

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

January 9, 1957

*JPW
1/15*

IN REPLY, PLEASE ADDRESS
CHIEF, U. S. WEATHER BUREAU
WASHINGTON 25, D. C.
AND REFER TO
A-3.7

CIRCULAR LETTER NO. 1-57

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, 1957. All Circular Letters not listed in the attachment to this letter should be removed from files and destroyed.



F. W. Reichelderfer

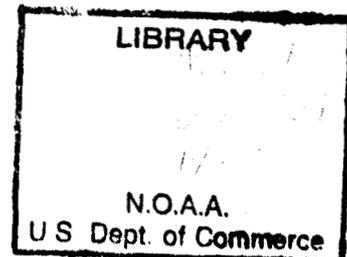
F. W. Reichelderfer
Chief of Bureau

Attachment

RARE BOOK

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National Oceanic and Atmospheric Administration Weather Bureau Circular Letters

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December 6, 2007

Attachment to Circular Letter 1-57

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

A-3.7

Circular Letters for Years 1941-56
in effect on January 1, 1957

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)
96-41	8/6/41	Adm-Er	Tentative instructions for the operation, identification, etc., of government motor vehicles	490
9-42	1/20/42	Chief-Ka	Handling of secret & confidential information	000 (080)
48-43	5/18/43	Pers-Gr	Effective dates of personnel actions	100
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
39-46	5/14/46	Pers-CO	Duty status - new employees	102.4 (202)
70-46	8/21/46	Chf-Wd	Interdepartmental policy on publication of weather forecasts	620.1 (622.2) (621.5) (622.1)
73-46	9/18/46	SR&F-Ev	Broadcast of local terminal forecasts over CAA range stations	622.5 (620.11)
95-46	11/22/46	Asst-Ch Adm-He	Use of automatic equipment	080.1 (480)

Serial Number	Date of Issue	Issued by	Subject	File Number
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
35-47	5/12/47	MPO-lmb	Registration of field-personnel visiting the Central Office	030.6
46-47	6/9/47	Instr-Br	Raob, Rason, and Ceilometer programs	080 451.1 451.2 031.1 601.4
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
70-47	8/18/47	Pers-Fo	Appointment of sub-professionals directly to stations in Alaska	110 080.1
75-47	8/26/47	Chf's-Off	Artificial inducement of precipitation	045
22-48	3/9/48	Chf's-Off Oc	Policy with respect to private practice of meteorology and instructions regarding cooperation with private meteorologists	070.2 000 420.3 620.8
28-48	3/19/48	SR&F-A1	2-hour terminal forecast program	620.11
58-48	6/30/48	Chf's Off Wd	Cooperation with Amateur Weathermen of America	070.2
6-49	1/12/49	R-3	Preparation of form for individual listing of scientific papers	750 700.1 150.9
8-49	1/17/49	0-5.32	Identification of local forecasts	620.2
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

Serial Number	Date of Issue	Issued by	Subject	File Number
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
54-49	5/25/49	O-5.31	Responsibility in giving out forecasts and 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
103-49	9/13/49	O-5.1	Transmission of Canadian analysis on Service C	610 600.00
106-49	9/27/49	A-3.5	Property regulations	400 400.3 400.4
137-49	11/28/49	O-3	Instrumental equipment	450 401.5
146-49	12/21/49	O-5.21	Reporting Height of 700mb 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
10-50	1/25/50	O-4.3	Geostrophic wind scales designed to give wind velocities in knots	410.2
17-50	2/17/50	A-3.5	Sale of surplus property	401.5
33-50	4/6/50	A-3.5	Unserviceable and obsolete instrumental equipment	401

Serial Number	Date of Issue	Issued by	Subject	File Number
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
83-50	11/14/50	A-4.3	Acquisition of competitive status under EO-10157, dated 8/28/50	110.3 010.8
95-50	12/22/50	O-4.2	Artificial rain making	045
97-50	12/26/50	A-4.3	Acquisition of competitive status under EO-10157 dated 8/28/50	110.3 010.8
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
18-51	6/13/51	R-3.1	Fees for station publications	038.1
19-51	6/26/51	AO-1	Choice of principal assistant	114 051.1
31-51	9/11/51	AO-1	Announcements regarding legislative and budget proposals	030 014 210
36-51	10/3/51	A-4	Types of actions for which Fanfold SF-50 will be discontinued	780 100
37-51	10/3/51	A-4.5	Inauguration of training course Wx briefers	131
11-52	3/17/52	A-4.2	Appraisal of performance, conduct, and general character traits during probationary or trial period	100
14-52	4/2/52	CWB	Tornado warnings	656.6

Serial Number	Date of Issue	Issued by	Subject	File Number
18-52	4/23/52	O-4.1	Participation of WB in Tower-INSAC consolidations	0/1 520 630
22-52	5/29/52	O-5.32	Television	657.1
24-52	6/12/52	O-2.13	Entry of date of occurrence of maximum precipitation values on Forms 5332 A-D Climatological Record, 1951-1970	733
31-52	8/25/52	A-4	Delegation of authority to Regional Directors to administer personnel activities	100
34-52	9/16/52	A-3.5	US Government bills of lading	271
35-52	10/14/52	O-5.23	Earlier transmission of continental US Raob reports on Service C	630.1
39-52	11/13/52	A-3.54	Reclassification of property	401
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
4-53	1/26/53	O-5.32	Utilization of pressure jump data	813.5 x630.1
6-53	2/10/53	O-4.11	Use of station information and report on substation forms (WB Forms 1144A, 1144B, & 531-1)	530 520
7-53	2/12/53	A-4	Executive training & development	130
9-53	2/16/53	CWB	Review of operating programs	000
10-53	2/20/53	A-4.1	Revision of annual salary authorization for part-time employees	253
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
15-53	6/16/53	O-5.31	Transmission of Message NOTAMS by stations performing communications duties	630

Serial Number	Date of Issue	Issued by	Subject	File Number
21-53	8/31/53	0-4.1	Local distribution of weather information by weather telauto-graph circuit	657 x430.0
25-53	9/29/53	0-5.32	Transmission of a guidance forecast on Service "C" (FPI)	630.1
5-54	3/10/54	0-5.32	Localized Forecasts and Advices for Agriculture	653.1 x630.1
6-54	3/11/54	0-5	Specialized forecasts for Agriculture	653.1
7-54	3/16/54	0-5.31	Use of Winds Aloft Forecasts	652.1
10-54	3/25/54	0-5.23	Serv. A transmission of aviation weather forecasts	630.1
11-54	4/7/54	A-3.5	Delegation of administrative authority under PL-600, 79th Congress, as amended	401.3
13-54	4/20/54	CWB	Cooperation with meteorologists in industry	042.1
15-54	5/10/54	AO-1	Choice of Principal Asst.	051 x051.1
16-54	5/27/54	R-3	Fallout of Radioactive Debris from atomic bombs	813.71 041
17-54	6/9/54	0-5.31	Recognition of outstanding pilot weather reporting	611 x037
19-54	6/21/54	A-4.1	Distribution of CSC reports of classification post audits	101 x102
21-54	7/19/54	0-2.13	Forwarding Weekly Means Data	612.3 x630.1
22-54	7/20/54	0-2.13	Section Center consolidation	051
22-54	8/10/54	0-2.13	Section Center consolidation	(Addendum)
22-54	8/13/54	0-2.13	List of Climatologist Offices	(Addendum)
22-54	10/20/54	A-3.5	Section Center consolidation	(Addendum)
22-54	11/4/54	0-2.13	Section Center consolidation	(Addendum)

Serial Number	Date of Issue	Issued by	Subject	File Number
23-54	8/16/54	0-5.32	Newspaper clippings & data in local press	033
26-54	8/23/54	0-5.32	Participation in TV Weather programs	657.1
30-54	10/21/54	0-5.23	Serv. A transmission of aviation weather forecasts	630.1
31-54	11/3/54	0-2.13	Recording wind data	921
33-54	12/6/54	CWB	Fallout of radioactive debris from atomic bombs	813.71 x041
34-54	12/15/54	0-5.32	Local public service weather circuits	432
2-55	1/18/55	0-5.23	Use of contraction "DO" in 24-hr terminal forecasts	630.1
3-55	1/19/55	R-3	Travel to scientific meetings at government expense	270
4-55	2/7/55	0-5	Need for continued close liaison between field stations & forecast centers	000 x650
5-55	2/9/55	0-5.23	Use of slant (/) and (-)	630
6-55	2/21/55	CWB	Policy in relation to private business	000 x042
7-55	2/16/55	R-3.7	Fallout of radioactive debris	813.71 x041
9-55	3/2/55	0-5.32	Furnishing weather forecasts to newspapers, radio, & TV stations	657 x657.1 x432
13-55	3/3/55	0-5.32	Mapped forecast experiment - Kansas City	652.3 x651
17-55	3/30/55	0-5.32	Mapped forecast experiment - Wash. District	652.3
20-55	4/6/55	0-5	Training course for pilot briefers	131 x652.11
21-55	4/12/55	0-2.41	Mailing LCD formats direct to NWRG	733
24-55	4/29/55	0-4.23	Computation of CD fallout winds	610.2

Serial Number	Date of Issue	Issued by	Subject	File Number
25-55	5/4/55	O-5.31	Briefing Air Force Pilots	652.11
26-55	5/5/55	O-5.32	Hurricane emergency operating procedures	656.4
29-55	5/24/55	A-4.4	Differentials and allowances	253.2 x253.1
30-55	5/31/55	O-3.4	Recovered radiosondes	458.0
31-55	6/8/55	R-3	Instructions for decoding and plotting CD fallout winds	610.2 x631
33-55	6/14/55	O-5.32	Liaison with Federal Civil Defense Regional Offices	041
34-55	6/24/55	O-5.32	Hurricane emergency operating procedures	656.4
35-55	7/19/55	O-2.33	Preliminary reports of hurricane and severe wind storms	614
38-55	7/26/55	O-5.32	Local Public Weather Teletypewriter Circuits	432
40-55	8/15/55	O-5.2	Precedence systems for communications	630
41-55	8/22/55	O-5.34	Liaison with state & local Civil Defense Agencies	041
42-55	10/3/55	O-2.4	Shipment of card punches for repair	411
44-55	11/3/55	O-5	Transmission of JNWP prognostic charts on Service "C"	630.1 x770
46-55	12/12/55	A-4.4	Exchange of information in connection with Inter-Regional and/or Overseas Stations	120
47-55	12/27/55	O-5.32	State forecasts (FP) for Connecticut	652.3
3-56	1/16/56	O-2.41	Change of instructions for entry of hail on Weather Bureau Forms and Formats	921
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

Serial Number	Date of Issue	Issued by	Subject	File Number
10-56	3/1/56	AO-1	Organization and Functions of the Weather Bureau	000 x051
Addendum	4/16/56	AO-1		
12-56	3/19/56	O-5.31	Policy with respect to Pilot Wx Briefing & use of standard briefing displays	652.11
13-56	3/19/56	O-2.41	Normals for Feb. 29th, & instructions in their use in Leap Years	920
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
18-56	5/8/56	C-4.1	Definition of Climatic Means	920
19-56	5/8/56	O-5.32	Third-Day outlook in Guidance Forecasts (FP-1)	653.1
20-56	5/10/56	O-5.32	Five-Day Forecast	655
21-56	5/22/56	O-5.32	Use of Automatic telephone - answering devices	657.2 x431
22-56	5/22/56	O-5.32	Changes in state forecast (FP) Responsibility for N. Dak., S. Dak., Nebr., Kansas, and Missouri	652.3
23-56	5/24/56	A-3.7	Official Mail	910
24-56	6/1/56	O-5.31	Operational use of terms: "Instability Line", "Squall Line", and "Line Squall"	650.2
25-56	6/22/56	O-5.34	Criteria for issuance of hurricane warnings and watches	656.4
26-56	6/29/56	O-4.22	Reporting of temperature extremes	038.5 x610
27-56	6/29/56	O-5	Coordination & standardization of hurricane advisories & bulletins	656.4

Serial Number	Date of Issue	Issued by	Subject	File Number
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	0-4.23	Computation of CD Fallout Winds	610.2
30-56	8/23/56	0-5	Prog. charts prepared by the JNWP Unit	630.1 x811.4
31-56	8/31/56	0-5	Coordination of hurricane bulletins	656.4
32-56	9/5/56	0-5.32	State forecasts (FP) for Kansas	652.3
33-56	9/14/56	0-4.23	Radar observations from stations of the Air Defense Command	041 x610.3 x1458.5
34-56	10/3/56	0-4	Future installations of wind equipment	453
35-56	10/4/56	0-3.1	Radar nomenclature	458.5
36-56	10/9/56	0-6.14	Transmission of 24-hr amounts of precipitation - SR Sequence Service "C"	630.1
37-56	10/17/56	0-4.23	Special rawinsondes for fallout winds	610.2
38-56	10/31/56	0-2.1	Certification of times of sunrise and sunset	038.5
39-56	11/1/56	0-5.23	Location identifiers of Rareps from Air Defense Command (ADC) and Civilian Stations	633
40-56	11/2/56	0-5.34	Community and Industrial planning for potential disasters	656 x042
41-56	11/30/56	0-5.32	Use of "Downtown Data"	630
42-56	12/4/56	0-5	The Facsimile Chart Program National Weather Analysis Center	770 x630
43-56	12/7/56	0-4.22	Weather reports transmitted by automatic teletypewriter weather stations	610 x630.1 x540

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

JPW
1/15
January 10, 1957

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

0-5.23

FILE: 630
x 041

CL 2-57

(U. S. Participation in the IGY Program - Communications)

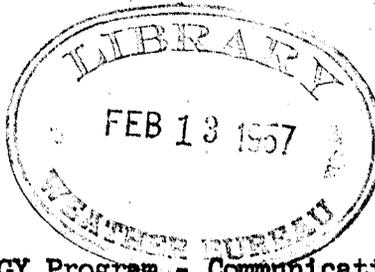
WASHINGTON, D. C.
1-10-57

CIRCULAR LETTER NO. 2-57

TO : All First Order Stations

FROM : Chief of Bureau

SUBJECT: U. S. Participation in the IGY Program - Communications



In preparation for the International Geophysical Year which begins July 1, 1957, arrangements have been made to conduct a series of trial periods to test the efficiency of the communications systems which will be used to disseminate ALERT and Special World Interval (SWI) messages. The trial periods will be held each month from January to June 1957 (from the 10th to the 16th, inclusive, of January, February, March, April and May 1957).

The IGY Program provides for the declaration of a number of World Days (RWD), World Meteorological Intervals (WMI) and Special World Intervals (SWI). The first two have been selected and a calendar for the IGY has been established. But the SWI's are to be selected only on the basis of certain phenomena, such as solar activity, magnetic storms, etc., which will occur in the future. If observations at any time during the IGY indicate a reasonable possibility of declaring a SWI, a preliminary ALERT warning will be sent out at 1600Z. If subsequent observations justify the expectation, a DECLARATION of the SWI will be sent out at 1600Z on the day preceding the actual day of commencement of the interval. However, occasions may arise when, due to very unusual solar activity, it may be considered desirable to declare a SWI concurrently with the ALERT warning. In such cases there will be no interval between the ALERT warning and the DECLARATION of the SWI and both the message giving the ALERT warning and the declaring the SWI will be combined into one (see example below) and issued at 1600Z. The ALERT or SWI, as the case may be, will continue until terminated by a notification by the World Warning Agency, Fort Belvoir. During the period of currency of the ALERT or SWI, messages continuing the state of ALERT or SWI will be issued at 1600Z each day, whenever the ALERT or SWI lasts for more than one day. Thus each SWI will have associated with it the following messages:

- a. ALERT conveying the warning that a SWI is likely to be declared;
- b. DECLARATION announcing the commencement of the SWI as from the following 0001Z;
- c. CONTINUATION of ALERT or SWI each day during the period the ALERT or SWI is valid; and
- d. TERMINATION of the ALERT or SWI.

The actual texts of the various ALERT warning and SWI messages are as follows:

<u>Text of Messages</u>	<u>Meaning</u>
AGI Geophysical Year Warning (Number). ALERT starts immediately 021600Z	A state of ALERT commences from 1600Z of the second of the month.
AGI Geophysical Year Warning (Number). Special World Interval starts at 30000Z	A Special World Interval is declared and becomes operative from 0001Z of the thirtieth of the month.
AGI Geophysical Year Warning (Number). ALERT/SWI continues 311600Z	A state of ALERT or the duration of a SWI, as appropriate, continues. The message notifying the continuation has been originated at 1600Z on the thirty-first day of the month.
AGI Geophysical Year Warning (Number). ALERT finishes immediately 031600Z	A state of ALERT finishes immediately. The message notifying the finish has been originated at 1600Z on the third day of the month.
AGI Geophysical Year Warning (Number). SWI finishes at 052359Z	A special World Interval that has been current will finish at 2359Z on the fifth day of the month.

NOTE:

1. All times given in the warning messages are Z (GMT);
2. Occasions may arise when there will be no interval between the ALERT warning and the declaration of the SWI. In such cases the ALERT warning and the declaration of the SWI will be combined in the message issued at 1600Z as follows:

"AGI Geophysical Year Warning (Number).
ALERT starts immediately 021600Z, and
Special World Interval starts at
030001Z;

3. Similarly occasions may arise when a SWI will finish but the ALERT will continue for some days after the finish of the SWI. In such cases also a combined message will be issued as follows:

"AGI Geophysical Year Warning (Number).
SWI finishes at 052359Z. ALERT continues";

4. All ALERT and SWI messages will carry the following heading:

"IGY KWWA //1600Z".

It will be noted that each message will bear a number at its beginning to enable it to be easily identified. This is very important as during a period of ALERT or SWI a number of messages are likely to be received and each of the messages should be correctly identified and acted upon if the SWI is to be successful.

The National Bureau of Standards (U.S.A.) Radio Warning Service (Box 178, Fort Belvoir, Virginia - Telegraphic address: IGYWARN or AGIWARN Washington) has been designated as the IGY World Warning Agency. This agency will therefore originate all the ALERT and SWI messages. Messages originating at the World Warning Agency will be conveyed over the internal meteorological telecommunication networks of the U.S.A. and fed into the international meteorological telecommunication networks at New York, Miami and San Francisco. Domestic distribution will be accomplished via the Service C System at 1934Z (during the regularly scheduled GENOT period) even though the messages will originally be issued by the World Warning Agency at 1600Z and dispatched overseas at that time. (1934Z is the first practical opportunity to transmit the messages on the heavily trafficked Service C System).

Since a number of US-IGY stations are not connected to the Service C System and no other means of communication for receiving the ALERT and SWI messages is available, it will be necessary for certain local Weather Bureau offices to immediately notify these stations by telephone (collect) whenever an ALERT or SWI message is received. The attachment lists the Weather Bureau stations and the corresponding IGY station it will be responsible to contact. Difficulties encountered in establishing contact or in effecting delivery of messages to the IGY station concerned should be immediately reported to the Central Office.

All stations are requested to review local communications to insure immediate delivery of all ALERT's and SWI's issued.



F. W. Reichelderfer

ATTACHMENT

Weather Bureau IGY Stations

WBAS Anchorage Anchorage, Alaska: S. S. Barnes, NBS, Radio Propagation
Field Station, Elmendorf 3-2211

WBAS Fairbanks College, Alaska: Clyde Beers, USCGS Magnetic Obs.,
C. T. Elvey, Geophysical Inst.,
Fairbanks 3367

WBAS Barrow Point Barrow, Alaska: William C. Wanbaugh, NBS, Radio
Propagation Field Station

WBAS Boston Boston, Mass.: N. J. Oliver, GRD, AFCRC, HU-2-7730

WBAS, Richmond Charlottesville, Va.: E. C. Stevenson, U. of Virginia

WBU Chicago Chicago, Ill.: Dr. John Simpson, U. of Chicago, Mid 3-0800

WBAS Denver Denver, Colo.: A. R. Jordan, U. of Denver

WBAS Concord Hanover, N. H.: M. G. Morgan, Dartmouth College,
Hanover 30

WBAS Binghamton Ithaca, N. Y.: Carl W. Gartlein, Cornell U.,
Ithaca 43211

WBAS Newark Fort Monmouth, N. J.: F. H. Dickson, Ft. Monmouth,
Eatontown 3-1000

WBAS Richmond Fredericksburg, Va.: Observer-in-charge, Magnetic Obs., USCGS

WBO Albany Grafton, N. Y.: Robert Fleischer, Rens. Poly. Inst.

WBO Minneapolis Minneapolis, Minn.: Edward P. Ney, U. of Minn., Fed 2-8158

WBAS Detroit Pontiac, Michigan: Dr. Helen Dodson-Prince, McMath-Hulbert Obs.

WBAS Philadelphia Swarthmore, Penn.: Martin Pomerantz, Bartol Research Inst.,
Phone 61539

WBAS Allentown University Park, Penn.: A. H. Waynick, State U. of Penn.

WBAS Milwaukee Williams Bay, Wisc.: J. W. Chamberlain, Yerkes Obs.

WBAS Albuquerque Albuquerque, N. Mex.: Victor Regener, U. of New Mexico

WBAS Oakland Berkeley, Calif.: Robert Brode, U. of California, Berkeley

WBAS El Paso Ft. Davis, Texas: Allan Maxwell, AFCRC

WBAS Jacksonville Gainesville, Fla.: Dr. Sullivan, U. of Florida

WBAS Los Angeles Mt. Wilson, Calif.: Dr. Nicholson, Mt. Wilson Obs.

WBAS Los Angeles Santa Barbara, Calif.: Paul Barrett, U. of Calif., Santa
Barbara

WBAS San Francisco Stanford, Calif.: A. M. Peterson, Stanford U., Davenport
3-9411

WBAS Tucson Tucson, Ariz.: Observer-in-charge, Magnetic Obs., USCGS

WBAS Roswell Sacramento Peak, N. M.: J. H. Evans, Sac Peak Obs.:
Granita 3-6511, ext. 282

WBAS Washington University of Maryland: Dr. Swetnick, Warfield 7-3800 Ext.398

WBAS Honolulu, T. H.: Observer-in-charge, Magnetic Obs., USCGS

WBAS Guam Guam: Observer-in-charge: Magnetic Obs. USCGS

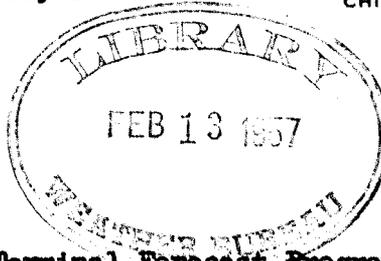
UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

January 31, 1957

IN REPLY, PLEASE ADDRESS :
CHIEF, U. S. WEATHER BUREAU
WASHINGTON 25, D. C.
AND REFER TO
0-5.31

CIRCULAR LETTER NO. 3-57

TO : All First Order Stations
FROM : Chief of Bureau
SUBJECT: Discontinuance of 2-Hour Terminal Forecast Program



Reference: Circular Letters 73-46 and 28-48; Memos, 0-5.31, 7-11-52, Two-Hour Terminal Forecasts; 1-31-57, Inauguration of In-Flight Weather Safety Service

The In-Flight Weather Safety Service program, which will become effective in the continental United States about March 1, 1957, will provide air-men in flight with advance notice of potentially hazardous weather developments and will, to a large extent, obviate the need for the 2-hour terminal forecasts prepared at some 100 stations for broadcast by the local CAA station. For this reason all stations in the continental U. S. now issuing 2-hourly terminal forecasts should plan to discontinue this service concurrent with the implementation of the In-Flight Weather Safety Service program, the effective date to be announced by GENOT.

The In-Flight Safety Service program is for the present not applicable in Hawaii and Alaska. Therefore any stations in the Territories that currently prepare 2-hourly terminal forecasts should continue them if there is a local requirement for this type of service. However, stations in Alaska and Hawaii electing to continue this service are asked to send us a brief note to this effect so that we may have current information on the program.

F. W. Reichelderfer
Chief of Bureau

A handwritten signature in cursive script, appearing to read "D. M. Little".

D. M. Little
Acting Chief of Bureau

FILE: 652.1

CL 3-57

(Discontinuance of 2-Hour Terminal Forecast Program)

WASHINGTON, D. C.
1-31-57

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

February 12, 1957

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

0-5.31

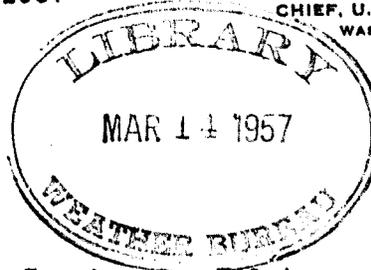
CIRCULAR LETTER NO. 4-57

TO : All First Order Stations

FROM : Chief of Bureau

SUBJECT : Adequacy of Weather Briefing Service for Pilots

REFERENCE: C.L.'s 37-51 and 20-55 Concerning Training Course for Pilot Briefers



During the past year or so the Weather Bureau has experienced a rather large turnover in personnel as a result of many adjustments made necessary to carry out new projects and special research efforts. One effect of these changes has been to bring into the staffs of airport stations many employees with no previous opportunity to gain experience in handling pilot weather contacts.

It is entirely understandable that those persons newly assigned to airport stations may not be able to brief as effectively as those with considerable experience, although their basic meteorological qualifications may be excellent. The quality of the Bureau's pilot briefing service is, however, very important and the service should be maintained at a high level of efficiency.

To help briefers re-examine their individual briefing methods, we are listing some of the principal points underlying criticisms received from pilots and pilot organizations.

1. Pilots complain that in too many instances it is necessary for them to "draw out" briefers to obtain needed information. It is their view that once the flight problem is established in the mind of the briefer, he should be able to present a clear and concise statement of the en route weather conditions, what changes will take place that are of significance to the flight, and to offer suggestions on alternate courses of action in event weather conditions do not develop as expected.
2. Some pilots find that too many briefers confine their description of current conditions to a verbatim statement of the latest available hourly reports along the route of flight. (For example, an airline pilot complained that at a number of Weather Bureau offices visited regularly, the "briefing" consisted only of reading to the pilot a series of spot weather reports. His comment was "I can

FILE: 652.11
x 151

CL 4-57

(Adequacy of Weather Briefing Services for Pilots)

WASHINGTON, D. C.
2-12-57

read the sequence myself; I want a professional interpretation of the route weather conditions -- not just a few spot reports along the way.")

3. Some pilot groups feel that briefers are not keeping abreast of weather developments as well as they should and frequently will quote a terminal forecast that is in conflict with the currently reported conditions without making any attempt to explain the discrepancy (such as being a matter of timing on a trend) or to adapt the forecast to adequately reflect the latest weather developments.

The basic considerations involved in these typical pilot complaints are fundamental to adequate briefing and they were thoroughly reviewed in the Training Course for Pilot Briefers established several years ago, and still being offered. Circular Letter No. 37-51 stated the advantage to all airport personnel below GS-7 grade to complete the Training Course for Pilot Briefers on an optional basis, and the requirement that all personnel of GS-7 grade assigned to positions involving pilot briefing are expected to complete the course within a reasonable time.

It may be necessary in the future to have all personnel engaged in pilot weather briefing hold an appropriate "certificate" or "rating" for this type of work. For the present, however, completion of the Training Course for Pilot Briefers is accepted as evidence that the employee is fundamentally qualified to do pilot weather briefing.

In addition to expecting all flight weather briefers at GS-7 to have successfully completed this training course (which is not available from any source other than the Weather Bureau) and to encouraging others to take it on an optional basis, we must rely on supervisors to make sure that employees remain alert to the meteorological requirements that are peculiar to aviation and take an active interest in providing a complete service in a friendly and helpful manner.

We fully realize that at many stations the heavy workload frequently makes it difficult to give the briefing work the attention it deserves. However, it is quite important that all stations providing aviation briefing services do all they can to maintain the quality of their briefings at an acceptable level.


F. W. Reichelderfer
Chief of Bureau

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

JPW
3/12

March 7, 1957

FILE: 041
X 610.3
X 458.5
CL 5-57



CIRCULAR LETTER NO. 5-57

TO : To All First-Order Stations
FROM : Chief of Bureau
SUBJECT : Radar Observations from Stations of the Air Defense Command
REFERENCE : Circular Letters 33-56, and 39-56, and 0-4.23 Memorandums of 12-20-54 and 3-2-56, "Information on the WB Radar Program," File:458.5, X 610.3

Arrangements have been made with the Air Force for radar stations of the Air Defense Command (ADC) to make telephone calls direct to nearby Weather Bureau Offices to report strong radar echoes suspected to derive from severe storms. The attached lists of stations indicate the Weather Bureau Offices which the Air Defense Command radar stations will call.

Meteorologists in Charge of the Weather Bureau stations named in the lists should contact the Commanding Officer of the appropriate radar site (in some cases, more than one site is involved) and discuss this program with him. It is believed that the ADC has issued authorizing instructions to its personnel. The Commanding Officer should be given the unlisted telephone number of the Weather Bureau that will insure quick delivery of the radar observations to us and advised regarding use of the precedence indicator for priority calls. Collect calls to our offices, if necessary, should be authorized. The radar observations should be placed upon the RAWARC circuit (if available) as soon as possible after receipt so that these data may be available to SELS and SWWC (Severe Weather Warning Center of the Air Force). However, it is the intention that the main use of these observations will be in the local warning program. Meteorologists in Charge are encouraged to work as closely as possible with the Commanding Officer of the radar site, consistent with security regulations, to insure that maximum use is made of the radar observations.

It is expected that additional stations will participate in this program as more Air Defense Command radars are installed. Should any Meteorologist in Charge of a Weather Bureau station not named herein be contacted by the Officer in Charge of a radar site, the program described herein should be established. Should the MIC learn of the establishment of a new ADC radar station, he should contact the OIC to establish the program.

Please report to this office, attention 0-5.34, any arrangements that are made to establish the program outlined herein, not previously reported.

It is believed that radar observations from the ADC stations will be transmitted from the radar sites in modified plain language code with distances

(Radar Observations from Stations of the Air Defense Command)

WASHINGTON, D. C.
3-7-57

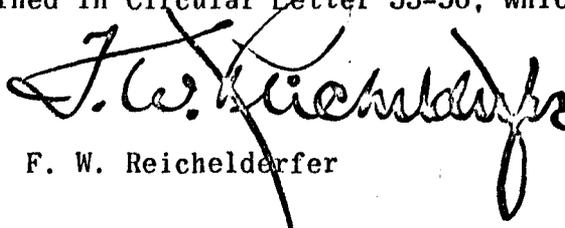
in nautical miles, speed in knots, and orientation in degrees magnetic. They should be reoriented with respect to true north before transmission (add easterly variation, subtract westerly from azimuth readings given by the ADC).

The 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. The MPS-7 radar is similar to the FPS-3. The CPS-6B is a 10 cm. radar having a peak power output of 700 kw., with a pulse length 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. The FPS-10 is similar to the CPS-6B. The 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. The TPS-1D is a 22 cm. radar having a peak power output of 600 kw., a pulse length of 4 microseconds, pulse repetition rate of 204 pps., a horizontal beamwidth of 3 degrees, a vertical beamwidth of 11 degrees and a range of 200 nautical miles. The location of the stations in latitude and longitude and type of equipment (FPS-3 or CPS-6B, etc.,) is unclassified.

For the present, transmission of these reports will be confined to RAWARC where available. Authorization for these transmissions has already been issued. In the event WB stations other than those having access to RAWARC receive ADC Rareps, we would appreciate being so informed. Information of this nature would be helpful in future planning.

Location identifiers were obtained for those stations listed in Attachment 1. Additional assignments will be requested upon hearing from individual offices that such identifiers are necessary for ADC Stations listed in Attachment 2.

These instructions cancel those contained in Circular Letter 33-56, which should be destroyed.


F. W. Reichelderfer

Attachments 1 & 2

ATTACHMENT 1

Weather Bureau stations to which ADC sites would telephone
their radar observations of severe local storms

<u>LOCATION</u> <u>N. LAT.</u>	<u>W. LONG.</u>	<u>STATION</u> <u>NAME</u>	<u>RADAR</u> <u>TYPE</u>	<u>NEARBY WEATHER</u> <u>BUREAU STATION</u>
35-24	108-21	Continental Divide AFS, N. M.	FPS-3	Albuquerque
36-36	106-30	Tierra Amarilla AFS, N. M.	FPS-3	Albuquerque
40-23	73-59	Highlands AFS, N. J.	CPS-6B	Newark
42-01	70-03	North Truro AFS, Mass.	CPS-6B	* Boston
43-53	69-55	Brunswick NAS, Me.	CPS-6B	* Portland
44-43	73-03	St. Albany AFS, Vt.	CPS-6B	* Burlington
47-22	88-10	Calumet AFS, Mich.	FPS-3	Marquette
46-30	95-06	Wadena AFS, Minn.	FPS-3	St. Cloud
43-53	95-56	Chandler AFS, Minn.	FPS-3	Sioux Falls
45-02	89-14	Antigo AFS, Wisc.	FPS-3	Green Bay
42-37	82-49	Selfridge AFB, Mich.	CPS-6B	WBAS, Detroit City Airport
43-08	78-50	Lockport AFS, N. Y.	CPS-6B	* Buffalo
48-52	109-55	Havre AFS, Mont.	FPS-3	Havre
48-52	106-24	Opheim AFS, Mont.	FPS-3	Glasgow
48-54	103-52	Fortuna AFS, N. D.	FPS-3	Williston
48-00	101-17	Minot AFS, N. D.	FPS-3	Bismarck
47-30	97-52	Finley AFS, N. D.	FPS-3	Fargo
41-21	76-17	Benton AFS, Pa.	CPS-6B	Scranton
42-37	88-32	Williams Bay AFS, Wis.	CPS-6B	Milwaukee
44-48	86-03	Empire AFS, Mich	CPS-6B	Muskegon
45-15	92-38	Osceola AFS, Wis.	CPS-6B	LaCrosse
36-11	84-13	Lake City AFS, Tenn.	CPS-6B	Knoxville
38-26	81-40	Gutherie AFS, W. Va.	FPS-3	Charleston
41-04	71-52	Montauk AFS, N. Y.	FPS-3	WBO, New York
37-55	97-53	Hutchinson AFS, Kans.	CPS-6B	Wichita
43-55	75-54	Watertown AFS, N. Y.	FPS-3	Syracuse
43-01	73-41	Saratoga Springs AFS, N. Y.	FPS-3	* Albany
35-02	105-49	Moriarity AFS, N. M.	FPS-3	Albuquerque
35-24	97-21	Tinker AFS, Okla.	CPS-6B	Oklahoma City
39-46	87-15	Rockville AFS, Inc.	CPS-6B	Indianapolis
39-14	74-41	Palermo AFS, N. J.	FPS-3	Atlantic City
38-37	77-26	Quantico MAS, Va.	FPS-3	Norfolk
37-07	75-57	Cape Charles AFS, Va.	FPS-3	Norfolk
44-01	83-00	Port Austin AFS, Mich.	FPS-3	WBAS, Detroit City Airport
41-13	80-33	Brookfield AFS, Ohio	FPS-3	Youngstown

<u>LOCATION</u> <u>N. LAT.</u>	<u>W. LONG</u>	<u>STATION</u> <u>NAME</u>	<u>RADAR</u> <u>TYPE</u>	<u>NEARBY WEATHER</u> <u>BUREAU STATION</u>
40-17	78-33	Claysburg AFS, Pa.	FPS-3	Harrisburg
40-17	92-34	Kirksville AFS, Mo.	CPS-6B	Columbia
45-05	69-05	Charleston AFS, Me.	FPS-3	* Portland
46-27	84-23	Sault Ste. Marie AFS, Mich.	FPS-3	Sault Ste. Marie
42-20	85-16	Ft. Custer AFS, Mich.	FPS-3	Lansing
37-09	92-52	Fordland AFS, Mo.	FPS-3	Springfield
47-27	91-14	Finland AFS, Minn.	FPS-3	Duluth
38-28	89-54	Belleville AFS, Ill.	FPS-3	St. Louis
41-21	96-01	Omaha AFS, Nebr.	FPS-3	Omaha
38-50	94-54	Olathe NAS, Kans.	FPS-3	WBAS, Kansas City
40-22	83-43	Bellefontaine AFS, Ohio	FPS-3	Columbus
29-23	98-37	Lackland AFS, Texas	FPS-3	San Antonio
36-45	96-04	Bartlesville AFS, Okla.	CPS-6B	Tulsa
32-38	96-51	Duncanville AFS, Tex.	CPS-6B	Dallas
29-36	95-10	Ellington AFB, Tex.	CPS-6B	Houston
46-58	67-50	Coswell AFS, Me.	CPS-6B	* Caribou
42-41	92-29	Waverly AFS, Iowa	CPS-6B	Des Moines
37-53	86-00	Godman AFS, Ky.	FPS-3	Louisville
40-51	89-49	Hanna City AFS, Ill.	FPS-3	Peoria
27-55	82-30	McDill AFB, Fla.	MPS-7	Tampa
44-20	103-10	Ellsworth AFS, S. D.	MPS-7	Rapid City
35-30	101-40	Amarillo AFB, Tex.	MPS-7	Amarillo
46-25	105-50	Miles City AFS, Mont.	MPS-7	Billings
33-30	94-00	Texarkana AFS, Ark.	MPS-7	Texarkana
32-20	106-58	Las Cruces AFS, N. M.	MPS-7	El Paso
32-54	80-02	Charleston AFS, S. C.	MPS-7	Charleston

* Syracuse enters reports from these sites on RAWARC

ATTACHMENT 2

LOCATION		STATION NAME	TYPE RADAR	NEARBY WEATHER BUREAU STATION
N. Lat.	W. Long.			
47-06	122-28	McChord AFB, Wash.	CPS 6B	Seattle
48-53	118-47	Curlew AFB, Wash.	FPS-3	Spokane
48-52	115-43	Yeak AFS, Idaho	FPS-3	Spokane
43-32	124-10	North Bend AFS, Ore.	FPS-3	Roseburg
33-57	120-07	U. S. Naval Adv. Base Depot Port Huenime, Calif.	FPS-10	Los Angeles
48-56	112-48	Cutbank AFS, Mont.	FPS-3	Great Falls
45-14	120-18	Condon AFS, Ore.	FPS-3	Portland
41-34	124-05	Klamath AFS, Calif.	FPS-3	Eureka
38-53	123-33	Point Arena AFS, Calif.	FPS-3	San Francisco
37-56	122-35	Mill Valley AFS, Calif.	CPS-6B	San Francisco
32-39	118-33	San Clemente Is. AFS, Calif.	FPS-3	Los Angeles
46-43	119-12	Othello AFS, Wash.	FPS-3	Walla Walla
48-22	124-41	Neah Bay AFS, Wash.	FPS-3	Seattle
48-55	122-44	Blaine AFS, Wash.	FPS-10	Seattle
46-25	123-47	Naselle AFS, Wash.	FPS-3	Astoria
38-33	121-16	Mather AFB, Calif.	CPS-6B	Sacramento
35-05	117-35	Baron AFS, Calif.	FPS-10	Los Angeles
48-36	117-34	Colville AFS, Wash.	FPS-3	Spokane
37-02	120-03	Madera AFS, Calif.	FPS-3	Fresno
32-53	116-25	Mt. Laguna AFS, Calif.	FPS-3	Los Angeles
33-19	104-33	Walker AFB, N. M.	MPS-7	Roswell
35-04	106-52	Kirtland AFB, N. Mex.	MPS-7	Albuquerque
45-13	123-45	Portland AFB, Ore.	MPS-11	Portland
45-05	83-34	Alpena AFS, Mich.	TPS-1D	Alpena
46-40	85-58	Grand Marais AFS, Mich.	TPS-1D	Sault Ste. Marie
45-02	99-58	Great Falls AFB, Mont.	MPS-7	Great Falls
44-04	92-20	Snelling AFS, Minn.	TPS-1D	Rochester
33-54	84-28	Marietta AFS, Ga.	MPS-11	Atlanta
38-09	88-06	Carmi AFS, Ill.	TPS-1D	Evansville
40-08	122-18	Red Bluff AFS, Calif.	MPS-11	Red Bluff
33-39	81-41	Aiken AFS, S. C.	FPS-3	Augusta
36-19	115-34	Las Vegas AFS, Nev.	FPS-3	Las Vegas
36-08	90-55	Walnut Ridge AFS, Ark.	MPS-11	Memphis
34-57	85-23	Flintstone AFS, Ga.	MPS-11	Chattanooga
32-40	114-35	Vincent AFB, Ariz.	MPS-7	Yuma

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

August 1, 1957

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

5-57

MEMORANDUM

0-4.23

TO : All First-Order Stations

FROM : Deputy Chief of Bureau

SUBJECT : Revision to Attachments 1 and 2 of Circular Letter 5-57,
Radar Observations of the Air Defense Command

The present attachments 1 and 2 to Circular Letter 5-57 should be detached from the letter and destroyed; the enclosed revised attachments 1 and 2 then stapled to the letter.

This memorandum may be destroyed when the above instructions have been complied with.

for 
D. M. Little

Enclosures(2)



Revised July 25, 1957

ATTACHMENT 1 to Circular Letter 5-57

Weather Bureau stations to which ADC sites would telephone
their radar observations of severe local storms

<u>LOCATION</u> <u>N. LAT.</u>	<u>W. LONG.</u>	<u>STATION</u> <u>NAME</u>	<u>RADAR</u> <u>TYPE</u>	<u>NEARBY WEATHER</u> <u>BUREAU STATION</u>
35-24	108-21	Continental Divide AFS, N. M.	FPS-3	Albuquerque
36-36	106-30	Tierra Amarilla AFS, N. M.	FPS-3	Albuquerque
40-23	73-59	Highlands AFS, N. J.	CPS-6B	Newark
42-01	70-03	North Truro AFS, Mass.	CPS-6B	Boston
43-53	69-55	Brunswick NAS, Me.	CPS-6B	* Portland
44-43	73-03	St. Albans AFS, Vt.	CPS-6B	* Burlington
47-22	88-10	Calumet AFS, Mich.	FPS-3	Marquette
46-30	95-06	Wadena AFS, Minn.	FPS-3	St. Cloud
43-53	95-56	Chandler AFS, Minn.	FPS-3	Sioux Falls
45-02	89-14	Antigo AFS, Wisc.	FPS-3	Green Bay
42-37	82-49	Selfridge AFB, Mich.	CPS-6B	WBAS, Detroit City Airport
43-08	78-50	Lockport AFS, N. Y.	CPS-6B	Buffalo
48-52	109-55	Havre AFS, Mont.	FPS-3	Havre
48-52	106-24	Opheim AFS, Mont.	FPS-3	Glasgow
48-54	103-52	Fortuna AFS, N. D.	FPS-3	Williston
48-00	101-17	Minot AFS, N. D.	FPS-3	Bismarck
47-30	97-52	Finley AFS, N. D.	FPS-3	Fargo
41-21	76-17	Benton AFS, Pa.	CPS-6B	Scranton
42-37	88-32	Williams Bay AFS, Wis.	CPS-6B	Milwaukee
44-48	86-03	Empire AFS, Mich	CPS-6B	Muskegon
45-15	92-38	Osceola AFS, Wis.	CPS-6B	Minneapolis
36-11	84-13	Lake City AFS, Tenn.	CPS-6B	Knoxville
38-26	81-40	Gutherie AFS, W. Va.	FPS-3	Charleston
41-04	71-52	Montauk AFS, N. Y.	FPS-3	WBO, New York
37-55	97-53	Hutchinson AFS, Kans.	CPS-6B	Wichita
43-55	75-54	Watertown AFS, N. Y.	FPS-3	Syracuse
43-01	73-41	Saratoga Springs AFS, N. Y.	FPS-3	Albany
35-02	105-49	Moriarity AFS, N. M.	FPS-3	Albuquerque
35-24	97-21	Tinker AFS, Okla.	CPS-6B	Oklahoma City
39-46	87-15	Rockville AFS, Inc.	CPS-6B	Indianapolis
39-14	74-41	Palermo AFS, N. J.	FPS-3	Atlantic City
38-37	77-26	Quantico MAS, Va.	FPS-3	Norfolk
37-07	75-57	Cape Charles AFS, Va.	FPS-3	Norfolk
44-01	83-00	Port Austin AFS, Mich.	FPS-3	WBAS, Detroit City Airport
41-13	80-33	Brookfield AFS, Ohio	FPS-3	Youngstown

Revised July 25, 1957

ATTACHMENT 2 to Circular Letter 5-57

LOCATION		STATION NAME	TYPE RADAR	NEARBY WEATHER BUREAU STATION
<u>N. Lat.</u>	<u>W. Long.</u>			
47-06	122-28	McChord AFB, Wash.	CPS 6B	Seattle
48-53	118-47	Curlew AFB, Wash.	FPS-3	Spokane
48-52	115-43	Yaak AFS, Mont.	FPS-3	Spokane
43-32	124-10	North Bend AFS, Ore.	FPS-3	Roseburg
33-57	120-07	U. S. Naval Adv. Base Depot Port Huenime, Calif.	FPS-10	Los Angeles
48-56	112-48	Cutbank AFS, Mont.	FPS-3	Great Falls
45-14	120-18	Condon AFS, Ore.	FPS-3	Portland
41-34	124-05	Klamath AFS, Calif.	FPS-3	Eureka
38-53	123-33	Point Arena AFS, Calif.	FPS-3	San Francisco
37-56	122-35	Mill Valley AFS, Calif.	CPS-6B	San Francisco
32-39	118-33	San Clemente Is. AFS, Calif.	FPS-3	Los Angeles
46-43	119-12	Othello AFS, Wash.	FPS-3	Walla Walla
48-22	124-41	Neah Bay AFS, Wash.	FPS-3	Seattle
48-55	122-44	Blaine AFS, Wash.	FPS-10	Seattle
46-25	123-47	Naselle AFS, Wash.	FPS-3	Astoria
38-33	121-16	Mather AFB, Calif.	CPS-6B	Sacramento
35-05	117-35	Baron AFS, Calif.	FPS-10	Los Angeles
48-36	117-34	Colville AFS, Wash.	FPS-3	Spokane
37-02	120-03	Madera AFS, Calif.	FPS-3	Fresno
32-53	116-25	Mt. Laguana AFS, Calif.	FPS-3	San Diego
33-19	104-33	Walker AFB, N. M.	MPS-7	Roswell
35-04	106-52	Kirtland AFB, N. Mex.	MPS-7	Albuquerque
45-13	123-45	Portland AFB, Ore.	MPS-11	Portland
45-05	83-34	Alpena AFS, Mich.	TPS-1D	Alpena
46-40	85-58	Grand Marais AFS, Mich.	TPS-1D	Sault Ste. Marie
45-02	99-58	Great Falls AFB, Mont.	MPS-7	Great Falls
44-04	92-20	Snelling AFS, Minn.	TPS-1D	Minneapolis
33-54	84-28	Marietta AFS, Ga.	MPS-11	Atlanta
38-09	88-06	Carmi AFS, Ill.	TPS-1D	Evansville
40-08	122-18	Red Bluff AFS, Calif.	MPS-11	Red Bluff
33-39	81-41	Aiken AFS, S. C.	FPS-3	Augusta
36-19	115-34	Las Vegas AFS, Nev.	FPS-3	Las Vegas
36-08	90-55	Walnut Ridge AFS, Ark.	MPS-11	Memphis
34-57	85-23	Flintstone AFS, Ga.	MPS-11	Chattanooga
32-40	114-35	Vincent AFB, Ariz.	MPS-7	Yuma

<u>LOCATION</u> <u>N. LAT.</u>	<u>W. LONG</u>	<u>STATION</u> <u>NAME</u>	<u>RADAR</u> <u>TYPE</u>	<u>NEARBY WEATHER</u> <u>BUREAU STATION</u>
40-17	78-33	Claysburg AFS, Pa.	FPS-3	Harrisburg
40-17	92-34	Kirksville AFS, Mo.	CPS-6B	Columbia
45-05	69-05	Charleston AFS, Me.	FPS-3	* Portland
46-27	84-23	Sault Ste. Marie AFS, Mich.	FPS-3	Sault Ste. Marie
42-20	85-16	Ft. Custer AFS, Mich.	FPS-3	Lansing
37-09	92-52	Fordland AFS, Mo.	FPS-3	Springfield
47-27	91-14	Finland AFS, Minn.	FPS-3	Duluth
38-28	89-54	Belleville AFS, Ill.	FPS-3	St. Louis
41-21	96-01	Omaha AFS, Nebr.	FPS-3	Omaha
38-50	94-54	Olathe NAS, Kans.	FPS-3	WBAS, Kansas City
40-22	83-43	Bellefontaine AFS, Ohio	FPS-3	Columbus
29-23	98-37	Lackland AFS, Texas	FPS-3	San Antonio
36-45	96-04	Bartlesville AFS, Okla.	CPS-6B	Tulsa
32-38	96-51	Duncanville AFS, Tex.	CPS-6B	Dallas
29-36	95-10	Ellington AFB, Tex.	CPS-6B	Houston
46-58	67-50	Coswell AFS, Me.	CPS-6B	* Caribou
42-41	92-29	Waverly AFS, Iowa	CPS-6B	Des Moines
37-53	86-00	Godman AFS, Ky.	FPS-3	Louisville
40-51	89-49	Hanna City AFS, Ill.	FPS-3	Peoria
27-55	82-30	McDill AFB, Fla.	MPS-7	Tampa
44-20	103-10	Ellsworth AFS, S. D.	MPS-7	Rapid City
35-30	101-40	Amarillo AFB, Tex.	MPS-7	Amarillo
46-25	105-50	Miles City AFS, Mont.	MPS-7	Billings
33-30	94-00	Texarkana AFS, Ark. .	MPS-7	Texarkana
32-20	106-58	Las Cruces AFS, N. M.	MPS-7	El Paso
32-54	80-02	Charleston AFS, S. C.	MPS-7	Charleston
44-40	71-46	North Concord AFS, Vt.	MPS-11	* Burlington, Vt.
44-38	67-24	Bucks Harbor AFS, Me.	MPS-11	* Portland, Me.

* Syracuse enters reports from these sites on RAWARC

UNITED STATES DEPARTMENT OF COMMERCE
(WEATHER BUREAU)
WASHINGTON

March 12, 1957

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

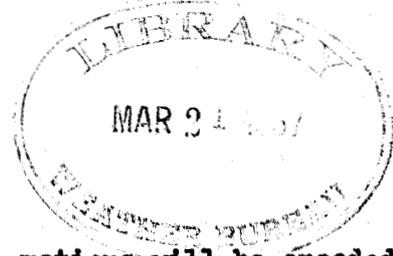
0-5

CIRCULAR LETTER NO. 6-57

TO : All First Order Stations

FROM : Chief of Bureau

SUBJECT: Coded JNWP Vertical Motion Prognostics



Beginning 11 March 1957 JNWP forecasts of vertical motions will be encoded for once daily Service C transmission. These forecasts will be included along with the 36-hour thermotropic prognostics in the FUUS transmitted at 0300Z. The same area will be covered.

Under the assumptions used in the thermotropic model, the forecast vertical motions are at the 500 millibar level. For forecasting purposes the encoded vertical motions can be assumed to be valid at the time of the accompanying 500 millibar prognostic, that is, at 0300Z, 36 hours from the basic 1500Z data.

The charts are analyzed in centimeters per second. Isopleths showing the rate of ascent (plus) and descent (minus) will be encoded to portray all significant areas. Usually isopleths for plus and minus values of 1, 3, 5 etc. at intervals of 2 cm/sec will be used. This may vary at times depending upon the situation. Under very flat conditions the plus and minus $\frac{1}{2}$ isopleths may be sent or a 1 cm/sec interval may be used. Under conditions with numerous isopleths, intermediate lines such as the 3 or 7 cm/sec isopleth may be omitted.

The words "VERTICAL MOTION" will be entered at the end of the 500 millibar prognostic and the coded vertical motions will follow. The code form used is an adaptation of the supplemental or prognostic section of the analysis code explained on page 23 of Weather Bureau publication, "U. S. Weather Analysis Code."

Details on the code and a sample message are on reverse side.

A handwritten signature in cursive script, reading "F. W. Reichelderfer".

F. W. Reichelderfer
Chief of Bureau

FILE: 630.1
CL 6-57
(Coded JNWP Vertical Motion Prognostics)
WASHINGTON, D. C.
3-12-57

Code

99900 Centers of maximum vertical motion follow.
70VVV Vertical velocity (10ths of cm/sec) in center of sinking air. (-)
QLL11 Location of center or centers.
75VVV Vertical velocity (10ths of cm/sec) in center of rising air. (+)
99922 Isopleths follow.
44VVV Isopleth defining area and vertical velocity of sinking air.
445VV Isopleth defining area and vertical velocity of rising air.
QLL11 QLL11 etc.

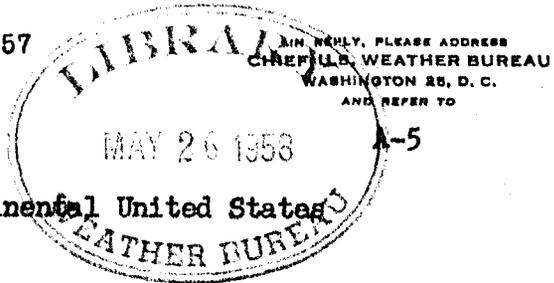
Sample Coded Message

VERTICAL MOTION

99900 70017 04852 03363 14500 75016 04388 75012 03580 13322 75055 14318
99922 44010 04345 05265 04773 04068 03270 02760 03557 04163 04962 04345
44010 15997 14303 13495 14595 15594 15997 44510 15507 13807 13813 13418
12922 13124 13424 14027 15022 15525 44530 15015 14510 13920 14523 15015
44550 14517 14415 14320 14517 44510 04787 04583 04188 04590 04787 44510
04073 03573 03085 03287 04073 19191.

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

March 14, 1957



FILE: 038.3
X 656.6

CL 7-57

(Slides Illustrating Operations of Tornado Warning Service)

WASHINGTON, D. C.
3-14-57

CIRCULAR LETTER NO. 7-57

TO : All First Order Stations in Continental United States
FROM : Chief of Bureau
SUBJECT: Slides Illustrating Operation of Tornado Warning Service

Later this month selected field offices will be supplied via the Regional Offices a set of twelve 35 mm. slides in 2"x2" cardboard film mounts dealing with tornadoes and the operation of tornado warning services. Each set consists of the following slides:

- 4 photographs showing actual tornadoes
- 2 photographs showing tornado damage
- 2 photographs showing radar equipment
- 4 illustrations on tornadoes and warning services

These slides may be used in public information and education activities relating to the establishment and operation of the tornado and severe storm warning services of the Weather Bureau. All or some of the slides may prove useful in illustrating talks on television programs and before civic organizations, safety agencies, schools, and other groups interested in Weather Bureau services for the protection of life and property.

Field stations which do not receive a set of these 12 slides by March 15, but which desire to have a set, should advise their Regional Administrative Office. Large field stations which need more than one set of these tornado slides should also advise their Regional Office.

Because of the cost factors involved it is not possible at the present time to furnish slide filing boxes, projectors, or screens. Field reports indicate that groups interested in having a Weather Bureau representative present a talk on storm services usually are able to arrange for the projector and screen.

Enclosed is a copy of some lecture notes, which briefly describe the photograph or drawings shown on each slide.

Proposals and suggestions for the preparation and distribution of additional sets of colored slides, which would describe many phases of Weather Bureau operations and services, are now being reviewed.

Comments received regarding the actual field experiences with this first set of 12 slides will be helpful in determining the value of colored slides in later public information programs relating to Weather Bureau activities.

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

Enclosure

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

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

A-5

LECTURE NOTES FOR SLIDES 1 to 12

TORNADOES

Introduction

These 12 slides illustrate tornadoes and the tornado warning services and operations of the Weather Bureau. They have been cleared for public showing for non-commercial purposes including television programs. If reproduced in printed form, credit should be given the photographer as indicated for each slide. Additional information relating to these slides, and to related published material, may be obtained by writing to "Chief, U. S. Weather Bureau, Washington 25, D. C."

SLIDE 1: TORNADO - May 25, 1956 - Tijeras Canyon east of Albuquerque, N.M.
(Taken by H. W. Garman, Edgewood, N. M.)

An excellent view showing a sharply curving funnel cloud and the ground debris stirred up by the tornado in open country. The base of the tornado is probably less than 1/4 mile wide.

Over the U. S. most tornadoes occur between February and September with the greatest number during May and June. While they can occur any time of the day, they are most frequent between 4 and 7 in the late afternoon. Wind measuring equipment cannot withstand the force of a tornado, but there is some evidence that wind velocities of more than 400 MPH sometimes occur in a tornado.

SLIDE 2: TORNADO - June 27, 1955 - Scottsbluff, Nebraska
(Taken by Max P. Liebers, 1601 Avenue G, Scottsbluff, Nebr.)

Another tornado showing the same characteristics - a funnel shaped cloud extending from a thundercloud. The rotating motion is indicated by the whirling dust as the tornado makes contact with the ground.

SLIDE 3: TORNADO - June 27, 1955 - Mitchell, Nebraska
(Taken by Paul Williams, Mitchell, Nebraska)

Note the clearness of the air except at the base of this tornado. Many tornadoes are accompanied by heavy rain which reduces the visibility.

SLIDE 4: TORNADO - July 31, 1956 - Tijeras, N.M.
(Taken by LeRoy Baker, 2738 Monroe, N.E., Albuquerque, N.M.)

Here is a tornado in mountainous country. While less common in the mountains, tornadoes do occur there and are just as dangerous as those in the plains.

SLIDE 5: TORNADO DAMAGE - June 9, 1953 - Worcester, Massachusetts
(Taken by Peter Mattson, 469 Shrewsbury, Holden, Mass.)

A sampling of damage from a New England tornado which traveled 46 miles, resulting in 90 deaths, 1,288 injuries, and over \$52,000,000 property damage.

SLIDE 6: TORNADO DAMAGE - May 11, 1953 - Waco, Texas
(Taken by H. C. Blaize, Jr., 2805 Monaw Avenue, Waco, Texas)

This brick building in Texas could not withstand a tornado which destroyed 335 buildings, damaged 900 others, and killed 114 people who believed that "tornadoes never happen here."

SLIDE 7: FORTY YEARS OF TORNADOES - Map of United States showing total number of tornadoes reported 1916-1955. Based on Figure 1 in Forecasting Guide No. 1, "Forecasting Tornadoes and Severe Thunderstorms."
(Weather Bureau Photo)

The greatest number have been reported in the Kansas area which is situated where the contrast between warm moist air at surface and cooler air at higher levels is comparatively high - a condition conducive to tornado formation.

It should be noted that many tornadoes have occurred over areas where they were not observed, and therefore are not included in this chart.

SLIDE 8: STORM RADAR - A schematic drawing showing use of radar in detecting storms. The range of most weather detecting radar is about 150 miles.
(Weather Bureau Photo)

SLIDE 9: RADAR TOWER - Photograph of radar tower at Hatteras, N. C. Tower is 65 feet high. Antenna reflector is 8 feet in diameter.
(Weather Bureau Photo)

This equipment detects other weather phenomenon such as hurricanes, thunderstorms, rain areas, etc., as well as tornadoes.

SLIDE 10: RADAR ROOM - Photograph of radar room showing observer at the console. Photographic and communications equipment is visible in the background. (Weather Bureau Photo)

SLIDE 11: OBSERVER NETWORK - A schematic drawing of observer network.
(Weather Bureau Photo)

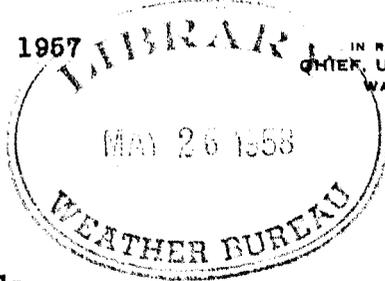
One of the most effective methods of gathering tornado reports is through volunteer observers.

SLIDE 12: TORNADO WARNING DISSEMINATION - (Weather Bureau Photo)

This picture illustrates how lives can be saved when volunteers report tornadoes to the nearest Weather Bureau office. Warnings are then issued and distributed by every available means so that safety precautions can be taken.

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

March 18, 1957



IN REPLY, PLEASE ADDRESS
CHIEF, U. S. WEATHER BUREAU
WASHINGTON 25, D. C.
AND REFER TO
R-3.7

FILE: 610
x 630.1
CL 8-57
(Preparation of Mean Layer Winds)

CIRCULAR LETTER NO. 8-57

TO : All First-Order Stations
FROM : Chief of Bureau
SUBJECT: Preparation of Mean Layer Winds

The Weather Bureau has been requested by the Atomic Energy Commission to provide additional winds-aloft data for use at the Nevada Test Site during a forthcoming test series. Effective April 1, 1957 the stations listed below will compute and transmit "Mean Layer Winds" for all of their radiosonde and pibal observations. The purpose of these "Mean Layer Winds" is to provide data necessary to produce more accurate forecasts for test activities.

- | | |
|--------------------------|-------------------------|
| Bishop, California | Phoenix, Arizona |
| Ely, Nevada | Salt Lake City, Utah |
| Fresno, California | San Diego, California |
| Grand Junction, Colorado | Santa Maria, California |
| Las Vegas, Nevada | Winnemucca, Nevada |
| Santa Monica, California | Winslow, Arizona |
| Medford, Oregon | (Yucca Flat and Tonopah |
| Milford, Utah | are already computing |
| Oakland, California | these data) |

The Mean Layer Winds data will be included as a part of the Winds Aloft Transmission on teletype immediately following the regular winds aloft message in a form

UX D₁D₁D₁S₁S₁ D₂D₂D₂S₂S₂ D₃D₃D₃S₃S₃ D₄D₄D₄S₄S₄ h

UX - Designator indicating "Mean Layer Winds"

D₁D₁D₁ - Wind direction to nearest whole degree for layer 5,000 to 15,000 feet

S₁S₁ - Wind speed in knots for layer 5,000 to 15,000 feet

The following subgroups would apply similarly to the layers: 15,000-25,000; 25,000-35,000 and 35,000-45,000. h is the thickness of the top layer in thousands of feet if the top layer is less than 9,500 feet thick.

Detailed instructions for the computation of these Mean Layer Winds have been forwarded directly to the stations involved and to forecast centers in the general area.

F. W. Reichelderfer
F. W. Reichelderfer

Information Copies To:

- | | |
|-----------------|------|
| All WBRAO's | ATA |
| WBRS, Las Vegas | AWS |
| | Navy |

WASHINGTON,
D. C.
5-18-57

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

January 31, 1958



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

0-4.23

ADDENDUM NO. 1 TO CIRCULAR LETTER NO. 8-57

TO : All First-Order Stations
FROM : Chief of Bureau
SUBJECT : Preparation of Mean Layer Winds

REFERENCE: Circular Letter No. 8-57, dated March 18, 1957,
file 610 x 630.1, same subject

Effective approximately the latter part of January 1958, Tucson, Ariz., Reno, Nev., and Yuma, Ariz., also will compute and transmit mean layer winds for all of their daily winds aloft observations. These data are required in forecasting for AEC test activities. The stations listed in the reference Circular Letter, except Phoenix, will continue to participate in this program.

F. W. Reichelderfer

Information copies to:
All WBRAO's
WBRS, Las Vegas, Nev.
ATA
AWS
Navy

FILE: 610
CL 8-57
(Addendum No. 1)

(Preparation of Mean Layer Winds)

WASHINGTON, D. C.
1-31-58

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

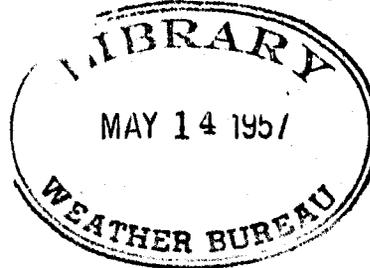
April 17, 1957

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

0-5

CIRCULAR LETTER NO. 9-57

TO : All First-Order Stations
FROM : Chief of Bureau
SUBJECT: Tropical Weather Summary



For several years, Miami WBO has issued, during the hurricane season, a daily tropical weather summary covering the Miami and San Juan districts west of longitude 60°W. This summary has proved so popular and successful that it will be extended this year to include all of the Gulf of Mexico in addition to the areas mentioned above. When a tropical storm moves up the Atlantic Coast, or threatens to do so, the summary will be extended to include that area.

The summary will be released to the press and distributed on the Hurricane Circuit and on 7072 at 1030E from June 15 to November 15 and may be started before June 15 if indications of a tropical storm are apparent.

It is believed that the principal value of the Tropical Weather Summary will be: (1) to provide assurance to areas in the main hurricane belt when conditions are stable and (2) to provide an additional day or two of alert in areas where conditions are becoming more unstable and more favorable for tropical storm inception. This preliminary early warning may save some small craft that might otherwise get into trouble in these instances when winds are already 40 to 60 mph by the time the first advisory or bulletin is issued.

When there is a tropical storm in progress, the summary may, if the outlook is sufficiently definite, mention in general terms the areas that appear to be under no further threat from the storm. It will also be permissible, in case of a distant storm, to indicate that certain areas will be under no threat within certain periods, e.g., next day or two. This will of course have to be done with a great deal of caution and will call for the exercise of the most expert judgment. There will be a definite requirement for close coordination between the Miami office and other hurricane forecast centers, especially when a tropical storm is in progress or when conditions are becoming favorable for the inception of a tropical storm. When one of the centers has information that they wish to have included in the summary, they should transmit it to Miami in time to reach there at least a half hour and preferably an hour before scheduled release time of 1030E.

When coordination by telephone seems desirable, it will ordinarily be initiated by Miami. However, the call may be initiated by any one of the other centers and this action is most likely to be required by the center having paramount responsibility for the area which the storm is threatening or in which the storm is located.

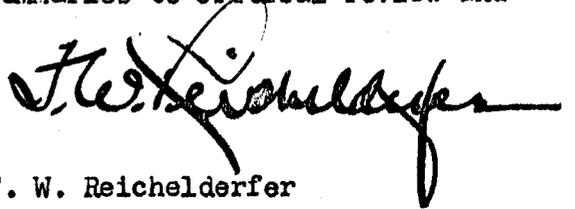
FILE: 656.4

CL 9-57

(Tropical Weather Summary)

WASHINGTON, D. C.
4-17-57

The Tropical Weather Summary should be the product of a team effort between the hurricane forecast centers. Within the general guide lines mentioned above there will be considerable latitude for developing the format and coverage. Individual centers should not only consult with WBO Miami when conditions warrant, but should subject the summaries to critical review and exchange suggestions for their improvement.

A handwritten signature in cursive script, appearing to read 'F. W. Reichelderfer', with a long horizontal flourish extending to the right.

F. W. Reichelderfer

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON



April 22, 1957

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

FILE: 041

CL 10-57

(Weather Bureau Cooperation in Distributing Road Conditions)

WASHINGTON, D. C.
4-22-57

CIRCULAR LETTER NO. 10-57

TO: All First-Order Stations in Continental United States

FROM: Chief of Bureau

SUBJECT: Weather Bureau Cooperation in Distributing Road Conditions

It is not normally a function of the Weather Bureau to collect and disseminate reports of road conditions. The Bureau can, however, cooperate with agencies that carry the main responsibility for this service particularly when the reports deal with hazardous driving conditions resulting directly from the weather or flood. In order to provide a uniform approach to this problem, and to insure that, without getting too deeply involved, the Bureau will cooperate where and when it can do the most good, the following procedures are recommended:

In those communities where local public weather circuits have been established, State Police or Highway Departments will be encouraged to obtain send-receive drops at their own expense and to enter on the circuit one or more daily bulletins of highway conditions. These releases will be clearly identified as originating at State Police or Highway Department offices.

At some Weather Bureau offices not having local teletypewriter circuits, road bulletins are occasionally obtained by other means. When this is the case, selected portions of such bulletins credited to the proper source may be included in direct radio broadcasts if hazardous driving conditions resulting directly from recent weather or flood events are involved.

So far as possible Weather Bureau offices should avoid distribution of road information by telephone. Callers should, as a rule, be referred to State Police, Highway Departments, or to other local agencies known to distribute the information. To provide additional information for use by other Weather Bureau offices, stations are authorized to transmit, on RAWARC, bulletins (or sections of them) concerning hazardous road conditions whenever those conditions are directly attributable to recent weather events. Only on rare occasions will the road bulletins be relayed to another RAWARC circuit. It is the responsibility of the originating station to indicate the relay required. For instance, Fort Wayne might wish the relay of a

bulletin for receipt at Detroit and Chicago. It will be Fort Wayne's responsibility to address the RAWARC message for relay to Detroit and Chicago.

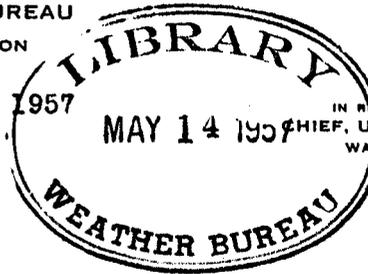
To avoid overloading the RAWARC circuit with routine reports, it is important that road condition reports be distributed on the circuit only when they contain information of hazardous driving conditions caused by recent weather events or floods. Routine transmission of road reports on RAWARC is not authorized.



F. W. Reichelderfer

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

April 29, 1957



CIRCULAR LETTER No. 11-57

To : All Stations

From : Chief of Bureau

Subject: Reporting of Tornadoes, Funnel Clouds and Waterspouts.

Reference: Circular N, Pars. 3110, 3920, 9131(1) and 9132.4.

GENOT 51, dated April 19, 1957 instructed communications personnel to give priority handling on Service A to certain messages marked "urgent" by Weather Bureau personnel. Among the messages to be so marked are special observations concerning tornadoes, funnel clouds and waterspouts.

Accordingly, all first-order stations whose reports are transmitted on Service A teletypewriter by CAA communications personnel should clearly mark "URGENT" in bold block letters on autographic (WB Form 630-4, (formerly 413-7) Telautograph, etc.) copies of special observations concerning these storms furnished the CAA for dissemination. Those stations which transmit their own reports should become familiar with the new communications instructions and give reports of such phenomena proper priority of transmission.

We should like to take this opportunity to urge all second-order paid (part-time) observers and all SAWRS observers to report tornadoes occurring in the vicinity of their stations, regardless of their duty status at the time. Normal communications channels should be used if possible; otherwise, a collect telephone call should be made to the supervising first-order station or any nearby Weather Bureau station, requesting the telephone operator to treat the call as an emergency.

F. W. Reichelderfer

FILE: 610

CL 11-57

(Reporting of Tornadoes, Funnel Clouds and Waterspouts)

WASHINGTON, D. C.
4-29-57

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON
May 13, 1957

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

AND REFER TO
9-1-22



CIRCULAR LETTER NO. 12-57

To : All First-Order Stations

From : Chief of Bureau

Subject: Change in times of surface observations

Reference: CO Memorandum, 0-5.21, file 610.2x610.1, dated March 22, 1957

Effective at 0000 GCT, June 1, 1957, the designated times for record aviation and synoptic observations will be thirty minutes earlier than present instructions. The definitions of time on Attachment 1 may aid in effecting the change.

Please note that the change will occur at all U.S., Alaskan, Eastern Pacific stations, and Caribbean stations on May 31, LST, and will involve a record observation with a reference time of 2330 GCT (1830 EST) followed by one at 0000 GCT (1900 EST) which is to be recorded on the May 31 WBAN-10, giving 25 record observations for that day. For the purpose of computing mean wind values for May 31, all 25 values from the record observations should be averaged.

Attached are write-in changes to Circular N necessary to correct the manual to conform with the new times of observations.

Because of a diversity of communications systems necessary for collection of observations from some second-order paid (A, and SA) stations, non-airline SAWRS, etc., it is not feasible to write standard instructions to these types of stations. The supervising first-order stations should issue written instructions to each synoptic, Coast Guard (including Light Ships), second-order aviation, and non-airline SAWR stations under their supervision, giving the approximate times the observation should be started, and the desired time the observation should reach the monitoring first-order station for entry on teletypewriter circuits.

Insofar as possible, second-order aviation and non-airline SAWR stations should be instructed to advance their time of observation; i.e., if the first scheduled observation for the day is now the 0730 LST observation, it should be scheduled for 0700 LST effective June 1. There will undoubtedly be some stations unable to do this, and in such cases the MIC of the supervising station should make interim arrangements, then write a summary of the problems through the RAO to the Central Office for final decision. Where it is believed that problems could be solved by a personal visit, the MIC should request travel authorization from the Regional Administrative Office if a quarterly authorization is not currently available for visits to second-order stations.

FILE: 610
x 610.6

CL 12-57

(Change in times of surface observations)

WASHINGTON, D. C.
5-13-57

Second-order synoptic and Coast Guard synoptic reporting stations must, of course, be instructed to conform with the standard synoptic hours.

In issuing these instructions, please keep in mind that it is very desirable to have all observations made as closely as possible to the standard time of observation, and deviation should be held to a minimum consistent with assuring receipt in time for teletypewriter transmission.

Instructions to airline operated SAWR stations are being coordinated through the Regional Administrative Offices and the Air Transport Association (ATA). Supervising stations will be notified of the hours on which these SAWRS will report, and in some cases may be asked to work out the final details on times of beginning and filing of the observations.

Forms 500-3 should be prepared at this time for only those stations at which it is not possible to advance the time of all observations by 30 minutes. The new times should be marked on the supervising station copy of Form 500-3 for all stations, however, to be included in the next rendition necessary for other reasons.

Summary:

1. Observation times will be advanced 30 minutes effective 0000 GCT, June 1, 1957 (May 31, LST).
2. First-order stations should issue written instructions to second-order stations other than airline operated SAWRS under their supervision.
3. Second-order stations should in general take observations 30-minutes earlier than at present.
4. Form 500-3 required only if all observations cannot be made 30-minutes earlier than at present.


F. W. Reichelderfer

Attachments

cc: All RAO's
All WRPC's
FAWS Offices, Attn: Field Inspector

Attachment 1 to Circular Letter No. 12-57

Times ascribed to Observations. In surface aviation and surface synoptic observations, times ascribed to observations have the following meanings:

1. ACTUAL Time. The actual time of an observation is the time at which the observer reads the barometer. The barometer will be read as the next to last element of the observation (see Par. 9010) and will be read as closely as possible to the hour of reference, with consideration for computational and filing times required to allow dissemination on long-line teletypewriter circuits. Other elements will be observed within 10 minutes preceding the time the barometer is read, unless otherwise excepted (as in the case of thunderstorms and the heights of cirriform cloud layers). The actual time of observing an individual element is usually unspecified, except in the foregoing general terms, but may be specified separately.
2. STANDARD Time. Standard time (official time or time of reference) is the nominal time ascribed to an observation when reference is not being made to a more precise or specific time such as time of beginning, ending, recording, filing, or transmission.
3. ASCRIBED Time. The time of the last entry of an observation on WBAN-10; i.e., the time entered in Column 2 of WBAN-10A (see Par. 11102).
4. FILING Time. Once the observation is recorded in a suitable or prescribed form for transmission it is termed a weather report. The time that the report is delivered to communications personnel is the filing time of the report.
5. SCHEDULED Filing Time. (Aviation observations only) The scheduled filing time is the time ascribed to the beginning of a teletypewriter sequence collective, i.e., time shown in Sequence heading.
6. SCHEDULED Time of Transmission. The advertised time the report is transmitted on a communications system. This time is often the time that transmission of the first of a sequence of reports is begun.
7. ACTUAL Time of Transmission. The time that a particular report is transmitted over a communications system.

Attachment 2 to Circular Letter No. 12-57

Changes to Circular N, unabridged, pertaining to the change in times of surface observations, effective 0000 GCT, June 1, 1957. Note, for example, the aviation observation filed at 2358 LST May 31, 1957 (i.e., the 0000 LST observation for June 1), will be entered, as the last observation of the day, on WBAN-10 for May 31, in accordance with Circular N, Par. 11102. The following changes should be made in ink:

Page 7, Par. 1471(1,a), change times to 1700 and 1800 GCT, respectively.

Page 20C, Par. 1631, 5th line, change "thirty minutes past the hours" to "the beginning of each hour."

Page 23, Par. 2411.2, 5th line, change "30 minutes past the" to "the beginning of each."

Page 30, Par. 3910.1, 4th line, change "30 minutes past the" to "the beginning of each."

Page 32A, add this note to the examples "Consider all times in these examples to be 30 minutes later than specified."

Page 36, Par. 4061, 2nd. line, change "1830" to "1740."

Page 36, footnote 2, change "1230" to "1140."

Page 40, Par. 4301(1), 10th line, change text in parentheses to "(0000, 0600, 1200, and 1800 GCT)."

Page 40, Par. 4320, last line, change "0028" to "0000."

Page 40B, Par. 4370, change "1228" to "1200" in 4 places, and in the last line change "1150" to "1130."

Page 49, Fig. 5-1, change time that pen is touched daily to 0045, 0645, 1245 and 1845, respectively.

Page 55, Par. 5550.1(1), 2nd. line, change times to 0000, 0600, 1200, and 1800 GCT, respectively.

Page 56, Par. 5590, next to last line, change "0410" to "1140."

Page 68, Par. 7121, change "0030" to "0000" and "0630" to "0600."

Page 80, add this note to the pressure-jump examples: "Consider all times to be 30 minutes earlier than illustrated."

Page 105, Par. 9110, next to last line, change to read: "minutes preceding the time of the last entry of the observation on WBAN-10, unless otherwise excepted."

Page 108, Par. 9310. End the first sentence at the end of the 4th line. As a substitute for the deleted portion of the sentence, insert "Synoptic or aviation observations scheduled for 0000 LST constitute the midnight observation also, except that precipitation measurements will be taken as necessary to complete the midnight data."

Page 109, footnote 2, change the times to 0000, 0300, and 0600 respectively.

Page 110, Table 10-1, change times in center and right-hand column captions to 0000Z and 0600Z respectively in each column.

Page 110, Par. 10155.1, 2nd line, change "1228" to "1200."

Page 111, Par. 10156.1, 2nd line, change "1228" to "1200," and in 4th line change times to 1800, 0000, and 0600, respectively.

Page 112, Par. 10157.(1)-(4), change times to 0000, 0600, 1200, and 1800, respectively.

Page 112, Par. 10157.2(1) & (2), change times to "0000Z (1900E)" and "1200Z (0700E)" respectively.

Page 112, Par. 10159, change "1230" to "1200" in three places; change "1330" to "1300" and "1430" to "1400."

Page 112A, Par. 10161.1, last line, change "1137M" to "0737M."

Page 112Bb, (Air Force station copies only), next to last line, change "1530" to "1500."

Page 115, Par. 10351.1(1), next to last line, change times to read "061955E, 112356Z."

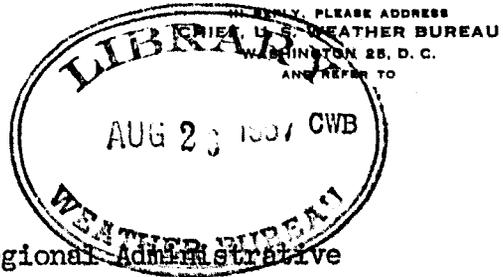
Page 118B, Par. 11101(2), next to last line, change to read "record-special) filed (for transmission) on or after 0000 LST. Note that the reference here is to the scheduled filing time, as shown in the heading of Service A hourly sequence reports, not to the scheduled or actual transmission times."

Pages 122A and 123, add this note: "Consider all times to be 30 minutes later than illustrated. Owing to several errors in examples (to be corrected in Change 4), in case of disagreement between text and examples, consider the text to be correct."

After the foregoing changes have been made, file this Circular Letter in Circular N until Change 4 has been received and incorporated in the Manual.

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

June 4, 1957



CIRCULAR LETTER NO. 13-57

To: Central Office Divisions and Offices, Regional Administrative Offices, and all First Order Stations

From: Chief of Bureau

Subject: Correspondence with Foreign Meteorological Services.

Recent events indicate that there is some question about appropriate form and source of correspondence to be sent to foreign meteorological services. In addition to the instructions given in Chapter F-10 of the Weather Bureau Manual, the following guides should be observed:

1. Copies of internal Weather Bureau memoranda, letters, or dispatches should not normally be sent to foreign meteorological services. Copies of internal communications containing information of a quasi-confidential nature, such as criticism of Bureau units, policy questions, etc., should never be so distributed.
2. Communications with foreign meteorological services concerning questions of policy or major program should be approved by the Chief of Bureau or the representative to whom he has delegated this authority.

It is recognized that in some areas where there is frequent contact between Weather Bureau field officials and those of foreign services, considerable freedom of communication is essential in order to carry out Bureau programs. It is not intended to restrict such communications unnecessarily. All concerned are reminded, however, of the need to exercise good judgment and discretion in these contacts, to refrain from sending communications on matters beyond the scope of their authority, and to consult headquarters on questions of policy or major program involving foreign meteorological services.

F. W. Reichelderfer
Chief of Bureau

FILE: 054.1
CL 13-57

(Correspondence with Foreign Meteorological Services)

WASHINGTON, D. C.
6-4-57

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

June 10, 1957

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

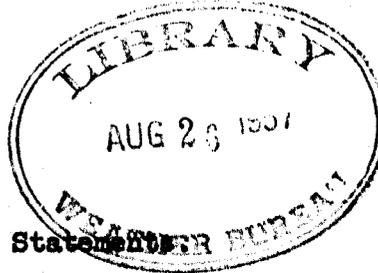
0-5.34

CIRCULAR LETTER NO. 14-57

TO : All First Order Stations

FROM : Chief of Bureau

SUBJECT: Thirty-Day Hurricane Probability Statements



For the past two years the Extended Forecast Section has prepared twice a month a 30-day outlook on hurricane probabilities for internal Weather Bureau use during the hurricane season. These outlooks have been quite successful. Beginning with mid-June 1957, this information will be released to the public on an experimental basis.

These probability statements will be prepared and released by HURIC, Miami, on the basis of semi-monthly hurricane outlooks furnished by Extended Forecast Section. The statements will be carefully worded for public consumption and will include statistical and climatic information. Every effort will be made to minimize chances for the outlooks being misinterpreted. Each release will state that it is being issued on an experimental basis.

Examples of hurricane probability statements that might have been issued in mid-June and mid-August 1956 are:

Experimental 30-day Hurricane Probability, mid-June to mid-July 1956

Records for the past 75 years show that on the average a tropical cyclone may be expected to develop during the period from June 16 to July 15 about once every three years. A full hurricane is likely only once in five years. Almost all the June tropical storm tracks of record have been confined to the extreme western Caribbean and the Gulf of Mexico. By mid-July a few hurricanes have been noted off the south Atlantic coast.

The 30-day outlook prepared by the Weather Bureau's Extended Forecast Section indicates from mid-June to mid-July, 1956, a greater than normal chance for tropical cyclone activity. This is based on the forecast location of the Bermuda-Azores high pressure area, which largely influences the summer weather over the Atlantic and the extreme eastern U. S. This anticyclone is expected to be north of its normal position, and in addition pressures are forecast to be below normal over the subtropical Atlantic area. This combination is likely to produce at least one hurricane or tropical

FILE: 6564

CL 14-57

(Thirty-Day Hurricane Probability Statements)

WASHINGTON, D. C.
6-10-57

storm (winds of 39 mph. or more) during the period, probably occurring in the extreme western Caribbean or Gulf of Mexico. The most vulnerable portion of the U. S. appears to be the Gulf coastal region.

Experimental 30-day Hurricane Probability, mid-August to mid-September 1956

The height of the hurricane season is normally reached during the first half of September and records for the last 75 years indicate an average of almost three tropical cyclones from mid-August to mid-September with about two-thirds reaching full hurricane intensity. Hurricanes have occurred in all areas of the tropical and subtropical Atlantic during this period. Many developed east and north of the West Indies and followed long paths.

For the 30-day period beginning in mid-August, below normal hurricane activity is indicated in the hurricane outlook prepared by the Weather Bureau's Extended Forecast Section. Latest trends forecast a return to westerly flow in the middle troposphere at lower latitudes than is usually the case this time of year. This type of circulation is normally associated with subnormal hurricane frequency and also tends to shunt any hurricanes that do form away from the north Atlantic and middle Atlantic coasts. Therefore, below normal hurricane frequency is suggested for the next 30 days. However, one or two hurricanes or tropical storms (winds 39 mph. or higher) are expected to develop.

Distribution of the statements from HURIC, Miami will be made over internal Weather Bureau circuits and will be given to press and radio services at Miami, as well as being furnished San Juan. Release time will be about 1100E on the date of the issuance of the regular semi-monthly 30-day forecasts. Local offices receiving the hurricane probability statements may make any additional public distribution considered desirable.



F. W. Reichelderfer

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

August 8, 1957

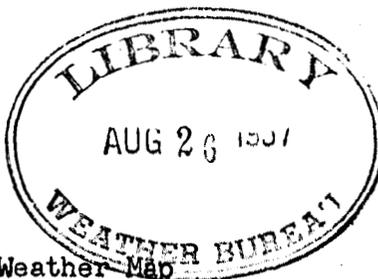
IN REPLY, PLEASE ADDRESS
CHIEF, U. S. WEATHER BUREAU
WASHINGTON 25, D. C.
AND REFER TO
0-5

CIRCULAR LETTER NO. 15-57

TO : All First Order Stations

FROM : Chief of Bureau

SUBJECT: Use of the Printed Daily Weather Map



The Weather Bureau publishes and distributes each day a carefully prepared analysis of weather conditions as observed at 0100 EST (0600 GMT). This map is well known to all Weather Bureau employees as copies are mailed to all stations daily.

The purpose of this letter is to make certain that all stations recognize all of the reasons for mailing copies to them. It is recognized that the map is received too late for current uses such as issuance of forecasts. Stations must continue to use facsimile and locally prepared maps for forecasting. However, there are several important uses for the map.

The most important use of the printed map is as a standard with which locally prepared maps can be compared. Every effort is made to print a map that is accurate. All data received up to 0530 EST are used in preparing the analysis. The analyses are prepared by the competent NAWAC staff. All of this means that the map is an excellent standard for quality control of locally prepared maps. The earlier this quality check can be made, the more useful it becomes to the station. For this reason, air mail delivery to stations is encouraged.

The printed map is more complete and more accurate than the map transmitted by facsimile. This is true because more time is available for analysis and later data can be used.

As a corollary to the above, a second use of the map is as a training aid for new employees and for Meteorological Aids studying to become Meteorologists. These employees can plot and analyze an 0600Z map as time permits and then compare their work with the standard map.

A third important use is as a reference file for research. All stations should, as time permits, study local situations and try to develop ways of preparing better local forecasts. The printed map is a very handy guide to synoptic situations, a guide that can be filed rather conveniently. Inclusion of the major features at the surface 12 hours previous to map time, the 500 millibar analysis, and the special temperature and precipitation charts add to the research value. It might be necessary to obtain other charts for any major research project.

112 791

FILE: 753

CL 15-57

(Use of the Printed Daily Weather Map)

WASHINGTON, D.C.
8-8-57

There are of course other uses for the map. It provides a source of information for answering inquiries from students and the public. The map back articles are also an excellent source of information about meteorological subjects and weather services.

To make full use of the map might require more than one copy at some stations. Extra copies (except in quantity) may be obtained regularly or as needed by requesting them from F&SR Division, attention 0-5.32. Air mail delivery will be authorized also if requested.

A handwritten signature in black ink, reading "F. W. Reichelderfer". The signature is written in a cursive style with a long, sweeping underline that extends to the right.

F. W. Reichelderfer

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON
August 13, 1957

FILE: 630
X 041

CL 16-57

(U.S. Participation in the IGY Program - Communications)

WASHINGTON, D.C.
8-13-57



IN REPLY, PLEASE ADDRESS
CHIEF, U. S. WEATHER BUREAU
WASHINGTON 25, D. C.
AND REFER TO
0-5.23

CIRCULAR LETTER NO. 16-57

TO : All First Order Stations
FROM : Chief of Bureau
SUBJECT : U. S. Participation in the IGY Program - Communications
REFERENCE: Circular Letter No. 2-57 dated January 10, 1957

The referenced CL gave details of the IGY ALERT and Special World Interval (SWI) distribution scheme and established a trial period to test communications systems which would be used to accomplish delivery. Details were also given concerning the format and content of messages.

Studies were conducted during the course of the trial period which resulted in the adoption of shorter standard texts for these messages. They are, as those previously in effect, in plain language and are self-explanatory. They resemble the old texts closely enough so that there should be no difficulty in the transition. The new texts, taken from a WMO report, are as follows:

Actual texts of messages

Meaning

- | | |
|---|--|
| (1) AGI WARNING NO. . . .
ALERT STARTS xx/1600Z | A state of ALERT starts at 1600 UT on the date given in figures in place of "xx" |
| (2) AGI WARNING NO. .* . .
ALERT CONTINUES xx/1600Z | The state of ALERT already in force is continued for another day from 1600 UT on the date given in figures in place of "xx" |
| (3) AGI WARNING NO. . . .
ALERT FINISHES xx/1600Z | The state of ALERT which has been in force finishes at 1600 UT on the date "xx" |
| (4) AGI WARNING NO. . . .
SWI STARTS yy/0001Z | A Special World Interval is declared. It starts at 0001 UT on the date given in figures in place of "yy" (Note: the date "yy" is always the day following the date of issue of this warning message) |
| (5) AGI WARNING NO. . . .
SWI CONTINUES xx/1600Z | The Special World Interval already in force is continued for another day from 1600 UT on the date "xx" |
| (6) AGI WARNING NO. . . .
SWI FINISHES xx/2359Z
AND ALERT CONTINUES | The Special World Interval which is in force finishes at 2359 UT on date "xx". The state of ALERT is continued for another day. |

- *
- (7) AGI WARNING NO. . . . The Special World Interval which is in force
SWI FINISHES xx/2359Z finishes at 2359 UT on date "xx". The state
AND ALERT FINISHES of ALERT also finishes at the same time and
date
- *
- (8) AGI WARNING No. . . . A state of ALERT starts at 1600 UT on date "xx";
ALERT STARTS xx/1600Z AND a Special World Interval is declared to start
AND SWI STARTS yy/0001Z at 0001 UT on date "yy" (Note: The date "yy" is
always the day following the date "xx")
- *
- (9) AGI WARNING No. . . . There is no state of ALERT.
NO ALERT xx/1600Z

NOTES:

- (i) * The number (No.) of the Warning Message is given in English words (ONE, TWO, etc.); the Message No. ONE was issued at 1600 UT on 1 June 1957, at the beginning of the Advance Trial Month of the IGY.

These numbers given by the AGI World Warning Agency should be retained in all translations of the Messages so as to facilitate their easy identification.

- (ii) IGY Warning messages are issued EVERY DAY at 1600 UT by the IGY World Warning Agency (AGI WARN WASHINGTON) and only at that hour daily. The date of issue is indicated in the above texts by "xx".
- (iii) Times given are always in UT (Universal Time); for purposes of the IGY World Days programme, UT can be considered the same as GCT, GMT, "Greenwich Time", "Zero Meridian Time", "Z-Time, etc.
- (iv) It is of utmost importance that centres rebroadcasting or retransmitting these messages should NOT add anything to these messages (such as their own internal service instructions etc.); or alter them in any manner whatsoever. Any change in the messages, however small, causes confusion and interferes seriously with the smooth working of the programme; and it is imperative that the messages must be circulated always in the exact form in which they are issued by the World Warning Agency.

In order to enable countries and stations in remotely located areas to ascertain the state of ALERT in force at any given time, the World Warning Agency at Fort Belvoir and other Administrations have arranged for the "current state of Alert" to be disseminated over broadcast facilities. These broadcasts are as follows:

	Stations	Frequencies	Times of Broadcast	Details of Broadcast	Codes used and meaning												
1	WWV (Maryland, U.S.A.)	2.5, 5, 10, 15, 20 and 25 Mc/s	Twice every hour at 04.3 and 34.3 minutes after the hour	Signals in Morse Code	<table border="0"> <thead> <tr> <th data-bbox="1032 417 1105 449">Code</th> <th data-bbox="1243 417 1357 449">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="1032 459 1162 491">AGI-AAAA</td> <td data-bbox="1187 459 1406 523">State of Alert is current</td> </tr> <tr> <td data-bbox="1032 544 1162 576">AGI-EEEE</td> <td data-bbox="1187 544 1453 608">No State of Alert is current</td> </tr> <tr> <td data-bbox="1032 640 1162 672">AGI-SSSS</td> <td data-bbox="1187 640 1406 757">SWI will begin at 0001 UT on the following day</td> </tr> <tr> <td data-bbox="1032 768 1162 800">AGI-Three)</td> <td data-bbox="1187 768 1333 863">SWI is in extra long)progress dashes)</td> </tr> <tr> <td data-bbox="1032 895 1162 927">AGI-TTTT</td> <td data-bbox="1187 895 1438 1012">SWI which is in progress termi- nates at 2359 UT on the same day</td> </tr> </tbody> </table>	Code	Meaning	AGI-AAAA	State of Alert is current	AGI-EEEE	No State of Alert is current	AGI-SSSS	SWI will begin at 0001 UT on the following day	AGI-Three)	SWI is in extra long)progress dashes)	AGI-TTTT	SWI which is in progress termi- nates at 2359 UT on the same day
Code	Meaning																
AGI-AAAA	State of Alert is current																
AGI-EEEE	No State of Alert is current																
AGI-SSSS	SWI will begin at 0001 UT on the following day																
AGI-Three)	SWI is in extra long)progress dashes)																
AGI-TTTT	SWI which is in progress termi- nates at 2359 UT on the same day																
2	WWVH (Hawaii)	5, 10 and 15 Mc/s	Twice every hour at 14.3 and 44.3 minutes after the hour	- do -	- do -												
3	JJY (Tokyo, Japan)	4, 5, 8, 10 and 15 mc/s	Twice every hour at 18 and 48 minutes after the hour <u>except at 1618</u> <u>and 1648 UT</u> when there will be no signal	- do -	- do -												
4	LOL (Buenos Aires, Argentina)	5, 10 and 15 Mc/s	Every five minutes com- mencing from the 4th minute after the hour, during one minute interrup- tion of Audio- tone, <u>from</u> <u>1100 to 0300 UT</u>	- do -	- do -												

Region	Name of Station	Coordinates	Call Sign	Frequency	Type of Transmission	Time of Broadcast GMT	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<u>ANTARCTIC</u>	Weather Central Little America (USA)	78° 16'S 162° 28'W	NIA	6470.5 12005.5 17237.5		2000 or 0200 as warning messages are available	Warning messages will be broadcast <u>BOTH</u> before and after the weather summary
<u>ARCTIC</u>	DIXON (USSR)	73° 30'N 80° 14'E	UUJ	6555	A ₁ A ₂	1835 2135	Alert, SWI and meteorological data
	Tixie Bay (USSR)	71° 40'N 128° 54'E	RYC	6515) 9290)	A ₁ A ₂	1910 2210	-do- -id-
	Reykjavik (Iceland)		TFW	3835 7335 10250 17.85*	A ₁	1910 2210	-do- -id- *This frequency is used when short-wave propagation conditions are poor

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
	Thule (Greenland)	76°N 68°W		98.5	A ₁	1900 2100	- do - - id -	
	Sodankyla (Finland)	67°22'N 26°39'E	OFB	8107 14607 20362	A ₁	Not yet fixed		
	Ice Floe Stations of USA and USSR		<u>Details not yet available</u>					

F. W. Reichelderfer
F. W. Reichelderfer

V.F.

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON
September 12, 1957

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

0-4.23

FILE: 630
x 610.2

CL 17-57

(Discontinuance transmission 0600 and 1800 GCT Raob data)

WASHINGTON, D.C.
9-12-57

CIRCULAR LETTER NO. 17-57

TO : All First-Order Stations

FROM : Chief of Bureau

SUBJECT: Discontinuance transmission 0600 and 1800 GCT raob data

Effective with the 0600 GCT observation, October 1, 1957, rawinsonde stations that now transmit four rawinsondes daily will transmit the rawin data only for the 0600 and 1800 GCT observations. This accords with the Bureau's long-range plans of two rawinsondes and two rawins daily at stations in the rawinsonde network. At most four-per-day rawinsonde stations, the intermediate observations will be taken with modified radiosondes that do not yield temperature and humidity data, so that the raob data, in any case, would not be available. However, the change at this time is motivated by fiscal considerations related to the conservation of materiel and the maximum utilization of available staff. Following is a list of the stations affected:

Albany	Peoria
Amarillo	Pittsburgh
Buffalo	Salem
Denver	Salt Lake City
Dayton	Santa Monica
Flint	Sault Ste. Marie
Fort Worth	Seattle
Montgomery	Shreveport
New York	Silver Hill
Norfolk	Topeka
Oakland	Tucson

Outstanding provisions for requesting special on-call upper-air observations under conditions of severe weather are not affected by the curtailment of the routine rawinsonde program.

F. W. Reichelderfer



D. M. Little
Acting Chief of Bureau

Moll
4587
ci

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

October 15, 1957

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

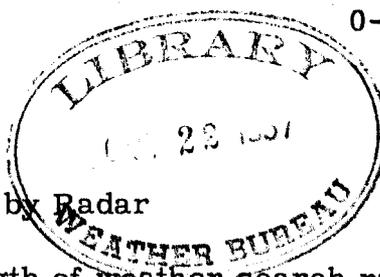
0-4.23

CIRCULAR LETTER NO. 18-57

TO : All First Order Stations

FROM : Chief of Bureau

SUBJECT: Effects of Exposure to Radiation by Radar



FILE: 145
X 458 5

CL 18-57

(Effects of Exposure to Radiation by Radar)

With the rapid increase in number and strength of weather search radars, it becomes increasingly important that all concerned become more familiar with possible hazards associated with the absorption of radiation from such transmissions. We have made a study of investigations on the subject, a summary of which follows:

It has not been possible to determine precisely the effects of microwave radiation on the human body. Investigators agree that heating of the exposed tissues, due to the absorption of microwave energy, is the major cause of damage. Danger from X rays, ultraviolet rays, etc., does not exist outside the transmitting cabinets when the doors are closed, due to shielding. A recent study conducted by the Naval Medical Research Institute includes preliminary estimates of threshold field intensities of microwave radiation which may produce detectable tissue damage. According to this research, where live animals were exposed at close range to 10 cm. microwaves, the structures most likely to be damaged appear to be the body as a whole, the lens of the eye, and the testis. The body as a whole can tolerate only a moderate temperature increase; the lens of the eye, which can tolerate relatively high temperatures, has extremely poor cooling facilities, such as by circulation of blood; the testis is extremely sensitive to high temperature. The undesirable effects are, on the whole body, heat disablement; on the eye, the formation of cataracts; and on the testis, tubular injury, causing possible temporary or permanent infertility.

Of the three, the testis appears to be the limiting factor with regard to possible hazard. The following table shows the relationship between a steady state microwave field strength and the resulting temperature changes:

Structure	Initial Temp. (°F)	Maximum Temp. (°F)	Steady State Field Strength (milliwatts/cm ²)
Whole Body	98.6	102.2	100
Eye	98.6	113.0	155
Testis	96.1	98.6	5

WASHINGTON, D. C.
10-15-57

The above maximum temperatures are the lowest temperatures at which any detectable damage occurred. It should be noted that detectable damage was done on the testis at a temperature of 98.6°F. (after a minimum exposure time of 1 hour). Such a condition is not at all unusual in the course of every day living and is almost certainly repairable naturally. Even considerably more than the minimum testicular damage would probably be reversible. A cataract on the lens of an eye would be considered a more serious event but requires considerably greater exposure.

For Weather Bureau radars, the average field intensity of the beam from the antenna is approximately as follows:

Type	Field Strength in the Beam	
	at Antenna	35 ft. from Antenna
WSR-1 and 3	.7 mw/cm ²	.4 mw/cm ²
WSR-57	1.0 " "	.8 " "
SP-1M	8 " "	5 " "

All the threshold temperature data are based on steady state field strength. When the radar antenna is rotating, the energy available at any point due to beam penetration of the above radars would be less than 1% of the values listed. The computed values of field strength in the beam do not hold for areas very near the antenna (within about 6 feet) where much stronger fields may be present.

SUMMARY

On the basis of the above information, it appears there would be no danger whatever from even the most powerful (SP-1M) Weather Bureau radars as long as the individual is outside the radar dome and the antenna is rotating. Even with a stationary beam pointing directly at the subject (which ordinarily could occur only momentarily), if he is as much as 35 feet from the antenna, continuous exposure to the most powerful Weather Bureau radar would cause no damage whatever. For the WSR-1 and 3 models, approximately 5 to 10 times the energy available would be required before damage would be expected under any conditions outside the dome. Substantial walls, such as masonry, absorb a large portion of microwave radiation.

Nevertheless, whenever the initial 35 feet of the SP-1M radar beam penetrates areas which may be occupied by human beings, it is

important that a transmitting antenna not be left stationary in that direction for long periods of time. All personnel, especially technicians, should avoid exposure at very close range of transmitting portions of any radar antenna.

This information should be circulated among all concerned, and as more definite information becomes known, it will be made available.

F. W. Reichelderfer

A handwritten signature in cursive script, appearing to read "D. M. Little".

D. M. Little
Acting Chief of Bureau

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

October 15, 1957

FILE: 145
x 458.5

CL 18-57

(Effects of Exposure to Radiation by Radar)

WASHINGTON, D. C.
10-15-57

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



CIRCULAR LETTER NO. 18-57

TO : All First Order Stations

FROM : Chief of Bureau

SUBJECT: Effects of Exposure to Radiation by Radar

With the rapid increase in number and strength of weather search radars, it becomes increasingly important that all concerned become more familiar with possible hazards associated with the absorption of radiation from such transmissions. We have made a study of investigations on the subject, a summary of which follows:

It has not been possible to determine precisely the effects of microwave radiation on the human body. Investigators agree that heating of the exposed tissues, due to the absorption of microwave energy, is the major cause of damage. Danger from X rays, ultraviolet rays, etc., does not exist outside the transmitting cabinets when the doors are closed, due to shielding. A recent study conducted by the Naval Medical Research Institute includes preliminary estimates of threshold field intensities of microwave radiation which may produce detectable tissue damage. According to this research, where live animals were exposed at close range to 10 cm. microwaves, the structures most likely to be damaged appear to be the body as a whole, the lens of the eye, and the testis. The body as a whole can tolerate only a moderate temperature increase; the lens of the eye, which can tolerate relatively high temperatures, has extremely poor cooling facilities, such as by circulation of blood; the testis is extremely sensitive to high temperature. The undesirable effects are, on the whole body, heat disablement; on the eye, the formation of cataracts; and on the testis, tubular injury, causing possible temporary or permanent infertility.

Of the three, the testis appears to be the limiting factor with regard to possible hazard. The following table shows the relationship between a steady state microwave field strength and the resulting temperature changes:

Structure	Initial Temp. (°F)	Maximum Temp. (°F)	Steady State Field Strength (milliwatts/cm ²)
Whole Body	98.6	102.2	100
Eye	98.6	113.0	155
Testis	96.1	98.6	5

The above maximum temperatures are the lowest temperatures at which any detectable damage occurred. It should be noted that detectable damage was done on the testis at a temperature of 98.6°F. (after a minimum exposure time of 1 hour). Such a condition is not at all unusual in the course of every day living and is almost certainly reparable naturally. Even considerably more than the minimum testicular damage would probably be reversible. A cataract on the lens of an eye would be considered a more serious event but requires considerably greater exposure.

For Weather Bureau radars, the average field intensity of the beam from the antenna is approximately as follows:

Type	Field Strength in the Beam	
	at Antenna	35 ft. from Antenna
WSR-1 and 3	.7 mw/cm ²	.4 mw/cm ²
WSR-57	1.0 " "	.8 " "
SP-1M	8 " "	5 " "

All the threshold temperature data are based on steady state field strength. When the radar antenna is rotating, the energy available at any point due to beam penetration of the above radars would be less than 1% of the values listed. The computed values of field strength in the beam do not hold for areas very near the antenna (within about 6 feet) where much stronger fields may be present.

SUMMARY

On the basis of the above information, it appears there would be no danger whatever from even the most powerful (SP-1M) Weather Bureau radars as long as the individual is outside the radar dome and the antenna is rotating. Even with a stationary beam pointing directly at the subject (which ordinarily could occur only momentarily), if he is as much as 35 feet from the antenna, continuous exposure to the most powerful Weather Bureau radar would cause no damage whatever. For the WSR-1 and 3 models, approximately 5 to 10 times the energy available would be required before damage would be expected under any conditions outside the dome. Substantial walls, such as masonry, absorb a large portion of microwave radiation.

Nevertheless, whenever the initial 35 feet of the SP-1M radar beam penetrates areas which may be occupied by human beings, it is

important that a transmitting antenna not be left stationary in that direction for long periods of time. All personnel, especially technicians, should avoid exposure at very close range of transmitting portions of any radar antenna.

This information should be circulated among all concerned, and as more definite information becomes known, it will be made available.

F. W. Reichelderfer

A handwritten signature in cursive script, appearing to read "D. M. Little".

D. M. Little
Acting Chief of Bureau

UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
WASHINGTON

December 26, 1957

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

AND REFER TO
0-5.34

FILE: 656
X 657

CL 19-57

(Severe Weather Forecasts and Warnings)

CIRCULAR LETTER NO. 19-57

TO : All First Order Stations
FROM : Chief of Bureau
SUBJECT: Severe Weather Forecasts and Warnings

The Weather Bureau has no greater responsibility than that of preparing and distributing forecasts and warnings of impending severe weather that may threaten lives and property. This means that there may be times when routine work, such as writing local forecasts, compiling temperature and precipitation data for the press, or even taking an hourly observation, may have to be temporarily suspended in order that an emergency forecast or urgent warning can be distributed rapidly to the public in and near threatened areas.

Attention also needs to be given to occasional warning-distribution delays resulting from preoccupation of radio and television broadcasters with routine activities. Many radio stations have only a skeleton staff (sometimes only one person) on duty during certain periods of the 24 hours. These people are usually busy with the microphones and broadcast equipment and they also answer telephone calls from the public. As a result, emergency forecasts and warnings that they receive over press wires may go unnoticed for long periods of time. Weather Bureau officials should give serious consideration to the need for telephoning stations in their areas of county responsibility to call attention to urgent forecasts and warnings that have been relayed over the press wires for immediate broadcast. Sometimes it may also be necessary to draw special attention to such material sent on local public service teletypewriter circuits.

All officials making use of press wires as one of the means for distribution of warnings are requested to check with the local press services to determine the hours during which warnings cannot be transmitted immediately within a state. This may occur during periods of each day when national news is being transmitted from New York, as well as during periods when local or state press offices are closed. At such hours, other arrangements should be made for the distribution of urgent warnings.

If you have any questions about the intent of the above, or any comments or suggestions about these distribution problems, please let us know.



F. W. Reichelderfer

A handwritten signature in cursive script that reads "F. W. Reichelderfer".

WASHINGTON, D.C.
12-26-57