " "  
FPS-35 - " " " " "

FPS-41 (Naval nomenclature for Weather Bureau's WSR-57 radar) is a 10 cm. radar with a peak power output of 500 kw., pulse lengths of 1/2 and 4 microseconds, pulse repetition rates of 656 and 164 pps., circular beamwidth of 1.8 degrees and 250 n.mi. range.

GPS-3 is a modified FPS-8.

MPS-7 radar is similar to the FPS-3.

MPS-11 is a 22 cm. radar having a peak power output of 100 kw., a pulse length of 3 microseconds, a pulse repetition rate of 360 pps., a horizontal beamwidth of 2.5 degrees, a vertical beamwidth of 30 degrees and a range of about 90 nautical miles.

SCR-584 is generally similar to the SCR-784.

SCR-615B is a 10 cm. radar with a peak power output 750 kw., pulse length of 1-1/2 microseconds at 465 pps., circular beamwidth of 3° and 120 statute mile range.

SCR-784 is a 10 cm. radar with a peak power output 250 kw., pulse length of 1.6 microseconds at 180 pps., circular beamwidth of 2° and 300 statute mile range.

SP-1M is a 10 cm. radar with a peak power output of 750 kw., pulse lengths of 1 microsecond and 5 microseconds, pulse repetition rates of 600 and 120 pps., and 250 n.mi. range. Circular beamwidth is about 3 degrees.

SPS-6 (and SPS-6B) is a 22 cm. radar having a peak power output of 500 kw., with pulse lengths of one and four microseconds, pulse repetition rates of 600 and 150 pps., a beamwidth of 30° vertical and 3-1/2° horizontal, and range of 35-45 n.mi.

SPS-12 is similar to the SPS-6 except for a peak power output of 600 kw.

TPS-1D is a 22 cm. radar having a peak power output of 600 kw., with pulse length of four microseconds at pulse repetition rate of 204 pps., a beamwidth of 11° vertical and 3° horizontal and range of 200 n.mi.

M-33 is a 10 cm. radar with 1000 kw. peak power output and pulse length of 1.37 microseconds at 1000 pps., horizontal beamwidth of 2 degrees, vertical beamwidth of about 6 degrees and range of about 60 n.mi.

V.F.

UNITED STATES DEPARTMENT OF COMMERCE  
WEATHER BUREAU  
WASHINGTON

October 3, 1960

IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.  
AND REFER TO  
0-5.34

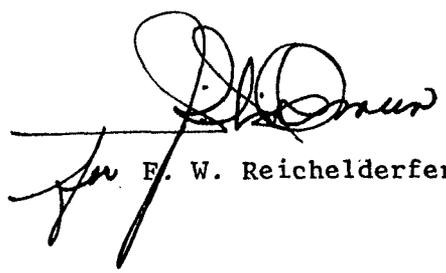
FILE:  
011  
x610.3  
x167

ADDENDUM TO CIRCULAR LETTER NO. 6-60

TO : All First-Order Stations  
FROM : Chief of Bureau  
SUBJECT: Identifiers for Atlantic Missile Range Stations

Radar reports of Hurricanes "Cleo" and "Donna" from Atlantic Missile Range Stations were not identified by names of stations, as expected, but by only four letter identifier groups whose identification was not provided our Weather Bureau offices. To facilitate the use of such vital radar reports, we are furnishing the following identifier groups and index numbers of the Atlantic Missile Range Stations listed in Circular Letter No. 6-60:

<u>STATION</u>	<u>IDENTIFIER</u>	<u>INDEX NO.</u>
Antigua, B.W.I.	MKPA	78862
Eleuthera	MYEM	78073
Grand Bahama	MYGM	78063
Grand Turk	MKJT	78118
San Salvador, Bahama Islands	MYSM	78089

  
E. W. Reichelderfer

Addendum to CL 6-60

(Identifiers for Atlantic Missile Range Stations)

WASHINGTON, D. C.  
10-3-60

UNITED STATES DEPARTMENT OF COMMERCE  
U.S. WEATHER BUREAU  
WASHINGTON

August 25, 1960

IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.  
AND REFER TO

ExO

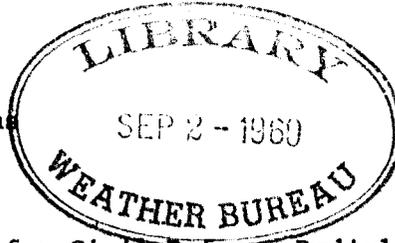
CIRCULAR LETTER NO. 7-60

TO: All First Order Stations

FROM: Chief of Bureau

SUBJECT: Maintenance Procedures for Civil Defense Radiological Monitoring Instruments.

REFERENCES: MAL 27-59 dated 24 August 1959; WB Manual III-D-62 and OCDM Advisory Bulletin No. 242.



More stable procedures for maintenance and repair of radiological monitoring instruments have been developed and the necessary actions for placing defective instruments in operable condition can now be resumed. All costs of shipping the radiological instruments to and from the repair depots will hereafter be paid by the Weather Bureau and the Bureau will place more emphasis in on-station maintenance of the instruments. Although there are but slight changes in the remaining instructions, a complete restatement of the procedures for maintenance of Civil Defense Radiological Monitoring Instruments is made as a replacement for MAL 27-59.

Shipments of radiological instruments to or from the repair depots will be made on WB bills of lading furnished to field stations by the appropriate regional offices in accordance with the regular instructions for use of bills of lading in the WB Manual. Bills of lading for express shipment to and from the repair depot should be requested simultaneously from the Regional Office and the bill of lading for return shipment forwarded with the instrument. Packing for shipment and method of shipment should follow instructions in III. A. 2. b. 5 and 6 of OCDM AB-242. Appropriation Symbol 13-1110617 and Allowance No. 461165 should be cited on bills of lading for these shipments.

Previous instructions placed upon the station the responsibility for the fundamental care of the equipment including minor repair and adjustments which could be accomplished by station personnel. It is now practicable to undertake more of the maintenance services by assigning the Weather Bureau electronics technicians the responsibility for the following:

1. Tube testing and replacement
2. Circuit checking to locate trouble
3. Minor repairs and replacement of mechanical parts

The ensuing discussion is intended to serve as guidance for station personnel.

FILE: 465  
CL 7-60

(Maintenance Procedures for Civil Defense Radiological Monitoring Instruments)  
WASHINGTON, D.C.  
8-25-60

Whenever the weekly operability check, made along the lines covered in OCDM AB-242, reveals that a monitoring instrument may be defective, primary maintenance will be attempted by station personnel. If this step does not restore the operability of the instrument, set the instrument aside for a maintenance check by the Weather Bureau electronic technician serving the station. Each radiological instrument is accompanied by a maintenance manual containing a wire circuit diagram and a parts list which will facilitate the technician's job considerably in this respect. Procedures are being developed for obtaining replacement parts from OCDM or from contractors supplying OCDM, and each technician will be furnished a small stock of those parts most frequently requiring replacement. In the event that the above procedures do not resolve the problem, the defective instrument will be packed and expressed to the OCDM repair depot for repair as in the past and according to the instructions in OCDM AB-242. Also, should the technician not be expected to visit your station within three or four months, immediate shipment to the OCDM repair depot should be undertaken. Extreme caution should be exercised at all times to counteract the corrosion problem cited in OCDM AB-242. Accordingly, except in an emergency when batteries should remain in the instruments at all times, radiological instruments will not be stored between weekly checks with batteries in place. The weekly check should include a survey for corrosion spots on the battery assembly and cleansing of any spots that may appear.

Three sets of serviceable batteries should be stocked at all times, one set for current use and two sets in reserve. Fresh batteries may be ordered as required from the Weather Bureau regional supply warehouse. Batteries should be stored in as cool and dark a place as possible and those in current use should be stored separately from the supply of fresh batteries. Batteries in use and in reserve should be checked under test load condition by the technician at least every three months.

In the unfortunate event that battery corrosion badly damages an instrument, a statement as to the contributing circumstances will accompany the instrument's return to the OCDM repair depot. Copies of this statement will be forwarded to the Weather Bureau Regional Office concerned and to the Meteorological Consultant in Battle Creek, Michigan. All requests from OCDM to submit disposition instructions with regard to these instruments will be forwarded to the Weather Bureau Regional Office concerned. Inquiries about maintenance or repair of radiological instruments should be directed to Meteorological Consultant, Operational Headquarters, OCDM, Battle Creek, Michigan.



F. W. Reichelderfer

UNITED STATES DEPARTMENT OF COMMERCE

*U.S.* WEATHER BUREAU  
WASHINGTON

September 12, 1960

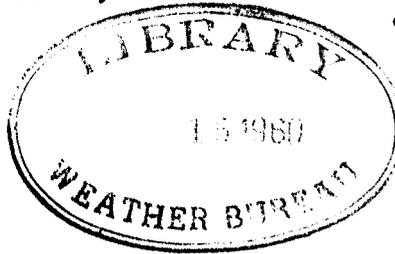
IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.  
AND REFER TO  
0-5.32

CIRCULAR LETTER NO. 8-60

To: All First-Order Stations

From: Chief of Bureau

Subject: Centralized Quantitative Precipitation Forecasts Unit



A specialized QPF unit has now been established at NMC-NAWAC, manned by personnel especially trained in objective procedures for forecasting precipitation quantitatively. Forecasts prepared by this unit will be made available as guidance to the Forecast Centers responsible for QPF issuances to various users, beginning September 15, 1960.

The QPF portion of facsimile transmission #36 scheduled at 1221Z will be expanded into a more detailed forecast. All areas within the contiguous 48 states where one-half inch or more of precipitation in 24 hours is expected will be delineated. Additional isohyetal lines for 1, 2, 3 inches or more will be included when appropriate.

The isohyetal forecasts transmitted by facsimile at 1221Z will also be encoded, followed by a clear language explanation, and transmitted as an ALSYM message on RAWARC at approximately 1250Z.

The 1250Z forecast will be reviewed and if necessary amended, in the light of 1200Z upper-air data and subsequent prognoses. The revised forecast will be a combined clear language and encoded isohyetal message identical in format to the initial teletypewriter forecast. The revised forecast will be transmitted as an ALSYM RAWARC message at approximately 1650Z but will not be sent on facsimile.

So as to reach Forecast Centers not on RAWARC both the 1250Z and 1650Z messages will also be transmitted on teletypewriter Service O until increased speed of Service C system will make time available. Service O transmission times are 1318Z and 1718Z respectively. Heading for these transmissions will be FXUS WBC.

When encoding the message, reference cities will be selected from those included on the attached Daily Precipitation Map. A sample teletypewriter message is also attached.

FILE 652.2

CL 8-60

(Centralized Quantitative Precipitation Forecasts Unit)

WASHINGTON, D. C.  
9-12-60

The clear language text is self explanatory. The isohyets are identified as 0.50 in. , 1.00 in. , 2.00 in. , etc. , followed by 5-digit groups. The first three digits are the station designators (numbers or call letters), the fourth digit gives direction to eight points of the compass (two being East) and the last digit gives the distance from reference station in tens of nautical miles. For example, 34051 locates a point ten nautical miles southwest of Little Rock, Arkansas.

The objective techniques which have been developed employ the numerical and subjective analyses and prognoses produced within the NMC and forecasts produced are internally consistent with those products. Quantitative precipitation forecasts prepared in this manner have proven to be superior to the subjective QP forecasts presently distributed over facsimile. Major deviations from this guidance material should be coordinated with adjacent Forecast Centers to avoid discontinuities at forecast boundaries and in unusual cases it may be necessary to coordinate directly with NMC-NAWAC.

For the present, the QPF portion of facsimile transmission #2, scheduled at 0021Z will not be prepared by the specialized unit nor will any attempt be made for it to routinely include other than the 1 inch isohyet.



F. W. Reichelderfer

Attachments

cc: All WBRAO's

ALSYM A WBC 151250Z  
FXUS WBC 151200Z

QPF ENDING 161200Z

0.50 in. 50347 51865 61725 60882

0.50 24835 LFK00 25611 35363 45831 44653 44000 34026 24835

0.50 69467 59767 49378

1.00 in. 34422 TXK73 TYR82 25813 35666 CNU00 34422

2.00 in. 34463 34459 34200 35631 34463

THE PCPN IN THE NERN STATES IS LMTD TO .50 IN. DUE TO THE FCST  
RPD MVMT OF THE SFC LOW. IN THE LWR MISS VLY INCRD THKNS  
GRAD IS PROGGED N OF THE WRM FRONT AND WITH THE APCH OF THE  
500 MB TROF UPWARD VERTICAL MTIONS WILL INCR RPDLY. THE  
LARGE PRECIPITABLE WATER VALUES ALNG THE GLF CST SHOULD BE  
ADVECTED INTO THE SYST IN ABT 12 HRS. THE PCPN ALNG THE PAC  
CST IS BASED ON ORGPHC LFTG.



P

UNITED STATES DEPARTMENT OF COMMERCE

U.S. WEATHER BUREAU  
WASHINGTON

November 15, 1960



IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.

AND REFER TO  
0-4.22

FILE: 052  
CL 9-60

CIRCULAR LETTER NO. 9-60

TO : RAO's, FAWS Offices, Field Aides, and Central Office Divisions and Sections

FROM : Chief of Bureau

SUBJECT : Changes in Distribution of Field Aide Reports

Effective October 1, 1960, Field Aide reports, W. B. Forms 052-2 should be forwarded to the Regional Administrative Offices for information and action as necessary on the reported items. A carbon copy of this form will be routed to the Central Office, Attention: 0-4.22, through the Regional Administrative Office. Comments on actions taken or planned and inquiries for Central Office decisions will be placed in the left-hand margin of the form by the Regional Administrative Office before forwarding the carbon copy to the Central Office. Carbon copies will continue to be sent, as in the past, to supervising stations when reports concern visits to SAWRS, Coast Guard, and paid Second Order stations. Carbon copies will be provided for the appropriate Forecaster-Field Aide Headquarters Station for all visits by the Regional Field Aide, provided the FAWS Office maintains an active inspection program.

Upon receipt of the carbon copy of Form 052-2 in the Central Office, O&SF Division will coordinate routing of this report to other interested Divisions for their comments and other actions concerning individual items on the report. Where actions required will take more than five days for completion, other Central Office Divisions will make copies of the Field Aide report and return the carbon copy to O&SF Division, Attention: 0-4.22, by the end of the fifth day. O&SF Division will then review all comments to make sure that all necessary actions have been taken and will return the report through the Regional Administrative Office to the originating Field Aide. Upon receipt of these returned Field Aide reports, the Regional Administrative Office should take note of any Central Office comments addressed for their information and take necessary actions (or initiate

(Changes in Distribution of Field Aide Reports)

WASHINGTON, D. C.  
11-15-60

correspondence to the appropriate Central Office Division) to complete any recommended actions before forwarding to the appropriate Field Aide.

This procedure will be considered temporary pending further changes in the Field Aide program. You will be advised by a Circular Letter of dates additional changes are to be placed in effect.

A handwritten signature in black ink, appearing to read "F. W. Reichelderfer". The signature is written in a cursive style with a large, sweeping flourish at the end.

F. W. Reichelderfer

UNITED STATES DEPARTMENT OF COMMERCE  
U.S. WEATHER BUREAU  
WASHINGTON

JW  
12/5  
November 15, 1960

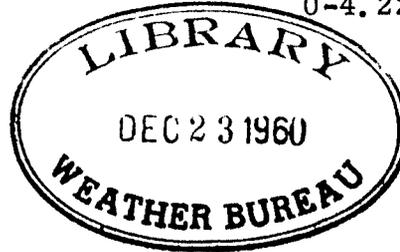
IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.  
AND REFER TO  
0-4.22

FILE: 450  
x610

CL 10-60

CIRCULAR LETTER NO. 10-60

TO : All First Order Stations  
FROM : Chief of Bureau  
SUBJECT: Commissioning of New Equipment



The purpose of this letter is to establish a standard policy for the activation and commissioning of new equipment which will be used in the general observational program.

The commissioning of new equipment, e. g., radar, radiotheodolite, RVR system, hygrothermometer, AMOS, etc., which requires the assistance of electronic technicians or engineers, shall be accomplished in three phases. These phases are:

Phase 1 - Equipment Activation. Equipment is considered activated when all component parts necessary to properly complete an observation have been installed and are functioning according to accepted performance and engineering standards. The technician or engineer supervising the installation shall determine that the equipment is operating satisfactorily and then shall notify the MIC, by memorandum with copies to RAO and IED, that activation has been completed. Since the MIC is responsible for the observational program at his station, he should maintain close liaison with the activating technician during the activation phase.

Phase 2 - Observation Quality Assurance. This phase immediately follows activation and is intended to serve as the period during which the MIC ensures, prior to official use of the equipment, that every detail of its operation has been checked out satisfactorily. The MIC should also ensure that all personnel who will be using the equipment are thoroughly familiar with its operation and use for the completion of official observational requirements and that all forms, technical aids, charts, etc., necessary to the completion of an official observation have been received. Personnel should also be instructed in whatever minor routine maintenance procedures are required.

(Commissioning of New Equipment)

WASHINGTON, D. C.  
11-15-60

Phase 3 - Equipment Commissioning. Equipment is considered to be commissioned when it is used for official observations. The MIC should commission the equipment at 0000 L. S. T. on the day following compliance with phase 2 unless special instructions to the contrary are contained in the attachment to this letter (the special instructions will take precedence in these cases). The commissioning date should be promptly forwarded to the RAO by memorandum with a copy to Chief, O&SF. Equipment commissioning should be completed as soon as possible, consistent with the thorough completion of phase 2. However, equipment commissioning should never take place more than three weeks from the time of equipment activation without notifying the RAO by memorandum of the cause or causes for the delay (the RAO shall make an inquiry as to the reason for the delay if it has not received correspondence within a month from the date of activation indicating the status of the equipment's installation).

SUBMISSION OF FORMS. When applicable, WB Form 500-3 should be submitted by the MIC within seven days of the commissioning date. WB Form 500-10 should be submitted within two weeks and WBAN 10-D at the end of the month. Schematics or drawings which normally accompany WB Form 500-10 may be sent in as much as thirty days later if considerable time is required to prepare them.

ACTION REQUIRED WHEN ACTIVATION DELAYED. Faulty equipment or other installation difficulties, which cannot be immediately remedied, may cause an unexpected and abnormally long delay in activation. Such situations should be brought to the attention of the MIC by the technician or engineer supervising the installation. The MIC should then notify the RAO by memorandum, giving all details. If there is need for urgency, the MIC may use phone or wire for notification.

ACTION REQUIRED WHEN EQUIPMENT SUBSEQUENTLY TAKEN TEMPORARILY OUT OF SERVICE. The RAO should be notified of any situation which requires the subsequent withdrawal of equipment from service for a significant period. The MIC must use judgment in fulfilling this requirement. Normally a "significant period" will be defined as three days for surface observing equipment other than RVR systems, one day for RVR systems (including transmissometer portion of system), and one day for radar. Any outage of a radiotheodolite which will affect the next scheduled observation is to be considered a significant period.

COMPLIMENTARY COPIES FOR CHIEF, O&SF. Copies of all correspondence between the RAO and field stations concerning activation, commissioning, and temporary decommissioning of equipment should be forwarded to Chief, Observations and Station Facilities Division, U. S. Weather Bureau, Washington 25, D. C.

A handwritten signature in black ink, reading "F. W. Reicheiderfer". The signature is written in a cursive style with a large, looping "F" and "R".

F. W. Reicheiderfer

cc: All Electronic Technicians

## Attachment

### Special Equipment Commissioning Requirements

Radiotheodolite. When the electronic technician indicates that the WBRT or GMD-1() is satisfactory for use in official observations the set will be regarded as commissioned effective with the first official observation in which it is used. The ELTEC should send a memo to Chief, Instrumental Engineering Division, Washington 25, D. C., Attn: Field Electronic Maintenance Section concurrently with his notification to the MIC that the system is ready for operation.

Radar. The WSR-57 should be operated on a regularly scheduled basis for a period of about two weeks after activation before placing it in a commissioned status. This period should be used for training purposes and operators should become as familiar with the operation of the equipment and interpretation of the displays as possible. During the transition, the station should continue to send RAREPS using the WSR-1 or WSR-3, if the station has one. Operators should also use the period to compare observations from the two radars to provide an easier transition to the WSR-57. At stations not already equipped with radar, RAREPS may be sent during this two week period upon special request from the Radar Analysis and Development Unit or District Forecast Centers. Special requests would be limited to periods of unusual activity, such as severe local storms. A RAWARC message indicating that the two week phasing-in period has begun should be sent to RADU for information purposes.

Runway Visual Range. By agreement with the FAA a number of prerequisite navigational facilities must exist for the reporting of RVR. Among these items are such things as a complete ILS or PAR and high intensity approach lights. In addition, the approach procedures for the particular runway must be amended by the FAA to include RVR as an operating minimum. For these reasons permission should be received from the RAO prior to commissioning the system.

P

UNITED STATES DEPARTMENT OF COMMERCE  
U.S. WEATHER BUREAU  
WASHINGTON

November 25, 1960

IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.  
AND REFER TO

FILE: 813.5  
X050

CL 11-60

CIRCULAR LETTER NO. 11-60

TO : Central Office Divisions, RAO's and DMO's  
FROM : Chief of Bureau  
SUBJ.: Severe Storms Research Project



(Severe Storms Research Project)

Effective immediately the name of the research project formerly known as the National Severe Local Storms Research Project (NSLSRP) is changed to National Severe Storms Project (NSSP). The Project will continue to concern itself with investigation of tornadoes, other severe local storms, and hazards to aviation associated with weather conditions of this kind. Field operations will involve multiplane missions of research aircraft including the Weather Bureau research planes and those of cooperating agencies. During the coming tornado season as many as eleven aircraft may be employed for simultaneous investigation of severe storm situations. The research aircraft operations program will be known as Operation Roughrider. The base of aircraft operations will nominally be Oklahoma City.

Headquarters for the National Severe Storms Project are at Kansas City. The Project is headed by Mr. C. F. Van Thullenar, Director and Dr. Chester W. Newton, Chief Scientist. (Dr. Newton, presently associated with the University of Chicago, will take up residence in Kansas City next spring.) Central Office functions for headquarters policy, planning, inter-agency coordination in connection with NSSP have been assigned to the Office of Deputy Director of Meteorological Research (Severe Storms), headed by Mr. R. H. Simpson.

*F. W. Reichelderfer*  
F. W. Reichelderfer

WASHINGTON, D. C.  
11-25-60

V.F.

UNITED STATES DEPARTMENT OF COMMERCE

U.S. WEATHER BUREAU  
WASHINGTON

JOW  
5/22 May 17, 1962

IN REPLY, PLEASE ADDRESS  
CHIEF, U. S. WEATHER BUREAU  
WASHINGTON 25, D. C.  
AND REFER TO

0-5.31

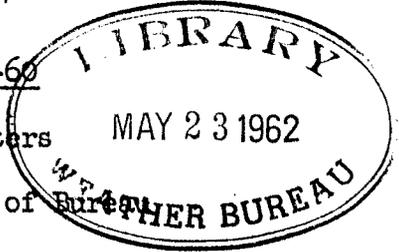
FILE: 611

Amendment No. 2  
MAL 42-60

(Log of Pilot Reports of Turbulence for Clear Air  
Turbulence Studies)

WASHINGTON, D. C.  
5-17-62

AMENDMENT NO. 2 TO MAL 42-60



TO : All FAWS Centers  
FROM : Deputy Chief of Bureau  
SUBJECT : Log of Pilot Reports of Turbulence for Clear Air Turbulence Studies

REFERENCES: MAL 42-60, dated July 26, 1960; Amendment No. 1 to MAL 42-60 dated Aug. 11, 1960; 0-5.31 Memo dated Dec. 22, 1960

The study of Clear Air Turbulence is now primarily concerned with reports of turbulence at 15,000 feet or higher. This serves to eliminate from the study most of the reports of convective type turbulence which have tended to creep in to the Clear Air Turbulence evaluation. Accordingly, it is no longer required that reports of turbulence below 15,000 feet be included in your weekly reports to the Office of Meteorological Research.

This instruction supersedes 0-5.31 circular memorandum dated December 22, 1960.

J. W. Osmon

cc: RAO's 1-5  
PSO, Honolulu  
WBAS, San Juan