

HOURLY OBSERVATIONS  
AND  
SUMMARY OF DAY DATA  
(SURFACE - LAND)

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SAMPLE FORMS  
OF  
RECORDS AVAILABLE

AT  
NATIONAL CLIMATIC CENTER  
FEDERAL BUILDING  
ASHEVILLE, NORTH CAROLINA 28801

MFI-10A (10-75)		U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE										STATION Greenville - Spartanburg Airport, Greer, S. C.				
SURFACE WEATHER OBSERVATIONS												DATE SEP 29 1978		TIME 170 CONVERT LST TO GMT ADD 5 HRS. SUBTRACT _____ HRS.		
TIME (LST) (3)	TIME (GMT) (2)	SKY AND CEILING (Hundreds of Feet) (1)	VISIBILITY (Miles) (4) (4a)		WEATHER AND OBSTRUCTIONS TO VISION (5)	SEA LEVEL PRESS. (6a)	TEMP. (6b)	DEW POINT (6c)	WIND DIRECTION (7a) (7b) (7c)			WIND SPEED (7d)	WIND SHEAR (7e)	ALTIMETER SETTING (8)	REMARKS AND SUPPLEMENTAL CODED DATA (9)	CORRECTION (10)
			12	13					101	102	103					
R 0055		E300 OVC	12			132.6	65	00	00		00		995	705 1001 81		
		72312 80000 69021	13221	0090		132.6	65	00	00		00		995	705 1001 81		
L 0105		10 SCT E300 OVC	7			132.6	63	36	04		16		995	92 481650		
R 0205		10 SCT E300 OVC	7			128.6	64	00	00		00		994			
S 0326		10 SCT M25 BKN 300 OVC	7					01	04				994			
R 0355		10 SCT M25 OVC	7			128.6	65	05	04				994	603 15//		
R 0455		10 SCT M20 OVC	5		R-F	132.6	65	08	03				995	1805 R-OCNLY R		
R 0555		10 SCT M15 OVC	5		R-F	132.6	65	00	00				995			
S 0616		4 SCT M12 OVC	5		R-F			34	07				997			
S 0621		4 SCT M8 BKN 120 OVC	5		R-F			34	05				997			
S 0625		M5 OVC	1	1	RW+P			37	09				998	103VN 50 V60+		
S 0633		E5 OVC	3/4	3/4	RW+P			04	07				997	103VN 22 V60+		
S 0641		E5 BKN 10 OVC	2	2	RW+P			03	06				997	TB40 0 VIND MURG E		
														OCNLY LTGCCCC (FBI)		
S 0648		E5 BKN 10 OVC	4	4	RW+P			03	08				996	TB40 0 VIND MURG E		
														OCNLY LTGCCCC (FBI)		
R 0655		E5 BKN 10 OVC	4	4	RW-F	136.6	67	64	04	08			996	TB40 0 VIND MURG E		
														OCNLY LTGCCCC 20763		
														13// 20063 66 PCPN SS		
		72312 80408 56959	13619	832//	18207	136.6	67	64	04	08			996	24063 4 R1660		
S 0732		8 SCT M15 BKN 40 OVC	4		RN-F			08	05				996	TE52 MOVD E		
R 0755		9 SCT E20 BKN 40 OVC	6		F	136.6	67	64	05	03			996	TE32 MOVD E RE45		
S 0835		20 SCT E40 BKN 100 OVC	7					04	05				996			
S 0843		5 SCT 20 SGT E40 BKN 100 OVC	7					03	06				996			
R 0855		M5 BKN 20 OVC	7		RW-	136.6	67	65	03	06			996	RB45		
R 0902		M5 BKN 20 OVC	7		RW-	136.6	67	67	06	04			996	10003 17//		
R 0955		M6 BKN 20 OVC	8			129.7	67	67	03	05			994	RE05		
R 1015		9 SGT M11 OVC	10			122.7	68	68	03	05			992			
R 1255		M10 OVC	10			118.7	67	67	04	04			991	61703 15// 166		
		72312 80404 66029	11822	854//	19617	118.7	67	67	04	04			991	70030 20066 47166		
S 1328		M7 BKN 11 OVC	6		R-			10	04				990			
R 1355		M5 BKN 10 OVC	5		R-F	114.7	67	67	08	04			989	RB20		
L 1432		M5 BKN 10 BKN 40 OVC	3	3	F			07	06				987			
R 1455		M6 BKN 10 BKN 40 OVC	3	3	R-F	107.7	68	68	07	05			987	RE20 645		
R 1518		M40 OVC	3	3	R-F	101.7	68	68	06	04			986	FEW STARR 71704 17//		
S 1646		M8 BKN 40 OVC	3	3	F			09	10				985			
R 1655		M8 BKN 40 OVC	4	4	F	098.7	68	68	08	03			985	RE40		
R 1722		M7 BKN 25 OVC	2	4	R-F	101.7	68	68	14	05			986	SFC 24547 2- R16 R40 RB20		
R 1855		M9 OVC	4	4	F	099.6	69	67	09	03			985	RE10 70309 17// 72		
		72312 80903 56216	09921	873//	19703	099.6	69	68	09	03			20075	472660		
R 1955		M4 BKN 70 OVC	4	4	F	094.6	69	67	08	04			984	SFC VSBY 2		
R 2057		M9 OVC	4	4	F	093.6	69	67	15	05			984			
R 2155		M3 OVC	2	2	F	087.6	69	67	14	05			982	710 17//		
R 2255		M2 BKN 40 OVC	2	2	F	076.6	69	67	17	04			979			
R 2355		M2 OVC	2	2	F	072.6	69	67	14	03			978			

Actual Form Size is 10 1/2" x 12"

PH10: IIII MMN VVW PPTT h5C4C4C4 TgTgmo (P,P,P,P) TRRR (M,C,h) S5555555 2R2R2R2R2R 3P,P,M,M) A4444444 4TgTgTg

MFI-10A: This form is used to record surface weather observations taken at airport stations. Records of this type, but not necessarily as detailed as the sample shown, are available at the National Climatic Center (NCC) for several hundred stations operated by U.S. Weather Services beginning in the mid-1930's. There have been numerous changes in observing practices, definitions and coding procedures, especially during the period prior to mid-1948. Although there are differences in reporting practices from station to station, each does enter observational data at least once each hour during its hours of operation; these observations, called Record (R) observations, include information about sky condition, visibility, weather and obstructions to vision, atmospheric pressure, temperature, dew point and wind speed and direction. Precise information about the data available for a particular airport station usually will require an examination of the data sheets submitted by the station. Information concerning the techniques, elements, codes, exceptions or variations in the observational programs through the years or among the different agencies or stations, will be furnished upon request.

Observations recorded on MFI-10 A&B Forms have long been described as "hourly" but this is not always the case. They are taken at least at hourly intervals, but only during the hours of station operation. During periods of rapidly changing weather conditions, a station scheduled to make 24 Record (R) observations per day could report two or three times that many observations. The additional observations are called: Local (L), Check or Special (S), and document the weather conditions which occur between the scheduled times of Record (R) observations. Some stations enter Synoptic Observations (SM) on the MFI-10A Form in the World Meteorological Organization Code on the line immediately below the related aviation observation. The symbolic form of this coded information is shown at the bottom of the sample MFI-10A Form. This code has also undergone numerous changes over the years.

MF1-100 (11-74)		U.S. DEPARTMENT OF COMMERCE NATIONAL WEATHER SERVICE														STATION Greenville - Spartanburg Airport, Greer, S.C.				
SURFACE WEATHER OBSERVATIONS																NOAA				
																SEP 29 1976				
																To convert LST to GMT ADD No. SUBTRACT No.				
TIME (L.S.T.)	STATION PRESSURE (In.)	DAY WIND (Kts)	WET BULB (F)	REL. HUMIDITY (%)	TOTAL CLOUD COVER	CLOUDS AND OBSCURING PHENOMENA										TOTAL CLOUD COVER (%)	PRES. TEND (In.)	NET WIND CHANG (In.)	SUN- SHINE (In.)	PRECIP- ITATION (In.)
						AMT.	TYPE	HEIGHT	AMT.	TYPE	HEIGHT	AMT.	TYPE	HEIGHT	AMT.					
01.55	28.915	69		87	10	10	0									7	7	015		
01.55	28.915	67		87	10											8				
02.55	28.905	67		90	10											10				
03.55	28.905	68		90	10	2	Sc	16	8	Sc	125	10				10	6	010		
04.55	28.915	67		93	10											10			.05	
05.55	28.915	67		93	10											10			.02	
06.55	28.925	67		90	10	6	CB	15	4	Sc	16	10				10	2	020	.50	
07.55	28.925	67		90	10											10			.03	
08.55	28.925	67		93	10											10			T	
09.55	28.925	69		93	10	8	STRAT	MS	2	Sc	20	10				10	4	000	T	
10.55	28.905	70		90	10											10			T	
11.55	28.885	72		87	10											10				
12.55	28.875	71		87	10	10	Sc	10								10	6	050		
13.55	28.860	70		90	10											10			T	
14.55	28.840	71		90	10											10			T	
15.55	28.825	70		93	10	0	STRAT	6	10	Sc	140	10				10	7	050	.04	
16.55	28.815	71		90	10											10			T	
17.55	28.825	70		93	10											10			.05	
18.55	28.815	69		93	10	10	STRAT	MS								10	7	010	T	
19.55	28.800	69		93	10											10				
20.55	28.800	69		93	10											10				
21.55	28.785	69		93	10	10	STRAT	MS								10	7	030		
22.55	28.755	68		97	10											10				
23.55	28.745	69		93	10											10				

  

SYNOPTIC OBSERVATIONS																	
TIME (L.S.T.)	TIME (L.S.T.)	NO.	PRECIP. (In.)	SNOW FALL (In.)	SNOW DEPTH (In.)	MAX. TEMP. (F)	MIN. TEMP. (F)	STATE OF STATE	SEA WIND DIR	SEA WIND SPEED	WIND DIR	WIND SPEED	WIND DIR	WIND SPEED	WIND DIR	WIND SPEED	STATION PRESSURE COMPUTATIONS
01.55	01.55	1	0	0	0	69	67										0047 0652 1250 1250
06.55	06.55	2	0	0	0	73	66										
12.47	12.47	3	.03	0	0	72	66										
18.45	18.45	4	.04	0	0	72	69										
23.55	23.55	5	0	0	0	69	68										

  

SUMMARY OF DAY (MIDNIGHT TO MIDNIGHT)																
3-HR. MAX. TEMP. (F)	3-HR. MIN. TEMP. (F)	3-HR. PRECIP. WATER EQUIV. (In.)	3-HR. SNOWFALL UNMELT. (In.)	SNOW DEPTH (In.)	WIND SPEED (Kts)	WIND DIRECTION (Dir.)	WIND GUST (Kts)	WIND DIRECTION (Dir.)	WIND GUST (Kts)	WIND DIRECTION (Dir.)	WIND GUST (Kts)	WIND DIRECTION (Dir.)	WIND GUST (Kts)	WIND DIRECTION (Dir.)	WIND GUST (Kts)	WIND DIRECTION (Dir.)
66	67	.75	0	0	11	E	10	10	10	10	10	10	10	10	10	10

  

REMARKS, MOVEL AND MISCELLANEOUS PHENOMENA															
TOTAL BLINDNESS	PERCENT OF POSSIBLE BLINDNESS	CHARACTER OF BLINDNESS	CHARACTER OF BLINDNESS												
	2 MINS	0	CLOUDY												
			CLOUDY												
			NE												
			0652E												

  

TIME CHECK: 0046 ± 0"	
LAST OF SEVERAL OCCURRENCES	
R-	0420 0622
Rw-	0622 0645
Rw-	0650 0745
Rw-	0845 1005
R-	1320 1420
F	1350 CONT
R-	1445 1640
R-	1720 1810

  

Actual Form Size is 10 1/2" x 12"	
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MF1-10B: This form accompanies MF1-10A at many stations. It contains supplementary hourly data as well as additional information about some elements for specific time intervals. Entries may be omitted in columns 18, 19, 20 at stations equipped with a hygrothermometer or a dew cell, which provides direct readings of the dew point. Prior to the early 1960's, entries in columns 18-20 were routine at most stations using these forms.

RECORDS SERVICES AVAILABLE AT THE NATIONAL CLIMATIC CENTER

Full size paper copies or film images (35 mm roll film or microfiche) of these forms can be provided for the cost of duplication. Observations at 3-hour intervals for selected stations are published in an abbreviated form as part of the Local Climatological Data; sample copy of a current issue is shown on page 4. Many of the observations subsequent to July 1948 have been reduced to digital form. Reference manuals which describe the various digitized data formats and document significant changes in them are available and can be provided upon request. Cost and time estimates for providing data products and/or services will also be supplied upon request.

# OBSERVATIONS AT 3-HOUR INTERVALS

HOUR			TEMPERATURE		WIND		WIND			TEMPERATURE			WIND		WIND			TEMPERATURE			WIND			
HOUR	MIN	SEC	AIR °F	NET BULB °F	DIR	SPEED KNOTS	DIR	SPEED KNOTS	AIR °F	NET BULB °F	DIR	SPEED KNOTS	DIR	SPEED KNOTS	AIR °F	NET BULB °F	DIR	SPEED KNOTS	AIR °F	NET BULB °F	DIR	SPEED KNOTS		
																							VISIBILITY	
			1/4 MI	1/2 MI	3/4 MI				1/4 MI	1/2 MI	3/4 MI				1/4 MI	1/2 MI	3/4 MI				1/4 MI	1/2 MI	3/4 MI	
01	0	UNL	56	54	52	87	01	3	10	55	15	15	88	83	80	75	00	0	10	25	8	04	05	4
04	1	UNL	54	52	51	80	00	0	10	50	15	1	87	84	82	84	00	0	10	25	4	04	04	4
07	0	UNL	55	53	52	90	01	0	10	15	15	1	87	85	84	90	21	8	10	50	5	07	04	6
10	1	UNL	73	53	56	55	19	6	10	10	7	1	72	70	69	90	26	3	10	18	7	07	08	8
13	1	UNL	78	53	53	42	19	6	10	150	12	1	79	70	66	65	00	0	10	15	5	07	03	11
16	6	250	81	51	47	30	00	0	9	150	12	1	81	70	65	58	02	11	10	20	7	71	64	8
19	10	120	76	61	51	42	00	0	8	250	12	1	76	72	70	82	04	3	9	50	7	69	64	61
22	8	120	59	53	59	71	00	0	8	250	12	1	73	69	67	82	09	8	10	120	7	65	62	61

NOTES  
 CEILING  
 UNL INDICATES UNLIMITED

WEATHER  
 = TORRADO  
 T THUNDERSTORM  
 Q SQUALL  
 G THUNDER

WIND  
 DIRECTIONS ARE THOSE FROM WHICH THE WIND BLOWS, INDICATED IN TERMS OF DEGREES FROM TRUE NORTH [I.E., 09 FOR EAST, 18 FOR SOUTH, 27 FOR WEST. ENTRY OF 00 IN THE DIRECTION COLUMN INDICATES CALM.

WIND  
 SPEED IS EXPRESSED IN KNOTS; MULTIPLY BY 1.15 TO CONVERT TO MILES PER HOUR.

STATION	YEAR & MONTH
GREENVILLE SPARTANBURG SC	76 09

This data array contains information taken from the original observation forms for that month and year. This is one way in which basic observational data are made available to users.