

FACSIMILE BROADCAST STATIONS

CALL SIGN	STATION	STATION NO.
AXM	Canberra	450153.
JMH	Tokyo	450103.
NHB	Kodiak	410101.
NKA	Asmara, Ethiopia	440201.
NPG	San Francisco	410501.
NPM	Pearl Harbor	460301.
NPN	Guam	460101.
NSS	Washington, D.C.	410502.
RJTZ	Tokyo	450101.
RSJ	Khabarovsk, USSR	430101.
VFC 3	Cambridge Bay, N.W.T.	410316.
VFE	Edmonton	410304.
VVD	New Delhi, India	440401.
WMH	San Francisco	410602.
WMI	San Francisco	410602.
WMK	San Francisco	410604.
WMM	San Francisco	410604.
SYE	Nairobi, Kenya	440101.

Including N.M. 9/66
Feb. 26, 1966

(Chg. 6)
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410100 ALASKA

410101 KODIAK (NHB)

This is the Kodiak (NHB) Fleet Facsimile Broadcast. The facsimile map is a Polar Stereographic projection (1:15,000,000; true at 60 degrees North), and the area is enclosed by the following recommended points:

38.3N-126.0W
24.0N-172.7E
41.0N-127.3E
71.2N- 82.0W

TIMES AND FREQUENCIES

0600-1800	2356	kcs	F4	5 KW
0600-1800	4825	kcs	F4	5 KW
Continuous	8622	kcs	F4	10 KW
1800-0600	12817.5	kcs	F4	15 KW
1800-0600	17045.6	kcs	F4	15 KW

SCHEDULE OF TRANSMISSIONS

Time of Trans	Time of Obs	Contents of Trans
0000 to Clear	1200	700 mb Analysis
	1200	500 mb Analysis
	1800	Surface Analysis
	1200	700 mb prog.
	1200	500 mb prog.
	1800	Surface prog.
0300	0000	24 hr. Sea condition prog.
1200 to Clear	0000	700 mb Analysis
	0000	500 mb Analysis
	0600	Surface Analysis
	0000	700 mb prog.
	0000	500 mb prog.
	0600	Surface prog.
1500	1200	24 hr. Sea condition prog.

NOTES: 1. All transmissions are at 120 I.P.M. I.O.C.-576.
2. Polar Ice Pack and/or SATELLITE information, when available, will follow last scheduled transmission.
3. Information prepared by U.S. Fleet Weather Central Kodiak.

INFORMATION DATED: *1967* ~~January 1966~~

33/67
Including N.M. ~~43/66~~
Oct. 22, 1966

410300 CANADA

410304 EDMONTON (VFE)

TIMES AND FREQUENCIES

0000-2400	5360 ²	kcs	F4	15 KW
	8184	kcs	F4	15 KW
	11615	kcs	F4	5 KW
	15770.5	kcs	F4	5 KW

Index of co-operation 576 Modulation FSK
Speed of Transmission 120 rpm

SCHEDULE OF TRANSMISSIONS

Time of Trans	Time of Obs	Contents of Trans	Map Area
0033 ¹	1200	Upper air prognosis; significant weather 500-150 mb, 700 mb	A
0156	0000	500 mb analysis (Early)	B
0210	0000	Surface analysis (Early)	C
0221	0000	Contour and vorticity 500 mb (NWP RADAT)	B
0317 ¹	0000	Vorticity and 500 mb initial conditions (USWB)	L
	1200	Barotropic prognosis 12 hr (USWB)	L
	0000	Barotropic prognosis 24 hr (USWB)	L
	1200	Barotropic prognosis 36 hr (USWB)	L
0333	0000	Surface analysis (CYWG)	F
0406	0000	Selected high level winds analysis	G
0416	0000	Surface analysis (Complete)	B/D/E
0440 ¹	5 days	Extended forecast (USWB; Mon., Wed., Fri., 6 charts 9"X5" Ice depiction (Once weekly)	K
0510	1200	Surface and 500 mb prognosis (30-36 hr on one chart)	M
0528	0000	850 mb analysis	B
0542	0000	700 mb analysis	B
0556 ¹	1800	Upper air prognosis; 300 mb tropopause/vertical wind shear	A
0617	0000	500 mb contour and vorticity analysis (Pacific NWP)	D
0625	0000	500 mb analysis (Complete)	B/D/E
0650	0000	Surface analysis (Arctic, CYEG)	H
0800 ¹	1800	Upper air prognosis, 500 mb	A

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0811	0600	Surface analysis (Early)	C	1804 ¹	0600	Upper air prognosis 300 mb	A
0822 ¹	1800	Upper air prognosis; significant weather 500-150 mb, 700 mb	A	1815	1200	500 mb contour and vorticity analysis (Pacific, NWP)	D
0843	0000	300 mb analysis	B	1823	1200	500 mb analysis (Complete)	B/D/E
0857	0600	Surface analysis (CYEG)	I	1951	0600	Upper air prognosis; tropopause/vertical wind shear, 500 mb	A
0933	0600	Surface analysis (CYWG)	F				
1002	0000	Frontal contour analysis	B	2012	1800	Surface analysis (Early)	C
1016	0600	Surface analysis (Complete)	B/D/E	2023 ¹	0600	Upper air prognosis; significant weather 500-150 mb, 700 mb	A
1040	0600	Surface prognosis (CYEG)	H				
1109	1200	Surface and 500 mb prognosis (30-36 hr on one chart)	M	2044	1200	300 mb analysis	B
				2058	1800	Surface analysis (CYEG)	I
1140 ¹	0000	Upper air prognosis; 700, 300 mb, tropopause/vertical wind shear	A	2124	1200	100 mb and 300 mb analysis (2 charts)	L
				2142	1800	Surface analysis (CYWG)	F
1229 ¹	0000	Upper air prognosis; 500 mb, significant weather 500-150 mb	A	2202	1200	Frontal contour analysis	B
				2216	1800	Surface analysis (Complete)	B/D/E
1356	1200	500 mb analysis (Early)	B	2240	1200	Surface prognostic (CYEG)	I
1410	1200	Surface analysis (Early)	C	2253	1800	Surface analysis (Arctic, CYEG)	H
1421	1200	Contour and vorticity 500 mb (NWP RADAT)	B	2309	0000	Surface and 500 mb prognosis (30-36 hr on one chart)	M
1435	1200	Printed record of observed temperature and precipitation reports (Previous day CWVG)	NA	2350 ¹	1200	Upper air prognosis A significant weather 500-150 mb, 700 mb	
1453	1200	Surface analysis (CYEG)	I				
1505		Test and maintenance period				NOTES: 1. Two or three charts transmitted without pause between them only the first being preceded by control signals.	
1535 ¹	1200	Vorticity and 500 mb initial conditions (USWB)	L			2. Frequency 5360 kcs has been temporarily discontinued under the present sunspot number.	
	0000	Barotropic prognosis 12 hr (USWB)	L			3. The majority of charts transmitted by Edmonton radio originate at Montreal (Central Analysis Office or High Level Long Range Aviation Forecast Office) whence they are transmitted by landline. The landline amplitude modulated (AM) signals are converted at the Edmonton radio transmitting site to frequency shift (FSK) signals. The landline portion of the system is connected to 69 stations.	
	1200	Barotropic prognosis 24 hr (USWB)	L			4. Several chart transmissions to the Canadian National circuit are copied from the United States National system. They are indicated by inclusion of (USWB).	
	0000	Barotropic prognosis 36 hr (USWB)	L				
1551	1200	Surface analysis (CYWG)	F				
1606	1200	Selected high level winds analysis	G				
1616	1200	Surface analysis (Complete)	B/D/E				
1710	0000	Surface and 500 mb prognoses (30-36 hr on one chart)	M				
1728	1200	850 mb analysis	B				
1742	1200	700 mb analysis	B				
1756	0000	Surface and 500 mb extended prognosis (72 hr on one chart)	N				

NOTES: 1. Two or three charts transmitted without pause between them only the first being preceded by control signals.

2. Frequency 5360 kcs has been temporarily discontinued under the present sunspot number.

3. The majority of charts transmitted by Edmonton radio originate at Montreal (Central Analysis Office or High Level Long Range Aviation Forecast Office) whence they are transmitted by landline. The landline amplitude modulated (AM) signals are converted at the Edmonton radio transmitting site to frequency shift (FSK) signals. The landline portion of the system is connected to 69 stations.

4. Several chart transmissions to the Canadian National circuit are copied from the United States National system. They are indicated by inclusion of (USWB).

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5. In addition some charts listed below are Regional charts originated at Edmonton and Winnipeg Forecast Offices. They are indicated by letters (CYXD) and (CYWG).
6. Edmonton radio is designed to transmit to Resolute NWT. Other receiving stations in NW Canada also copy the facsimile transmissions. As the major lobe of energy occurs around an azimuth of approximately 20° true, reception at stations located outside of this fan of energy is problematical.
7. Map Areas:
 - A. 62N-166W, 56N- 25W,
33N- 65W, 36N-124W
 - B. 62N-158W, 36N- 22W,
13N- 72W, 23N-133W
 - C. 62N-171W, 51N- 27W,
21N- 73W, 25N-124W
 - D. 28N-135E, 52N-115E,
30N-137W, 16N-158W
 - E. 52N-115E, 31N- 04E,
36N- 22W, 62N-158E
 - F. 61N-148W, 60N- 54W,
35N- 79W, 36N-123W
 - G. 57N-147W, 46N- 42W,
27N- 65W, 34N-125W
 - H. 64N-178W, 73N- 04E,
53N- 60W, 49N-125W
 - I. 62N-176W, 63N- 74W,
38N-102W, 38N-148W
 - J. 60N-164W, 47N- 46W,
32N- 71W, 39N-138W
 - K. 39N-157E, 39N- 37W,
15N- 81W, 15N-158W
 - L. 64N-174E, 54N- 23W,
21N- 78W, 23N-128W
 - M. 54N-142E, 35N- 11W,
10N- 74W, 18N-138W
 - N. 51N-175W, 39N- 41W,
22N- 70W, 29N-143W

INFORMATION DATED: March 1965.

410316 CAMBRIDGE BAY, N.W.T. (VFC 3)

TIMES AND FREQUENCIES

0215-0415 3253 kcs F4
1515-1715 7710 kcs F4

INFORMATION AVAILABLE

Ice information/seasonal

SCHEDULE OF TRANSMISSIONS

Time of Trans	Contents of Trans
0200-1400	Observed or forecast ice information.
1700-1900	Charts transmitted at the previous schedule are retransmitted.
NOTES: 1. Drum speed 120 r.p.m. 2. Map areas: Beaufort Sea, Amundsen Gulf, and other western arctic waters as required by surface vessels operating in the area. Only parts of the area may be covered.	
3. The ice forecasting staff moves their base of operation to Resolute, N.W.T. about the end of July.	
4. Cambridge, Frobisher and Resolute all are assigned the same frequencies for facsimile transmissions. Adjustments are made to the schedule for transmission so that there is no interference. Frobisher is scheduled to commence transmission at 0015 and 1300 daily. Transmission continues until material at hand is completed. Cambridge or Resolute, whichever is in operation at the time, then may commence operation.	
5. Due to the variability of the dates of operation and the fact that the scheduled times of chart transmissions may change, masters of vessels operating in Canadian Arctic waters should be warned to refer to the manual entitled "Radio Aids to Marine Navigation" and amendments thereto, published by the Department of Transport, Ottawa for specific details of Cambridge Bay, Frobisher and Resolute facsimile charts transmitted by radio.	

INFORMATION DATED: March 1966.

Including N.M. 15/67
15 April 1967

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410500 UNITED STATES OF AMERICA**410501 SAN FRANCISCO, CALIF. (NPG)**

This is the San Francisco, (NPG) Fleet Facsimile Broadcast. The areas are enclosed by the following points:

AREA A AREA B AREA C

20N-173W 26N-138E 32N-173E
10N-160W 9N-163W 14N-160W
30N-115W 9N-73W 28N-112W
51N-116W 26N-14W 64N-100W

AREA D AREA E AREA F

38N-141W 48N-138W 53N-169W
02S-141W 18N-116W 18N-133W
02S-75W 19N-76W 10N-72W
38N-75W 50N-55W 33N-38W

AREA G AREA H

10N-170E 47N-126E
55N-135E 78N-160W
05S-125W 20N-160W
15N-90W 13N-171E

TIMES AND FREQUENCIES

Continuous	3268	kcs	F4	1	KW
Continuous	5345	kcs	F4	10	KW
Continuous	9455	kcs	F4	20	KW
1500-1000	14927.5	kcs	F4	15	KW
1800-0600	18080	kcs	F4	15	KW
1800-0600	21785	kcs	F4	15	KW

SCHEDULE OF TRANSMISSIONS

Time of Trans	Contents of Trans	Area
0026	Available Satellite	
0039	Extended FCST Charts 5 day (Mon-Wed-Fri) 72 hr (Tues-Thurs-Sat-Sun)	B
0052	Extended FCST Charts	B
0113	Significant Weather Prog	VT12
0126	700 Mb 18 hr Prog	A
0139	500 Mb 18 hr Prog	VT12
0152	300 Mb 18 hr Prog	A
0213	200 Mb 18 hr Prog	VT12
0226	500 Mb 48 hr Prog (NWP)	A
0239	Available Satellite	VT12
0252	Available Satellite	G
0313	Surface Analysis 00	D
0326	(Surface Analysis 00	C
0339	BT Part 1 (NWP)	
0352	BT Part 2 (NMP)	
0413	Available Satellite	

0426	500 Mb Anal	00	F
0439	850 Mb Anal	00	F
0452	700 Mb Anal	00	F
0513	Freezing Level	00	E
0526	Sea Temp Anal (NWP)	00	G
0539	Circuit Line up		
0613	300 Mb Anal	00	F
0626	200 Mb Anal	00	F
0639	Significant Weather		
0652	Prog	VT18	A
0652	500 Mb 18 hr		
0713	Prog	VT18	A
0713	200 Mb 18 hr		
0726	Prog	VT18	A
0726	500 Mb 12 hr		
0739	Prog (NWP)	VT12	G
0739	300 Mb 12 hr		
0752	Prog (NWP)	VT12	G
0752	Sfc Pres 24 hr		
0813	Prog (NWP)	VT12	G
0813	Sfc Pres 36 hr		
0826	Prog (NWP)	VT12	G
0826	500 Mb 24 hr		
0839	Prog (NWP)	VT00	G
0839	Comb Sea Ht		
0852	12 hr Prog (NWP)	VT12	G
0852	Comb Sea Ht		
0913	36 hr Prog (NWP)	VT12	G
0926	Surface Analysis 06	D	
0926	Surface Analysis 06	C	
0939	Surface Analysis (60 RPM)	C	
1013	Mixed Layer		
1013	Depth Anal (NWP)	00	G
1026	Mixed Layer		
1026	Depth (NWP)	VT00	G
1026	24 hr Prog		
1039	Available Satellite		
1052	300 Mb 24 hr		
1139	Prog (MWP)	VT00	G
1226	Circuit Line up		
1226	Significant Weather		
1239	Prog	VT00	A
1239	300 Mb 18 hr		
1252	Prog	VT00	A
1252	200 Mb 18 hr		
1313	Prog	VT00	A
1313	500 Mb 18 hr		
1326	Prog	VT00Z	A
1326	700 Mb 18 hr		
1352	Available Satellite		
1439	Available Satellite		
1452	Available Satellite		
1513	Surface Analysis 12	D	
1526	Surface Analysis 12	C	
1539	500 Mb Anal	12	F
1552	850 Mb Anal	12	F
1613	- Surface Analysis 06	H	
1626	700 MB Anal	12	F
1639	Freezing Level	12	E
1713	- Surface Analysis 06	H	

410502 WASHINGTON, D.C. (NSS)

410602 WASHINGTON, D.C.

This is the Washington (NSS) Fleet Facsimile Broadcast.
See notes for areas and map descriptions.

CALL SIGN, TIMES AND FREQUENCIES¹

NSS	Continuous	3357 kcs	4F4	5 kw
NSS	0000-1030	4975 kcs	4F4	15 kw
NSS	Continuous	8080 kcs	4F4	15 kw
NSS	2300-1900	10865 kcs	4F4	15 kw
NSS	0515-0000	16410 kcs	4F4	15 kw
NSS	Continuous	20015 kcs	4F4	15 kw

SCHEDULE OF TRANSMISSIONS¹

Time of Trans	Base/Valid Time	Contents of Trans.	Map Area	0400	00Z	850MB ANAL SONIC LAYER DEPTH ANAL ²	C-2
0000		Transmitter Adjustment		0412	12Z	SELECTED BATHY-THERMOGRAPHS ³	N
0012		Test Chart		0424	12Z	PROG 36HR SONIC LAYER DEPTH ³	N
0024	00Z	PROG 30HR SFC/36HR 1000-500MB THKNS	FH	0436	00Z	SEA SFC TEMPERATURE ANAL ³	N
0036	12Z	500MB SL ANAL	B	0448	12Z	SPECIAL REQUIREMENTS	N
0048	00Z	500MB SD 36HR PROG	B	0500		SPECIAL REQUIREMENTS	
0100	12Z	5-DAY MEAN(MWF)/PROG 48-72HR SFC (STTS)	NH/C-I	0512		SPECIAL REQUIREMENTS	
0112	12Z	PROG 24-48HR SFC (MWF)/HORIZ TEMP GRAD ² (TTS)	NH/N	0524	00Z	700MB ANAL SFC ANAL/1000-500MB THKNS	C-2
0124	12Z	PROG 72-96HR SFC (MWF)/OCEAN CURRENTS ² (TTS)	NH/N	0536	00Z	500MB ANAL-NWP	FH
0136	12Z	PROG 120-144HR SFC (MWF)/WIND DRIFT SFC CURRENTS ² (TTS)	NH/N	0548	00Z	700MB ANAL-NWP	G
0148	00Z	500MB SR 36HR PROG	B	0600	00Z	300MB ANAL-NWP	G
0200	00Z	500MB SL 36HR PROG	B	0612	00Z	300MB ANAL	G
0212	12Z	500MB SD 48HR PROG	B	0624	00Z	200MB ANAL	C-2
0224	12Z	500MB SR 48HR PROG	B	0636	00Z	HORIZONTAL WX DEPICT	C-2
0236	12Z	500MB SL 48HR PROG	B	0648	00Z	SPECIAL REQUIREMENTS	C-6
0248		Special Requirements		0700		SPECIAL REQUIREMENTS	
0300		Special Requirements		0712	00Z	PROG 24HR 500MB-NWP	G
0312	00Z	500MB ANAL	C-2	0724	00Z	PROG 24HR 850MB-NWP	G
0324	00Z	SURFACE ANAL (PART 1)	C-3	0736	00Z	PROG 24HR 700MB-NWP	G
0336	00Z	SURFACE ANAL (PART 2)	C-4	0748	00Z	PROG 24HR 300MB-NWP	G
0348	00Z	PROG 24HR SFC/WX DEPICT (PRELIM)	C	0800	00Z	PROG 24HR 200MB-NWP	G
See footnotes at end of table.				0812	12Z	PROG 36HR 500MB-NWP	G
0336		SURFACE ANAL 0000 (PART 2)	C-4	0824		SFC TROPICAL ANAL	C-6
0348		PROG 24 HR SFC/WX DEPICT (PRELIM)	00	0836	12Z	PROG 12HR COMB SEA WAVE ³	F
0400		850 MB ANAL 0000	C-2	0848	12Z	PROG 12HR CARIB COMB SEA ³	C-5
0412		SPECIAL REQUIREMENTS		0900	00Z	200MB TROPICAL ANAL	C-6
0424		SPECIAL REQUIREMENTS		0912	12Z	PROG 36HR 300MB-NWP	G
0436-				0924	06Z	SURFACE ANAL (PART 1)	C-3
0524				0936	06Z	SURFACE ANAL (PART 2)	C-4
0524		700 MB ANAL 0000		0948	00Z	PROG 24HR SFC/WX DEPICT (FINAL)	C
0536		SFC ANAL/1000-500 MB THKNS 0000	FH	1000	00Z	SPECIAL REQUIREMENTS	
0548		500 MB ANAL 0000-NWP	C			See footnotes at end of table.	
1400-				1400-		FACSIMILE SCHEDULE	
1436				1436		SPECIAL REQUIREMENTS	
1448				1448		SPECIAL REQUIREMENTS	
1500				1500		SPECIAL REQUIREMENTS	
1512				1512		500 MB ANAL 1200	C-2
1524				1524		SURFACE ANAL 1200 (PART 1)	C-3
1536				1536		SURFACE ANAL 1200 (PART 2)	C-4
1548				1548	12	PROG 24 HR SFC/WX DEPICT (PRELIM)	C
1600				1600		850 MB ANAL 1200	C-2
1612				1612		SPECIAL REQUIREMENTS	
1624				1624		SPECIAL REQUIREMENTS	
1636-				1636-			
1724				1724		700 MB ANAL 1200	C-2

WASHIN GTON FLEET FACSIMILE BROADCAST

This is the Facsimile portion of the Washington Fleet Facsimile/Radioteletype broadcast. See Notes for areas and map projections.

TIMES AND FREQUENCIES

Continuous	3357 kcs	F4	5 KW
0000-1030	4975 kcs	F4	15 KW
Continuous	8080 kcs	F4	15 KW
2300-1900	10865 kcs	F4	15 KW
0515-0000	16410 kcs	F4	15 KW
Continuous	20015 kcs	F4	15 KW

SCHEDULE OF TRANSMISSIONS

Time of Trans.	Contents of Trans.	Valid Time	Map Area
0000-0024	TRANSMITTER ADJUSTMENT		
0024	PROG 30 HR SFC/36HR 1000-500 MB THKNS	00	FH
0036	SPECIAL REQUIREMENTS		
0048	SPECIAL REQUIREMENTS		
0100	5 DAY MEAN (MON-WED-FRI)/PROG 48-72 HR SFC (SAT-SUN-TUE-THU)	12	NH/C-1
0112	PROG 24-48 HR SFC (MON-WED-FRI)	12	NH
0124	PROG 72-96 HR SFC (MON-WED-FRI)	12	NH
0136	PROG 120-144 HR SFC (MON-WED-FRI)	12	NH
0148	SONIC LAYER DEPTH (SLD) ANAL 1200		N
0200	PROG 36 HR SONIC LAYER DEPTH (SLD)	00	N
0212	SELECTED BATHYTERM-OGRAPHS		NA
0224	SEA SFC TEMP ANAL 1200		N
0236	SPECIAL REQUIREMENTS		
0248	SPECIAL REQUIREMENTS		
0300	SPECIAL REQUIREMENTS		
0312	500 MB ANAL 0000		C-2
0324	SURFACE ANAL 0000 (PART 1)		C-3
0336	SURFACE ANAL 0000 (PART 2)		C-4
0348	PROG 24 HR SFC/WX DEPICT (PRELIM)	00	C
0400	850 MB ANAL 0000		C-2
0412	SPECIAL REQUIREMENTS		
0424	SPECIAL REQUIREMENTS		
0436-			
0524			
0524	700 MB ANAL 0000		C-2
0536	SFC ANAL/1000-500 MB THKNS 0000	FH	
0548	500 MB ANAL 0000-NWP		G

0600	700 MB ANAL 0000-NWP		G
0612	300 MB ANAL 0000-NWP		G
0624	300 MB ANAL 0000		C-2
0636	200MB ANAL 0000		C-2
0648	SPECIAL REQUIREMENTS		
0700	HORIZONTAL WX DEPICT 0000		
0712	PROG 24 HR 500 MB-NWP	00	G
0724	PROG 24 HR 850 MB-NWP	00	G
0736	PROG 24 HR 700 MB-NWP	00	G
0748	PROG 24 HR 300 MB-NWP	00	G
0800	SFC TROPICAL ANAL 0000		C-6
0812	PROG 24 HR 200 MB-NWP	00	G
0824	PROG 36 HR 500 MB-NWP	12	G
0836	500 MB TROPICAL ANAL 0000		C-6
0848	PROG 12 HR COMB SEA WAVE	12	F
0900	PROG 36 HR 300 MB-NWP	12	G
0912	200 MB TROPICAL ANAL 0000		C-6
0924	SURFACE ANAL 0600 (PART 1)		C-3
0936	SURFACE ANAL 0600 (PART 2)		C-4
0948	PROG 24 HR SFC/WX DEPICT (FINAL)	00	C
1000	PROG 12 HR CARIB COMB SEA	12	C-5
1012	PROG 48 HR 500 MB-NWP	00	G
1024	PROG 72 HR 500 MB-NWP	00	G
1036	PROG 36 HR COMB SEA WAVE	12	F
1048	PROG 36 HR CARIB COMB SEA	12	C-5
1100	HV LVL SIG WX (400-150 MB)	00	F
1112	SPECIAL REQUIREMENTS		
1124	SPECIAL REQUIREMENTS		
1136	SPECIAL REQUIREMENTS		
1148	PROG 30 HR SFC/36 HR 1000-500 MB THKNS	12	FH
1200-	TRANSMITTER ADJUSTMENT		
1224	SPECIAL REQUIREMENTS		
1236	SPECIAL REQUIREMENTS		
1248	SPECIAL REQUIREMENTS		
1300	SPECIAL REQUIREMENTS		
1312-			
1400-	FACSIMILE SCHEDULE		
1436	SPECIAL REQUIREMENTS		
1448	SPECIAL REQUIREMENTS		
1500	SPECIAL REQUIREMENTS		
1512	500 MB ANAL 1200		
1524	SURFACE ANAL 1200 (PART 1)		C-2
1536	SURFACE ANAL 1200 (PART 2)		C-4
1548	PROG 24 HR SFC/WX DEPICT (PRELIM)	12	C
1600	850 MB ANAL 1200		C-2
1612	SPECIAL REQUIREMENTS		
1624	SPECIAL REQUIREMENTS		
1636-			
1724	700 MB ANAL 1200		C-2

410501—continued

1726	Sea Temp Anal (NWP)	12	G
1739	Circuit Line Up		
1813	300 Mb Anal	12	F
1826	200 Mb Anal	12	F
1839	Significant Weather Prog	VT06	A
1852	500 Mb 18 hr Prog	VT06	A
1913	200 Mb 18 hr Prog	VT06	A
1926	500 Mb 12 hr Prog (NWP)	VT00	G
1939	300 Mb 12 hr Prog (NWP)	VT00	G
1952	Sfc Pres 24 hr Prog	VT12	G
2013	Sfc Pres 36 hr Prog	VT00	G
2026	500 Mb 24 hr Prog (NWP)	VT12	G
2039	Comb Sea Ht 12 Hr Prog (NWP)	VT00	G
2052	Comb St Ht 36 Hr Prog (NWP)	VT00	G
2113	Surface Analysis 18		D
2126	Surface Analysis 18		C
2139	Mixed Layer Depth Anal (NWP)	12	G
2152	Surface Analysis (60 RPM)	18	C
2230	Reserved		
2313	300 Mb 24 hr Prog (NWP)	VT12	G
2326	Mixed Layer Depth (NWP)		
2339	Circuit Line up 24 Hr. Prog.	VT12	G

NOTES:

1. Transmissions at 120 RPM except at 0939Z and 2152Z which are at 60 RPM. Each transmission is 10 minutes duration, except 20 minutes duration at 60 RPM, preceded by a 22-second synchronization period.
2. Broadcast compiled by U.S. Fleet Weather Central, Alameda, Calif.
3. Re-transmission may be scheduled during periods when no Satellite charts are available.
4. Areas A, C and H based on polar stereographic projection (1:15,000,000), true at 50° North.
5. Area B-based on a hemispheric polar projection (1:50,000,000), true at 60° North.
6. Area D-based on Mercator projection (1:15,000,000), true at 15° North.
7. Areas E and F-based on polar stereographic projection (1:20,000,000), true at 60° North.
8. Area G-based on polar stereographic projection (1:30,000,000), true at 60° North. All of these charts are Numerical Weather Products (NWP) originated by FNWF Monterey.

INFORMATION DATED: January 1967.

410502—continued

1012	00Z	PROG 48HR 500MB— NWP	FH	1812	12Z	300MB ANAL—NWP	G
1024	00Z	PROG 72HR 500MB— NWP	G	1824	12Z	300MB ANAL	C-2
1036	12Z	PROG 36HR COMB SEA WAVE ³	F	1836	12Z	200MB ANAL	C-2
1048	12Z	PROG 36HR CARIB COMB SEA ³	C-5	1848	12Z	HORIZONTAL WX DEPICT	C-6
1100		SPECIAL REQUIRE- MENTS				SPECIAL REQUIRE- MENTS	
1112		SPECIAL REQUIRE- MENTS				PROG 24HR 500MB— NWP	G
1124	00Z	500MB SD ANAL	B	1948	12Z	PROG 24HR 300MB— NWP	G
1136	00S	500MB SR ANAL	B	2000	12Z	PROG 24HR 200MB— NWP	G
1148	00Z	PROG HI LVL SIG WX (400-150MB)	H			PROG 36HR 500MB— NWP	G
1200		TRANSMITTER AD- JUSTMENT		2012	00Z	PROG 36HR 500MB— NWP	G
1212		TEST CHART		2024	12Z	SFC TROPICAL ANAL	C-6
1224	12Z	PROG 30HR SFC/36HR 1000-500MB THKNS	FH	2036	00Z	PROG 12HR COMB SEA WAVE ³	F
1236	00Z	500MB SL ANAL	B	2048	00Z	PROG 12HR CARIB COMB SEA ³	C-5
1248	12Z	500MB SD 36HR PROG	B	2100	12Z	200MB TROPICAL ANAL	C-6
1300-1336		FACSIMILE SCHEDULE ⁵		2112	00Z	PROG 36HR 300MB— NWP	G
1336		SPECIAL REQUIRE- MENTS ³		2124	18Z	SURFACE ANAL (PART 1)	C-3
1348	12Z	500MB SR 36HR PROG	B	2136	18Z	SURFACE ANAL (PART 2)	C-4
1400	12Z	500MB SL 36HR PROG	B	2148	12Z	PROG 24HR SFC/WX DEPICT (FINAL)	C
1412	00Z	500MB SD 48HR PROG	B			SPECIAL REQUIRE- MENTS	
1424	00Z	500MB SR 48HR PROG	B	2200	12Z	PROG 48HR 500-MB NWP	G
1436	00Z	500MB SL 48HR PROG	B	2212	12Z	PROG 72HR 500MB— NWP	G
1448		SPECIAL REQUIRE- MENTS ³		2224	12Z	PROG 36HR COMB SEA WAVE ³	F
1500		SPECIAL REQUIRE- MENTS ³		2236	00Z	PROG 36HR CARIB COMB SEA ³	C-5
1512	12Z	500MB ANAL	C-2	2248	00Z	PROG 15 & 30 DAY SST & SLD ²	F
1524	12Z	SURFACE ANAL (PART 1)	C-3	2300-2324		500MB SD ANAL	B
1536	12Z	SURFACE ANAL (PART 2)	C-4	2324	12Z	500MB SR ANAL	B
1548	12Z	PROG 24HR SFC/WX DEPICT (PRELIM)	C	2336	12Z	PROG HI LVL SIG WX (400-150MB)	H
1600	12Z	850MB ANAL	C-2	2348			
1612		SPECIAL REQUIRE- MENTS					
1624		SPECIAL REQUIRE- MENTS					
1636-1724		OPEN	C-2				
1724	12Z	700MB ANAL					
1736	12Z	SFC ANAL/1000-500MB THKNS	FH				
1748	12Z	500MB ANAL-NWP	G				
1800	12Z	700MB ANAL-NWP	G				

See footnotes at end of table.

30 N.-126 W. 03 N.-073 W.
(Polar Stereographic 1:20,000,
000; true at 60 N.)

C-1 North America
48 N.-136 W. 48 N.-056 W.
20 N.-116 W. 19 N.-076 W.
(Polar Stereographic 1:20,000,
000; true at 60 N.)

C-2 North America
57 N.-168 W. 33 N.-037 W.
19 N.-132 W. 11 N.-073 W.
(Polar Stereographic 1:20,000,
000; true at 60 N.)

NOTES: 1. Map Areas

B Northern Hemisphere
11S-137E, 10S-66E
10S-46W, 11S-116W
(Polar Stereographic 1:60,000,000; true at
60N)
true at 60 N.,
Western North Atlantic
52 N.-62 W. 38.5 N.-46 W.
29 N.-81.5 W. 22 N.-67.5 W.
(Polar Stereographic 1:7,500,000;
true at 60 N.)
North Atlantic
Bathythermographs transmission daily

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4

1736 SPC ANAL/1000-500 MB THKNS 1200

1748 500 MB ANAL 1200-NWP G

1800 700 MB ANAL 1200-NWP G

1812 300 MB ANAL 1200-NWP G

1824 300 MB ANAL 1200 C-2

1836 200 MB ANAL 1200 C-2

1848 SPECIAL REQUIREMENTS

1900 HORIZONTAL WX DEPICT 1200 C-6

1912 PROG 24 HR 500 MB-NWP 12 G

1924 PROG 24 HR 850 MB-NWP 12 G

1936 PROG 24 HR 700 MB-NWP 12 G

1948 PROG 24 HR 300 MB-NWP 12 G

2000 SFC TROPICAL ANAL 1200 C-6

2012 PROG 24 HR 200 MB-NWP 12 G

2024 PROG 36 HR 500 MB-NWP 00 G

2036 500 MB TROPICAL ANAL 1200 C-6

2048 PROG 12 HR COMB SEA WAVE 00 F

2100 PROG 36 HR 300 MB-NWP 00 G

2112 200 MB TROPICAL ANAL 1200 C-6

2124 SURFACE ANAL 1800 (PART 1) C-3

2136 SURFACE ANAL 1800 (PART 2) C-4

2148 PROG 24 HR SFC/WX DEPICT (FINAL) 12 C

2200 100 MB ANAL 1200-NWP G

2212 PROG 48 HR 500 MB-NWP 12 G

2224 PROG 12 HR CARIB COMB SEA 00 C-5

2236 PROG 36 HR COMB SEA WAVE 00 F

2248 PROG 36 HR CARIB COMB SEA 00 C-5

2300- PROG 15/30 DAY SST & SLD N

2324 SPECIAL REQUIREMENTS

2336 PROG 72 HR 500 MB-NWP 12 G

2348 HI LVL SIG WX (400-150 MB) 12 N

NOTES:

1. Map Areas:

C North America

83 N.-121 W. 12 N.-041 W.
30 N.-126 W. 03 N.-073 W.
(Polar Stereographic 1:20,000,
000; true at 60 N.)

C-1 North America

48 N.-136 W. 48 N.-056 W.
20 N.-116 W. 19 N.-076 W.
(Polar Stereographic 1:20,000,
000; true at 60 N.)

C-2 North America

57 N.-168 W. 33 N.-037 W.
19 N.-132 W. 11 N.-073 W.
(Polar Stereographic 1:20,000,
000; true at 60 N.)

C-3 North America and Western North Atlantic

90 N. . 15 N.-20 W.
36 N.-111 W. 04 N.-54 W.
(Polar Stereographic 1:20,000,
000; true at 60 N.)

C-4 Western North Atlantic and Caribbean

64 N.-111 W. 13 N.-37 W.
17 N.-111 W. 05S.-64W.
(Polar Stereographic 1:20,000,
000; true at 60 N.)

C-5 Western North Atlantic and Caribbean

25 N.-102 W. 29 N.-21 W.
00 -85 W. 00 -38 W.
(Polar Stereographic 1:20,000,
000; true at 60 N.)

C-6 Western North Atlantic and Caribbean

40 N.-100 W. 40 N.-35 W.
00 -100 W. 00 -35 W.
(Mercator 1:15,000,000; true at
15 N.)

F Eastern U.S. North Atlantic, and Europe

27 N.-080 W. 71 N.-019 E.
10 N.-050 W. 28 N.-003 E.
(Polar Stereographic 1:17,500,
000; true at 60 N.)

G North America, North Atlantic, and Europe

26 N.-128 W. 30 N.-057 E.
01 N.-076 W. 03 N.-002 E.
(Polar Stereographic 1:30,000,
000; true at 60 N.)

H North America

45 N.-132 W. 46 N.-057 W.
23 N.-117 W. 22 N.-073 W.
(Polar Stereographic 1:15,000,000;
true at 60 N.)

FH North Pacific, North America, North Atlantic

28 N.-138 E. 28 N.-014 W.
11 N.-164 W. 11 N.-073 W.
(Polar Stereographic 1:30,000,000;
true at 60 N.)

NH Northern Hemisphere

20 N.-123 E. 21 N.-001 W.
07 N.-162 W. 07 N.-077 W.
(Polar Stereographic 1:50,000,000;
true at 60 N.)

N Western North Atlantic

52 N.-52 W. 38.5 N.-46 W.
29 N.-81.5 W. 22 N.-67.5 W.
(Polar Stereographic 1:7,500,000;
true at 60 N.)

NA North Atlantic

Bathythermographs transmission daily

—continued

410502 —continued

NOTES: 1. *Map Areas—Continued*

C North America
83N-121W, 12N-041W
30N-126W, 03N-073W
(Polar Stereographic 1:20,000,000; true at 60N)
C-1 North America
48N-136W, 48N-056W
20N-116W, 19N-076W
(Polar Stereographic 1:20,000,000; true at 60N)
C-2 North America
57N-168W, 33N-037W
19N-132W, 11N-073W
(Polar Stereographic 1:20,000,000; true at 60N)
C-3 North American and Western North Atlantic
90N, 15N-20W
36N-111W, 04N-54W
(Polar Stereographic 1:20,000,000; true at 60N)
C-4 Western North Atlantic And Caribbean
64N-111W, 13N-37W
17N-111W, 05S-64W
(Polar Stereographic 1:20,000,000; true at 60N)
C-5 Western North Atlantic and Caribbean
25N-102W, 29N-21W
00-85W, 00-38W
(Polar Stereographic 1:20,000,000; true at 60N)
C-6 Western North Atlantic and Caribbean
40N-100W, 40N-35W
00-100W, 00-35W
(Mercator 1:15,000,000; true at 15W)
F Eastern U.S., North Atlantic and Europe
27N-080W, 71N-019E
10N-050W, 28N-003E
(Polar Stereographic 1:17,500,000; true at 60N)
G North America, North Atlantic and Europe
26N-128W, 30N-057E
01N-076W, 03N-002E
(Polar Stereographic 1:30,000,000; true at 60N).
H North America
45N-132W, 46N-057W
23N-117W, 22N-073W
(Polar Stereographic 1:15,000,000; true at 60N).

NOTES: 1. *Map Areas—Continued*

FF North Pacific, North America, North Atlantic.
28N-138E, 28N-014W
11N-164W, 11N-073W
(Polar Stereographic 1:30,000,000; true at 60N).
NH Northern Hemisphere
20N-123E, 21N-001W
07N-162W, 07N-077W
(Polar Stereographic 1:50,000,000; true at 60N).
N Western North Atlantic
52N-62W, 38.5N-46W
29N-81.5W, 22N-67.5W
(Polar Stereographic 1:7,500,000; true at 60N).
NA North Atlantic
Bathythermographs transmission daily
2. Charts are prepared by the U.S. Naval Oceanographic Office. The 15-day prognoses are transmitted on Tuesdays only. The 30-day prognoses are transmitted on alternate Wednesdays only.
3. Charts are prepared and transmitted by the U.S. Fleet Weather Facility, Norfolk, Virginia.
4. Nephanalyses will be transmitted when available in lieu of scheduled charts or in time periods marked "SPECIAL REQUIREMENTS".
5. The facsimile broadcast schedule is transmitted each Monday at 1300Z.
6. All transmissions at 120 rpm.
7. Broadcast compiled by U.S. Fleet Weather Central, Suitland, Maryland.

INFORMATION DATED: July 1967

35/67.

2. Charts are prepared by the U.S. Naval Oceanographic Office. The 15-day prognoses are transmitted on alternate Wednesdays only.
3. Charts are prepared and transmitted by the U.S. Fleet Weather Facility, Norfolk, Virginia.
4. Nephanalyses will be transmitted when available in lieu of scheduled charts or in time periods marked "Special Requirements".
5. The facsimile broadcast schedule is transmitted each Monday at 1400Z.
6. All transmissions at 120 rpm.
7. Broadcast compiled by U.S. Fleet Weather Central, Suitland, Maryland.

INFORMATION DATED: January 1967.

410602 SAN FRANCISCO (WMH) (WMI)

This is an International meteorological facsimile radio broadcast beamed to the Far East and Northern Pacific area on a mean azimuth bearing of 298°.

CALL SIGNS, TIMES AND FREQUENCIES

WMH 23	1800-2400	13,642.5	kcs	F4	25KW
WMH 95	2000-0400	15,982.5	kcs	F4	25KW
WMI 50	0400-1800	10,190	kcs	F4	25KW

SCHEDULE OF TRANSMISSIONS

Time of Trans	From ¹	Contents of Trans	VT	Map-Area	
0003	HNL	Significant weather 12Z (16) (surface-150 mb)			
0015	HNL	Composite chart; 12Z (17) upper air prognosis 700, 500 mb and significant weather prognosis			
0027	HNL	Upper air prognosis 12Z (16) 300 mb			
0038	HNL	Upper air prognosis 12Z (16) 200 mb			
0049	WBC	Satellite			
0059 ²	WBC	Upper air NWP 12Z (14) prognosis 700 mb ⁴ (24 hours)			
0111 ³	WBC	Upper air NWP 00Z (14) prognosis 700 mb ⁴ (36 hours)			
0124 ³	WBC	Upper air 18Z (14) numerical baroclinic prognosis 200 mb (30 hours)			
0137 ³	WBC	Extended forecast ⁵ 12Z (11) charts, 5-day forecasts 30-day outlook ⁷			
0217	WBC	Frequency change and test chart			
0233	WBC	Satellite			
0243	ANC	Significant weather 12Z (1) (700, 500 mb)			
0303	ANC	Upper air prognosis 12Z (2) 300 mb and tropopause- vertical wind shear prognosis			
0323	WBC	Upper air NWP 12Z (14) prognosis 500 mb ⁴ (72 hours)			
0334 ³	WBC	Upper air NWP 00Z (14) vertical motion prognosis 650 mb ⁴ (36 hours)			
0345 ³	WBC	Upper air NWP 00Z (14) prognosis 300 mb ⁴ (36 hours)			
0400	WBC	Satellite			
0410 ³	WBC	Upper air analysis 12Z (12) 100 mb			
0422	SFO	Significant weather 18Z (7) (surface-150 mb)			
0429	SFO	Upper air prognosis 18Z (7) 700 mb			
0436	SFO	Upper air prognosis 18Z (7) 500 mb			
0443	SFO	Upper air prognosis 18Z (7) 300 mb			
	0450	SFO	Upper air prognosis 18Z (7) 200 mb		
	0456 ³	UO	Upper air prognosis 18Z (7) 500 mb		
	0508 ³	UO	Upper air prognosis 18Z (5) 300 mb		
	0520 ³	UP	Tropopause-vertical 18Z (5) wind shear.		
	0532 ³	UO	Significant weather 18Z (5) (500-150 mb)		
	0544	WBC	Satellite		
	0554	WBC	Preliminary upper 00Z (15) air numerical prognosis 500 mb (24 hours)		
	0606 ³	WBC	Vorticity and 00Z (13) 500 mb initial conditions barotropic prognosis (12, 24 and 36 hours)		
	0618 ³	WBC	Upper air NWP 12Z (14) vertical motion prognosis 650 mb ⁴ (24 hours)		
	0629	WBC	Upper air NWP 12Z (14) prognosis 500 mb ⁴ (48 hours)		
	0641 ³	WBC	Surface analysis 00Z (9) (6-hourly) with 1000-500 mb thickness analysis.		
	0656	WBC	Satellite		
	0707	WBC	500 mb error chart 12Z (14) baroclinic (36 hours)		
	0718 ³	WBC	Upper air NWP 00Z (9) analysis 850 mb ⁴		
	0729 ³	WBC	Upper air NWP 00Z (14) analysis 500 mb ⁴		
	0740	WBC	Upper air NWP 00Z (14) analysis 200 mb		
	0751 ³	WBC	Upper air NWP 00Z (14) analysis 700 mb ⁴		
	0802	WBC	Upper air NWP 00Z (14) analysis 200 mb ⁴		
	0812 ³	WBC	Upper air prognosis 00Z (6) 500 mb		
	0822 ³	WBC	Upper air prognosis 00Z (6) 300 mb		
	0831	WBC	Satellite		
	0841	WBC	Upper air 00Z (15) numerical prognosis 500 mb (24 hours)		
	0853 ³	WBC	Tropopause-vertical 00Z (6) wind shear		
	0903 ³	WBC	Significant weather 00Z (6) (400-150 mb)		
	0912	ANC	Significant weather 18Z (1) (700, 500 mb)		
	0932	ANC	Upper air prognosis 18Z (2) 300 mb and tropopause- vertical wind shear		
	0951	WBC	Upper air 12Z (15) numerical prognosis 500 mb (12 hours) and observed vorticity 00Z		
	1003	WBC	Upper air 00Z (15) numerical baroclinic prognosis 200 mb (24 hours)		

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410602—continued

1015	WBC	Upper air numerical prognosis 500 mb (30 hours) and vorticity	06Z (15)	1559	WBC	Upper air numerical baroclinic prognosis 200 mb (30 hours)	06Z (14)	—
1027	WBC	Satellite		1611	WBC	Vorticity and 500 mb initial conditions barotropic	12Z (13)	—
1037	SFO	Significant weather (surface-150 mb)	00Z (7)			prognosis (12, 24 and 36 hours)		—
1044	SFO	Upper air prognosis 700 mb	00Z (7)	1625	WBC	Upper air NWP 00Z (14)		—
1051	SFO	Upper air prognosis 500 mb	00Z (7)			prognosis 500 mb (72 hours)		—
1058	SFO	Upper air prognosis 300 mb	00Z (7)	1638 ⁸	WBC	Upper air NWP 00Z (14)		—
1105	SFO	Upper air prognosis 200 mb	00Z (7)	1650	WBC	vertical motion prognosis 650 mb (24 hours)		—
1111	HNL	Upper air prognosis 700 mb	00Z (16)	1700 ⁸	UO	Satellite		—
1123	HNL	Upper air prognosis 500 mb	00Z (16)	1712 ⁸	UO	Upper air prognosis 06Z (5)		—
1135	HNL	Significant weather (surface-150 mb)	00Z (16)	1724 ⁸	UO	500 mb		—
1147	HNL	Composite chart; upper air prognosis 700, 500 mb and significant weather prognosis	00Z (17)	1736 ⁸	UO	Upper air prognosis 06Z (5)		—
1159	HNL	Upper air prognosis 300 mb	00Z (16)	1748	SFO	Tropopause-vertical wind shear		—
1211	HNL	Upper air prognosis 200 mb	00Z (16)	1755	SFO	Significant weather 06Z (5)		—
1223	WBC	Satellite		1802	SFO	(500-150 mb)		—
1234 ⁸	WBC	Upper air NWP prognosis 700 mb (24 hours)	00Z (14)	1809	SFO	Significant weather 06Z (7)		—
1250 ⁸	WBC	Upper air NWP prognosis 700 mb (36 hours)	12Z (14)	1816	SFO	(surface-150 mb)		—
1302	WBC	Upper air NWP barotropic prognosis 500 mb (96 hours)	00Z (14)	1822	WBC	Upper air prognosis 06Z (7)		—
1315	WBC	Upper air NWP prognosis 500 mb (36 hours)	12Z (14)	1834	WBC	700 mb		—
1325	WBC	Upper air NWP prognosis 300 mb (36 hours)	12Z (14)	1847 ⁸	WBC	Upper air prognosis 06Z (7)		—
1335 ⁸	WBC	Upper air NWP prognosis 500 mb (48 hours)	00Z (14)	1901	WBC	500 mb		—
1345	WBC	Frequency change and test chart		1913	WBC	Upper air NWP 12Z (8)		—
1405	WBC	Satellite		1925 ^{8,8}	WBC	analysis 500 mb		—
1415	ANC	Significant weather 00Z (1) (700, 500 mb)		1938 ^{8,9}	WBC	500 mb error chart 00Z (14)		—
1435	ANC	Upper air prognosis 300 mb and tropopause-vertical wind shear	00Z (2)	1951 ^{8,8}	WBC	baroclinic (36 hours)		—
		prognosis		2004	WBC	Upper air analysis 12Z (12)		—
1454 ⁸	WBC	Upper air prognosis 500 mb	06Z (6)	2015 ⁸	WBC	850 mb		—
1504 ⁸	WBC	Upper air prognosis 300 mb	06Z (6)	2027	WBC	Upper air analysis 12Z (12)		—
1513 ⁸	WBC	Significant weather (400-150 mb)	06Z (6)	2040	WBC	700 mb		—
1532	WBC	Satellite		2050 ⁸	WBC	Upper air analysis 12Z (12)		—
1543 ⁸	WBC	Upper air NWP analysis 1000 mb	00Z (14)	2100 ⁸	WBC	500 mb		—
				2109	WBC	Upper air prognosis 12Z (6)		—
				2121 ⁸	WBC	300 mb		—
						Upper air numerical prognosis 12Z (15)		—
						500 mb (24 hours)		—
						Tropopause-vertical 12Z (6)		—
						wind shear		—

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Including N.M. 49/65
Dec. 4, 1965

410602 —continued

2131 ⁸	WBC	Significant weather 12Z (6) (400-150 mb)
2140	ANC	Significant weather 06Z (1) (700, 600 mb)
2200	ANC	Upper air prognosis 06Z (2) 300 mb and tropopause- vertical wind shear prognosis
2219	WBC	Upper air 00Z (15) numerical prognosis 500 mb (12 hours) and observed vorticity
2231	WBC	Upper air 12Z (15) numerical baroclinic prognosis 200 mb (24 hours)
2243	WBC	Satellite
2253	WBC	Upper air 18Z (15) numerical prognosis 500 mb (30 hours) and vorticity
2305	SFO	Significant weather 12Z (7) (surface-150 mb)
2312	SFO	Upper air prognosis 12Z (7) 700 mb
2319	SFO	Upper air prognosis 12Z (7) 500 mb
2326	SFO	Upper air prognosis 12Z (7) 300 mb
2333	SFO	Upper air prognosis 12Z (7) 200 mb
2339	HNL	Upper air prognosis 12Z (16) 700 mb
2351	HNL	Upper air prognosis 12Z (16) 500 mb

1. Location indicators.
ANC - Anchorage, Alaska
HNL - Honolulu, Hawaii
SFO - San Francisco, Calif.
UO - Montreal, Canada
WBC - National Meteorological Center,
Suitland, Maryland
2. Verifying (valid) time of prognosis or
observation time of analysis.
3. Satellite charts will be substituted,
when available, for these charts.
4. Numerically prepared product.
5. On Mondays, Wednesdays and Fridays.
6. On Tuesdays, Thursdays, Saturdays
and Sundays.
7. On the 1st and 15th of each month.
8. WBC operational prognostic charts, i.e.,
those used in preparation of flight
documentation.
9. Optional circuit lineup.

INFORMATION DATED: August 1963.

410604 SAN FRANCISCO (WMK)
(WMM)

RECEPTION AREA: Transmission is beamed
toward the Southwest Pacific on a mean
azimuth bearing of 240°.

CALL SIGNS, TIMES AND FREQUENCIES

WMK 27	0300-1600	7,340 kcs F4	20KW
WMM 21	{0200-0300 1600-1900}	11,460 kcs F4	20KW
WMM 55	{0100-0200 1900-2200}	15,700 kcs F4	20KW
WMM 49	2200-0100	19,715 kcs F4	20KW

This broadcast is operated on a non-scheduled basis; Australia is notified by cable in advance of each transmission, and it is understood they rebroadcast these notices of the transmission times on the Canberra broadcasts. Only nephanalysis charts of significant interest showing current satellite coverage of this area are being transmitted.

INFORMATION DATED: January 1965.

430100 U. S. S. R.

430101 KHBABOVSK (RXB)

CALL SIGNS, TIMES AND FREQUENCIES

RXB	3980	kcs	F4
RXB 72	4516.7	kcs	F4
RXB 74	6870	kcs	F4
RXB 75	0000-2400	7475	kcs F4
RXB 70	9230	kcs	F4
RXO 72	14737	kcs	F4

SCHEDULE OF TRANSMISSIONS

Time of Trans	Time of Obs	Contents of Trans
0010	1200	Convection and condensation chart
0025	1200	Development of synoptic processes for 3 days and over
0040	1200	Upper air prognosis 850 mb
0055	1200	Upper air prognosis 700 mb
0110	1200	Upper air prognosis 50 mb
0125	1200	Aviation upper air chart, 300 mb at 0600
0150	1800	Surface prognosis
0215	1800	Aviation surface chart at 0600
0245	0000	Surface analysis
0330	0000	Upper air chart 850 mb
0355	0000	Upper air chart 700 mb
0430	0000	Surface analysis
0515	0000	Upper air chart 300 mb

430101—continued

0550	0000	Chart OT 500/1000
0625	0000	Upper air chart 500 mb
0700	0000	Upper air chart 400 mb
0735	0000	Upper air chart 200 mb
0810	0000	Aviation upper air chart and prognosis 300 mb at 1200
0845	0600	Surface analysis
0930	0000	Aviation chart at 1200
1005	0000	Jet stream chart
1030	0900	Surface analysis
1115	0000	Tropopause chart
1150	0000	Upper air chart 100 mb
1330	0000	Aviation chart at 1800
1445	1200	Surface analysis
1530	1200	Upper air chart 850 mb
1555	1200	Upper air chart 700 mb
1630	1500	Surface analysis
1715	1200	Upper air chart 300 mb
1750	1200	Chart OT 500/1000
1825	1200	Upper air chart 500 mb
1900	1200	Upper air chart 400 mb
1935	1200	Jet streams chart
2000	1200	Aviation upper air chart and prognosis 300 mb at 0000
2025	1200	Aviation chart and wind prognosis from 2100 to 0500
2050	1800	Surface analysis
2135	1200	Upper air chart 200 mb
2225	2100	Surface analysis
2310	1200	Upper air chart 100 mb
2335	1200	Tropopause chart

NOTES: 1. The 0010 broadcast in summer
only.
2. Broadcasts have LPM of 60, 90
or 120.

INFORMATION DATED: May 1966.

440100 KENYA

440101 NAIROBI (5YE)

CALL SIGNS, TIMES AND FREQUENCIES

5YE 4	1800-0500	5127 kcs	F4	10	KW
5YE	0000-2400	9043 kcs	F4	10	KW
5YE 3	0500-1800	17365 kcs	F4	10	KW

SCHEDULE OF TRANSMISSIONS

Time of Trans	Time of Obs	Contents of Trans	Map Area
0000	1800	Prognostic chart of significant weather above 20,000 feet for 1200.	A
	1800	Prognostic chart of significant weather below 20,000 feet valid from 0100 to 1100.	B
0230	1800	Prognostic chart of significant weather below 20,000 feet valid from 0100 to 1100.	B
0530	0000	Prognostic chart of significant weather above 20,000 feet for 1800.	A
	0600	Chart of low level convergence zones	E
0730	0600	Prognostic chart of significant weather below 20,000 feet valid from 0900 to 1800	B
1130	0000	Upper air prog- nosis 700,500 mb (24 hours)	A
1205	0600	Prognostic chart of significant weather above 20,000 feet for 2400	A
1225	0000	Upper air prog- nosis 300,200 mb (24 hours)	A
1325	0600	Surface analysis	D
1800	1200	Prognostic chart of significant weather above 20,000 feet for 0600	A
1825	1200	Surface analysis	D
1915	1200	Upper air analy- sis 700,500 mb	C
2030	1200	Upper air analysis C 300,200 mb	C

—continued....

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2125	1200	Upper air prog- nosis 700,500 mb (24 hours)	A
2225	1200	Upper air prog- nosis 300,200 mb (24 hours)	A

Map areas: A. 36N-30S, 10W-65E
Mercator projection,
1:25,000,000 at 22-30.
B. 04-30N-15-30S, 29E-43E
Mercator projection,
1:3,750,000 at 22-30.
C. 55N-50S, 10W-82E
Mercator projection,
1:25,000,000 at 22-30.
D. 50N-40S, 00-60E
Mercator projection,
1:15,000,000 at 22-30.
E. 22N-02S, 27E-55E
Mercator projection,
1:7,500,000 at 22-30.

INFORMATION DATED: April 1966.

440200 ETHIOPIA

440201 ASMARA (NKA)

This is the Asmara (NKA) Fleet
Facsimile Broadcast.

AREA AFFECTED: 40N to Equator and 25E
to 90E.

TIMES AND FREQUENCIES

Continuous	5835 kcs	F.4	15 KW
Continuous	12215 kcs	F.4	15 KW
Continuous	16305 kcs	F.4	15 KW

SCHEDULE OF TRANSMISSIONS

Time of Trans	Time of Obs	Contents of Trans
0000	1800	SURFACE ANAL
0025		OPEN (SYNC)
0600	0000	SURFACE ANAL
0625		OPEN (SYNC)
1200	0600	SURFACE ANAL
1225		OPEN (SYNC)
1800	1200	SURFACE ANAL
1825		OPEN (SYNC)

DESCRIPTION OF TRANSMISSIONS

1. Speed of transmissions 60 LPM (IOC 576)

NOTE: 1. This broadcast compiled by Fleet
Weather Central, Rota, Spain.

INFORMATION DATED: March 1967.

Including N.M. 33/67
19 August 1967

440400 INDIA

440401 NEW DELHI (VVD)

CALL SIGNS, TIMES AND FREQUENCIES

VVD 53	1500-0040	3192.5 kc/s 8 F1 5 KW
VVD 57	0000-2400	7580 kc/s 8 F1 5 KW
VVD 62	0000-2400	12075 kc/s 8 F1 5 KW
VVD 67	1200-1500	17650 kc/s 8 F1 5 KW
VVD 69	0040-1200	19400 kc/s 8 F1 5 KW

INFORMATION AVAILABLE

SYNOP	FM 11C
SHIP	FM 21C
PILOT	FM 32C
TEMP	FM 35C
IAC	FM 45C
IAC FLEET	FM 46C
CLIMAT	FM 71
INCLI	FM 73
CLIMAT/TEMP	FM 75C
RECCO	Clear
AIREP	Clear

SCHEDULE OF TRANSMISSIONS

Time of Trans	Time of Obs	Contents of Trans
0000 1200	2100 0900	SYNOP, Afghanistan, Burma, Cambodia, Ceylon, India, Indonesia, Iran, Iraq. Israel, Jordan, Kuwait, Laos, Lebanon, Malaysia, Maldives Is., Pakistan, Saudi Arabia and other territories in Arabia, Singapore, Syria, Thailand, Turkey, Viet-Nam. SHIP
	1800 0600	SHIP/RETARD Arabian Sea, Bay of Bengal, Indian Ocean
0015-0050 1215-1250		CLIMAT CLIMAT/TEMP INCLI, Indian Ocean area between 50°E and 95°E and north of 15°S, excepting the areas south of 10°N and west of 60°E and south of 10°S and west of 70°E.
0050 1250	0000 1200 2100 0900 0000 1200	SYNOP, India, Iran, Iraq, Israel, Turkey SYNOP/RETARD SHIP SHIP/RETARD, Arabian Sea, Bay of Bengal, Indian Ocean

—continued...

440401—continued.....			0350	0300	SYNOP, Burma, India, Iraq, Turkey
			1550	1500	See 0230, 1430
0130	0000	SYNOP, Cambodia,			SHIP
1330	1200	Ceylon, Jordan, Laos, Lebanon, Malaysia, Maldives Is., Pakistan, Singapore, Syria, Thailand, Viet-Nam			SHIP/RETARD
	0000	SHIP			Arabian Sea, Bay of Bengal, Indian Ocean
	1200	SHIP/RETARD	0410	0000	See 0300, 1500
		Arabian Sea, Bay of Bengal, Indian Ocean	1610	1200	Afghanistan, Burma, Iran, Iraq, Viet-Nam
0210	0000	TEMP, Aden, India, Turkey		0000	PILOT, See 0300, 1500
1420	1200	PILOT, Cambodia, Ceylon, India, Indonesia, Iran, Iraq, Jordan, Kuwait, Laos, Lebanon, Malaysia, Maldives Is., Pakistan, Saudi Arabia and other territories in Arabia, Singapore, Syria, Thailand, Turkey, Viet-Nam	0445	0300	AIREP, as available RECCO, as available
		AIREP	1645	1500	SYNOP, See 0350, 1550, Afghanistan, Cambodia, Ceylon, Iran, Israel, Jordan, Laos, Lebanon, Malaysia, Maldives Is., Pakistan, Singapore, Syria, Thailand, Viet-Nam
	0000	RECCO, as available		0000	SYNOP,
0230	0000	See 0130, 1330		1200	SHIP
1430	1200	SYNOP			SHIP/RETARD, Arabian Sea, Bay of Bengal, Indian Ocean
	0000	Afghanistan, Burma,	0500	0000	TEMP, See 0410, 1610
	1200	Indonesia, Kuwait,	1700	1200	PILOT, See 0300, 1500
		Saudi Arabia and other territories in Arabia		0000	AIREP, as available RECCO, as available
	0000	SHIP		1740	See 0445, 1645
	1200	SHIP/RETARD, Arabian Sea, Bay of Bengal, Indian Ocean	0540	0300	SYNOP, Indonesia, Kuwait, Saudi Arabia and other territories in Arabia
0300	0000	TEMP, Ceylon, India, Indonesia, Israel, Jordan, Lebanon, Maldives Is., Pakistan, Saudi Arabia and other territories in Arabia, Singapore, Syria, Thailand,		1500	SHIP
1500	1200	Turkey	0605	0000	SHIP/RETARD, Arabian Sea, Bay of Bengal, Indian Ocean
	0000	PILOT, See 0210, 1420	1805	1200	IAC FLEET, Surface analysis for the area 0°-40°N., 45°E-100°E
	1200	PILOT, Afghanistan,	0610	0000	TEMP, See 0410, 1610
	1200	Burma, Israel	1810	1200	PILOT, see 0300, 1500
		AIREP, as available		0000	AIREP, as available
		RECCO		1200	RECCO
0330	0000	SYNOP/RETARD, See 0230, 1430			SYNOP, India, Iraq, Israel, Jordan, Lebanon, Pakistan, Syria, Turkey
1535	1200	SHIP	0650	0600	SYNOP/RETARD
	0000	SHIP/RETARD	1850	1800	See 0540, 1740
	1200	Arabian Sea, Bay of Bengal, Indian Ocean		0300	SHIP
				1500	SHIP/RETARD, Arabian Sea, Bay of Bengal, Indian Ocean
				0600	
				1800	

—continued.....

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440401 —continued.....

0730	0600	SYNOP, See 0650,	1035	0900	SYNOP , see 1015, 2215
1930	1800	1850	2235	2100	
		Cambodia, Ceylon,		0900	SYNOP, Afghanistan,
		Iran, Laos,		2100	Burma, Indonesia,
		Malaysia, Maldives			Kuwait, Saudi Arabia
		Is., Singapore,			and other territories
		Thailand, Viet-Nam			in Arabia
	0600	SHIP		0600	SYNOP/RETARD
	1800	SHIP/RETARD		1800	See 0850, 2050
		Arabian Sea, Bay of		0600	SHIP
0745	0000	Bengal, Indian Ocean		1800	SHIP/RETARD,
1945	1200	IAC, Upper air			Arabian Sea, Bay of
		analysis 700,500,			Bengal, Indian Ocean
		300 mb for the area			
0750	0600	0°-40°N., 45°E-100°E.			
1950	1800	PILOT, Cambodia,			
		Ceylon, India,			
		Indonesia, Iran,			
		Iraq, Israel,			
		Jordan, Laos,			
		Lebanon, Malaysia,			
		Maldives Is.,			
		Pakistan, Singapore,			
		Syria, Thailand,			
		Turkey, Viet-Nam			
	0600	Pilot			
	1800	AIREP, as available			
0850	0600	RECCO, as available			
2050	1800	SYNOP, see 0730,			
		1930			
		Afghanistan, Burma,			
		Indonesia, Kuwait,			
		Saudi Arabia and			
		other territories			
		in Arabia			
	0600	SHIP			
	1800	SHIP/RETARD, Arabian			
		Sea, Bay of Bengal,			
		Indian Ocean			
0900	0600	PILOT, see 0750,			
2100	1800	1950			
		Afghanistan, Burma,			
		Kuwait, Saudi Arabia			
		and other territories			
		in Arabia			
		AIREP, as available			
		RECCO, as available			
1015	0900	SYNOP, Cambodia,			
2215	2100	Ceylon, India, Iran,			
		Iraq, Israel,			
		Jordan, Laos, Lebanon,			
		Malaysia, Maldives			
		Is., Pakistan,			
		Singapore, Syria,			
		Thailand, Turkey,			
		Viet-Nam			
	0600	SYNOP/RETARD			
	1800	See 0850, 2050			
	0600	SHIP, Arabian Sea,			
	1800	Bay of Bengal, Indian			
		Ocean			
1025	0600	PILOT, See 0900, 2100			
2225	1800	AIREP, as available			
		RECCO, as available			

NOTES: 1. On the 5th and 6th of each month. When the 1215-1250 broadcast cannot be made on either of these dates due to any breakdown, this bulletin will be broadcast on the succeeding day or the day after.

2. The 0015-0050 bulletin is broadcast on the 6th of the month only.

3. Magnetic and solar report from Kodaikanal Observatory.

4. IQSY GEO-ALERT messages.

5. Observations will be included in the broadcasts, whenever available.

6. 1805 GMT bulletin will contain AD-ALERT messages (as and when received) from warning centers and solar activity reports in URSIGGRAMME Code received from Kodaikanal Observatory, at the beginning of the transmission.

7. GEO-ALERT messages, when received will be included in 0650 and 0850 GMT bulletins.

8. Nephanalysis messages, APT PREDICT and TIROS ALERTS will be included as non-scheduled messages in upper air bulletins.

9. SHIP/RETARD reports will be included until 24 hours after the time of observation.

—continued.....

440401 -continued.....

10. Storm warnings will commence being included in 0445, 0730, 1035, 1645 and 2235 bulletins, from the time the weather is unsettled either in Arabian Sea or Bay of Bengal. If intermediate observations indicate an unexpected development of a cyclonic storm, special warnings will be included in the beginning of any broadcast. The issue of storm warnings will cease when the disturbance has crossed the coast, and the weather on the coast and the adjacent sea areas is declared to be normal and seasonal.
11. Part C of TEMP reports for 70, 50, 30, 20 and 10 mb levels of stations in the zone of responsibility of New Delhi Center will be included in 0750 and 1950 GMT broadcasts as non-scheduled messages. Rocket observations in ROCOB code from Equatorial Rocket Launching Station at Thumba (India) (lat. 08°32' N., long. 76°52'E. index No. 43:373) will be included in these broadcasts, whenever available.
12. Area radius 6,000 km.

INFORMATION DATED: October 1966.

450100 JAPAN

450101 TOKYO (RJTZ)

This is a non-directional weather facsimile broadcast by the Fuchu Weather Relay and Broadcast Center (RJTZ) operating simultaneously on eight frequencies with 2.5 KW.

TIME AND FREQUENCIES

Continuous	3205 kcs	10275 kcs
	5960 kcs	13450 kcs
	6940 kcs	20085 kcs
	7938 kcs	15798 kcs

SCHEDULE OF TRANSMISSIONS

Time of Trans ¹	Time of Obs	Contents of Trans	Map Area
0045	1800	30 hr surface prognosis	2
0100	1200	500 mb 36 hr prognosis	1
0130	1200	700 mb 36 hr prognosis	1
0200	1200	300 mb 36 hr prognosis	1
0230	1200	200 mb 36 hr prognosis	1
0300	1200	400 mb 36 hr prognosis	1
0330	0000	24 hr weather prognosis	1
0500	0000	Surface analysis	1
0540	0000	850 mb analysis	3
0615	0000	Shear and stability	5
0630	0000	500 mb analysis	1
0700	0000	700 mb analysis	1
0800	0000	300 mb analysis	1
0830	0000	200 mb analysis	1
0945 (Sun)	0000 (Sun)	Sea surface temperature analysis	4
1000	0000	500 mb space mean	1

Unscheduled--30 day outlook of 700 mb contours including precipitation and temperature anomalies, valid 1st and 15th.

NOTES: (a) Map areas:

1. 10°N., 90°E. 42°N., 90°W.
7°S., 132.5°E. 6.5°N., 150°W.
Polar stereographic projection
1:20,000,000
2. 10°N., 93°E. 80°N., 122°E.
0.5°S., 123.5°E. 31.5°N., 173°E.
Polar stereographic projection
1:20,000,000
3. 30.5°N., 93.5°E. 63.5°N., 135°E.
13°N., 120°E. 35°N., 157°E.
Lambert conformal conic
1:7,500,000
4. 25°N., 99°E. 59°N., 145°W.
4°N., 130°E. 17°N., 174°W.
As Area 1
5. 51°N., 115°E. 51°N., 151°E.
20°N., 122.5°E. 20°N., 142.5°E.
As Area 3
6. 18°N., 82°E. 69°N., 164°W.
3°N., 112°E. 24°N., 170°E.
Polar stereographic projection
1:40,000,000

INFORMATION DATED: May 1965.

¹All scheduled transmissions are repeated at "Time of transmission + 12 hrs." for a "Time of Observation + 12 hrs." except:
(i) 0500: every 6 hrs.
(ii) 0945: once each week as shown.

450103 TOKYO (JMH)

RECEPTION AREA: 10S-90N and 40E-130W

CALL SIGNS, TIMES AND FREQUENCIES

JMH	0000-2400	3622.5	kcs	F4	5	KW
JMH2	0000-2400	7305	kcs	F4	5	KW
JMH3	0000-2400	9970	kcs	F4	5	KW
JMH4	0000-2400	13597	kcs	F4	5	KW
JMH5	0000-2400	18220	kcs	F4	5	KW
JMH6	0000-2400	22770	kcs	F4	5	KW

SCHEDULE OF TRANSMISSIONS

Time of Trans	Time of Obs	Contents of Trans	Map Area
0020		Radio prediction ¹²	
0040	1200	Upper air analysis 300 mb	A
0100	1200	500 mb space mean	A
0200	0000	Radar summary	J
0215	1200	Stability index ²	J
0300	1200	600 mb vertical P-velocity (mb/hr) ¹¹	A
	1200	500 mb vorticity (10 ⁻⁵ /sec) ¹¹	A
0323	1200	Surface analysis for northern hemisphere	B
0400	0000	Surface analysis	A
0437		Manual amendments	
0449	1200	600 mb 36-hr fore- cast vertical P- velocity (mb/hr) ¹¹	A
	1200	500 mb baroclinic 36-hr forecast vor- ticity (10 ⁻⁵ /sec) ¹	A
	1200	500 mb baroclinic ¹ 36-hr forecast con- tour (m) ¹¹	A
	1200	900-500 mb 36-hr thickness prognosis ¹¹	A
0526	0000	Stability index ²	J
0535	1200	Upper air analysis, 500 mb, for northern hemisphere	B
0558	1200	500 mb barotropic 48-hr forecast con- tour (m)	B
	1200	500 mb barotropic 48-hr forecast vor- ticity (10 ⁻⁵ /sec) for northern hemi- sphere	B
0616	1200	Upper air prog 300 mb	A
0627		Forecast valid for 1 or 3 months ¹ (in clear Japanese)	
0645		Prognostic 10-day 500 mb mean height and anomaly ⁶	D
0651	0000	24-hour surface prog nosis ¹¹	A
0710	0000	Upper air analysis, 500 mb	A

0733		5-day mean surface pressure for north- ern hemisphere ¹⁰	E
0810		5-day 500 mb mean height for north- ern hemisphere ¹⁰	E
0830 0600		5-day 500 mb mean height anomaly for northern hemisphere ¹⁰	E
0845		5-day 500 mb mean height (with the reference day as the central) for northern hemisphere ⁹	B
1000 0600		Radar summary	J
1037		10-day mean surface water temperature ⁸	F
1110		Local oceanographic chart ⁸	G
1135 0000		Surface analysis	A
1210 0000		Forecast valid for 1 week ⁹	
1233		Monthly mean temper- ature anomaly ⁴	C
		Percentage of month- ly precipitation ⁴	C
		Percentage of month- ly duration of sun- shine anomaly ⁴	C
		Monthly maximum depth of snow	C
		Upper air analysis	A
		700 mb	
		Upper air analysis	A
		300 mb	
		Monthly mean surface pressure for north- ern hemisphere ⁷	E
		Monthly mean surface pressure anomaly for northern hemisphere ⁷	E
		Monthly 500 mb mean height for northern hemisphere ⁷	E
		Monthly 500 mb mean height anomaly for northern hemisphere ⁷	E
		Surface analysis	A
		See 1600 (retrans- mission)	A
		Plotted surface ob- servations	H
		Upper air analysis	A
		500 mb	
		Surface analysis	A
		Plotted upper air observations, 850 mb	A
		Retransmission of forecast valid for 1 week (in clear Japanese) ⁹	
		Upper air analysis	A
		700 mb	
		See 2010 (retrans- mission)	A

450103 **continued**.....

NOTES: 2. During summer season only.
 3. On the 4th, 14th and 24th of each month.*
 4. On the 6th of each month.*
 5. On the 7th and 27th of each month.*
 6. On the 8th, 18th and 28th of each month.*
 7. On the 8th of each month.*
 8. On the 9th, 19th and 29th (in February, on 1 March) of each month.*
 *If the days fall on Sundays or holidays, on the following days; in case the days fall on Sundays and the following days on holidays, or vice versa, on the next days but one.
 9. On Mondays and Thursdays only.
 10. Transmitted about 6 times a month, the date of which will be informed by MANAM at 0437 GMT.
 11. From Mondays to Fridays, except holidays.
 12. On the 20th and 21st of each month.
 13. Preceding each chart transmission, a 4-minute black/white test pattern and 1-minute phasing signal is transmitted. Above mentioned scheduled time shows the actual chart transmission time.
 14. Scanning density, used to transmission of each chart, is 3.775 lines per mm.

—continued.....

MAP AREAS:

A - Lambert conformal projection, 1:15,000,000 true at 30°N and 60°N (18x22 inches):
 50°N- 70°E, 51°N-151°W,
 02°N-109°E, 02°N-170°E
 B - Polar stereographic projection, 1:30,000,000 true at 60°N (18x22 inches):
 15°N- 24°W, 12°N-117°W,
 02°S- 79°E, 04°S-146°E
 C - Lambert conformal projection, 1:7,500,000 true at 30°N and 60°N (18x9 inches):
 34°N-117°E, 48°N-147°E,
 23°N-127°E, 33°N-153°E
 D - Polar stereographic projection, 1:50,000,000 true at 60°N (18x6 inches):
 40°N- 63°E, 40°N-143°W,
 08°N-109°E, 08°N-171°E
 E - Polar stereographic projection, 1:50,000,000 true at 60°N (18x15 inches):
 20°S- 01°E, 21°S- 80°W,
 24°S-103°E, 25°S-177°E
 F - Mercator projection (18x11 inches):
 50°N-115°E, 50°N-180°E,
 16°N-115°E, 16°N-180°E
 G - A composite chart consisting of several local ones in the North Pacific (18x11 inches)
 H - Lambert conformal projection, 1:7,500,000 true at 30°N and 60°N (18x19 inches):
 52°N-106°E, 53°N-159°E,
 20°N-118°E, 21°N-150°E
 I - Polar stereographic projection, 1:30,000,000 true at 60°N (18x12 inches):
 33°N- 21°E, 28°N-160°W,
 04°N-75°E, 01°N-150°E
 J - Lambert conformal projection, 1:7,500,000 true at 30°N and 60°N (18x11 inches):
 47°N-121°E, 47°N-150°E,
 25°N-125°E, 25°N-145°E

INFORMATION DATED: ~~June~~ 1965.

OCT

450150 AUSTRALIA

450153 CANBERRA (AXM)

Area affected: Equator southwards,
90E-170W.CALL SIGNS, TIMES AND FREQUENCIES

AXM31	1000-2200	2628	kcs	F4	500	W
AXM32	1000-2200	5100	kcs	F4	5KW	
AXM34	1000-2200	11030	kcs	F4	10KW	
AXM35	1000-2200	13920	kcs	F4	20KW	
AXM32	2200-1000	5100	kcs	F4	5KW	
AXM34	2200-1000	11030	kcs	F4	10KW	
AXM35	2200-1000	13920	kcs	F4	20KW	
AXM37	2200-1000	19690	kcs	F4	20KW	

1418-1438	1100	500 mb Upper air analysis (contour/isotach)	C
1518-1538	1100	300 mb Upper air analysis (contour/isotach)	C
1618-1638	1100	200 mb Upper air analysis (contour/isotach)	C
1718-1738	1100	500 mb Upper air prognosis (contour/isotach)	C
1818-1838	1100	300 mb Upper air prognosis (contour/isotach)	C
1918-1957	1700	Surface analysis	A
2318-2357	1700	Surface analysis	A

SCHEDULE OF TRANSMISSIONS

Time of Trans	Time of Obs	Contents of Trans	Map Area
0018-0057	2000	24-hr surface prognosis	A
0118-0157	2300	24-hr surface analysis	A
0218-0238	2300	700 mb analysis (temperature/dew point)	B
0238-0257	2300	850 mb Upper air analysis (contour/isotach)	C
0318-0338	2300	500 mb Upper air analysis (contour/isotach)	C
0338-0357	2300	700 mb Upper air analysis (contour/isotach)	C
0418-0438	2300	300 mb Upper air analysis (contour/isotach)	C
0438-0457	2300	200 mb Upper air analysis (contour/isotach)	C
0518-0538	2300	24-hr 500 mb Upper air prognosis (contour/isotach)	C
0538-0557	2300	24-hr 300 mb Upper air prognosis (contour/isotach)	C
0718-0757	0500	Surface analysis	A
0818-0857	0000	Upper air analysis 700 mb Antarctic continent	E
0918-0957	0000	Upper air analysis 500 mb Antarctic continent	E
1018-1057	0500	24-hr Surface prognosis	A
1118-1157	0000	Upper air analysis 300 mb Antarctic continent	E
1218-1257	0600	Surface analysis Southern ocean	D
1318-1357	1100	Surface analysis Southern ocean	A

—continued.....

MAP AREAS:

- A. Lambert Conformal Conic
5°S-50°S, 90°E-180°E
1:12,500,000 true at 10° and 40°
(18 x 22 ins)
- B. Lambert Conformal Conic
5°S-50°S, 90°E-180°E
1:25,000,000 true at 10° and 40°
(18 x 11 ins)
- C. Lambert Conformal Conic
5°S-50°S, 90°E-180°E
1:20,000,000 true at 10° and 40°
(18 x 11 ins)
- D. Lambert Conformal Conic
South of 30°S, 40°E-180°E
1:20,000,000 true at 10° and 40°
(18 x 22 ins)
- E. Polar stereographic
Antarctic continent and adjacent waters to at least lat. 60°S
1:20,000,000 true at 60°
(18 x 22 ins).

NOTES:

1. Frequency changes will be effected:
 - a. Prior to the radioteleprinter broadcast of 1000-1015 GMT
 - b. Prior to the radioteleprinter broadcast of 2200-2215 GMT
2. Positive start signals consisting of carrier modulated by 300 cycles per second for 5 seconds will be transmitted at least one minute before each start.
3. Phasing signals consisting of "BLACK" signal interrupted by 50 milli-seconds pulses once per revolution of the drum, will be transmitted for at least one minute prior to transmission of each chart.
4. Positive stop signals consisting of carrier modulated by 450 cycles per second for 5 seconds will be transmitted a short period after the end of each chart.

INFORMATION DATED: April 1963.

(Chg 5)

33/67
Jan 1965 Including N.M. 49/65
Dec. 4, 1965

460100 GUAM

460101 GUAM, M.I. (NPN)

This is the Facsimile portion of the Guam Fleet Facsimile/Radioteletype Single Sideband Broadcast. Areas are as follows:

AREA VIII-A Polar Stereographic projection, scale 1:15,000,000, encompassing the area bounded by the following points: 8.5N-130E, 62N-130E, 40.5N-174W, 3.5N-154E.

AREA IX - A Polar Stereographic projection, scale 1:15,000,000, encompassing the area bounded by the following points: 3.5N-106E, 40N-74E, 62N-130E, 8.5N-130E.

AREA X - A Mercator projection, scale 1:15,000,000, encompassing the area bounded by the following points: 5S-100E, 35N-100E, 35N-166E, 5S-166E.

AREA XI - A Polar Stereographic projection, scale 1:15,000,000, encompassing the area by the following points: 7.5S-103.5E, 2.5S-126.5E, 27.5N-156.5E, 56.5'N-125.0E.

AREA XVI - A Polar Stereographic projection, scale 1:30,000,000, encompassing the area bounded by the following points: 2S-79.2E, 27.8N-31E, 27.6N-161.2W, 2.2S-150.8E.

AREA XVIII- A Mercator projection, scale 1:15,000,000, encompassing the area bounded by the following points: 5S-79.4E, 36.5N-79.4E, 36.5N-146E, 5S-146E.

AREA XIX - A Mercator projection, scale 1:15,000,000, encompassing the area bounded by the following points: 25S-85E, 38N-85E, 38N-127.5E, 25S-127.5E.

AREA XX - A Mercator projection, scale 1:15,000,000, encompassing the area bounded by the following points: 25S-127.5E, 38N-127.5E, 38N-170E, 25S-170E.

HEMIS-A Polar Stereographic projection scale 1:60,000,000, encompassing the northern hemisphere to the following points: 10S-66E, 10S-44W, 10S-116.7W, 12S-136.6E.

Special Oceanographic Charts-Chart Numbers 16, 19, 30 scale 1:3,900,000 encompassing the area bounded by the following corner points: 20.3N-101.5E, 09N-104E, 11.5N-122.2E, 23.7N-119.7E. Chart Numbers 15, 18, 29 are a Mercator Projection, scale 1:15,000,000 encompassing the area bounded by the following corner points: 09N-92E, 52.5N-137.0E, 29.4N-168.3E, 18.5S-123.5E.

Special Surface Analysis - Chart Numbers 44 and 104 are one millibar analysis of South China Sea on a Mercator Projection scale 1:5,000,000 bounded by the following points: 8N-103E, 8N-117.5E, 23N-117.5E, 23N-103E.

TIMES AND FREQUENCIES

Not Scheduled	40.75	kcs	F4	50KW
0900-2200	2554	kcs	F4	15KW
All Schedules	3377.5	kcs	F4	15KW
All Schedules	4975	kcs	F4	40KW
All Schedules	6460	kcs	F4	5KW
All Schedules	7645	kcs	F4	30KW
All Schedules	9960	kcs	F4	15KW
All Schedules	10255	kcs	F4	15KW
All Schedules	10966	kcs	F4	15KW
All Schedules	13807.5	kcs	F4	15KW
All Schedules	15930	kcs	F4	40KW
1900-1200	18620	kcs	F4	15KW
All Schedules	20925	kcs	F4	15KW
All Schedules	22865	kcs	F4	15KW
All Schedules	23880	kcs	F4	15KW

SCHEDULE OF TRANSMISSIONS

Time of Trans	Time of Obs	Chart No.	Contents of Trans	Area
0000		1	TIROS	AS AVAIL
0012	1200	2	200MB ANAL	XVI
0024	1200	3	500-1000MB	
			THICKNESS ANAL	XVI
0036	1200	4	12 HR 500MB	
			PROG	XVI
0048	1200	5	36 HR 500MB	
			PROG	XVI
0100	1200	6	72 HR 500MB	
			PROG	XVI
0112-0148	N/A	7-10	OPEN	---
0200	1200	11	12 HR 700MB	
			PROG	XVI
0212	1200	12	12 HR 300MB	
			PROG	XVI
0224	1200	13	12 HR 200MB	
			PROG	XVI
0236	1200	14	500MB SPACE	
			MEAN ANAL	HEMIS
0248	N/A	15	SEA SURFACE	
			TEMP ANAL	SPECIAL
0300	N/A	16	SEA SURFACE	
			TEMP ANAL	SPECIAL
0312	N/A	17	OPEN	---

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460101 --continued

0324	N/A	18	LAYER DEPTH ANAL	SPECIAL	1236	0000	64	12 HR 500MB PROG	XVI
0336	N/A	19	LAYER DEPTH ANAL	SPECIAL	1248	0000	65	36 HR 500MB PROG	XVI
0348	N/A	20	OPEN		1300	0000	66	72 HR 500MB PROG	XVI
0400	1200	21	850MB BERT MOTION ANAL	XVI	1312-1348	N/A	67-70	OPEN	XVI
0412	1200	22	500MB VERT MOTION ANAL	XVI	1400	0000	71	12 HR 700MB PROG	XVI
0424	0000	23	SFC ISOBARIC ANAL	XIX	1412	0000	72	12 HR 300MB PROG	XVI
0436	0000	24	SFC ISOBARIC ANAL	XX	1424	0000	73	12 HR 200MB PROG	XVI
0448	0000	25	SFC ISOBARIC ANAL	VIII	1436	0000	74	500MB SPACE MEAN ANAL	HEMIS
0500	0000	26	SFC ISOBARIC ANAL	IX	1448	N/A	75	OPEN	
0512	0000	27	GRADIENT WIND	XVIII	1500	0000	76	850MB VERT MOTION ANAL	XVI
0524	0000	28	5000 S/I ANAL	XVIII	1512	0000	77	500MB VERT MOTION ANAL	XVI
0536	N/A	29	OCEAN GRADIENT ANAL	SPECIAL	1524-1600	N/A	78-81	OPEN	
0548	N/A	30	OCEAN GRADIENT ANAL	SPECIAL	1612	N/A	82	TEST CHART SFC ISOBARIC	
0600	N/A	31	SELECTED BT'S		1624	1200	83	ANAL	XIX
0612	N/A	32	OPEN		1636	1200	84	SFC ISOBARIC	
0624	0000	33	24 HR SFC PROG	VIII				ANAL	XX
0636	0000	34	24 HR SFC PROG	IX	1648	1200	85	AFC ISOBARIC	
0648	0000	35	700 S/I ANAL	XVIII				ANAL	VIII
0700	0000	36	500 S/I ANAL	XVIII	1700	1200	86	SFC ISOBARIC	
0712	0000	37	200 S/I ANAL	XVIII				ANAL	IX
0724	0000	38	200 S/I ANAL	X	1712	1200	87	GRADIENT WIND	
0736	0000	39	SELECTED SOUNDINGS		1724	1200	88	ANAL	XVIII
0748	0000	40	SELECTED SOUNDINGS		1736	1200	89	5000 S/I ANAL	XVIII
0800	0000	41	700MB CONTOUR		1748	1200	90	SFC PROG	VIII
0812	0000	42	700MB CONTOUR	VIII	1800	1200	91	SELECTED SOUNDINGS	
0824	0000	43	700MB CONTOUR	IX	1812	1200	92	SELECTED SOUNDINGS	
0836	0000	44	ANAL		1824	1200	93	700MB S/I ANAL	XVIII
0848	0000	45	ANAL	XI	1836	N/A	94	OPEN	
0900	0000	46	24 HR SEA COND		1848	1200	95	500MB S/I ANAL	XVIII
0912	0000	47	PROG		1900	1200	96	200MB S/I ANAL	XVIII
0924	0000	48	SO.CHINA SEA		1912	1200	97	200MB S/I ANAL	X
0936-1000	N/A	49-51	ANAL	SPECIAL	1924	N/A	98	BRIEFING CHART	
1012	0000	52	500MB CONTOUR		1936	1200	99	700MB CONTOUR	VIII
1024-1100	N/A	53-56	ANAL	VIII				ANAL	
1112	0600	57	OPEN		2024	1200	100	700MB CONTOUR	
			SFC ISOBARIC	XVI	2036	1200	101	ANAL	IX
			ANAL					500MB CONTOUR	
			X		2048	1200	102	ANAL	
			SFC ISOBARIC					500MB CONTOUR	
			ANAL	VIII	2100	1200	103	ANAL	IX
			X					SEA COND PROG	XI
			SFC ISOBARIC		2112	N/A	104	SO.CHINA SEA	
			ANAL					ANAL	SPECIAL
			X		2124	----	105	300MB CONTOUR	
			SFC ISOBARIC		2136	----	106	ANAL	VIII
			ANAL	IX	2148	----	107	300MB CONTOUR	
			GRADIENT WIND		2200	----	108	ANAL	
			ANAL	XVIII				RERUN 99	
			TIROS	AS AVAIL	2212	----	109	RERUN 100	
			200MB CONTOUR		2224	1200	110	RERUN 101	
			ANAL	XVI	2236-2300	----	111	RERUN 102	
			500-1000MB					RERUN 105	
			THICKNESS ANAL	XVI				RERUN 106	
								RERUN 114	XVI
								RERUN 115	
								RERUN 116	

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SCHEDULE OF TRANSMISSIONS

2312	1800	117	SFC ISOBARIC ANAL	X
2324	1800	118	SFC ISOBARIC ANAL	VIII
2336	1800	119	SFC ISOBARIC ANAL	IX
2348	1800	120	GRADIENT WIND ANAL	XVIII

NOTES: 1. Speed of Transmission 120LPM.
I.O.C. 576.
2. Broadcast is retransmitted over
Philippine frequencies marked
with (*) above.
3. Broadcast is compiled U.S. Fleet
Weather Central, Guam, M.I.

INFORMATION DATED: January 1967.

460300 HAWAII

460301 PEARL HARBOR (NPM)

This is the Honolulu (NPM) Fleet Facsimile Broadcast. Areas are enclosed by the following points:

AREA I	AREA II	AREA III
32.4N-116.6W	68.0N-143.5W	23.0N-161.3W
68.0N-143.5W	60.1N-104.4E	23.0N-153.5W
16.7N-178.1E	15.2N-148.3E	18.0N-153.5W
05.7N-157.0W	16.7N-178.1E	18.0N-161.3W

AREA IV	AREA V	AREA VI
60.0N-174.0W	60.0N-122.3E	25.0N-095.0E
60.0N-110.2W	60.0N-174.0W	08.0S-137.0E
23.0S-110.2W	23.0S-174.0W	05.0S-160.0W
23.0S-174.0W	23.0S-122.3E	29.0N-114.0W

AREA VII	AREA VIII	AREA IX
05.0S-150.0E	37.0N-110.0W	27.0N-147.0W
19.5N-110.0E	37.0N-158.0E	27.0N-171.0W
35.0N-094.0W	19.0S-158.0E	12.5N-171.5W
01.0N-139.0W	19.0S-110.0W	12.5N-147.5W

AREA X	AREA XI	AREA XII
15.0N-110.0W	00.0 -155.0W	20.0S-135.0W
50.0N-110.0W	40.0N-155.0W	58.0N-135.0W
50.0N-165.0W	40.0N-135.0E	58.0N-165.0E
15.0N-165.0W	00.0 -135.0E	20.0S-165.0E

TIMES AND FREQUENCIES

Continuous	2122	kcs	5 KW
0600-1800	4802.5	kcs	15 KW
Continuous	9440	kcs	15 KW
Continuous	13862.5	kcs	15 KW
1800-0600	16400	kcs	15 KW

Time of Trans	Time of Obs	Contents of Trans	Area
0000	1200	300 MB Analysis	I
0012	1200	300 MB Analysis	II
0024	1200	500 MB 48 hr prog	VII
0048	VAR	Available Satellite	VAR
0100	1200	200 MB Analysis	I
0112	1200	200 MB Analysis	II
0236	1200	Freezing Level 36 hr prog	VII
0312	VAR	Available Satellite	VAR
0324	1800	Horizontal Weather Depiction (East) above 18,000 ft.	X
0336	1800	Horizontal Weather Depiction (East) below 18,000 ft.	X
0348	1800	Horizontal Weather Depiction (West) above 18,000 ft.	XI
0400	1800	Horizontal Weather Depiction (West) below 18,000 ft.	XI
0500	0000	Surface Analysis	IV
0512	0000	Surface Analysis	V
0636	0000	700 MB Tropical Wind 24 hr prog	VIII
0648	0000	500 MB Tropical Wind 24 hr prog	VIII
0700	0000	250 MB Tropical Wind 24 hr prog	VIII
0712	0000	Surface 24 hr prog (FNWF unmodified)	VII
0724	0000	Sea Condition 24 hr prog	VI
0736	0000	850 MB Analysis	I
0748	0000	850 MB Analysis	II
0800	0000	500 MB Analysis	I
0812	0000	500 MB Analysis	II
0824	0000	Special Require- ment	
0836	0000	500 MB 24 hr prog	I
0848	0000	500 MB 24 hr prog	II
0900	0000	700 MB 24 hr prog	I
0912	0000	700 MB 24 hr prog	II
0924	0000	Horizontal Weather Depiction (East) above 18,000 ft.	X
0936	0000	Horizontal Weather Depiction (East) below 18,000 ft.	X
0948	0000	Horizontal Weather Depiction (West) above 18,000 ft.	XI
1000	0000	Horizontal Weather Depiction (West) below 18,000 ft.	XI
1012	0000	300 MB 24 hr prog	I
1024	0000	300 MB 24 hr prog	II
1036	0000	200 MB 24 hr prog	I
1048	0000	200 MB 24 hr prog	II
1100	0600	Surface Analysis	IV
1112	0600	Surface Analysis	V

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460301—continued

1124	0000	400 MB 24 hr prog	I	2200	1200	Horizontal Weather Depiction (West) below 18,000 ft.	XI
1136	0000	400 MB 24 hr prog	II				
1148		Special Requirements					
1200	0000	300 MB Analysis	I	2212	1200	300 MB 24 hr prog	I
1212	0000	300 MB Analysis	II	2224	1200	300 MB 24 hr prog	II
1224	0000	500 MB 48 hr prog	VII	2236	1200	200 MB 24 hr prog	I
1236		Special Requirements		2248	1200	200 MB 24 hr prog	II
1248	VAR	Available Satellite	VAR	2300	1800	Surface Analysis	IV
1300	0000	200 MB Analysis	I	2312	1800	Surface Analysis	V
1312	0000	200 MB Analysis	II	2324	1200	400 MB 24 hr prog	I
1512	VAR	Available Satellite	VAR	2336	1200	400 MB 24 hr prog	II
1524	0600	Horizontal Weather Depiction (East) above 18,000 ft.	X	2348	VAR	Neph-analysis from latest Satellite APT	XII
1536	0600	Horizontal Weather Depiction (East) below 18,000 ft.	X				
1548	0600	Horizontal Weather Depiction (West) above 18,000 ft.	XI				
1600	0600	Horizontal Weather Depiction (West) below 18,000 ft.	XI				
1648	VAR	Available Satellite	VAR				
1700	1200	Surface Analysis	IV				
1712	1200	Surface Analysis	V				
1724	0000	Sea Surface Temperature 48 hr prog	III				
1736	0000	Mixed layer depth 48 hr prog	III				
1748	VAR	Available Satellite	VAR				
1800		Special Requirement					
1812		Special Requirement					
1824		Special Requirement					
1836	1200	700 MB Tropical Wind 24 hr prog	VIII				
1848	1200	500 MB Tropical Wind 24 hr prog	VIII				
1900	1200	250 MB Tropical Wind 24 hr prog	VIII				
1912	1200	Surface 24 hr prog (FNWF-unmodified)	VII				
1924	1200	Sea Condition 24 hr prog	VI				
1936	1200	850 MB Analysis	I				
1948	1200	850 MB Analysis	II				
2000	1200	500 MB Analysis	I				
2012	1200	500 MB Analysis	II				
2024	1200	Sea Temperature Analysis	VII				
2036	1200	500 MB 24 hr prog	I				
2048	1200	500 MB 24 hr prog	II				
2100	1200	700 MB 24 hr prog	I				
2112	1200	700 MB 24 hr prog	II				
2124	1200	Horizontal Weather Depiction (East) above 18,000 ft.	X				
2136	1200	Horizontal Weather Depiction (East) below 18,000 ft.	X				
2148	1200	Horizontal Weather Depiction (West) above 18,000 ft.	XI				

NOTES:

1. Area I and II charts are Polar Stereographic Projections-Scale 1:15,000,000-True at 60N.
2. Area III chart is a Mercator Projection-Scale 1:2,000,000-True at 21N.
3. Area IV and V charts are Mercator Projections-Scale 1:20,000,000-True at 22 1/2 North and South.
4. Area VI chart is a Polar Stereographic Projection-Scale 1:30,000,000-True at 60N, centered at 170E.
5. Area VII chart is a Polar Stereographic Projection-Scale 1:30,000,000-True at 60N.
6. Area VIII chart is a Mercator Projection-Scale 1:20,000,000-True at 22 1/2 North and South.
7. Area IX chart is a Mercator Projection-Scale 1:5,524,831-True at 20 North and is available on request.
8. Area X and XI charts are Mercator Projections-Scale 1:20,000,000-True at 22 1/2 North and South.
9. Area XII chart is a Mercator Projection-Scale 1:20,000,000-True at 22 1/2 North and South.
10. 24-hour Surface Progs are unmodified as received from FNWF Monterey and do not depict fronts.
11. Upper air progs in the form of teletype messages are promulgated direct from computers, whereas upper air FAX Progs are modified as necessary prior to transmission.
12. Drumspeed all transmissions-120 LPM. I.O.C. 576.
13. Broadcast is compiled by Fleet Weather Central, Pearl Harbor.

INFORMATION DATED: October 1966.

Including N.M. 33/67
19 August 1967

★ U.S. GOVERNMENT PRINTING OFFICE: 1967-301-570/Z-52

SECTION 5

CODES

CODE FORMS

FM SYSTEM OF NUMBERING CODE FORMS

Each code form bears a number, preceded by the letters FM. This number is followed by the letter A if the code form was modified or newly introduced by CSM during the first session in 1953, by the letter B if the code form was modified or introduced by the CSM during its second session in 1958, and by the letter C if the code form was modified or introduced by the CSM during its third session in 1962.

This numbering enables the code forms to be distinguished one from another and from the code tables, which are numbered with a simple four-figure number.

Furthermore an indicator term is used to designate the code form colloquially and it is therefore called "code name". In most cases, this code name is included as a symbolic prefix in the code form and during transmission ensures ready identification of the type of report (e.g. SHIP, TAFOR, etc.).

The FM system of numbering the code forms, together with the corresponding code names, is the following:

FM SYSTEM OF CODE FORMS

FM 11.C-SYNOP	Surface report from land sta.
FM 15.C-AERO	Aviation routine weather report
FM 16.A-MMMMM BBBBB}	Selected special weather report (sudden changes) from land sta.
FM 17-MONT	Cloud report from land sta.
FM 21.C-SHIP	Surface report from ship in full form.
FM 22.C-SHIP	Surface report from ship in abbreviated form.
FM 23.C-SHRED	Surface report from ship in reduced form.
FM 26.B-SPESH	Special weather report from ship.
FM 31-NEPH	Report of nephoscopic observation
FM 32.C-PILOT	Upper wind report from land station.
FM 33.C-PILOT SHIP	Upper wind report from ship.
FM 35.C-TEMP	Upper level pressure, temperature and humidity (possibly wind) report from land station.
FM 36.C-TEMP SHIP	Upper level pressure, temperature and humidity (possibly wind) report from ship.

FM 38.B-ABTOP
FM 39.C-ROCOB

Summary of upper air report, in abridged form. Upper level temperature and wind (possibly air density) report from land rocketsonde station.

Upper level temperature and wind (possibly air density) report from rocketsonde station on ship.

Analysis in full form.

Analysis in abbreviated form.

Aerodrome (terminal or alternate) forecast in full form.

Aerodrome (terminal or alternate) forecast in abbreviated form.

Area forecast.

Route forecast.

Flight forecast.

Area forecast.

Route forecast.

Flight forecast.

Forecast for shipping.

Report of monthly means from land station. Report of monthly means from Ocean weather sta.

NACLI

CLINP

FM 73-SPCL1

CLISA

INCLI

FM 75.C-CLIMAT TEMP

FM 76.C-CLIMAT TEMP

SHIP

FM 81.A-SFAZI

FM 82.A-SFLOC

FM 83.A-SFAZU

Report of monthly means for oceanic area.

Report of monthly aerological means from land sta.

Report of monthly aerological means from Ocean weather sta.

Synoptic report of "atmospherics" bearings.

Synoptic report of "atmospherics" geographical location.

Detailed report of the distribution of "atmospherics" by bearings for any period of time up to and including 24 hours.

FM SYSTEM OF CODE FORMS

Surface observations	from land	general	FM 11.C
		for aviation	FM 15.C
		routine	FM 16.A
		sudden changes	FM 17
	from ship	cloud from land station	FM 21.C
		full form	FM 22.C
		abbreviated form	FM 23.C
		reduced form	FM 26.B
	nephoscopic	special report	FM 31
		of wind	FM 32.C
		from land	FM 33.C
		from ships	
		of pressure, temperature,	FM 35.C
		humidity (wind)	FM 36.C
Upper air observations	summary	from land	FM 38.B
		from ship	
		summary of temperature and wind	FM 39.C
		(possibly air density)	FM 40.C
Analysis and prognosis	full form		FM 45.C
	abbreviated form		FM 46.C
	for aerodrome	full form	FM 51.C
		abbreviated form	FM 52.C
Aeronautical forecast	for area, route, flight	area	FM 53.B
		route	FM 54.B
		flight	FM 55.B
		high level	FM 56.C
		high level route	FM 57.C
Maritime forecast		high level flight	FM 58.C
Special information	for maritime area — for surface		FM 61.C
		land station	FM 71
		Ocean weather station	FM 72.B
	monthly means	Oceanic area	FM 73
		upper air	FM 75.C
		land station	FM 76.C
atmospheric report	bearings	Ocean weather station	FM 81.A
		geographical location	FM 82.A
		bearings summary	FM 83.A

GENERAL LIST OF CODE FORMS

FM 11.C Surface report from land station

SYNOP

(II) iii Nddff VVwwW PPPTT N_hC_LhCMCH
 T_dT_dAjpj_p (7RRjj) (8N_sCh_sh_s) (9S_sS_pS_pS_p) (COTRA)

FM 15.C Aviation routine weather report

AERO

(GGgg)
 (II) iii Nddff VVwwW 8N_sCh_sh_s (OTTT_dT_d) (2P_HP_HP_HP_H)

FM 16.A Selected special weather report (sudden changes) from land station

MMMMMM
 BBBBBB } GGggw₂
 (II) iii Nddff VVwwW 8N_sCh_sh_s (OTTT_dT_d)

FM 17 Cloud report from land station
MONTN' C' H' H' C_t

FM 21.C Surface report from ship in full form

SHIP

YQL_oL_oL_o L_oL_oL_oGG Nddff VVwwW PPPTT
 N_hC_LhCMCH D_sv_sapp 7RRjj 8N_sCh_sh_s 9S_sS_pS_pS_p
 OT_sT_sT_dT_d 1dwdwP_wH_w (2I_sE_sE_sR_s or ICING followed by plain language) ICE followed by plain language or by (c₂KD_jre)

FM 22.C Surface report from ship in abbreviated form

SHIP

YQL_oL_oL_o L_oL_oL_oGG Nddff VVwwW PPPTT
 N_hC_LhCMCH (D_sv_s//) (2I_sE_sE_sR_s or ICING followed by plain language) ICE followed by plain language or by (c₂KD_jre)

FM 23.C Surface report from ship in reduced form

SHRED

YQL_oL_oL_o L_oL_oL_oGG Nddff VVwwW PP/TT
 (D_sv_s//) (2I_sE_sE_sR_s or ICING followed by plain language) ICE followed by plain language or by (c₂KD_jre)

FM 26.B Special weather report from ship

SPESH

GGggw₂ YQL_aL_aL_a L_oL_oL_o Nddff VVwwW
8N_sCh_sh_s (OTTT_dT_d)

FM 31 Report of Nephoscopic observation

NEPH (Iiiii) Cddv_rv_r Cddv_rv_r -----

FM 32.C Upper-wind report from land station

PILOT

Part A M_iM_iGG Iiiii
(International
exchange)

SECTION 4 44444 8ddff 7ddff 5ddff 4ddff 3ddff 2ddff
(Mandatory) /ddff 1ddff

SECTION 5 111AA j_nH_mH_mH_mH_m d_ad_afff
(Mandatory)

Part B M_iM_i Iiiii
(Regional or
international
exchange)

SECTION 1 GG_ihDf_a Hddff Hddff etc.
9999n Hddff etc.

SECTION 2 88888 1d_td_tf_tf_t 2d_td_tf_tf_t 3d_td_tf_tf_t

SECTION 3 55555 H_zH_zH_zH_zZ

Part C M_iM_iGG Iiiii
(Optional)

SECTION 4 44444 7ddff 5ddff 3ddff 2ddff 1ddff
(Mandatory)

SECTION 5 See format under Part A.
(Mandatory)

Suitable selection
SECTION 1 GG_ih// 9999n Hddff Hddff ... etc.
SECTION 2 See format under Part B.
SECTION 3 See format under Part B.

FM 33.C Upper-wind report from ship

PILOT SHIP

Part A M_iM_i YQL_aL_aL_a L_oL_oL_oGG
(International
exchange)

SECTION 4 44444 8ddff 7ddff 5ddff 4ddff 3ddff 2ddff
(Mandatory) /ddff 1ddff MMMU_L_aU_L_a

SECTION 5 111AA i_nH_mH_mH_mH_m d_ad_afff
(Mandatory)

Part B M_iM_i YQL_aL_aL_a L_oL_oL_oGG
(Regional or
international
exchange)

SECTION 1 00i_hDf_a Hddff Hddff etc.
9999n Hddff etc.

SECTION 2 88888 1d_td_tf_tf_t 2d_td_tf_tf_t 3d_td_tf_tf_t

SECTION 3 55555 H_zH_zH_zH_zZ

Part C M_iM_i YQL_aL_aL_a L_oL_oL_oGG
(Optional)

SECTION 4 44444 7ddff 5ddff 3ddff 2ddff 1ddff MMMU_L_aU_L_a
(Mandatory)

SECTION 5 See format under Part A.
(Mandatory)

SECTION 1 GG_ih// Hddff Hddff &ddff ... etc.
SECTION 2 See format under Part B.

SECTION 3 See format under Part B.

FM 35.C Upper-level pressure, temperature, humidity and wind report
from land station

TEMP

Part A M_iM_i Iiiii
(International
exchange)

SECTION 1 (99P_oP_o T_oT_oT_{do}T_{do}T_{xo})
(Mandatory) GGh₁h₁h₁ (T₁T₁T_{d1}T_{d1}T_{x1}) (0d₁d₁f₁f₁)
P₂P₂h₂h₂h₂ T₂T₂T_{d2}T_{d2}T_{x2} (0d₂d₂f₂f₂)
P_nP_nh_nh_nh_n T_nT_nT_{dn}T_{dn}T_{xn} (0d_nd_nf_nf_n)

SECTION 11 111AA H_tH_tP_tP_tP_t T_pT_pT_{dp}T_{dp}S_t (Z_bd_bd_bff) or
(Mandatory) 111AA S_tP_t T_p
H_tH_t

SECTION 10 111AA i_nH_mH_mH_mH_m d_ad_afff
(Mandatory)

Part B M_iM_iGG Iiiii
(Regional or
international
exchange)

SECTION 2 55555 00P_oP_o T_oT_oT_{do}T_{do}T_{xo} (0d_od_of_of_o)
h₁h₁P₁P₁P₁ T₁T₁T_{d1}T_{d1}T_{x1} (0d₁d₁f₁f₁)
P_nP_nh_nh_nh_n T_nT_nT_{dn}T_{dn}T_{xn} (0d_nd_nf_nf_n)

SECTION 3 66666 P₁P₁P₁T₁T₁ (0d₁d₁f₁f₁)
P_nP_nT_nT_n (0d_nd_nf_nf_n)

SECTION 4 77777 h₁h₁P₁P₁P₁ 0d₁d₁f₁f₁
h_nh_nP_nP_nP_n 0d_nd_nf_nf_n

Suitable selection SECTION 5 88888 00P_oP_o T_oT_oT_{do}T_{do}T_{xo} 0d_od_of_of_o
h₁h₁P₁P₁P₁ T₁T₁T_{d1}T_{d1}T_{x1} 0d₁d₁f₁f₁
P_nP_nh_nh_nh_n T_nT_nT_{dn}T_{dn}T_{xn} 0d_nd_nf_nf_n

SECTION 6 22222 22233 ChhHH 22244 w_phhHH
22255 B₁hhHH 22266 l₁hhHH
22277 w_phhHH

SECTION 7 33333 Reserved for regional codes for the transmission of observed wind differences between selected standard levels and thickness layers.

SECTION 8 44444 P₁P₁h₁h₁h₁ 0d₁d₁f₁f₁
P_nP_nh_nh_nh_n 0d_nd_nf_nf_n

SECTION 9 01010 N_hC_LhC_MC_H

Part C M_iM_iGG Iiiii

(Optional)

SECTION 1 P₁P₁h₁h₁h₁ T₁T₁T_{d1}T_{d1}T_{x1} (0d₁d₁f₁f₁)
P₂P₂h₂h₂h₂ T₂T₂T_{d2}T_{d2}T_{x2} (0d₂d₂f₂f₂)
P_nP_nh_nh_nh_n T_nT_nT_{dn}T_{dn}T_{xn} (0d_nd_nf_nf_n)

SECTION 11 See format under Part A.

(Mandatory)

SECTION 10 See format under Part A.
(Mandatory)

SECTION 2 55555 $\frac{h_1h_1}{n_1n_1}P_1P_1P_1$ T₁T₁T_{d1}T_{d1}T_{x1} (0d₁d₁f₁f₁)
h_nh_nP_nP_nP_n T_nT_nT_{dn}T_{dn}T_{xn} (0d_nd_nf_nf_n)

SECTION 3 See format under Part B

SECTION 4 See format under Part B

Suitable selection SECTION 5 88888 $\frac{h_1h_1}{n_1n_1}P_1P_1P_1$ T₁T₁T_{d1}T_{d1}T_{x1} 0d₁d₁f₁f₁
h_nh_nP_nP_nP_n T_nT_nT_{dn}T_{dn}T_{xn} 0d_nd_nf_nf_n

SECTION 6 See format under Part B.

SECTION 7 See format under Part B.

SECTION 8 See format under Part B.

FM 36.C Upper-level pressure, temperature, humidity and wind report from ship

TEMP SHIP

Part A $M_i M_i$ $YQL_a L_a L_a$ $L_o L_o L_o GG$
(International exchange)

SECTION 1 (99P_oP_oP_o T_oT_oT_{do}T_{do}T_{xo})
(Mandatory) 00h₁h₁h₁ (T₁T₁T_{d1}T_{d1}T_{x1}) (0d₁d₁f₁f₁)
P₂P₂h₂h₂h₂ T₂T₂T_{d2}T_{d2}T_{x2} (0d₂d₂f₂f₂)
P_nP_nh_nh_nh_n T_nT_nT_{dn}T_{dn}T_{xn} (0d_nd_nf_nf_n)
MMMU_{L_o}U_{L_o}

SECTION 11 111AA H_nH_mP_nP_m T_pT_pT_{dp}T_{dp}S_t (Z_bd_bd_bff) or
(Mandatory) 111AA $\frac{P_t P_t}{S_t H_t H_t} T_p T_p$

SECTION 10 111AA i_nH_mH_mH_mH_m d_ad_afff
(Mandatory)

Part B $M_i M_i$ $YQL_a L_a L_a$ $L_o L_o L_o GG$
(Regional or international exchange)

SECTION 2 55555 00P_oP_oP_o T_oT_oT_{do}T_{do}T_{xo} (0d_od_of_of_o)
 $\frac{h_1 h_1}{n_1 n_1} P_1 P_1 P_1 T_1 T_1 T_{d1} T_{d1} T_{x1}$ (0d₁d₁f₁f₁)
P_nP_nh_nh_nh_n T_nT_nT_{dn}T_{dn}T_{xn} (0d_nd_nf_nf_n)

SECTION 3 66666 P₁P₁P₁T₁T₁ (0d₁d₁f₁f₁)
P_nP_nh_nh_nh_n T_nT_n (0d_nd_nf_nf_n)

SECTION 4 77777 h₁h₁P₁P₁ 0d₁d₁f₁f₁
h_nh_nP_nP_n 0d_nd_nf_nf_n

SECTION 5 88888 00P_oP_oP_o T_oT_oT_{do}T_{do}T_{xo} 0d_od_of_of_o
 $\frac{h_1 h_1}{n_1 n_1} P_1 P_1 P_1 T_1 T_1 T_{d1} T_{d1} T_{x1}$ 0d₁d₁f₁f₁
h_nh_nP_nP_nh_nh_n T_nT_nT_{dn}T_{dn}T_{xn} 0d_nd_nf_nf_n

SECTION 6 22222 22233 ChhHH 22244 w_phhHH
22255 B₁hhHH 22266 l₁hhHH
22277 w_phhHH

SECTION 7 33333 Reserved for regional codes for transmission of observed wind differences between selected standard levels and thickness layers.

SECTION 8 44444 P₁P₁h₁h₁h₁ 0d₁d₁f₁f₁
P_nP_nh_nh_nh_n 0d_nd_nf_nf_n

SECTION 9 01010 N_hC_LhC_MC_H

Part C $M_i M_i$ $YQL_a L_a L_a$ $L_o L_o L_o GG$
(Optional)

SECTION 1 (Mandatory) P₁P₁h₁h₁h₁ T₁T₁T_{d1}T_{d1}T_{x1} (0d₁d₁f₁f₁)
P₂P₂h₂h₂h₂ T₂T₂T_{d2}T_{d2}T_{x2} (0d₂d₂f₂f₂)
P_nP_nh_nh_nh_n T_nT_nT_{dn}T_{dn}T_{xn} (0d_nd_nf_nf_n)
MMMU_{L_o}U_{L_o}

SECTION 11 See format under Part A.
(Mandatory)

SECTION 10 See format under Part A.
(Mandatory)

SECTION 2 55555 $\frac{h_1 h_1}{n_1 n_1} P_1 P_1 P_1 T_1 T_1 T_{d1} T_{d1} T_{x1}$ (0d₁d₁f₁f₁)
h_nh_nP_nP_nP_n T_nT_nT_{dn}T_{dn}T_{xn} (0d_nd_nf_nf_n)

SECTION 3 See format under Part B.

SECTION 4 See format under Part B.

Suitable selection SECTION 5 88888 $\frac{h_1 h_1}{n_1 n_1} P_1 P_1 P_1 T_1 T_1 T_{d1} T_{d1} T_{x1}$ 0d₁d₁f₁f₁
h_nh_nP_nP_nP_n T_nT_nT_{dn}T_{dn}T_{xn} 0d_nd_nf_nf_n

SECTION 6 See format under Part B.

SECTION 7 See format under Part B.

SECTION 8 See format under Part B.

FM 38.B Summary of upper air report, in abridged form

ABTOP

000hrHr
YYGG Hiiii or $YQL_a L_a L_a$ $L_o L_o L_o GG$

SECTION 1

O_xh₁H₁H₁
H₂H₂H₂T₂T₂ T_{d2}T_{d2}d_{d2}f_{d2}
H₃H₃H₃T₃T₃ T_{d3}T_{d3}d_{d3}f_{d3}
H_nH_nH_nT_nT_n T_{dn}T_{dn}d_df_d

SECTION 2
(Optional)

111AA j_nH_mH_mH_mH_m d_ad_afff

SECTION 3
(Optional)

111AA H₁H₁P₁P₁ T_pT_pT_{dp}T_{dp}S_t
(Z_bd_bd_bff)

or $\frac{P_t P_t}{S_t H_t H_t} T_p T_p$

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CODES

FM 39.C Upper level temperature and wind (possibly air density) report
from land rocketsonde station

ROCOB	IIII	$r_m a_s e_s m_r G_d$	YYGG _{gg}
	HHZ, TT	ddff _{1n}	(9d _p P _{1P_{1P₁}})
	HHZ, TT	ddff _{1n}	(9d _p P _{1P_{1P₁}})
----- etc.	----- etc.		JJJ

FM 40.C Upper level temperature and wind (possibly air density) report
from rocketsonde station on ship

ROCOB SHIP	YQL _a L _a L _a	L _o L _o L _o //	MMMU _{1o} U _{1o}
	$r_m a_s e_s m_r G_d$	YYGG _{gg}	
	HHZ, TT	ddff _{1n}	(9d _p P _{1P_{1P₁}})
	HHZ, SS	ddff _{1n}	(9d _p P _{1P_{1P₁}})
----- etc.	----- etc.		JJJ

FM 45.C Analysis in full form (IAC)

10001	333x ₁ x ₁	OYYG _c G _c	or		
10001	333x ₁ x ₁	OYYG _c G _c	8x ₂ x ₂ x ₂ 8	00x ₃ x ₃ x ₃	or
65556	333x ₁ x ₁	OYYG _c G _c	000G _p G _p	or	
65556	333x ₁ x ₁	OYYG _c G _c	000G _p G _p	8x ₂ x ₂ x ₂ 8	00x ₃ x ₃ x ₃
99900 (9NNSS) (md _s d _s f _s f _s)	8P _t P _c PP (00C,00)	or 8h _t h _c h _a h _a	YYYYYY	(-----)	
or (9NNSS) (-----) (md _s d _s f _s f _s)	000g _p g _p (000C,00)	8P _t P _c PP or (000C,00)	8h _t h _c h _a h _a	YYYYYY	
and (9NNSS) (md _s d _s f _s f _s)	000g _p g _p (00C,00)	7P _t P _c PP or -----	7h _t h _c h _a h _a -----	YYYYYY -----	(-----)
99911 (9NNSS) (00C,00)	66F _t F _i F _c -----	YYYYYY -----	YYYYYY -----	-----	(md _s d _s f _s f _s)
or (9NNSS) (md _s d _s f _s f _s)	000g _p g _p (00C,00)	66F _t F _i F _c -----	YYYYYY -----	YYYYYY -----	-----
and (9NNSS) (md _s d _s f _s f _s)	000g _p g _p (00C,00)	67F _t F _i F _c -----	YYYYYY -----	YYYYYY -----	-----
99922 4e ₁ uuu	YYYYYY	YYYYYY	-----	(00C,00)	
-----	-----	-----	-----		
99933 33M _h M _s M _t	YYYYYY	YYYYYY	-----	(00C,00)	-----
99944 989w _s i or 988ww or 987w _s w _s	YYYYYY	YYYYYY	-----	(md _s d _s f _s f _s) (00 C,00)	(00 C,00)
99955 (9NNSS)	(55T _t T _i T _c) (md _s d _s f _s f _s) (00C,00)	(555PP) (00C,00)	(5555T _i)	YYYYYY	YYYYYY -----
-----	-----	-----	-----		

(Continued)

99966					
2C _s S ₁ S ₂ Z ₁	YYYYYY	YYYYYY	-----	(md _s d _s f _s f _s)	(00C ₁ 00)
-----	-----	-----	-----	-----	-----
(9CH _b H _b H _b	8JH _b H _b H _b	YYYYYY	-----	-----	-----
or (7CH _b H _b H _b	6JH _b H _b H _b	YYYYYY	-----	-----	-----
99977					
(000g _p g _p)	YYYYYY	8ddff	7ddff	5ddff	4ddff
		3ddff	2ddff	1ddff	(00C ₁ 00)
		-----	-----	-----	-----
		-----	-----	-----	-----
99988					
9i _j H _j H _j H _j	YYYYYY	d _j d _j f _j f _j	9i _j H _j H _j H _j	YYYYYY	
d _j d _j f _j f _j	-----	-----	-----	-----	(00C ₁ 00)
and/or					
9i _j P _s P _s P _s	YYYYYY	d _j d _j f _j f _j	YYYYYY	d _j d _j f _j f _j	
		-----	-----	-----	(00C ₁ 00)
and/or					
4e ₁ uuu	YYYYYY	YYYYYY	-----	-----	-----
99999					
4e ₁ uuu	(42uuu)	YYYYYY	YYYYYY	.....	(00C ₁ 00)
	(00000)	42uuu	YYYYYY	.....	.....
88800					
77e ₂ uu	(9d _w d _w P _w P _w)	YYYYYY	(9d _w d _w P _w P _w)	YYYYYY	.....
	.....	.....	(9d _w d _w P _w P _w)	YYYYYY	(00C ₁ 00)
88822					
44vvv	YYYYYY	YYYYYY	-----		
77744	.....	Vocabulary groups	.....	.....	44777
19191					

FM 46.C Analysis in abbreviated form (IAC fleet)

10001	33388*	0YYG _c G _c	or		
65556	33388*	0YYG _c G _c	000G _p G _p		
99900					
8P _f P _c PP	QL _a L _a L _a L _a	(QL _a L _a L _a L _a)md _s d _s f _s f _s			
or 000g _p g _p	8P _f P _c PP	QL _a L _a L _a L _a	(QL _a L _a L _a L _a)md _s d _s f _s f _s		
and					
000g _p g _p	7P _f P _c PP	QL _a L _a L _a L _a	(QL _a L _a L _a L _a)md _s d _s f _s f _s		
99911					
66F _f F _c	QL _a L _a L _a L _a	QL _a L _a L _a L _a	-----	md _s d _s f _s f _s	
or 000g _p g _p	66F _f F _c	QL _a L _a L _a L _a	-----	md _s d _s f _s f _s	
and					
000g _p g _p	67F _f F _c	QL _a L _a L _a L _a	-----	md _s d _s f _s f _s	
99922					
44PPP	QL _a L _a L _a L _a	QL _a L _a L _a L _a	-----		
99955					
(55T _f T _c) (555PP)	QL _a L _a L _a L _a	QL _a L _a L _a L _a	-----	md _s d _s f _s f _s	
99944					
987w _s w _s	QL _a L _a L _a L _a	QL _a L _a L _a L _a	-----		
88800					
77e ₂ uu	(9d _w d _w P _w P _w)QL _a L _a L _a L _a	(9d _w d _w P _w P _w)QL _a L _a L _a L _a	-----		
	(9d _w d _w P _w P _w)QL _a L _a L _a L _a	(00C ₁ 00)			
77744	-----	Vocabulary groups	-----	-----	44777
19191					

* (Or 33300, 33311, 33322 when L_aL_aL_aL_ak is substituted for QL_aL_aL_aL_a.)

FM 51.C Aerodrome (terminal or alternate) forecast in full form

TAFOR

G₁G₁G₂G₃

(II) iii Nddff VVw₁w₁/ 8N_sCh_sh_s (7h_bh_bh_b)
(6l_ch_bh_bl_L) (5Bh_Bh_Bl_L) (4h_xh_xT_hT_h 3d_hd_hf_hf_h) (2G_FG_FT_FT_F)
9i₃nnn etc.

FM 52.C Aerodrome (terminal or alternate) forecast in abbreviated form

TAF

G₁G₁G₂G₃

(II) iii Nddff VVw₁w₁/ 8N_sCh_sh 9i₃nnn etc.

FM 53.B Area forecast

ARFOR

G₁G₁G₂G₃

AAAAA (Nddff) (VVw₁w₁/) 8N_sCh_sh
7h_bh_bh_b 6l_ch_bh_bl_L 5Bh_Bh_Bl_L 4h_xh_xT_hT_h
3d_hd_hf_hf_h 2h¹_ph¹_pT_pT_p 11111
h¹_jh¹_jf_jf_j 9i₃nnn etc.

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FM 54.B Route forecast

ROFOR

G₁G₂G₃
iii (QL_aL_aL_a) iii Oi₂zzz (Nddff) (VVw₁w₁)
8N_sCh_sh_s 7h_hh_hh_f 6l_ch_hh_fL 5Bh_Bh_Bh_L
4h_xh_xT_hT_h 3d_hd_hf_hf_h 2h[']p[']pT_pT_p 11111 QL_aL_aL_a
h[']j[']h[']j[']f_{jj}f_{jj} 9i₃nnn etc.

FM 55.B Flight forecast

FIFOR

G₁G₂G₃
i₁i₁i₁ (QL_aL_aL_a) i₁i₁i₁ Oi₂zzz (Nddff) (VVw₁w₁)
8N_sCh_sh_s 7h_hh_hh_f 6l_ch_hh_fL 5Bh_Bh_Bh_L
4h_xh_xT_hT_h 3d_hd_hf_hf_h 2h[']p[']pT_pT_p
11111 QL_aL_aL_a h[']j[']h[']j[']f_{jj}f_{jj} 9i₃nnn etc.

FM 56.C Area forecast

PROAR

G₁G₂G₃
AAAAA (Nddff) (VVw₁w₁) 8N_sCP_LP_L
7P_MP_MP_f 6l_cP_iP_iP_T 5B_BP_BP_T 4P_xP_xT_hT_h 3d_hd_hf_hf_h
2P_fP_iT_pT_p 11111 QL_aL_aL_a P_jP_jf_{jj}f_{jj} 9i₃nnn etc.

FM 57.C Route forecast

PRORO

G₁G₂G₃
iii (QL_aL_aL_a) iii Oi₂zzz (Nddff) (VVw₁w₁)
8N_sCP_LP_L 7P_MP_MP_f 6l_cP_iP_iP_T 5B_BP_BP_T
4P_xP_xT_hT_h 3d_hd_hf_hf_h 2P_fP_iT_pT_p 11111 QL_aL_aL_a
P_jP_jf_{jj}f_{jj} 9i₃nnn etc.

FM 58.C Flight forecast

PROFI

G₁G₂G₃
i₁i₁i₁ (QL_aL_aL_a) i₁i₁i₁ Oi₂zzz (Nddff) (VVw₁w₁)
8N_sCP_LP_L 7P_MP_MP_f 6l_cP_iP_iP_T 5B_BP_BP_T 4P_xP_xT_hT_h
3d_hd_hf_hf_h 2P_fP_iT_pT_p 11111 QL_aL_aL_a P_jP_jf_{jj}f_{jj}
9i₃nnn etc.

FM 61.C Forecast for shipping

MAFOR

OAAA_m 1GDF_mW₁ (2VST_xT_n) (3D_kP_wH_wH_w)

FM 71 Report of monthly means from land station

CLIMAT

II ₁₁₁₁	<u>PPTTT</u>	<u>UUR₁R₁R_d</u>
(NORMAL	PPTTT	UUR ₁ R ₁ /

FM 72.B Report of monthly means from ocean weather station

CLIMAT	SHIP	9QL _a L _a L _a L _a L _a L _a 99	
PPTTT	<u>UUT_sT_sT_s</u>	(99R ₁ R ₁ R _d)	
(NORMAL	PPTTT	UUT _s T _s T _s	(99R ₁ R ₁ /)

FM 73 Report of monthly means for oceanic area

NACLI	$\left. \begin{array}{l} L_aL_aL_aL_o \\ L'_aL'_aL'_aL'_o \\ L''_aL''_aL''_aL''_o \\ \dots \end{array} \right\}$	<u>P₁P₁P₂P₂P₃</u>	<u>P₃P₄P₅P₅</u>
CLINP		<u>P₁'P₁'P₂'P₂'P₃'</u>	<u>P₃'P₄'P₅'P₅'</u>
SPCLI		<u>P₁''P₁''P₂''P₂''P₃''</u>	<u>P₃''P₄''P₅''P₅''</u>
CLISA		<u>P₁'''P₁'''P₂'''P₂'''P₃'''</u>	<u>P₃'''P₄'''P₅'''P₅'''</u>
INCLI		etc.	

FM 75.C Report of monthly aerological means from land station

CLIMAT	TEMP	II ₁₁₁₁	<u>P_oP_oP_oP_oT_o</u>	<u>T_oT_oT_{do}T_{do}T_{do}</u>	<u>r_fd_vd_vf_vf_v</u>
			<u>HHHHT</u>	<u>TTT_dT_dT_d</u>	<u>r_fd_vd_vf_vf_v</u>
			<u>HHHHT</u>	<u>TTT_dT_dT_d</u>	<u>r_fd_vd_vf_vf_v</u>
		
			....	....	.... etc.

FM 76.C Report of monthly aerological means from ocean weather station

CLIMAT	TEMP	SHIP	<u>9QL_aL_aL_a L_aL_aL_a99</u>	<u>P_oP_oP_oP_oT_o</u>	<u>T_oT_oT_{do}T_{do}T_{do}</u>	<u>r_fd_vd_vf_vf_v</u>
			<u>HHHHT</u>	<u>TTT_dT_dT_d</u>	<u>r_fd_vd_vf_ff_f</u>	
		
			....	....	....	.... etc.

FM 81.A Synoptic report of atmospherics bearings

SFAZI

(99II) iiiGG F₁I_jD₁D₁D₁ F₂I_jD₂D₂D₂ etc.

FM 82.A Synoptic report of atmospherics geographical location

SFLOC

66600	GGx ₄ a _i A _i	L _a L _a L _a L _a k	.....
66655	99x ₄ a _i A _i	L _a L _a L _a L _a k	.....

FM 83.A Detailed report of the distribution of atmospherics by bearings for any period of time up to and including 24 hours

SFAZU

II ₁₁₁₁	YG ₁ G ₁ G ₂ G ₂	
999NI	g ₁ g ₁ D ₁ ' ₁ D ₁ ' ₁ D ₁ ' ₁	g ₂ g ₂ D ₁ ' ₂ D ₁ ' ₂ D ₁ ' ₂
999NI	g ₁ g ₁ D ₁ ' ₁ D ₁ ' ₁ D ₁ ' ₁	g ₂ g ₂ D ₁ ' ₂ D ₁ ' ₂ D ₁ ' ₂ etc.

LIST OF CODE FORMS AND EXPLANATORY NOTES

FM 11.C Surface report from land station

SYNOP (II) iii Nddff VVwwW PPPTT
 $N_h C_L h C M C H$ $T_d T_d i p p (7Rjj)$
 $(8N_s C_h s_h_s)$ $(9S_p S_p s_p s_p)$ (COTRA)

NOTES:

(1) The code name SYNOP may prefix the report, indicating that it is a surface report from a land station, but in the case of a group of such reports, it may be used in the heading of the collective.

(2) Those National Services which consider light-vessels in the same category as land stations make use of land code forms with index numbers. The reports are included in land report collectives (see Note 3 under SHIP FM 21.C).

(3) Use of bracketed groups

Elements or groups in brackets are drop-out items and may or may not be included in the report depending on specified conditions.

a. (II) iii – When individual reports are identified by the station number iii and all reports in a collective message have the same block number II, a group 999II is added immediately before the group iii of the first report of the message. When any following report or group of reports originates from station(s) with block number not identical with the preceding block number, a new group 999II is given immediately before such a report or group of reports. The group 999II is not repeated at the end of the group of reports to which it pertains in collectives for ground to air transmissions and, while it may be repeated at the end of groups of reports for ground to ground transmissions, care should be taken to ensure that such repetition does not lead to confusion.

However, when the individual reports are identified by the index number IIiii, it is not necessary to use the 999II group in collective messages.

b. (7Rjj) – The use of this group is fixed Regionally.

c. (8NsChs hs) – The inclusion of this group is fixed Regionally or nationally. When the 8-group is included in a SYNOP report, the rules for the use of the 8-group in AERO apply and specify minimum requirements (see Note (3) under AERO FM 15.C)

d. (9S_pS_ps_ps_p) – The use of this group is fixed Regionally.

(4) The groups with indicator figures may be repeated as necessary.

(5) Additional groups or supplementary information.

The following additional groups, comprising an indicator figure and/or the following information, may be added to the SYNOP form:

(i) Coastal stations and light-vessels may add in their reports the wave group $1dwdwPwHw$, in accordance with national

or Regional instructions. For heights of waves over $9\frac{1}{4}$ m (31 ft.), this group is followed by the word WAVES and the actual height of the waves in meters or feet (see meaning of H_w).

Coastal stations desiring to report "tendency" of the waves replace the group $1dwdwPwHw$ by the groups WATEN O_wd $w_d wP_wH_w$.

(ii) Additional or supplementary groups with the indicator figures 2, 3, 4 and 5 may be added to the SYNOP form. The form and the use of these groups are fixed Regionally.

(iii) High level stations may use the group $6aghhh$ to indicate the geopotential of an agreed standard "constant pressure level" (see Note 2) under PPP.

(iv) Under special conditions, a group of the form 99ppp is inserted in the report after the $T_d T_d i p p$ group (see Note 1) under pp.

(v) One or more of the following words should be added at the end of the report, when the weather conditions specified for each of them justify their inclusion:

HAIL – when a shower or a thunderstorm, accompanied by hail, occurs in the period covered by ww.

PAST HAIL – when a shower or a thunderstorm, accompanied by hail, occurred in the period covered by W.

SNOW or SLEET – when a snow shower or a shower of rain and snow mixed, with a temperature above $0^{\circ}C$, has been observed during the period covered by W.

SANDSTORM – when a sandstorm, with a temperature below $0^{\circ}C$, has occurred in the period covered by W.

COTRA – when the cloud reported consists in whole or in part of condensation trails.

(vi) In the reports from aeronautical stations, using FM11.C instead of FM15.C, appropriate Q signals or plain language may be added at the end of the report when the horizontal visibility differs in different directions and when it is desired to report this.

FM 15.C Aviation routine weather report

AERO (GGgg)

(II) iii Nddff VVwwW $8N_s C_h s_h_s$ (OTTT_dT_d)
 $(2P_H P_H P_H P_H)$ ($4i_R V_R V_R V_R$)

NOTES:

(1) The code name AERO is used as a prefix to the report, indicating that it is an aviation routine weather report, but in the case of a group of such reports, it should be only used in the heading of the collective.

(2) The 90-99 decade in the codes for VV and $h_s h_s$ should not be used for aeronautical purposes.

(3) Instructions for the group $8N_s C_h s_h_s$

(i) This group may be repeated to report a number of layers of cloud. The order of reporting the groups is always from low to high levels. The selection of layers to be reported is made in accordance with the following requirements:

- The lowest individual layer (mass of any amount (N_s equals 1 or more);
- the next higher individual layer (Mass) the amount of which is greater than
 N_s equals 2 (N_s equals 3 or more);
- the next higher individual layer (mass) the amount of which is greater than
 N_s equals 4 (N_s equals 5 or more).

Cumulonimbus clouds, whenever observed and not reported under the above by means of a group referring exclusively to Cb.

REMARK: "The order of reporting of the groups is always from low to high levels." In determining the cloud amounts to be reported for individual layers or masses in the 8-group, the observer estimates, by taking into consideration the evolution of the sky, the cloud amounts of each layer or mass at the different levels, as if no other clouds were existing. Caution should be taken, however, to avoid unconsidered guessing as opposed to the best scientific estimate. (This requires elaboration in national instructions.)

- (ii) When the sky is clear (N equals 0), the 8-group should not be used.
- (iii) When N_s equals 9, the 8-group should read 89/hshs, where hshs is the vertical visibility.
- (iv) If two or more types of clouds occur with their bases at the same level and this level is one to be reported in accordance with (i) above then C will refer to the cloud type that represents the greatest amount and N_s will refer to the total amount of clouds of all types whose bases are the same as that of the type reported by C.

(4) Use of bracketed groups

The elements or groups enclosed in brackets are standard form in accordance with Regional, bi-lateral or national arrangements, unless otherwise specified in the following notes:

- (i) (GGgg) – The group GGgg is always placed in the heading of all collective, indicating the time of observation of the report placed first in the collective. If the time of observation of any following report in the collective is not more than 10 minutes before the time given by GGgg in the heading, it is not necessary to use GGgg in any such report. If the time of observation of any following report in the collective is more than 10 minutes before the time given by GGgg in the Heading, it is always necessary to use GGgg in any such report.
- (ii) (II)iii – Normally only the station number iii is used, but the full index number IIiii should be used:
 - when necessary to separate sections of the collective messages for international exchange; or
 - when necessary to provide positive identification of individual station reports.

(5) Additional groups or supplementary information

- (i) National Services may require reports from light-vessels in the AERO form with special groups added (e.g. AERO form with group 3TTT_ST_S). In these cases each special group must have an indicator figure and the reports are not to be included in international exchanges.

- (ii) Plain language of Q signals may be used in connection with AERO when necessary to give a more detailed description of the weather. Samples of supplementary information which may be reported, include but are not limited to: freezing rain, ice pellets, hail, small hail, soft hail, gustiness, rain and snow mixed, sand in air, heavy dust in air, blowing snow. When such supplementary information applies to conditions not occurring at the time of observation, plain language words may be preceded by the word PAST and such other additions as may be desirable to describe the exact time of occurrence, extent and direction of movement.
- (iii) Appropriate Q signals or plain language may be added at the end of the report when the horizontal visibility differs in different directions and when it is desired to report this.
- (iv) The word COTRA shall be added at the end of the report when the cloud reported consists in the whole or in part of condensation trails.

FM 16.A Selected special weather report (sudden changes) from land station

{ MMMMM } GGggw2
 BBBBB (II)iii Nddff VVwwW 8N_sChshs (OTTT_dT_d)

NOTES:

- (1) MMMMM is the symbolic prefix of a report from a land station, indicating a deterioration of weather conditions.
BBBBB is the symbolic prefix of a report from a land station, indicating an improvement in weather conditions.
- (2) When a deterioration of one weather element is accompanied by an improvement in another element (e.g. lowering of clouds and an improvement in visibility), a single MMMMM report is issued.
- (3) See Note (2) under AERO FM 15.C.
- (4) See Note (3) under AERO FM 15.C.
- (5) Use of bracketed groups
The element or group enclosed in brackets is included in the standard form in accordance with regional, bi-lateral or national arrangements, unless otherwise specified in the following note: (II)iii-See Note 4 (ii) under AERO FM 15.C.
- (6) Additional groups or supplementary information
 - (i) See Note (5) (ii) and (iii) under AERO FM 15.C.
 - (ii) Coastal stations may add in their reports the wave group 1d_wd_wP_wH_w if required. For heights of waves in meters or feet (see meaning of H_w).
 - (iii) Coastal stations desiring to report "tendency" of the waves replace the group 1d_wd_wP_wH_w by the groups WATEN O_wd_wd_wP_wH_w.

FM 17 Cloud report from land station

MONT N'C'H'H'C,

The code name MONT, added at the end of SYNOP report, indicates that the following group or groups deal with clouds having bases below station level.

- (1) The code name MONT shall precede cloud reports in code form FM 17.
- (2) A MONT report shall be added at the end of the SYNOP FM 11.C which refers to the same time of observation.
- (3) Clouds with tops below station level shall be reported only by the MONT group and any coexistent clouds with bases above the station level shall be reported in the SYNOP group $N_h C_L h \quad C_M C_H$.
- (4) C_L clouds with bases below and tops above station level shall be reported in both $N_h C_L C_M C_H$ and MONT N'C'H'H'C, provided that the station is out of cloud sufficiently frequently to enable the various features to be recognized.

In this case:

- (a) N_h corresponds with N' and C_L with C' while h shall be coded as /;
- (b) Other C_L clouds present with tops below station level shall be reported in a second MONT group;
- (c) Other C_L clouds present with bases above station level shall be reported in plain language after the MONT group (s).
- (5) If the station is in almost continuous cloud the group $N_h C_L h C_M C_H$ shall be reported as 9///, the MONT group omitted, and ww encoded in the forty decade or higher.
- (6) The word COTRA shall be added at the end of the report when the cloud reported consists in whole or in part of condensation trails.

FM 21.C Surface report from ship in full form

SHIP YQL_oL_oL_o L_oL_oL_oGG Nddff VVwwWW PPPTT
 $N_h C_L h C_M C_H D_s V_s app$ (7RRjj)(8N_sCh_sh_s)(9S_pS_pS_pS_p)
 $(OT_s T_s T_d T_d)$ ($1d_w d_w P_w H_w$) ($2l_s E_s E_s R_s$ or ICING
followed by plain language)
(ICE followed by plain language or c₂KD_jre)

NOTES:

- (1) The code name SHIP is used as a prefix to the report, indicating that it is a surface report from a ship, but in the case of a group of such reports, it should only be used in the heading of the collective.
- (2) The form FM 21.C is considered suitable not only for selected ships but also for Ocean Weather Stations.
- (3) Those National Services which consider lightvessels in the category of ships use ship code forms and include the reports in ship collectives. See also NOTE 2 under SYNOP FM 11.C.

- (4) If the group $D_s V_s app$ is not reported, 30 is added to the time of observation GMT.
- (5) If the groups $N_h C_L h C_M C_H$ and $D_s V_s app$ are not reported, 60 is added to the time of observation in whole hours GMT.
- (6) However, ships which in accordance with their national instructions or because of failure of instruments do not report the group $D_s V_s app$, include a group $D_s V_s //$ in the ship report when in an area where the ship report collecting center, in order to meet a requirement of a search and rescue center, has requested this inclusion as a routine procedure.
- (7) Use of bracketed groups;
Groups in brackets are drop-out items and may or may not be included in the report depending on specified conditions. These groups, being provided with an indicator figure, may be repeated as necessary.
 - (i) 7RRjj For lightships reporting in the SHIP code form and for ocean weather stations the use of this group is fixed regionally or nationally. In the case of mobile ship stations, which make precipitation observations, the group 7RRjj is added to each SHIP report under the form 7RR_RT_R.
 - (ii) 8N_sCh_sh_s — This cloud group is optional for merchant ships but mandatory for Ocean Weather Stations. When the 8-group is included in a SHIP report the rules for the use of the 8-group in AERO apply and specify minimum requirements (See Note (3) under AERO FM 15.C).
 - (iii) 9S_pS_pS_pS_p — This group is normally not reported in ships's reports, other than Ocean Weather Stations. Cases may occur, where reports of special phenomena would justify inclusion in SHIP reports of ships, other than Ocean weather stations. As these cases are very rare, these reports should be sent in plain language.
 - (iv) OT_sT_sT_dT_d — This group may or may not be included in the report in accordance with national instructions. It is mandatory for Ocean weather stations.
 - (v) 1d_wd_wP_wH_w — This group should be included in the report. It is mandatory for ocean weather stations. As a rule, when wave observations are reported and when it is possible to make a clear distinction between sea and swell at least two 1d_wd_wP_wH_w groups should be included, the first group relating to wind waves, the second to waves of the predominant swell system. Swell systems other than the predominant one can be included in the report by means of more 1d_wd_wP_wH_w groups.

NOTE. In a case of "no sea" and "with swell" the first group should read 100/0.

(vi) When the ice accretion on ships is reported in plain language it shall be preceded by the word "ICING".

(vii) ICE c_2KD_{1re} – Reporting ships from which ice and/or icebergs are visible or have been observed at a point or points within a distance of 50 to 60 km from the ship's position at the actual time of observation, should add to the SHIP report the word ICE followed by the group c_2KD_{1re} or by plain language. Ice information for other special purposes may be given by means of the special ice codes in the codes section. Reporting of sea ice in SHIP reports is not to supersede the reporting of sea ice and icebergs in accordance with the International Convention for the Safety of Life at Sea.

(8) Additional groups or supplementary information
The following additional groups, comprising an indicator figure and/or the following information, may be added to the SHIP form:

- For heights of waves over $9\frac{3}{4}$ meters (31 ft) the group $1d_{WdW}P_{W}H_{W}$ is followed by the word WAVES and the actual height of the waves in meters or feet (see meaning of H_{W}).
- Under special conditions, a group of the form 99ppp is inserted in the report after the $D_{S}V_{S}app$ group (see Note 1) under pp).
- Reporting ships from which icebergs are visible should add, in plain language, to their SHIP report the number of icebergs seen at the actual time of observation (in clear).
- See Note (5) (v) under SYNOP FM 11.C.

FM 22.C Surface report from ship in abbreviated form

SHIP YQL_aL_aL_a L_oL_oL_oGG Nddff VVwwW PPPTT
N_hC_LC_MCH ($D_{S}V_{S}///$) (2I_SE_SE_SR_S or ICING followed by plain language) (ICE followed by plain language or c_2KD_{1re})

NOTES:

- See Note (1) under SHIP FM 21.C.
- This code form is considered suitable for supplementary ships, i.e. ships supplied, not with full sets (as the selected ships and ships at Ocean weather stations), but with modified sets of tested instruments. These ships are requested to report at international synoptic hours, whenever practicable, in areas where shipping is relatively sparse, or on request and especially when storm conditions threaten or prevail.
- See Note (3) under SHIP FM 21.C.
- Use of bracketed groups
 - ($D_{S}V_{S}///$) This group is included in ships' reports from an area only when the ship report collecting center for that area, in order to meet a requirement of a search and rescue center, has requested its inclusion, as a routine procedure, by all ships in the area.
 - See Note (7) (vi) under SHIP FM 21.C.

(5) Additional groups or supplementary information
See Note (8) (iii) under SHIP FM 21.C and Note (5) (v) under SYNOP FM 11.C.

FM 23.C Surface report from ship in reduced form

SHRED YQL_aL_aL_a L_oL_oL_oGG Nddff VVwwW PP/TT
($D_{S}V_{S}///$) (2I_SE_SE_SR_S or ICING followed by plain language) (ICE followed by plain language or c_2KD_{1re})

NOTES:

- The code name SHRED is used as a prefix to the report, indicating that is a reduced type of ship report. The prefix SHRED should always be included in the message.
- This code form is considered suitable for any ship, other than a selected ship, a ship at an ocean weather station or a supplementary ship, which is not supplied with tested instruments and may be requested to report in areas where shipping is relatively sparse, or on request and especially when storm conditions threaten or prevail. These ships can report in plain language if the use of code is impracticable. They are encouraged to make their reports at the main standard times of observation, but reports at other hours, more convenient to themselves, are acceptable, the actual time of observation being reported in the report to the nearest hour GMT.
- See NOTE (3) under SHIP FM 21.C.
- The / in the group PP/TT signifies that the information in the tenths of mb is not available owing to lack of accuracy or closeness of scale of the ship's barometer.
- If the group PP/TT is not reported, 30 is added to the time of observation in whole hours GMT (example: actual time of observation 05.50 GMT; GG = 06 plus 30 = 36).

(6) Use of bracketed groups

- See Note (4) (i) under SHIP FM 22.C.
- See Note (7) (vi) under SHIP FM 21.C.

7) Additional groups or supplementary information
See Note (8) (iii) under SHIP FM 21.C and Note (5) (v) under SYNOP FM 11.C.

FM 26.B Special weather report from ship.

SPESH GGggw₂
YQL_aL_aL_a L_oL_oL_o Nddff VVwwW 8N_sCh_sh_s
(OTTT_dT_d)

NOTES:

- SPESH is the symbolic prefix, indicating a special report from a ship.
- The criteria for the taking of a special report follow hereunder. They should be applied regionally with a view to transmitting messages of interest to synopticians in order to avoid the transmission of a large number of reports.

The criteria are:

- (a) *Wind Speed*. When a marked and sustained change in the mean wind speed has occurred of the order of 20 knots or more and has been sustained for 10 minutes prior to commencement of the observation. Identified by code figure for $w_2=1$.
- (b) *Wind Direction*. When a marked and sustained change in the mean wind direction has occurred (i.e., of the order of 30° or more, sustained for 10 minutes prior to the commencement of the observation), the mean wind speed having been 15 knots or more before or after the change. Identified by code figure for $w_2=1$.
- (c) *Fog*. When fog has begun or ended. Identified by code figure for $w_2=2$.
- (d) *Precipitation*. When precipitation has begun or ended (except individual showers if shower type precipitation is occurring). Identified by code figure for $w_2=4$.
- (e) *Pressure*. When the pressure has risen or fallen in the amount of 2 or more millibars in the preceding hour. The sign of the pressure change will be reported by adding the word PLUS or MINUS at the end of the report to indicate whether the pressure is rising or falling, respectively. Identified by code figure for $w_2=5$.
- (f) When one or more of the following phenomena has occurred:
 - Hail
 - Heavy snow
 - Freezing precipitation
 } Identified by code figure for $w_2=4$.
- Thunderstorm Identified by code figure for $w_2=8$.
- Squall Identified by code figure for $w_2=9$.

(3) When more than one criterion exists simultaneously, the highest applicable code figure is reported for w_2 .

Code figure	Specifications
0*	Gusts
1	Wind (either direction or speed or both)
2	Visibility
3*	Cloud (amount or height)
4	Precipitation
5	Pressure
6	State of sea or of well; i.e., waves
7*	Duststorm, sandstorm, or blowing snow
8	Thunderstorm (with or without precipitation)
9	Squall or waterspout

(4) When a combination of the above criteria occurs in such a manner as to indicate the likelihood of a frontal passage, it is indicated by appending to the end of the message words FRONT, COLD FRONT, WARM FRONT, etc., as appropriate.

(5) Only code figures 00-89 are to be used to encode h_s .

(6) See note (3) under AERO FM 15.C.

(7) Use of bracketed group

The group enclosed in brackets is included in the standard form in accordance with regional, bilateral or national arrangements.

(8) See note (5) (ii) under AERO FM 15.C.

FM 31 Report of nephoscopic observation

NEPH (Iiiii) Cddv_rv_r Cddv_rv_r

NOTES:

- (1) The code name NEPH is always used as a symbolic prefix to the report, indicating that it is a report of nephoscopic observation.
- (2) Use of bracketed group
 - (i) When a NEPH report follows immediately the SYNOP report of the observing station, the group Iiiii is not used.
 - (ii) If the NEPH report is issued separately, the complete group Iiiii is only used when this is necessary to provide positive identification of individual station reports; otherwise, only iii is used.
- (3) The word COTRA shall be added at the end of the report when the cloud reported consists in whole or in part of condensation trails, if the NEPH report is issued separately.

FM 32.C Upper-wind report from land station

PILOT

Part A M₁M₂GG Iiiii
(International exchange)

SECTION 4 44444 8ddff 7ddff 5ddff 4ddff 3ddff 2ddff
(Mandatory) /ddff 1ddff

SECTION 5 111AA i_nH_mH_mH_m d_ad_afff
(Mandatory)

Part B M₁M₂ Iiiii
(Regional or international exchange)

SECTION 1 GG₁H₁Df_a Hddff Hddff etc.

9999n Hddff etc.

Suitable selection SECTION 2 88888 1d₁d₁f₁f₁ 2d₁d₁f₁f₁ 3d₁d₁f₁f₁

SECTION 3 55555 H₁H₂H₂H₂Z

Part C M_iM_iGG IIIii
(Optional)

SECTION 4 44444 7ddff 5ddff 3ddff 2ddff 1ddff
(Mandatory)

SECTION 5 See format under Part A.
(Mandatory)

Suitable selection { SECTION 1 GG_ih// 9999n Hddff Hddff etc.
 SECTION 2 See format under Part B.
 SECTION 3 See format under Part B.

NOTES:

(1) The code name PILOT refers to an upper-wind report from a land station, and is not transmitted as part of the report.

(2) The code form is divided into a number of sections:

Number	Indicator group	Contents
1	_____	Data for selected levels
2	88888	Wind vector differences
3	55555	Significant changes
4	44444	Data for levels approximating altitudes of standard isobaric surfaces
5	111AA	Maximum wind data

(3) Parts of PILOT

- (i) PILOT reports shall be prepared in three parts: A, B and C. (See table under TEMP FM 35.C)
- (ii) Parts A and B of a PILOT report shall be transmitted either together or as two separate messages.
- (iii) Part C of a PILOT report shall be transmitted as a separate message, divorced from parts A and B.

(4) Part A

- (i) Part A of a PILOT report shall begin with the groups M_iM_iGG IIIii.
- (ii) Part A of a PILOT report shall be confined to data up to and including the 100 mb level.
- (iii) Part A of a PILOT report shall contain Sections 4 and 5 in so far as data are available.
- (iv) PILOT reports prepared for international exchanges shall always include Part A.

(5) Part B

- (i) Part B of a PILOT report shall begin with the groups M_iM_i IIIii.
- (ii) Part B of a PILOT report shall be confined to data up to and including the 100 mb level.
- (iii) Part B of a PILOT report shall contain a selection of Sections 1, 2 and 3.

(6) Part C

- (i) Part C of a PILOT report shall begin with the groups M_iM_iGG IIIii.
- (ii) Part C of a PILOT report shall contain data above 100 mb.
- (iii) Part C of a PILOT report shall contain:
 - (a) Sections 4 and 5 in so far as data are available.
 - (b) A selection of Sections 1, 2 and 3.

- (7) Section 1 is used to report winds at successive levels.
- (8) The use of code figures i_h = 4 and 9 is recommended when the information is required for synoptic purposes and the needs of international aviation simultaneously. In this case:
 - (i) The 9999n group is the control group and is required each time the tens value of H changes.
 - (ii) It is not necessary to report winds for each 300-meter level.
 - (iii) Data for a selection of levels can be reported, if desired, by the appropriate use of the control group (9999n), which enables recipients to identify each reported 300-meter level, without recourse to other aids.
- (9) The group 9999n is not used when i_h = 0-3 or 5-8.

(10) For winds of 100 to 199 knots inclusive, 50 is added to dd. For winds of 200-299 knots inclusive and 300-399 knots inclusive, the code group 00200 or 00300 respectively is added after the groups to which it refers (in these cases 50 is not added to dd).

(11) Section 2 is used to report computed wind vector differences between selected standard levels. Indicators 1, 2, 3 respectively mean:

- 1 - Computed wind vector difference between the 700 mb and 1000 mb levels
- 2 - Same between 500 mb and 1000 mb levels
- 3 - Same between 300 and 500 mb levels.

In computing the wind vector differences from pilot balloon ascents, the altitudes giving the best approximation to the standard pressure levels are used.

(12) Section 3 is used to report significant wind direction shifts and speed changes. Criteria for wind shifts, speed changes and the thickness of the layer through which these variations occur are determined nationally or regionally and notified to the Secretariat of the World Meteorological Organization.

(13) Use of Section 4

- (i) Section 4 shall be used to report winds at levels approximating to the standard isobaric surfaces of 850, 700, 500, 400, 300, 200, 150, 100 and, whenever reported, the 70, 50, 30, 20 and 10 mb surfaces.

Note (1): If data for only one standard isobaric surface above 100 mb are included in Section 4 for international exchange, they should be for the 50 mb surface. If data for only two standard isobaric surfaces above 100 mb are transmitted, they should be for the 50 and 30 mb surfaces.

Note (2): The standard isobaric surfaces are indicated by the group indicator figures (a) 8, 7, 5, 4, 3, 2, 1 and (b) 7, 5, 3, 2, 1.

- (ii) Altitudes constituting the best approximations to the standard isobaric surfaces shall be determined regionally.

(14) Section 5 is used to report maximum wind. The criteria for reporting maximum wind are determined regionally.

FM 33.C Upper-wind report from ship

PILOT SHIP

Part A $M_i M_i YQL_a L_a L_a L_o L_o L_o GG$
(International
exchange)

SECTION 4 44444 8ddff 7ddff 5ddff 4ddff 3ddff 2ddff
(Mandatory) /ddff 1ddff MMMU_{L_o}U_{L_o}

SECTION 5 111AA $i_n H_m H_m H_m H_m$ $d_a d_a fff$
(Mandatory)

Part B $M_i M_i$ $Y Q L_o L_a L_o$ $L_o L_o L_o GG$
 (Regional or
 international
 exchange)

Suitable selection SECTION 1 00i_hD_a Hddff Hddff etc.
 9999n Hddff etc.
 SECTION 2 88888 1d_id_ff_i 2d_id_ff_i 3d_id_ff_i
 SECTION 3 55555 H_zH_zH_zH_zZ
 Part C M_iM_j YQL_aL_aL_a L_aL_aL_aGG
 (Optional)
 SECTION 4 44444 7ddff 5ddff 3ddff 2ddff 1ddff MMMU_L_aU_L
 (Mandatory)
 SECTION 5 See format under Part A.
 (Mandatory)
 Suitable selection SECTION 1 GG_ih// 9999n Hddff Hddff etc.
 SECTION 2 See format under Part B.
 SECTION 3 See format under Part B.

NOTES:

- (1) The code name PILOT SHIP refers to an upper-wind report from a ship station. The words PILOT SHIP are not transmitted as part of the report.
- (2) See Note (2) under PILOT FM 32.C.
- (3) Parts of PILOT SHIP
 - (i) PILOT SHIP reports shall be prepared in three parts: A, B and C. (See table under TEMP FM 35.C)
 - (ii) Parts A and B of a PILOT SHIP report shall be transmitted either together or as two separate messages.
 - (iii) Part C of a PILOT SHIP report shall be transmitted as a separate message, divorced from Parts A and B.

(+) Part A

- (i) Part A of a PILOT SHIP report shall begin with the groups $M_i M_i Y Q L_a L_a L_a L_a L_a GG$.
- (ii) Part A of a PILOT SHIP report shall be confined to data up to and including the 100 mb level.
- (iii) Part A of a PILOT SHIP report shall contain Sections 4 and 5 in so far as data are available.
- (iv) PILOT SHIP reports prepared for international exchanges shall always include Part A.

(5) Part B

- (i) Part B of a PILOT SHIP report shall begin with the groups M_iM_i $YQL_aL_aL_a$ $L_aL_aL_aGG$.
- (ii) Part B of a PILOT SHIP report shall be confined to data up to and including the 100 mb level.
- (iii) Part B of a PILOT SHIP report shall contain a selection of Sections 1, 2 and 3.

(6) Part C

- (i) Part C of a PILOT SHIP report shall begin with the groups $M_i M_i \quad YQL_o L_o L_o \quad L_o L_o GG$.
- (ii) Part C of a PILOT SHIP report shall contain data above 100 mb.
- (iii) Part C of a PILOT SHIP report shall contain:
 - (a) Sections 4 and 5 in so far as data are available.
 - (b) A selection of Sections 1, 2 and 3.

(7) See Notes (7), (8), (9), (10), (11), (12), (13) and (14) under PILOT FM 32.C.

(8) The ship's position verification group (i.e., $MMMU_L, U_L$) will always be added at the end of Section 4.

FM 35.C Upper-level pressure, temperature, humidity and wind report from land station

TEMP

Part A $M_i M_j$ $H_i H_j$ (International exchange)

SECTION 1 (99P₀P₀P₀ T₀T₀T_{d0}T_{d0}T_{x0})
 (Mandatory) GGh₁h₁h₁ (T₁T₁T_{d1}T_{d1}T_{x1}) (0d₁d₁f₁f₁)
 P₂P₂h₂h₂ T₂T₂T_{d2}T_{d2}T_{x2} (0d₂d₂f₂f₂)
 P_nP_nh_nh_nh_n T_nT_nT_{d_n}T_{d_n}T_{x_n} (0d_nd_nf_nf_n) etc.

SECTION 11 111AA $H_t H_t P_t P_t$ $T_p T_p T_{dp} T_{dp} S_t$ $(Z_b d_b d_b ff)$ or
(Mandatory) $P_s P_s$

$$111AA \quad S_t \overbrace{---}^{H_t H_t} T_p T_p$$

SECTION 10 111AA $i_n H_m H_m H_m H_m$ $d_a d_a fff$
(Mandatory)

(5) Part B

- (i) Part B of a TEMP report shall begin with the groups M₁M₁GG IIIII.
- (ii) Part B of a TEMP report shall be confined to data up to and including the 100 mb level.
- (iii) Part B of a TEMP report shall contain a selection of Sections 2, 3, 4, 5, 6, 7, 8 and 9.

(6) Part C

- (i) Part C of a TEMP report shall begin with the groups M₁M₁GG IIIII.
- (ii) Part C of a TEMP report shall contain data above 100 mb.
- (iii) Part C of a TEMP report shall contain:
 - (a) Sections 1, 11 and 10 in so far as data are available.
 - (b) A selection of Sections 2, 3, 4, 5, 6, 7 and 8.

(7) Section 1

- (i) Section 1 shall be used to report the geopotential, temperature, dew-point temperature, and wind data for the standard isobaric surfaces of 1,000, 850, 700, 500, 400, 300, 200, 150, 100 and, whenever reported, the 70, 50, 30, 20 and 10 mb surfaces. If data for only one standard isobaric surface above 100 mb are included in Section 1 for international exchange, they should be for the 50 mb surface. If data for only two standard isobaric surfaces above 100 mb are transmitted, they should be for the 50 mb and the 30 mb surface. If wind data are included in TEMP reports, the inclusion of wind groups in Section 1 is mandatory.
- (ii) Whenever it is desired to extrapolate a sounding for the computation of the geopotential at a standard isobaric surface the following rules shall apply:
 - (a) Extrapolation is permissible if, and only if, the pressure difference between the minimum pressure of the sounding and the isobaric surface for which the extrapolated value is being computed does not exceed $\frac{1}{4}$ of the pressure to which extrapolation is desired, provided the extrapolation does not extend through a pressure interval exceeding 25 mb;
 - (b) For the purpose of geopotential calculation, and for this purpose only, the sounding will be extrapolated, using two points only of the sounding curve on a log p T-diagram, namely that at the minimum pressure reached by the sounding and that at the pressure given by the sum of this minimum pressure and the pressure difference, mentioned in (a) above.

(8) The air temperature and dew point temperature group (and wind group) for any level should be omitted when that level is at a lower altitude than the reporting station.

(9) Sections 2, 3, 4, 5, 6 and 7 are preceded by the indicator groups 55555, 66666, 77777, 88888, 22222 and 33333, which mean that data for additional levels follow in the form given in Sections 2, 3, 4, 5, 6 and 7 respectively. Section 8 is preceded by the indicator group 44444, which means that wind data at the standard pressure levels follow in the form given in Section 8. Section 9 is preceded by the indicator group 01010, which means that information on clouds observed at the station at the moment of the release follows.

(10) Sections 2, 3, 4 and 5, when included in a report, should contain data for enough selected levels to provide sufficient information to plot a sounding for local forecast requirements. These levels are sometimes referred to as "significant levels". The criteria for determining significant levels for international exchange are based on the premise that the significant data alone should make it possible to reconstruct the actual temperature and relative humidity sounding within the limits of the criteria specified. Significant levels are selected as follows:

- (a) Surface level, highest level of sounding and tropopauses.
- (b) Bases and tops of inversions and isothermal layers which are at least 20 mb thick or are characterized by a substantial change in relative humidity provided that the base of the layer occurs below the 300 mb level or below the first tropopause, whichever is higher. The establishment of criteria regarding substantial changes in relative humidity is left to national decision.
- (c) Levels which are necessary to ensure that the temperature obtained by linear interpolation (on a T-log p or essentially similar diagram) between adjacent significant levels shall not depart from the observed temperature by more than 1° C below the 300 mb level or the first tropopause, whichever is reached first, and by more than 2° C above this level.
- (d) Levels which are necessary to ensure that relative humidity obtained by linear interpolation between adjacent significant levels shall not depart by more than 15 per cent from the observed value. (The criterion of 15 per cent refers to an amount of relative humidity and NOT to a percentage of the observed value; e.g. if the observed value is 50 per cent the interpolated value would lie between 35 per cent and 65 per cent.)

(11) When a significant level and a standard isobaric surface coincide, data for that level shall be reported in both Section 1 and Sections 2, 3 or 5, as appropriate.

(12) When a significant level is transmitted as a result of the criteria specified in paragraphs 10 (a) through 10 (d), both temperature and humidity data shall be included in the coded report whenever these data are available and required by the Section of TEMP being used.

(13) Levels determined according to the criteria given in paragraphs 10 (c) and 10 (d), should, in so far as possible, be the actual levels at which prominent changes occur in the lapse rates of temperature or humidity.

(14) Section 2 provides an alternative choice between h_nh_n and n_nn_n of the $\frac{h_n h_n}{n_n n_n} P_n P_n P_n$ group. The use of h_nh_n permits reporting the geopotentials of the selected levels. When these data are not required, the use of n_nn_n permits the identification by number of the selected levels. The code figure nn = 00 is used to refer to surface data only; the successive levels are numbered 11, 22 - - 99, 11, 22 - - etc.

(15) The term "surface" refers to a horizontal plane whose height above MSL is the same as that of the floor of the instrument shelter. Data reported for symbols $P_oP_oP_o$, T_oT_o , $T_{do}T_{do}$ and T_{xo} are observed with reference to this plane.

(16) For reporting wind speeds in excess of 99 knots, see Note (10) under PILOT FM 32.C.

(17) Only wind data obtained, either by visual or electronic means, from an ascent in which the pressure is observed and from which temperature and other data are computed, should be included in the upper-air report; PILOT or wind data obtained by means other than the radiosonde ascent should not be included.

(18) Section 5 is used to report significant points on the wind ascent curve; i.e., the levels of wind singularity or the points of inflection.

(19) Section 6 is used to report visual observations of clouds, precipitation, turbulence, icing and fog, made during aero-meteorograph soundings. The groups may be repeated as many times as required. If a particular element is not observed at any time during the ascent, the indicator group and the data group are omitted from the report.

(20) Section 8 is used to report wind data at the standard pressure levels.

(21) Section 9 is used to report data on the clouds observed at the station at the moment of the release.

(22) Section 10 is used to report maximum wind. The criteria for reporting maximum wind are determined regionally.

(23) Section 11 is used to report data on the tropopause in a complete or abridged form. When more than one tropopause is to be reported this section is repeated. In a complete form the group 111AA will be repeated before each succeeding $H_iH_tP_iP_tP_i$ group. In the abridged form the group 111AA is transmitted only before first $S_iP_iT_pT_p$ group.

(24) Use of bracketed groups

(i) $(99P_oP_oP_o T_oT_oT_{do}T_{do}T_{xo})$ — The reporting of surface data in Section 1 is left to national or regional decision.

(ii) $(T_1T_1T_{d1}T_{d1}T_{x1})$ — See Note (8) above.

(iii) $(0d_o d_o f_o f_o)$, $(0d_1 d_1 f_1 f_1)$, etc. — Wind groups must either be included for all levels or omitted for all levels in any one of the Sections 1, 2 and 3. If wind data are missing for some levels, in section where wind data are reported, the wind groups are coded 0///.

(25) Additional groups or supplementary information

Additional information for local use, which is not provided for in Section 6, may be added to it, in accordance with national or regional needs.

COMPOSITION OF TEMP, TEMP SHIP, PILOT AND PILOT SHIP MESSAGES

		TEMP				PILOT			
		Sections included		M _i M _j		Sections included		M _i M _j	
		Land	Ship	Land	Ship	Land	Ship	Land	Ship
Below 100 mb (inclusive)	Part A (International exchange)	1, 11, 10 (Mandatory)	TT Iiiii	WW YQL _a L _a L _a L _a L _a L _a GG	4, 5 (Mandatory)	PPGG Iiiii	LL YQL _a L _a L _a L _a L _a L _a GG		
	Part B (Regional or international exchange)	2, 3, 4, 5, 6, 7, 8, 9 (Suitable selection)	TTGG Iiiii	WW YQL _a L _a L _a L _a L _a L _a GG	1, 2, 3 (Suitable selection)	PP Iiiii	LL YQL _a L _a L _a L _a L _a L _a GG		
Over 100 mb	Part C (Optional)	1, 11, 10 (Mandatory) + 2, 3, 4, 5, 6, 7, 8 (Suitable selection)	VVGG Iiiii	YY YQL _a L _a L _a L _a L _a L _a GG	4, 5 (Mandatory) + 1, 2, 3 (Suitable selection)	QQGG Iiiii	MM YQL _a L _a L _a L _a L _a L _a GG		

FM 36.C Upper-level pressure, temperature, humidity and wind report from ship

TEMP SHIP

Part A $M_i M_i$ $YQL_a L_a L_a L_o L_o L_o GG$
(International exchange)

SECTION 1 $(99P_o P_o T_o T_o T_{do} T_{do} T_{x_o})$
(Mandatory) $00h_1 h_1 (T_1 T_1 T_{d1} T_{d1} T_{x1}) (0d_1 d_1 f_1 f_1)$
 $P_2 P_2 h_2 h_2 T_2 T_2 T_{d2} T_{d2} T_{x2} (0d_2 d_2 f_2 f_2)$
.....
 $P_n P_n h_n h_n T_n T_n T_{dn} T_{dn} T_{xn} (0d_n d_n f_n f_n)$
 $MMMU L_o U_L o$

SECTION 11 111AA $H_1 H_1 P_1 P_1 T_p T_p T_{dp} T_{dp} S_1 (Z_{db} d_{bf} ff)$ or
(Mandatory) $111AA \frac{P_1 P_1}{H_1 H_1} T_p T_p$

SECTION 10 111AA $i_n H_m H_m H_m H_m d_a d_a fff$
(Mandatory)

Part B $M_i M_i$ $YQL_a L_a L_a L_o L_o L_o GG$
(Regional or international exchange)

SECTION 2 55555 $00P_o P_o T_o T_o T_{do} T_{do} T_{x_o} (0d_o d_o f_o f_o)$
 $\frac{h_1 h_1}{n_1 n_1} P_1 P_1 P_1 T_1 T_1 T_{d1} T_{d1} T_{x1} (0d_1 d_1 f_1 f_1)$
.....
 $\frac{h_n h_n}{n_n n_n} P_n P_n P_n T_n T_n T_{dn} T_{dn} T_{xn} (0d_n d_n f_n f_n)$

SECTION 3 66666 $P_1 P_1 P_1 T_1 T_1 (0d_1 d_1 f_1 f_1)$
.....
 $P_n P_n P_n T_n T_n (0d_n d_n f_n f_n)$

SECTION 4 77777 $h_1 h_1 P_1 P_1 P_1 0d_1 d_1 f_1 f_1$
.....
 $h_n h_n P_n P_n P_n 0d_n d_n f_n f_n$

SECTION 5 88888 $00P_o P_o T_o T_o T_{do} T_{do} T_{x_o} 0d_o d_o f_o f_o$
 $\frac{h_1 h_1}{n_1 n_1} P_1 P_1 P_1 T_1 T_1 T_{d1} T_{d1} T_{x1} 0d_1 d_1 f_1 f_1$
.....
 $\frac{h_n h_n}{n_n n_n} P_n P_n P_n T_n T_n T_{dn} T_{dn} T_{xn} 0d_n d_n f_n f_n$

SECTION 6 22222 $22233 ChhHH 22244 w_p hhHH$
 $22255 B_1 hhHH 22266 l_p hhHH$
 $22277 w_p hhHH$

SECTION 7 33333 Reserved for regional codes for transmission of observed wind differences between selected standard levels and thickness layers.

SECTION 8 44444 $P_1 P_1 h_1 h_1 h_1 0d_1 d_1 f_1 f_1$
.....
 $P_n P_n h_n h_n h_n 0d_n d_n f_n f_n$

SECTION 9 01010 $N_h C_L h C_M C_H$

Part C $M_i M_i$ $YQL_a L_a L_a L_o L_o L_o GG$
(Optional)

SECTION 1 $P_1 P_1 h_1 h_1 h_1 T_1 T_1 T_{d1} T_{d1} T_{x1} (0d_1 d_1 f_1 f_1)$
(Mandatory) $P_2 P_2 h_2 h_2 h_2 T_2 T_2 T_{d2} T_{d2} T_{x2} (0d_2 d_2 f_2 f_2)$
.....
 $MMMU L_o U_L o$

SECTION 11 See format under Part A.
(Mandatory)

SECTION 10 See format under Part A.
(Mandatory)

SECTION 2 55555 $\frac{h_1 h_1}{n_1 n_1} P_1 P_1 P_1 T_1 T_1 T_{d1} T_{d1} T_{x1} (0d_1 d_1 f_1 f_1)$
.....
 $\frac{h_n h_n}{n_n n_n} P_n P_n P_n T_n T_n T_{dn} T_{dn} T_{xn} (0d_n d_n f_n f_n)$

SECTION 3 See format under Part B.

SECTION 4 See format under Part B.

Suitable selection SECTION 5 88888 $\frac{h_1 h_1}{n_1 n_1} P_1 P_1 P_1 T_1 T_1 T_{d1} T_{d1} T_{x1} 0d_1 d_1 f_1 f_1$
.....
 $\frac{h_n h_n}{n_n n_n} P_n P_n P_n T_n T_n T_{dn} T_{dn} T_{xn} 0d_n d_n f_n f_n$

SECTION 6 See format under Part B.

SECTION 7 See format under Part B.

SECTION 8 See format under Part B.

NOTES:

(1) The code name TEMP SHIP refers to an upper-air report from a SHIP station. The word TEMP SHIP is not transmitted as part of the report.

(2) See Note (2) under TEMP FM 35.C.

(3) Parts of TEMP SHIP

- (i) TEMP SHIP reports shall be prepared in three parts: A, B, and C. (See table under TEMP FM 35.C)
- (ii) Parts A and B of a TEMP SHIP report shall be transmitted either together or as two separate messages.
- (iii) Part C of a TEMP SHIP report shall be transmitted as a message, divorced from Parts A and B.

(4) Part A

- (i) Part A of a TEMP SHIP report shall begin with the groups $M_i M_i YQL_a L_a L_a L_o L_o L_o GG$.
- (ii) Part A of a TEMP SHIP report shall be confined to data up to and including the 100 mb level.
- (iii) Part A of a TEMP SHIP report shall contain Sections 1, 11 and 10 in so far as data are available.
- (iv) TEMP SHIP reports prepared for international exchanges shall always include Part A.

(5) Part B

- (i) Part B of a TEMP SHIP report shall begin with the groups $M_i M_i YQL_a L_a L_a L_o L_o L_o GG$.
- (ii) Part B of a TEMP SHIP report shall be confined to data up to and including the 100 mb level.
- (iii) Part B of a TEMP SHIP report shall contain a selection of Sections 2, 3, 4, 5, 6, 7, 8 and 9.

(6) Part C

- (i) Part C of a TEMP SHIP report shall begin with the groups $M_i M_i YQL_a L_a L_a L_o L_o L_o GG$.

- (ii) Part C of a TEMP SHIP report shall contain data above 100 mb.
- (iii) Part C of a TEMP SHIP report shall contain:
 - (a) Sections 1, 11 and 10 in so far as data are available.
 - (b) A selection of Sections 2, 3, 4, 5, 6, 7 and 8.
- (7) See Note (7) under TEMP FM 35.C.
- (8) The air temperature and dew point temperature group (and wind group) for any level should be omitted when that level is at a lower altitude than the reporting station, except in the case of a drop-sonde released from an aircraft on reconnaissance flight.
- (9) See Notes (9), (10), (11), (12), (13), (14), (15), (16), (17), (18), (19), (20), (21), (22) and (23) under TEMP FM 35.C.
- (10) Use of bracketed groups
 - (i) See Note (24) (i) under TEMP FM 35.C.
 - (ii) (T₁T₁T_{d1}T_{d1}T_{x1}) – See Note (8) above.
 - (iii) See Note (24) (iii) under TEMP FM 35.C.
- (11) Additional groups or supplementary information
 - See Note (25) under TEMP FM 35.C.
- (12) The ship's position verification group (i.e., MMMUL_aU_{Lo}) will always be added at the end of Section 1.

FM 38.B Summary of upper air report, in abridged form

ABTOP
OOOh_h YYGG Iii or YQL_aL_aL_a L_aL_aGG

SECTION 1

OX ₁ H ₁ H ₁ H ₁	
H ₂ H ₂ H ₂ T ₂ T ₂	T _{d2} T _{d2d2d2f2}
H ₃ H ₃ H ₃ T ₃ T ₃	T _{d3} T _{d3d3d3f3}
-----	----- etc.
H _n H _n H _n T _n T _n	T _{dn} T _{dndndnf_n}

SECTION 2 (Optional)	111AA	J _n H _m H _m H _m H _m	d _a d _a fff
SECTION 3 (Optional)	111AA	H _t H _t P _t P _t P _t	T _p T _p T _{dp} T _{dp} S _t (Z _b d _b d _b)

or 111AA S_t $\frac{P_t P_t}{H_t H_t}$ T_pT_p

NOTES:

- (1) The code name ABTOP is used as a prefix to the report, indicating that it is a summary of upper air report, in abridged form, giving information for standard pressure levels. In the case of a group of such reports, it may only be used in the heading of the collective. The message will be headed ABTOP SHIP if it contains summaries of upper air reports from ships only.
- (2) Geopotential, temperature, humidity and wind are reported for the standard isobaric surfaces of 1000, 850, 700, 500, 400, 300, 200, 150, 100 and, whenever reported, the 70, 50, 30, 20 and 10 mb surfaces. If data for only one standard isobaric surface above 100 mb are included in ABTOP or ABTOP SHIP, they should be for the 50 mb surface. If data for only two standard isobaric surfaces above 100 mb are transmitted, they should be for 50 and 30 mb surfaces.
- (3) Section 2 is the same as Section 10 of TEMP FM 35.C. See Note (22) under TEMP FM 35.C.
- (4) Section 3 is the same as Section 11 of TEMP FM 35.C. See Note (23) under TEMP FM 35.C.
- (5) The message ABTOP SHIP shall contain in Section 1 a final group MMMUL_aU_{Lo}. See Section 1 of the form FM 36.C.
- (6) If Section 3 in abridged form is transmitted immediately after Section 2 the symbolic group 111AA is omitted.

FM 45.C Analysis in full form (IAC)

10001	333x _j x _j	OYYG _c G _c	or		
10001	333x _j x _j	OYYG _c G _c	8x ₂ x ₂ x ₂ 8	00x ₃ x ₃ x ₃	or
65556	333x _j x _j	OYYG _c G _c	000G _p G _p		or
65556	333x _j x _j	OYYG _c G _c	000G _p G _p	8x ₂ x ₂ x ₂ 8	00x ₃ x ₃ x ₃
99900					
(9NNSS)	8P _t P _c PP	or	8h _t h _c h _o h _a	YYYYY	(-----)
(md _s d _s f _s f _s)	(OOC ₁ OO)		-----	-----	-----
or (9NNSS)	000g _p g _p	8P _t P _c PP	or	8h _t h _c h _o h _a	YYYYY
(-----) (md _s d _s f _s f _s)	(00C ₁ 00)			-----	-----
and					
(9NNSS)	000g _p g _p	7P _t P _c PP	or	7h _t h _c h _o h _a	YYYYY
(md _s d _s f _s f _s)	(00C ₁ 00)			-----	(-----)

99911					
(9NNSS)	66F _t F _i F _c	YYYYYY	YYYYYY	-----	(md _s d _s f _s f _s)
(000,00)	-----	-----	-----	-----	
or (9NNSS)	000g _p g _p	66F _t F _i F _c	YYYYYY	YYYYYY	-----
(md _s d _s f _s f _s)	(00C _i 00)	-----	-----	-----	
and					
(9NNSS)	000g _p g _p	67F _t F _i F _c	YYYYYY	YYYYYY	-----
(md _s d _s f _s f _s)	(00C _i 00)	-----	-----	-----	
99922					
4e _t uuu	YYYYYY	YYYYYY	-----	(00C _i 00)	
-----	-----	-----	-----		
99933					
33M _h M _s M _t	YYYYYY	YYYYYY	-----	(00C _i 00)	-----
99944					
989w _e i	} 988ww	YYYYYY	YYYYYY	-----	(md _s d _s f _s f _s)
or 987w _s w _s		-----	-----	-----	(00C _i 00)
-----		-----	-----	-----	
99955					
(9NNSS)	(55T _t T _i T _c)	(555PP)	(5555T _i)	YYYYYY	YYYYYY
(md _s d _s f _s f _s)	(00C _i 00)	-----	-----	-----	-----
-----	-----	-----	-----	-----	
99966					
2C _s S ₁ S ₂ Z _i	YYYYYY	YYYYYY	-----	(md _s d _s f _s f _s)	(00C _i 00)
-----	-----	-----	-----	-----	-----
(9CH _b H _b H _b	8JH _t H _i H _t	YYYYYY	-----	-----	-----
or (7CH _b H _b H _b	6JH _t H _i H _t	YYYYYY	-----	-----	-----
99977					
(000g _p g _p)	YYYYYY	8ddff	7ddff	5ddff	4ddff
		3ddff	2ddff	1ddff	(00C _i 00)
-----	-----	-----	-----	-----	-----
99988					
9i _j H _j H _j H _j	YYYYYY	d _j d _j f _j f _j	9i _j H _j H _j H _j	YYYYYY	
d _j d _j f _j f _j	-----	-----	-----	-----	(00C _i 00)
and/or					
9i _j P _s P _s P _s	YYYYYY	d _j d _j f _j f _j	YYYYYY	d _j d _j f _j f _j	
and/or					
4e _t uuu	YYYYYY	YYYYYY	-----	(00C _i 00)	
-----	-----	-----	-----	-----	(00C _i 00)
99999					
4e _t uuu	(42uuu)	YYYYYY	YYYYYY	(00C _i 00)	
(00000	42uuu	YYYYYY	-----	-----	
888000					
77e ₂ uuu	(9d _w d _w P _w P _w)	YYYYYY	(9d _w d _w P _w P _w)	YYYYYY	
-----	(00C _i 00)				
888222					
44vvv	YYYYYY	YYYYYY	-----	-----	(00C _i 00)
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