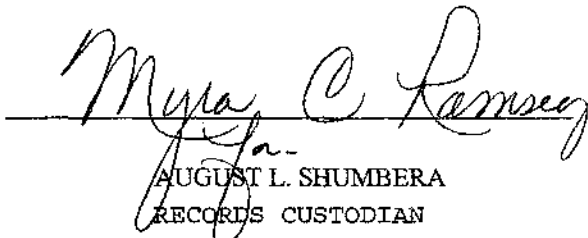


U. S. DEPARTMENT OF COMMERCE

Asheville, N.C.

I CERTIFY that the attached are authentic and true copies of meteorological records on file in the NATIONAL CLIMATIC DATA CENTER, ASHEVILLE, NORTH CAROLINA.



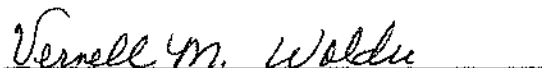
AUGUST L. SHUMBERA  
RECORDS CUSTODIAN  
DATA ADMINISTRATOR  
(Official Title)

.....

I HEREBY CERTIFY that AUGUST L. SHUMBERA RECORDS CUSTODIAN, who signed the foregoing certificate, is now, and was at the time of signing, DATA ADMINISTRATOR, NATIONAL CLIMATIC DATA CENTER, and that full faith and credit should be given his certificate as such. I further state that I am the person to whom the said custodian reports.

IN WITNESS WHEREOF, I have hereunto subscribed my name and caused the seal of the Department of Commerce to be affixed **MAR 12 1999** on this date:

For the SECRETARY OF COMMERCE:



For  
THOMAS R. KARL  
DIRECTOR  
NATIONAL CLIMATIC DATA CENTER  
(Certifying Officer)



TRANSMITTAL

U.S. Department of Commerce  
National Oceanic and Atmospheric Administration  
National Environmental Satellite, Data and Information Service  
NATIONAL CLIMATIC DATA CENTER  
Asheville NC 28801-5001  
Phone (828) 271-4800  
Federal Tax ID 52-0821608

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Bill to Attn: JANET SMITH

JANET SMITH  
902 MONROVIA DR  
GREENBORO NC 27455

JANET SMITH  
902 MONROVIA DR  
GREENBORO NC 27455

DESCRIPTION	AMOUNT
01 SURFACE WEATHER OBSERVATIONS (ASOS)	
VA/LYNCHBURG      LYH                      01/24/1997	\$      4.00
VA/LYNCHBURG      LYH                      01/31/1997	\$      60.00
PAPER COPIES	
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98 SERVICE AND HANDLING CHARGE - DATA COST LESS THAN \$50	\$      5.00

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NO PAYMENT DUE - PAID IN FULL	TOTAL	\$	69.00
	LESS PREPAID	\$	69.00
	AMOUNT OWED	\$	0.00

UNEDITED WEATHER OBSERVATIONS (METAR/SPEC)						LATITUDE	LONGITUDE	STATION ELEVATION FT. (MSL)	TIME CONVERSION TO UTC	DAY	MONTH	YEAR	SID	STATION (CITY, STATE)
						37°20' N	79°12' W	921	+5	24	01	1997	LYH	LYNCHBURG, VA
.ST	WIND				VISIBILITY		PRESENT WEATHER	SKY CONDITION	TEMP °C	DEW POINT °C	ALTI-METER INS.	REMARKS AND SUPPLEMENTAL CODED DATA		
	DIR TRUE	SPD KTS	GUST KTS	VARIABILITY TRUE	SURFACE STATUTE MILES	RUNWAY VISUAL RANGE (FEET)								
2	3	4	5	6	7	8	9	10	11	12	13	14		
0154	VRB	4			10			CLR	01	-04	A3033	SLP274 T00111044 TSNO		
0254	VRB	4			10			CLR	01	-05	A3033	SLP272 T00061050 TSNO		
0354	VRB	5			10			CLR	00	-06	A3033	SLP273 T00001056 50016 TSNO		
0454	VRB	3			10			CLR	00	-06	A3032	SLP272 T00001061 TSNO		
0554	VRB	4			10			CLR	-01	-06	A3033	SLP276 T10061061 TSNO		
0654	VRB	3			10			BKN120	00	-06	A3034	SLP280 T00001056 10022 21006 53004		
0754	030	7		230V150	10			OVC100	01	-05	A3032	PRESFR SLP272 T00061050		
0854	VRB	5			10			FEW110	01	-04	A3033	SLP275 T00061044		
0954	030	8		270V090	10			SCT027 BKN055	01	-04	A3031	SLP271 T00061039 58008		
1036	VRB	4			10			BKN025 OVC045	01	-03	A3028			
1054	VRB	5			10			OVC023	01	-03	A3028	SLP258 T00061038		
1154	VRB	4			4		-RA BR	OVC014	01	-02	A3024	UPB41E46RAB46 PRESFR SLP248 P0000 T00061017		
1247	VRB	4			2 1/2		-FZRA BR	OVC012	00	-01	A3020	RAE46UPB15E18FZRAB46 PRESFR P0001		
1254	VRB	4			3		-FZRA BR	OVC012	00	-01	A3018	RAE46UPB15E18FZRAB46 PRESFR SLP228 P0003 6008 T00001011 10011 20000 58040		
1310	VRB	4			2 1/2		-FZRA BR	OVC012	00	-01	A3019	PRESFR P0000		
1326	VRB	4			3		-FZRA BR	OVC008	00	-01	A3017	CIG 007V011 PRESFR P0001		
1335	VRB	4			2 1/2		-FZRA BR	OVC008	00	-01	A3016	CIG 006V011 PRESFR P0001		
1354	020	4			1 3/4		FZRA BR	OVC006	00	-01	A3015	CIG 004V009 PRESFR SLP218 P0004 T00001006		
1401	040	5			2		-FZRA BR	OVC006	00	-01	A3014	CIG 004V008 P0001		
1412	VRB	4			1 3/4		FZRA BR	OVC006	00	-01	A3014	CIG 004V008 P0002		
1454	VRB	4			1 3/4		RA BR	OVC006	00	00	A3011	RAB48FZRAE48 CIG 003V007 PRESFR SLP205 P0009 T00000000		
1509	VRB	3			2		-RA BR	OVC004	00	00	A3011	CIG 003V007 P0005		
1520	VRB	4			1 3/4		RA BR	OVC004	00	00	A3011	CIG 003V009 P0006		
1527	VRB	3			1 3/4		FZRA BR	OVC004	00	00	A3010	RAE21FZRAB21 CIG 003V007 P0008		
1554	VRB	5			1 3/4		FZRA BR	OVC004	00	00	A3009	RAE21FZRAB21 CIG 003V009 SLP196 P0018 60030 T00000000 58035		
1607	VRB	4			1 3/4		FZRA BR	OVC006	00	-01	A3010	CIG 003V009 P0005		
1625	VRB	3			1 1/4		FZRA BR	BKN006 BKN010 OVC015	00	00	A3010	CIG 003V009 PRESRR P0014		
1629	000	0			1 3/4		-FZRA BR	BKN006 OVC013	00	00	A3010	CIG 003V009 PRESRR P0014		
1632	VRB	3			2		-RA BR	BKN006 OVC013	00	00	A3009	RAB31FZRAE31 CIG 003V007 PRESRR P0014		
1643	VRB	4			3		-RA BR	BKN006 OVC013	00	00	A3009	RAB31FZRAE31 CIG 003V009 PRESRR P0016		
1654	000	0			3		-RA BR	BKN006 OVC013	00	00	A3008	RAB31FZRAE31 CIG 003V009 PRESRR SLP193 P0016 T00000000		
1722	VRB	5			5		RA BR	BKN004 OVC013	00	00	A3009	P0001		
1732	000	0			2		RA BR	SCT004 OVC013	00	00	A3007	P0007		
1745	330	3			4		-RA BR	SCT004 OVC013	00	00	A3007	P0008		
1754	VRB	4			2 1/2		+RA BR	FEW004 OVC013	00	00	A3006	SLP187 P0015 T00000000		
1829	VRB	3			2 1/2		RA BR	SCT015 BKN027 OVC075	01	01	A3006	PRESFR P0013		
1839	000	0			1 3/4		+RA BR	FEW012 BKN037 OVC049	00	00	A3006	PRESFR P0022		
1846	VRB	3			1 1/4		+RA BR	BKN022 BKN034 OVC044	00	00	A3006	PRESFR P0024		
1854	VRB	4			2 1/2		RA BR	BKN022 BKN033 OVC044	00	00	A3004	PRESFR SLP179 P0026 60088 T00000000 10006 21006 58013		
1926	000	0			5		-RA BR	BKN018 BKN032 OVC040	01	01	A3002	PRESFR P0005		
1954	000	0			5		-RA BR	OVC014	01	01	A3002	RAE27B49 PRESFR SLP173 P0005 T00060006		
2054	210	3			4		BR	OVC010	01	01	A2998	RAE08 SLP183 P0000 T00060006		
2102	VRB	3			4		BR	OVC008	01	01	A2999			
2126	000	0			3		BR	BKN001 OVC008	01	01	A2997			
2154	230	3			3		BR	BKN003 OVC008	01	01	A2995	CIG 001V007 SLP150 60005 T00060006 58031		
2204	200	3			2 1/2		BR	OVC006	01	01	A2995	CIG 001V009 TSNO		

\*\*\* Cont. on Next Page \*\*\*

UNEDITED WEATHER OBSERVATIONS (METAR/SPEC)						LATITUDE	LONGITUDE	STATION ELEVATION FT. (MSL)	TIME CONVERSION TO UTC	DAY	MONTH	YEAR	SID	STATION (CITY, STATE)
						37°20' N	79°12' W	921	+5	24	01	1997	LYH	LYNCHBURG, VA
1	2	WIND			VISIBILITY		PRESENT WEATHER	SKY CONDITION	TEMP °C	DEW POINT °C	ALTI-METER INS.	REMARKS AND SUPPLEMENTAL CODED DATA		
		DIR TRUE	SPD KTS	GUST KTS	VARIABILITY TRUE	SURFACE STATUTE MILES							RUNWAY VISUAL RANGE (FEET)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1	2254	000	0			2		BR	OVC006	01	01	A2994	SLP144 T00060006 TSNO	
2	2258	000	0			1 3/4		BR	OVC004	01	01	A2994	TSNO	
3	2313	210	3			1 1/4		BR	OVC004	01	01	A2993	CIG 001V005 TSNO	
4	2325	190	4			1 1/2		BR	OVC002	01	01	A2994	CIG 001V005 TSNO	
5	2344	210	3			1 1/4		BR	OVC002	01	01	A2991	TSNO	
6	2354	000	0			1 1/4		BR	OVC002	01	01	A2991	PRESFR:SLP135 T00060006 400281006 TSNO	
									*** End of Day ***					

UNEDITED WEATHER OBSERVATIONS (METAR)					LATITUDE	LONGITUDE	STATION ELEVATION (FT / MSL)	TIME CONVERSION TO UTC	DAY	MONTH	YEAR	SID	STATION (CITY/STATE)									
					37°20' N	79°12' W	921	+5	24	01	1997	LYH	LYNCHBURG, VA									
TOTAL SKY COVER (0-8)	TEMP DRY-BULB	DEW POINT	TEMP WET BULB	RELATIVE HUMIDITY (%)	STATION PRESSURE (INS)	PRESSURE TENDENCY	NET 3-HR CHANGE	HOURLY PRECIPITATION (INS)		SYNOPTIC DATA												
									MF	TIME	NO	LOW CLOUD TYPE	MID CLOUD TYPE	HIGH CLOUD TYPE	MAX TEMP (1 C)	MIN TEMP (1 C)	PRECIP (INS)	SNOW FALL (INS)	SNOW DEPTH (INS)	STATION PRESSURE (INS)	BAROGRAPH	BAR CODE
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
0154	1.1	-4.4	-9	67	29.34			0.00	01-02	Synoptic Data Not Reported For ASOS Stations												
0254	.6	-5.0	-1.4	67	29.34			0.00	02-03													
0354	.0	-5.6	-2.0	66	29.34	0	016	0.00	03-04													
0454	.0	-6.1	-2.1	64	29.33			0.00	04-05													
0554	-.6	-6.1	-2.5	67	29.34			0.00	05-06													
0654	.0	-5.6	-2.0	66	29.35	3	004	0.00	06-07													
0754	.6	-5.0	-1.4	67	29.33			0.00	07-08													
0854	.6	-4.4	-1.2	70	29.34			0.00	08-09													
WEATHER AND OBSTRUCTION TO VISION:																						
										TYPE	BEGIN	ENDED	TYPE	BEGIN	ENDED	TYPE	BEGIN	ENDED	TYPE	BEGIN	ENDED	
										40	41	42	40	41	42	40	41	42	40	41	42	
1054	.6	-3.3	-.8	75	29.29	8	008	0.00	10-11	UP	1145	1150	RA	1725	1730							
1154	.6	-1.7	-.3	85	29.25			T	11-12	-RA	1150	1215	+RA	1730	1735							
1254	.0	-1.1	-.4	92	29.19	8	040	0.03	12-13	BR	1155	1230	RA	1735	1745							
1354	.0	-.6	-.2	96	29.16			0.04	13-14	UP	1215	1220	-RA	1745	1750							
1454	.0	.0	.0	100	29.12			0.09	14-15	-RA	1235	1250	RA	1750	1755							
1554	.0	.0	.0	100	29.10	6	035	0.18	15-16	BR	1240	0000	+RA	1755	1800							
1654	.0	.0	.0	100	29.09			0.16	16-17	-FZRA	1250	1350	RA	1800	1815							
1754	.0	.0	.0	100	29.07			0.15	17-18	FZRA	1350	1400	+RA	1815	1825							
1854	.0	.0	.0	100	29.05	8	013	0.26	18-19	-FZRA	1400	1415	-RA	1825	1830							
1954	.6	.6	.6	100	29.03			0.05	19-20	FZRA	1415	1440	RA	1830	1840							
2054	.6	.6	.6	100	29.00				20-21	RA	1440	1450	+RA	1840	1845							
2154	.6	.6	.6	100	28.97	8	031	0.00	21-22	RA	1450	1505	RA	1845	1850							
2254	.6	.6	.6	100	28.96			0.00	22-23	-RA	1505	1515	+RA	1850	1855							
2354	.6	.6	.6	100	28.93			0.00	23-24	FZRA	1515	1525	RA	1855	1910							
								0.00		-FZRA	1525	1530	-RA	1910	1915							
								0.00		RA	1530	1535	RA	1915	1920							
								0.00		-RA	1535	1630	-RA	1920	1930							
								0.00		-FZRA	1630	1635	-RA	1930	1950							
								0.00		-RA	1635	1725			2010							
SUMMARY OF THE DAY (MIDNIGHT TO MIDNIGHT)																						
PEAK WINDS			FASTEST 2-MIN WIND			SUNRISE TIME (LST)	SUNSET TIME (LST)	TOTAL SUNSHINE (MIN)	PERCENT PSBL SUNSHINE	CHARACTER SUNRISE	CHARACTER SUNSET	SKY COVER		24-HR MAX TEMP (0.1 C)	24-HR MIN TEMP (0.1 C)	24-HR PRECIP WATER EQUIV (INS)	24-HR SNOW-FALL UNMLTD	1200 UTC SNOW DEPTH (INS)	WATER EQUIV (INS)	STATION PRESSURE	SEA LEVEL PRESSURE	
WIND DIR (DEG)	WIND DIR (DEG)	WIND DIR (DEG)	SUNRISE TO SUNSET	MIDNIGHT TO MIDNIGHT																		
43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	
6	030	0031	10	040	1047	725	1732	M	M					2.8	-.6	0.96		M		29.14	30.19	
MARKS, NOTES AND MISCELLANEOUS PHENOMENA 65:																						
Daily Remarks Data not reported for ASOS Stations																						

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UNEDITED WEATHER OBSERVATIONS (METAR/SPEC)						LATITUDE	LONGITUDE	STATION ELEVATION FT (MSL)	TWC CONVERSION TO UTC	DAY	MONTH	YEAR	SID	STATION (CITY, STATE)
						37°20' N	79°12' W	921	+5	31	01	1997	LYH	LYNCHBURG, VA
JT	WIND				VISIBILITY		PRESENT WEATHER	SKY CONDITION	TEMP °C	DEW POINT °C	ALT-METER INS.	REMARKS AND SUPPLEMENTAL CODED DATA		
	DIR TRUE	SPD KTS	GUST KTS	VARIABILITY TRUE	SURFACE STATUTE MILES	RUNWAY VISUAL RANGE (FEET)								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
V	0154	000	0			5		BR	OVC012	-01	-02	A3007	SLP189 T10111017 TSNO \$	
V	0254	000	0			4		BR	OVC012	-01	-02	A3005	SLP184 T10111017 TSNO \$	
V	0354	000	0			4		BR	OVC010	-01	-02	A3004	SLP180 T10111017 58006 TSNO \$	
S	0415	000	0			4		BR	OVC008	-01	-02	A3004	TSNO \$	
V	0454	220	3			3		BR	OVC006	-01	-02	A3003	CIG 005V009 SLP176 T10111017 TSNO \$	
S	0536	180	3			2 1/2		BR	OVC006	-01	-02	A3001	CIG 002V009 TSNO \$	
S	0543	150	3			2		BR	OVC003	-01	-02	A3001	CIG 002V006 TSNO \$	
V	0554	190	3			1 3/4		BR	OVC003	-01	-02	A3001	SLP168 T10111017 TSNO \$	
S	0604	000	0			2		BR	OVC003	-01	-02	A3001	TSNO \$	
S	0616	000	0			1 3/4		BR	OVC003	-01	-01	A3001	TSNO \$	
V	0654	210	3			1 1/4		BR	OVC003	-01	-01	A3002	SLP172 70004 T10111011 11011 21011 55007 \$ (BG)	
S	0707	190	4			1		BR	OVC001	-01	-01	A3002	\$ (BG)	
S	0717	200	5			1/2		FZFG	OVC001	-01	-01	A3002	\$ (BG)	
V	0754	200	3			1/4		FZFG	OVC001	-01	-01	A3002	SLP173 T10061011 \$ (BG)	
V	0854	190	7			1/4		FZFG	OVC001	-01	-01	A3001	SLP169 T10061011 \$ (BG)	
V	0954	VRB	4			1/4		FG	VV001			A3001	SLPNO 58005 \$ (BG)	
V	1054	220	4			1/4		FG	OVC001	-00	-00	A3000	SLP185 T10011001 \$ (BG)	
V	1154	200	6			M1/4		FG	VV001			A2996	PRESFR SLPNO \$ (BG)	
S	1224	190	6			1/2		FG	OVC001			A2995	\$ (BG)	
S	1235	190	7			1 1/2		BR	OVC001			A2994	\$ (BG)	
S	1243	210	6			2 1/2		BR	OVC001			A2994	CIG 001V004 \$ (BG)	
V	1254	210	8			4		HZ	OVC003			A2993	SLPNO 58023 \$ (BG)	
S	1327	170	7			5		HZ	OVC005			A2991	PRESFR \$ (BG)	
V	1354	170	7			6		HZ	OVC005			A2989	PRESFR SLPNO \$ (BG)	
S	1428	180	9			9			FEW007			A2988	PRESFR \$ (BG)	
V	1454	180	7			10			FEW010			A2984	PRESFR SLPNO \$ (BG)	
V	1554	190	6			10			CLR			A2983	SLPNO 56053 \$ (BG)	
V	1654	160	6			10			CLR			A2982	SLPNO \$ (DB)	
S	1716	190	5			10			CLR	07	02	A2982	\$ (DB)	
V	1754	170	6			10			FEW110	06	02	A2981	SLP100 T00560021 \$ (DB)	
V	1854	180	5			10			CLR	05	01	A2981	SLP100 T00470010 56006 \$ (DB)	
V	1954	170	6			10			OVC110	05	04	A2980	SLP095 T00500039 (DB)	
V	2054	190	7			10			OVC100	05	05	A2979	SLP092 T00500050 (DB)	
V	2154	190	6			10			BKN110	06	02	A2979	SLPNO T00560017 55007 (DB)	
V	2254	200	7			9			CLR	04	02	A2977	SLP085 T00440017 TSNO	
V	2354	200	5			9			CLR	04	02	A2976	SLPNO T00390017 TSNO	
									*** End of Day ***					

UNEDITED WEATHER OBSERVATIONS (METAR)					LATITUDE	LONGITUDE	STATION ELEVATION FT. (MSL)	TIME CONVERSION TO UTC	DAY	MONTH	YEAR	SID	STATION (CITY, STATE)									
					37°20' N	79°12' W	921	+5	31	01	1997	LYH	LYNCHBURG, VA									
65	TOTAL SKY COVER (0-9)	TEMP DRY-BULB	DEW POINT	TEMP WET BULB	RELATIVE HUMIDITY (%)	STATION PRESSURE (IN)	PRESSURE TENDENCY	NET Q-T-R CHANGE	MOULY PRECIPITATION (IN)		SYNOPTIC DATA											
									HR	TIME	NO	LOW CLOUD TYPE	MID CLOUD TYPE	HIGH CLOUD TYPE	MAX TEMP (-1 C)	MIN TEMP (-1 C)	PRECIP (IN)	SNOW FALL (IN)	SNOW DEPTH (IN)	STATION PRESSURE (IN)	BAROGRAP...	BARR CORR.
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
0154		-1.1	-1.7	-1.3	96	29.08			0.00	01-02	Synoptic Data Not Reported For ASOS Stations											
0254		-1.1	-1.7	-1.3	96	29.06			0.00	02-03												
0354		-1.1	-1.7	-1.3	96	29.05	8	006	0.00	03-04												
0454		-1.1	-1.7	-1.3	96	29.04			0.00	04-05												
0554		-1.1	-1.7	-1.3	96	29.02			0.00	05-06												
0654		-1.1	-1.1	-1.1	100	29.03	5	007	0.00	06-07												
0754		-1.1	-1.1	-1.1	96	29.03			0.00	07-08												
0854		-1.1	-1.1	-1.1	96	29.02			0.00	08-09												
												WEATHER AND OBSTRUCTION TO VISION										
0954	.0	.0	.0	100	29.02	8	005	0.00	09-10	TYPE	BEGIN	ENDED	TYPE	BEGIN	ENDED	TYPE	BEGIN	ENDED	TYPE	BEGIN	ENDED	
1054	-1	-1	-1	100	29.01			0.00	10-11	40	41	42	40	41	42	40	41	42	40	41	42	
1154	.0	.0	.0	100	28.98			0.00	11-12	BR	0135	0715										
1254	.0	.0	.0	100	28.95	8	023	0.00	12-13	FZFG	0715	0945										
1354	.0	.0	.0	100	28.91			0.00	13-14	FG	0955	1230										
1454	.0	.0	.0	100	28.86			0.00	14-15	BR	1230	1255										
1554	.0	.0	.0	100	28.85	6	033	0.00	15-16	HZ	1255	1410										
1654	.0	.0	.0	100	28.84			0.00	16-17													
1754	5.6	2.1	4.1	78	28.83			0.00	17-18													
1854	4.7	1.0	3.1	77	28.83	6	006	0.00	18-19													
1954	5.0	3.9	4.5	93	28.82			0.00	19-20													
2054	5.0	5.0	5.0	100	28.81			0.00	20-21													
2154	5.6	1.7	3.9	76	28.81	5	007	0.00	21-22													
2254	4.4	1.7	3.2	83	28.79			0.00	22-23													
2354	3.9	1.7	3.0	86	28.78			0.00	23-24													

SUMMARY OF THE DAY (MIDNIGHT TO MIDNIGHT)

PEAK WINDS			FASTEST 2-MIN WIND			SUNRISE TIME (LST)	SUNSET TIME (LST)	TOTAL SUNSHINE (MIN)	PERCENT PSBL SUNSHINE	CHARACTER SUNRISE	CHARACTER SUNSET	SKY COVER		24-HR MAX TEMP (0.1 C)	24-HR MIN TEMP (0.1 C)	24-HR PRECIP WATER EQUIV (IN)	24-HR SNOW-FALL UNMLTD	1200 UTC SNOW DEPTH (IN)	WATER EQUIV. (IN)	STATION PRESSURE	SEA LEVEL PRESSURE
PEED (MPH)	DIREC-TION	TIME (LST)	SPEED (MPH)	DIREC-TION	TIME (LST)							SUNRISE TO SUNSET	MIDNIGHT TO MIDNIGHT								
43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
4	190	2303	11	190	1825	720	1739	M	M					6.7	-1.1	0.00		M		28.89	

REMARKS, NOTES AND MISCELLANEOUS PHENOMENA 65:

Daily Remarks Data not reported for ASOS Stations

# CENTIGRADE TO FAHRENHEIT TEMPERATURE CONVERSION

(SMITHSONIAN METEOROLOGICAL TABLES - VOL 114)

## CENTIGRADE TO FAHRENHEIT

Centi- grade	CENTIGRADE TO FAHRENHEIT									
	0 °F.	1 °F.	2 °F.	3 °F.	4 °F.	5 °F.	6 °F.	7 °F.	8 °F.	9 °F.
+40	+104.00	+104.18	+104.36	+104.54	+104.72	+104.90	+105.08	+105.26	+105.44	+105.62
39	102.20	102.38	102.56	102.74	102.92	103.10	103.28	103.46	103.64	103.82
38	100.40	100.58	100.76	100.94	101.12	101.30	101.48	101.66	101.84	102.02
37	98.60	98.78	98.96	99.14	99.32	99.50	99.68	99.86	100.04	100.22
36	96.80	96.98	97.16	97.34	97.52	97.70	97.88	98.06	98.24	98.42
+35	+95.00	+95.18	+95.36	+95.54	+95.72	+95.90	+96.08	+96.26	+96.44	+96.62
34	93.20	93.38	93.56	93.74	93.92	94.10	94.28	94.46	94.64	94.82
33	91.40	91.58	91.76	91.94	92.12	92.30	92.48	92.66	92.84	93.02
32	89.60	89.78	89.96	90.14	90.32	90.50	90.68	90.86	91.04	91.22
31	87.80	87.98	88.16	88.34	88.52	88.70	88.88	89.06	89.24	89.42
+30	+86.00	+86.18	+86.36	+86.54	+86.72	+86.90	+87.08	+87.26	+87.44	+87.62
29	84.20	84.38	84.56	84.74	84.92	85.10	85.28	85.46	85.64	85.82
28	82.40	82.58	82.76	82.94	83.12	83.30	83.48	83.66	83.84	84.02
27	80.60	80.78	80.96	81.14	81.32	81.50	81.68	81.86	82.04	82.22
26	78.80	78.98	79.16	79.34	79.52	79.70	79.88	80.06	80.24	80.42
+25	+77.00	+77.18	+77.36	+77.54	+77.72	+77.90	+78.08	+78.26	+78.44	+78.62
24	75.20	75.38	75.56	75.74	75.92	76.10	76.28	76.46	76.64	76.82
23	73.40	73.58	73.76	73.94	74.12	74.30	74.48	74.66	74.84	75.02
22	71.60	71.78	71.96	72.14	72.32	72.50	72.68	72.86	73.04	73.22
21	69.80	69.98	70.16	70.34	70.52	70.70	70.88	71.06	71.24	71.42
+20	+68.00	+68.18	+68.36	+68.54	+68.72	+68.90	+69.08	+69.26	+69.44	+69.62
19	66.20	66.38	66.56	66.74	66.92	67.10	67.28	67.46	67.64	67.82
18	64.40	64.58	64.76	64.94	65.12	65.30	65.48	65.66	65.84	66.02
17	62.60	62.78	62.96	63.14	63.32	63.50	63.68	63.86	64.04	64.22
16	60.80	60.98	61.16	61.34	61.52	61.70	61.88	62.06	62.24	62.42
+15	+59.00	+59.18	+59.36	+59.54	+59.72	+59.90	+60.08	+60.26	+60.44	+60.62
14	57.20	57.38	57.56	57.74	57.92	58.10	58.28	58.46	58.64	58.82
13	55.40	55.58	55.76	55.94	56.12	56.30	56.48	56.66	56.84	57.02
12	53.60	53.78	53.96	54.14	54.32	54.50	54.68	54.86	55.04	55.22
11	51.80	51.98	52.16	52.34	52.52	52.70	52.88	53.06	53.24	53.42
+10	+50.00	+50.18	+50.36	+50.54	+50.72	+50.90	+51.08	+51.26	+51.44	+51.62
9	48.20	48.38	48.56	48.74	48.92	49.10	49.28	49.46	49.64	49.82
8	46.40	46.58	46.76	46.94	47.12	47.30	47.48	47.66	47.84	48.02
7	44.60	44.78	44.96	45.14	45.32	45.50	45.68	45.86	46.04	46.22
6	42.80	42.98	43.16	43.34	43.52	43.70	43.88	44.06	44.24	44.42
+5	+41.00	+41.18	+41.36	+41.54	+41.72	+41.90	+42.08	+42.26	+42.44	+42.62
4	39.20	39.38	39.56	39.74	39.92	40.10	40.28	40.46	40.64	40.82
3	37.40	37.58	37.76	37.94	38.12	38.30	38.48	38.66	38.84	39.02
2	35.60	35.78	35.96	36.14	36.32	36.50	36.68	36.86	37.04	37.22
1	33.80	33.98	34.16	34.34	34.52	34.70	34.88	35.06	35.24	35.42
+0	+32.00	+32.18	+32.36	+32.54	+32.72	+32.90	+33.08	+33.26	+33.44	+33.62

## CENTIGRADE TO FAHRENHEIT

Centi- grade	CENTIGRADE TO FAHRENHEIT									
	0 °F.	1 °F.	2 °F.	3 °F.	4 °F.	5 °F.	6 °F.	7 °F.	8 °F.	9 °F.
-0°	+32.00	+31.82	+31.64	+31.46	+31.28	+31.10	+30.92	+30.74	+30.56	+30.38
1	30.20	30.02	29.84	29.66	29.48	29.30	29.12	28.94	28.76	28.58
2	28.40	28.22	28.04	27.86	27.68	27.50	27.32	27.14	26.96	26.78
3	26.60	26.42	26.24	26.06	25.88	25.70	25.52	25.34	25.16	24.98
4	24.80	24.62	24.44	24.26	24.08	23.90	23.72	23.54	23.36	23.18
-5	+23.00	+22.82	+22.64	+22.46	+22.28	+22.10	+21.92	+21.74	+21.56	+21.38
6	21.20	21.02	20.84	20.66	20.48	20.30	20.12	19.94	19.76	19.58
7	19.40	19.22	19.04	18.86	18.68	18.50	18.32	18.14	17.96	17.78
8	17.60	17.42	17.24	17.06	16.88	16.70	16.52	16.34	16.16	15.98
9	15.80	15.62	15.44	15.26	15.08	14.90	14.72	14.54	14.36	14.18
-10	+14.00	+13.82	+13.64	+13.46	+13.28	+13.10	+12.92	+12.74	+12.56	+12.38
11	12.20	12.02	11.84	11.66	11.48	11.30	11.12	10.94	10.76	10.58
12	10.40	10.22	10.04	9.86	9.68	9.50	9.32	9.14	8.96	8.78
13	8.60	8.42	8.24	8.06	7.88	7.70	7.52	7.34	7.16	6.98
14	6.80	6.62	6.44	6.26	6.08	5.90	5.72	5.54	5.36	5.18
-15	+5.00	+4.82	+4.64	+4.46	+4.28	+4.10	+3.92	+3.74	+3.56	+3.38
16	+3.20	+3.02	+2.84	+2.66	+2.48	+2.30	+2.12	+1.94	+1.76	+1.58
17	+1.40	+1.22	+1.04	+0.86	+0.68	+0.50	+0.32	+0.14	-0.04	-0.22
18	-0.40	-0.58	-0.76	-0.94	-1.12	-1.30	-1.48	-1.66	-1.84	-2.02
19	-2.20	-2.38	-2.56	-2.74	-2.92	-3.10	-3.28	-3.46	-3.64	-3.82
-20	-4.00	-4.18	-4.36	-4.54	-4.72	-4.90	-5.08	-5.26	-5.44	-5.62
21	5.80	5.98	6.16	6.34	6.52	6.70	6.88	7.06	7.24	7.42
22	7.60	7.78	7.96	8.14	8.32	8.50	8.68	8.86	9.04	9.22
23	9.40	9.58	9.76	9.94	10.12	10.30	10.48	10.66	10.84	11.02
24	11.20	11.38	11.56	11.74	11.92	12.10	12.28	12.46	12.64	12.82
-25	-13.00	-13.18	-13.36	-13.54	-13.72	-13.90	-14.08	-14.26	-14.44	-14.62
26	14.80	14.98	15.16	15.34	15.52	15.70	15.88	16.06	16.24	16.42
27	16.60	16.78	16.96	17.14	17.32	17.50	17.68	17.86	18.04	18.22
28	18.40	18.58	18.76	18.94	19.12	19.30	19.48	19.66	19.84	20.02
29	20.20	20.38	20.56	20.74	20.92	21.10	21.28	21.46	21.64	21.82
-30	-22.00	-22.18	-22.36	-22.54	-22.72	-22.90	-23.08	-23.26	-23.44	-23.62
31	23.80	23.98	24.16	24.34	24.52	24.70	24.88	25.06	25.24	25.42
32	25.60	25.78	25.96	26.14	26.32	26.50	26.68	26.86	27.04	27.22
33	27.40	27.58	27.76	27.94	28.12	28.30	28.48	28.66	28.84	29.02
34	29.20	29.38	29.56	29.74	29.92	30.10	30.28	30.46	30.64	30.82
-35	-31.00	-31.18	-31.36	-31.54	-31.72	-31.90	-32.08	-32.26	-32.44	-32.62
36	32.80	32.98	33.16	33.34	33.52	33.70	33.88	34.06	34.24	34.42
37	34.60	34.78	34.96	35.14	35.32	35.50	35.68	35.86	36.04	36.22
38	36.40	36.58	36.76	36.94	37.12	37.30	37.48	37.66	37.84	38.02
39	38.20	38.38	38.56	38.74	38.92	39.10	39.28	39.46	39.64	39.82
-40	-40.00	-40.18	-40.36	-40.54	-40.72	-40.90	-41.08	-41.26	-41.44	-41.62

CONVERSION TABLE OF MILES PER HOUR (MPH) TO KNOTS (KTS)

MPH	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
10	9	10	11	12	13	14	15	16	17	18
20	17	18	19	20	21	22	23	24	25	26
30	26	27	28	29	30	31	32	33	34	35
40	35	36	37	38	39	40	41	42	43	44
50	43	44	45	46	47	48	49	50	51	52
60	52	53	54	55	56	57	58	59	60	61
70	61	62	63	64	65	66	67	68	69	70
80	70	71	72	73	74	75	76	77	78	79
90	78	79	80	81	82	83	84	85	86	87

(e.g., 25 mph = 22 kts)

CONVERSION TABLE OF COMPASS POINTS (16) TO WHOLE DEGREES

N = 35-01	E = 08-10	S = 17-19	W = 26-28
NNE = 02-03	ESE = 11-12	SSW = 20-21	WNW = 29-30
NE = 04-05	SE = 13-14	SW = 22-23	NW = 31-32
ENE = 06-07	SSE = 15-16	WSW = 24-25	NNW = 33-34

THE NATIONAL CLIMATIC DATA CENTER

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# METAR

EFFECTIVE JULY 1, 1996

## KEY to AVIATION ROUTINE WEATHER REPORT

METAR KPIT 091955Z COR 22015G25KT 3/4SM R28L/2600FT TSRA OVC010CB  
18/16 A2992 RMK SLP045 T01820159

Report	Explanation
METAR	Message type: <u>METAR</u> - hourly, <u>SPECI</u> -special or <u>TESTM</u> -non-commissioned ASOS report
KPIT	ICAO location indicator
091955Z	Issuance time: ALL times in UTC ' <u>Z</u> ', 2-digit date, 4-digit time
COR	In U.S. METAR: <u>COR</u> rected ob; or <u>AUTO</u> mated ob for automated report with no human intervention; omitted when observer logs on
22015G25KT	Wind: 3 digit true-north direction, nearest 10 degrees (or <u>VaRIaBLE</u> ); next 2-3 digits for speed and unit, <u>KT</u> (KMH or MPS); as needed, <u>Gust</u> and maximum speed; 0000KT for calm; for METAR, if direction varies 60 degrees or more, <u>Variability</u> appended, e.g. 180 <u>V</u> 260
3/4SM	Prevailing visibility: in U.S., <u>Statute Miles &amp; Fractions</u>
R28L/2600FT	Runway Visual Range: <u>R</u> ; 2-digit runway designator <u>Left</u> , <u>Center</u> , or <u>Right</u> as needed; ' <u>T</u> '; <u>Minus</u> or <u>Plus</u> in U.S., 4-digit value, <u>Feet</u> in U.S., (usually meters elsewhere); 4-digit value <u>Variability</u> 4-digit value (and tendency <u>Down</u> , <u>Up</u> or <u>No change</u> )
TSRA	Significant present and recent weather: see table
OVC010CB	Cloud amount, height and type: <u>SKY</u> Clear 0/8, <u>FEW</u> >0/8-2/8, <u>SCaTtered</u> 3/8-4/8, <u>BRoKeN</u> 5/8-7/8, <u>OVeRcast</u> 8/8; 3-digit height in hundreds of ft; <u>Towering CUmulus</u> or <u>CumulonimBus</u> in METAR, <u>Vertical Visibility</u> for obscured sky and height
18/16	'VV004'. More than 1 layer may be reported, In auto-mated METAR reports only, <u>CLeaR</u> for 'clear below 12,000 feet'
A2992	Allimeter setting: indicator and 4 digits; in U.S., <u>A</u> -inches and hundredths; ( <u>Q</u> -hectoPascals, e.g., Q1013)
RMK SLP045 T01820159	In METAR, <u>ReMaRk</u> indicator & remarks. For example: <u>Sea-Level</u> Pressure in hectoPascals & tenths, as shown: 1004.5 hPa; <u>Temp</u> /dew-point in tenths °C, as shown: temp. 18.2°C, dew-point 15.9°C

### Table of Significant Present and Recent Weather - Grouped in categories and used in the order listed.

QUALIFIER			
<b>Intensity or Proximity</b>			
- Light	*no sign*	Moderate	+ Heavy
VC Vicinity; but not at aerodrome; in U.S. METAR, between 5 and 10SM of the point(s) of observation.			
<b>Descriptor</b>			
MI Shallow	BC Patches	PR Partial	TS Thunderstorm
BL Blowing	SH Showers	DR Drifting	FZ Freezing
<b>WEATHER PHENOMENA</b>			
<b>Precipitation</b>			
DZ Drizzle	RA Rain	SN Snow	SG Snow grains
IC Ice crystals	*PE/PL Ice pellets	GR Hail	GS Small hail/snow pellets
UP Unknown precipitation in automated observations			
<b>Obscuration</b>			
BR Mist (≥5/8SM)	FG Fog (<5/8SM)	FU Smoke	VA Volcanic ash
SA Sand	HZ Haze	PY Spray	DU Widespread dust
<b>Other</b>			
SQ Squall	SS Sandstorm	DS Duststorm	PO Well developed dust/sand whirls
FC Funnel cloud	+FC tornado/waterspout		

- Explanations in parentheses "( )" indicate different worldwide practices.
  - Ceiling is not specified; defined as the lowest broken or overcast layer, or the vertical visibility.
  - \* PE or PL effective Nov 5, 1998.
  - Although not used in US, Ceiling And Visibility OK replaces visibility, weather and clouds if: visibility ≥ 10 km; no cloud below 5000 ft (1500 m) or below the highest minimum sector altitude, whichever is greater and no CB; and no precipitation, TS, DS, SS, MIFG, DRDU, DRSA or DRSN.
- March 1996  
NOAA/PA 96052 National Oceanic and Atmospheric Administration—National Weather Service

**TEMPERATURE CONVERSIONS**  
**FAHRENHEIT = 9/5 CELSIUS + 32**  
 [ie: 50 deg F = 10.00 deg C]  
**CELSIUS = 5/9 (FAHRENHEIT - 32)**  
 [ie: 50 deg C = 122.00 deg F]

### TIME CONVERSION TABLE: LST to UTC (COORDINATED UNIVERSAL TIME)

STANDARD TIME ZONE	LST TO UTC ADD	ie: 1200 (NOON) LST EQUALS
Atlantic Standard Time	4 hours	1600 (4:00pm) UTC
Eastern Standard Time	5 hours	1700 (5:00pm) UTC
Central Standard Time	6 hours	1800 (6:00pm) UTC
Mountain Standard Time	7 hours	1900 (7:00pm) UTC
Pacific Standard Time	8 hours	2000 (8:00pm) UTC
Yukon Standard Time	9 hours	2100 (9:00pm) UTC
Alaska/Hawaii Standard Time	10 hours	2200 (10:00pm) UTC
Bering Standard Time	11 hours	2300 (11:00pm) UTC

To convert UTC to LST, SUBTRACT the same hours from UTC.