NASA TECHNICAL MEMORANDUM

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COMPENDIUM OF METEOROLOGICAL DATA FOR THE VIKING A LAUNCH IN AUGUST 1975

By J. Briscoe Stephens, S. I. Adelfang, and A. I. Goldford
Space Sciences Laboratory

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16. ABSTRACT

All the meteorological data for the 36-hour period before the Viking A launch from Kennedy Space Center at 1722 EDT on August 20, 1975, are archived at the Marshall Space Flight Center. These data were collected in support of the NASA Rocket Exhaust Effluent Prediction and Monitoring Program. This data set is unique in that soundings were made approximately every 2 hours from T-14 to T-0 hours, providing high temporal resolution. All supporting data, such as synoptic charts and wind tower data, are also included. This is the sixth in this series of data reports.

[1]S. I. Adelfang and A. I. Goldford are associated with Science Applications, Inc., Huntsville, Alabama.

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TECHNICAL MEMORANDUM X-73339

COMPENDIUM OF METEOROLOGICAL DATA FOR VIKING A LAUNCH IN AUGUST 1975

INTRODUCTION

This is a compendium of all the meteorological data collected as a function of the joint Marshall Space Flight Center (MSFC), Langley Research Center (LaRC), and the Kennedy Space Center (KSC) rocket exhaust effluent prediction and monitoring program for the Viking A launch. The Viking A was a Titan IIIE launch from pad 41 at Kennedy Space Center at 1722 EDT on August 20, 1975. The data presented in this compendium were collected largely to support MSFC diffusion predictions for the deployment of LaRC/KSC monitoring sites. The joint solid rocket motor exhaust prediction (MSFC) and measurement (LaRC and KSC) program evolved in 1972 using the Titan and Delta launches as a source for empirical information that can be used to more accurately predict the environmental effects of planned Space Shuttle operations.

These data are archived at MSFC because they are an aid in post-launch analysis and because they represent a unique set of atmospheric soundings with high temporal resolution. Included in the report are the synoptic charts, surface observations, rawinsonde, windsonde and Jimsphere soundings, and wind tower measurements made during this period. No attempt is made to analyze any of the data presented in this document.

DATA

The data are listed in Appendices A through F. Pages numbers for specific data are given in the Table of Contents; the dates, times, and sources of the data are listed in Table 1.

TABLE I

METEOROLOGICAL DATA SUMMARY FOR VIKING A LAUNCH ON 20 AUGUST 1975
AT 1722 EDT (2122Z)

DATA TYPE	DATE (AUG '75)	TIME EDT	TIME RELATIVE[1]	SOURCE
SYNOTPIC CHARTS[2]	19	0800	T-33 HR., 22 MIN.	NOAA
	20	0800	T- 9 HR., 22 MIN.	NOAA
	21	0800	T+14 HR., 38 MIN.	NOAA
SURFACE OBSERVATIONS[3]	20,21	0156 (20 AUG)to 0056 (21 AUG)	T-15 HR., 26 MIN.to T+ 7 HR., 34 MIN.	USAF
RAWINSONDE	19	0515	T-36 HR., 7 MIN.	USAF
	19	0730	T-33 HR., 52 MIN.	USAF
	19	1822	T-23 HR.	USAF
	20	0322	T-14 HR.	USAF
	20	0522	T-12 HR.	USAF
	20	0822	T- 9 HR.	USAF
	20	1222	T- 5 HR.	USAF
	20	1416	T- 3 HR., 6 MIN.	USAF
	20	1646	T- 36 MIN.	USAF
	20	1942	T 2 HR., 20 MIN.	USAF
WINDSONDE	19	1015	T-31 HR., 7 MIN.	USAF
	20	1112	T- 6 HR., 10 MIN.	USAF
	20	1257	T- 4 HR., 25 MIN.	USAF
JIMSPHERE	19	1522	T-26 HR.	USAF
	20	1122	T- 6 HR.	USAF
	20	1309	T- 4 HR., 13 MIN.	USAF
	20	1737	T+ 15 MIN.	USAF
TOWER DATA	20	0830 to 2300	T- 9 HR., 52 MIN.to T+ 5 HR., 38 MIN.	USAF

(1) Relative to launch time, for example 1719 EDT = T-2 MIN.

(2) Charts for surface and 500 mb; also included are precipitation and maximum and minimum temperatuers for the preceeding 24-HR. period.

(3) Location of the base station for upper air and surface observations and towers are illustrated in Figure 1.

The synoptic charts are from the series published weekly by the National Oceanographic and Atmospheric Administration (NOAA). The surface data are from the Cape Canaveral Air Force Station (location shown as KSC meteorological station in Figure 1).

The rawinsonde runs were made with an AMQ-9 radiosonde (Figure 2) using the GMD-4 rather than the NOAA JOO5B radiosonde system. The temperature and humidity sensor data are transmitted ten times per minute in the AMQ-9 by a clock-actuated switch rather than the aneroid barometer switch used in the NOAA radiosonde. Both systems measure azimuth and elevation with the directional receiver in the GMD. A transponder in the AMQ-9 is used to obtain the slant range to the radiosonde, enabling the calculation of altitude. The pressure is then calculated according to the hypsometric equation. The equations used in the computer program to calculate various thermodynamic quantities from the basic altitude, temperature, and relative humidity data are given in Appendix G.

The windsonde measures Eulerian[1] wind direction and speed as a function of altitude and is similar to the rawinsonde (AMQ-9) except that it does not have temperature and humidity sensors.

The Jimsphere wind sensor (Figure 3) is a silvered spherical 2-meter diameter superpressure balloon with large irregularly spaced external roughness elements. The roughness elements effectively decrease random vortex shedding, or aerodynamic noise, associated with a smooth balloon operating in a supercritical Reynolds number regime. Thus, the Jimsphere balloon follows small-scale wind motions with high accuracy. The Eulerian wind profile obtained by precision tracking of a Jimsphere balloon has resolution of less than 100 meters.

Since it is envisioned that use of the rawinsonde, windsonde, and Jimsphere data will be restricted to studies of the stabilized Space Shuttle Rocket Booster Cloud, and altitude limit of 20,000 feet was chosen. All data beyond that altitude are excluded from this report. The excluded data are are archived at MSFC and are available.

The data contained in this report cover a time period sufficient for most anticipated meteorological analyses. The chronology of the data relative to the time of launch is given in Figure 4. In most studies, data within 1.5 hours of launch time (1722 EDT, August 2) are sufficient. To facilitate retrieval of these data, an index is provided in Table 2 which gives the page number of data obtained within 1.5 hours of launch. It is understood that for

[1]For practical applications the rawinsonde, windsonde, and Jimsphere data are treated as Eulerian.

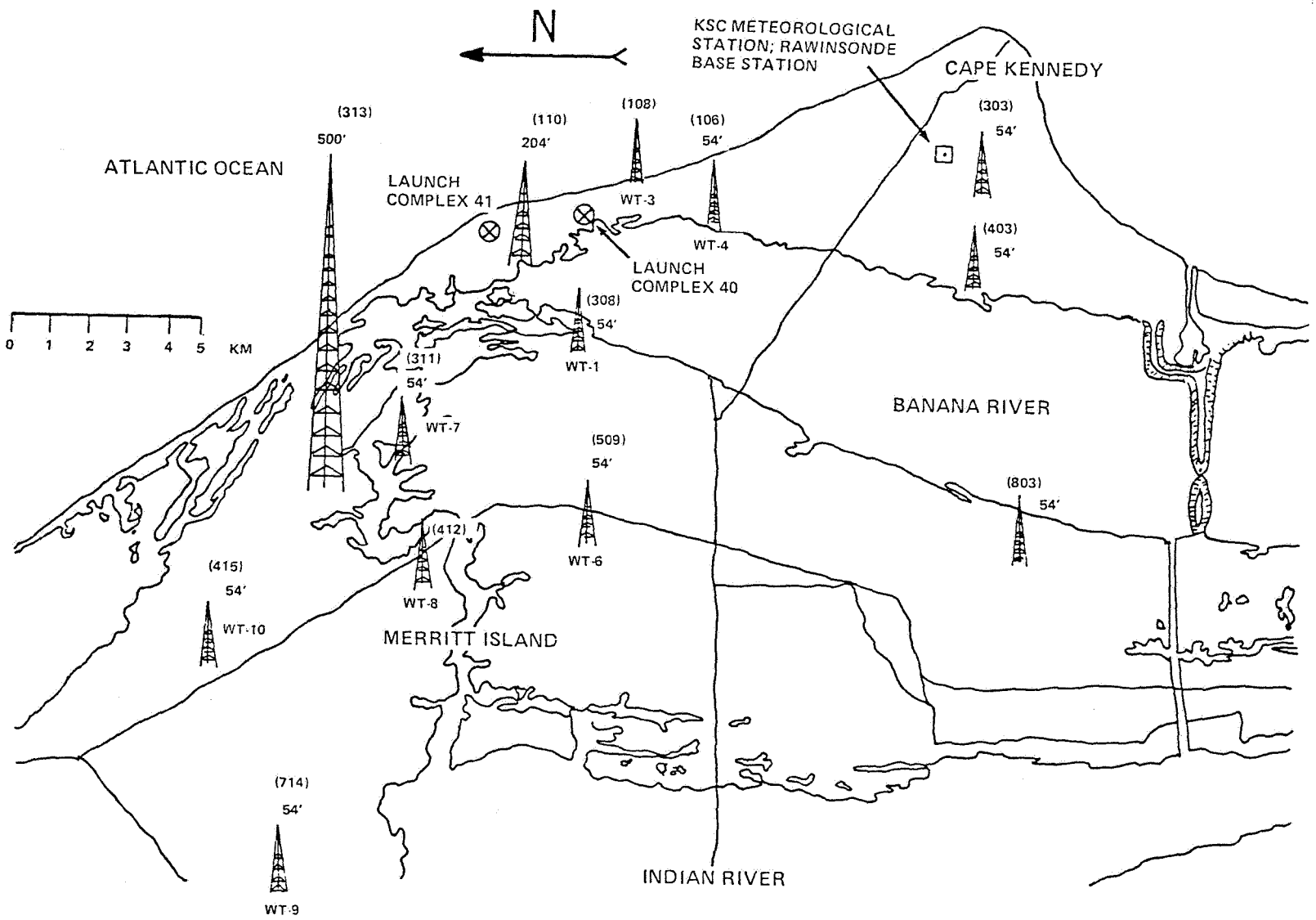


Figure 1. Location of meteorological towers and KSC meteorological station.

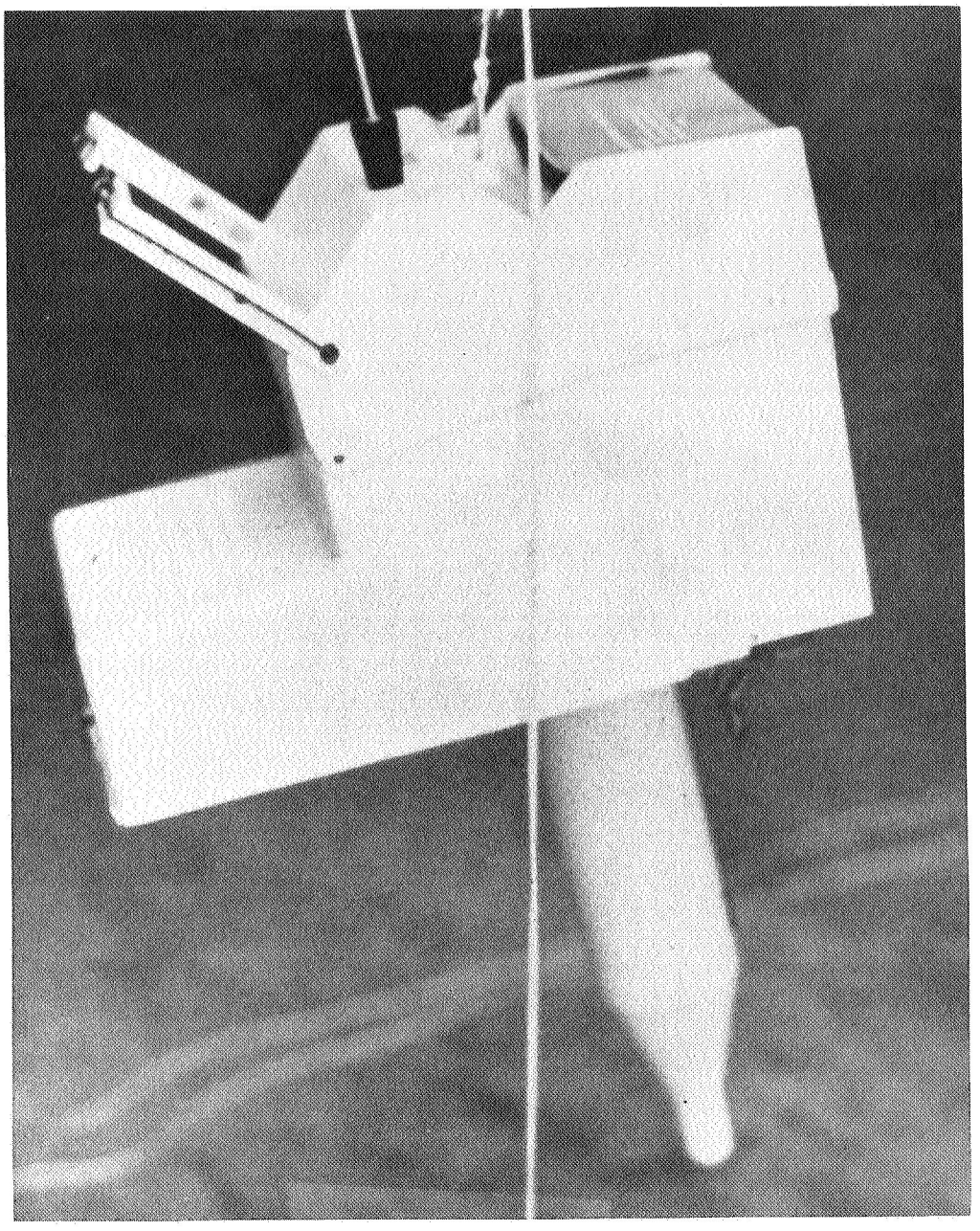


Figure 2. AMQ-9 radiosonde.

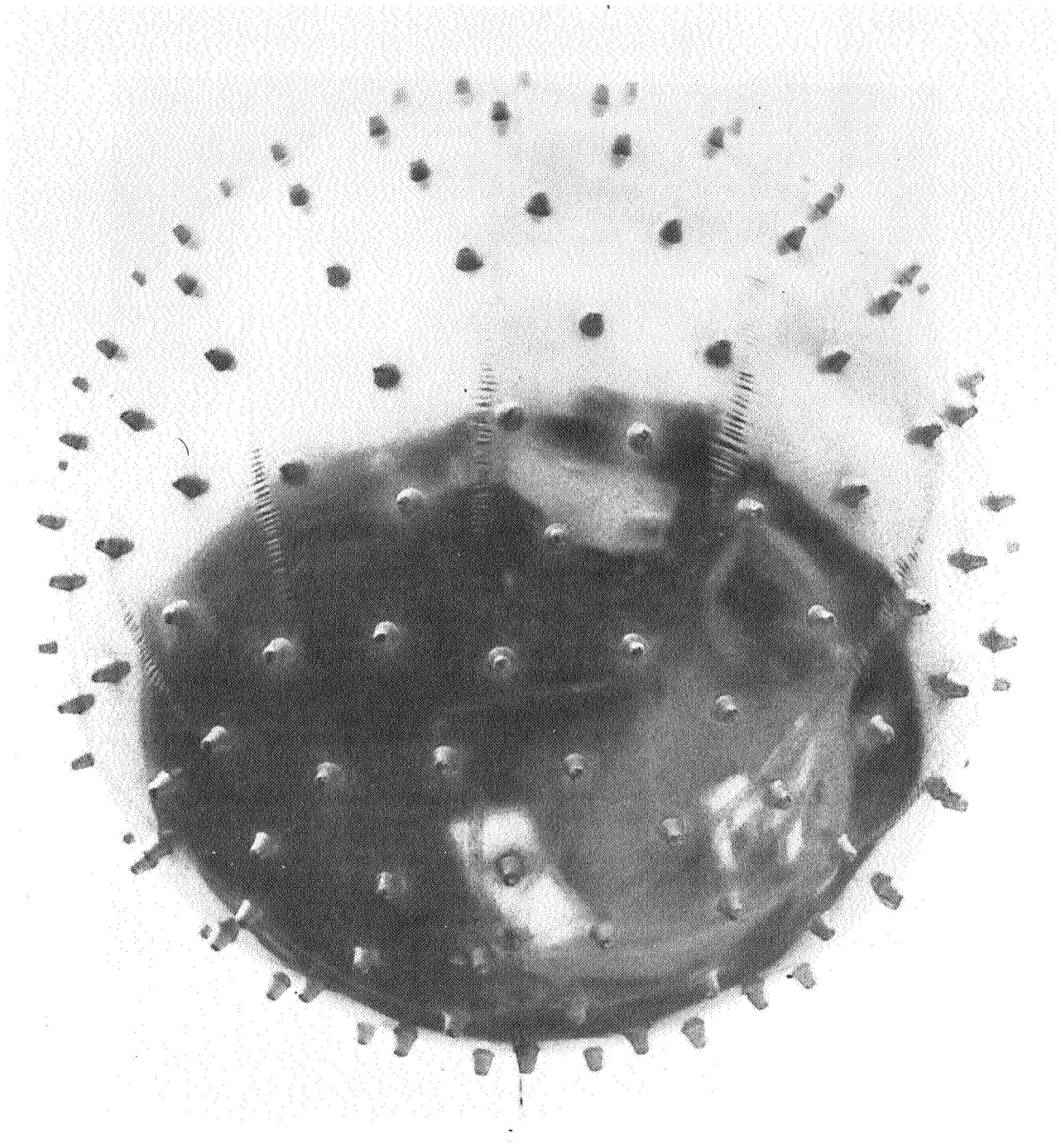


Figure 3. Jimsphere wind sensor.

TABLE 2

METEOROLOGICAL DATA OBTAINED WITHIN 1.5 HOURS OF T-0 (1722 EDT, 20 August 1975)

TIME	DATA TYPE	Page
T-87 MIN. (1555 EDT)	SURFACE OBSERVATION	14
T-82 MIN. (1600 EDT)	TOWER(1)	33-47
T-74 MIN. (1608 EDT)	SURFACE OBSERVATION	14
T-52 MIN. (1630 EDT)	SURFACE OBSERVATION	14
T-36 MIN. (1646 EDT)	RAWINSONDE	24
T-24 MIN. (1658 EDT)	SURFACE OBSERVATION	14
T-22 MIN. (1700 EDT)	TOWER(1)	33-47
T-17 MIN. (1705 EDT)	SURFACE OBSERVATION	14
T-5 MIN. (1717 EDT)	WINDSONDE	27
T-0 MIN. (1722 EDT)	SURFACE OBSERVATION	14
T+8 MIN (1730 EDT)	TOWER(1)	33-47
T+15 MIN. (1737 EDT)	JIMSPHERE	32
T+35 MIN. (1757 EDT)	SURFACE OBSERVATION	14
T+38 MIN. (1800 EDT)	TOWER(1)	33-47
T+68 MIN. (1830 EDT)	TOWER(1)	33-47
T+84 MIN. (1846 EDT)	SURFACE OBSERVATION	14

(1) TOWERS 106, 108, 110, 303, 308, 311, 313, 403, 412, 415, 509

dynamic situations such as the onset of a sea breeze or the passage of a front within 1.5 hours of launch, the selection of data appropriate to the launch would have to be narrowed to a more appropriate period.

LAUNCH CONDITIONS

Meteorological conditions during the launch were typical for a summer afternoon at KSC. Cumulus cloud development south through west of the launch pad, initially reported in the late morning, continued through late afternoon. Although no precipitation was reported at KSC, thunderstorms which developed to the southwest through west-northwest of KSC during the period from T-74 minutes to T+ 35 minutes were close enough for thunder to be heard at the KSC weather station.

The sky condition at launch was reported as nine-tenths covered. Surface wind at the KSC meteorological station was 130^0 at 7 knots. The wind observed T+8 minutes at tower 110 in the vicinity of Launch Complex 41 was 128^0 at 10 knots at 54 feet, 122^0 at 11 knots at 162 feet and 137^0 at 11 knots at 204 feet. The wind measured in the altitude interval (4,000 to 5,000 feet) near cloud stabilization height (1.5 km, 4,920 feet) with a windsonde five minutes before launch was light (1-3 knots), and there was a large directional shear. The wind direction ranged from 197^0 at 4,000 feet to 112^0 and 143^0 at 6,000 feet.

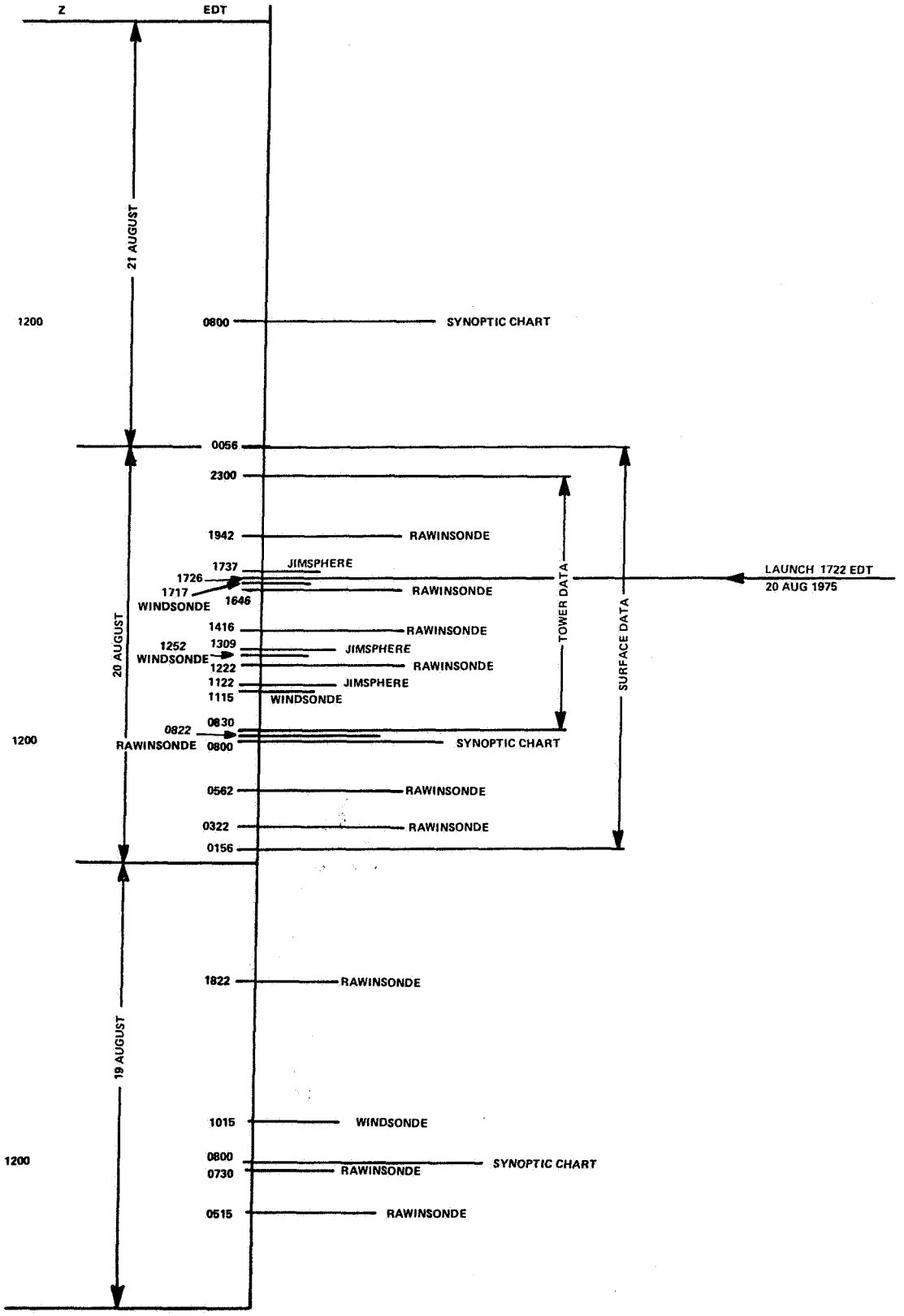
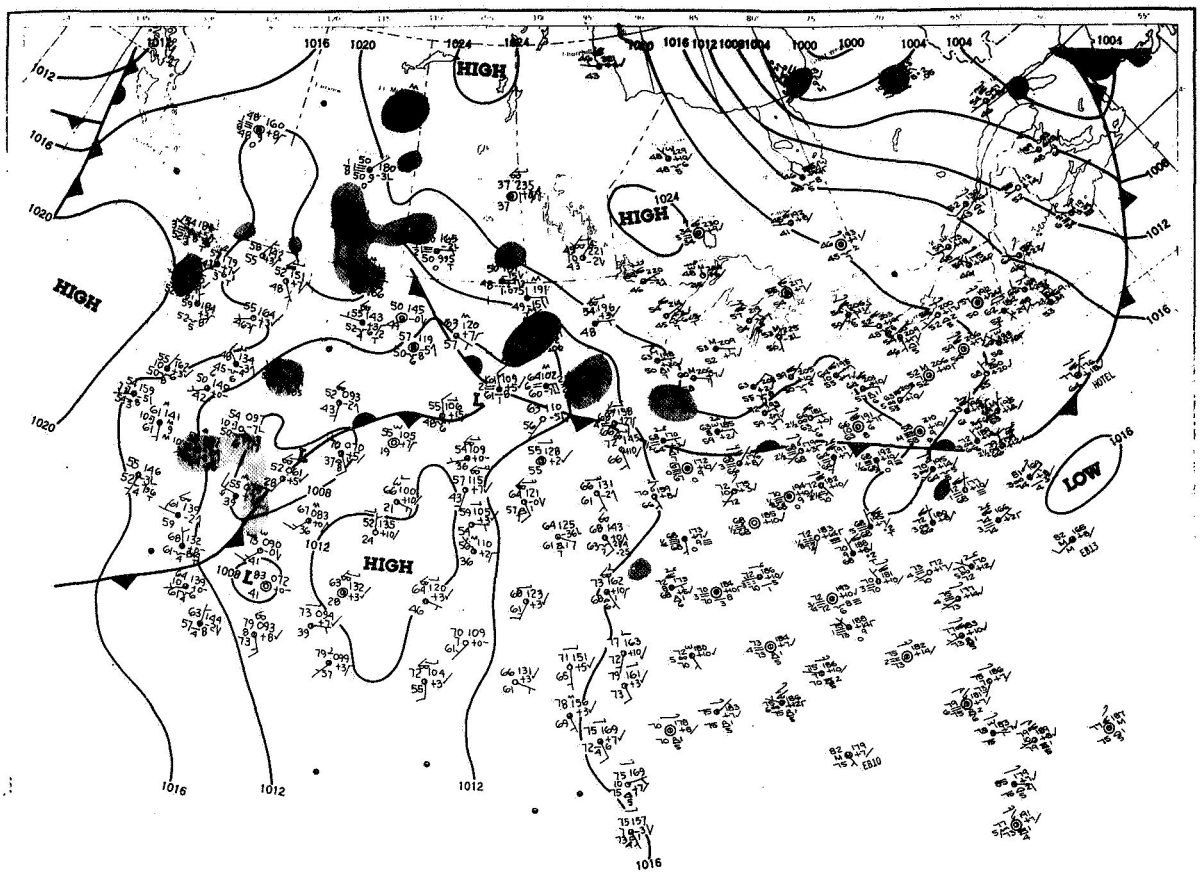
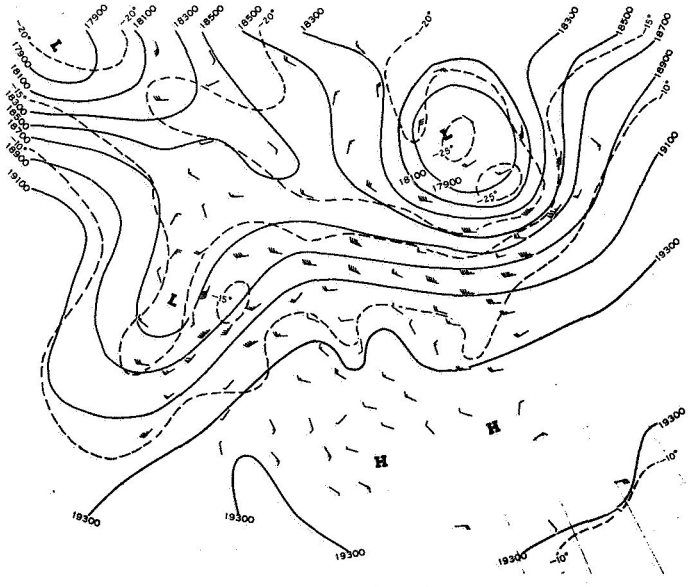


Figure 4. Data chronology.

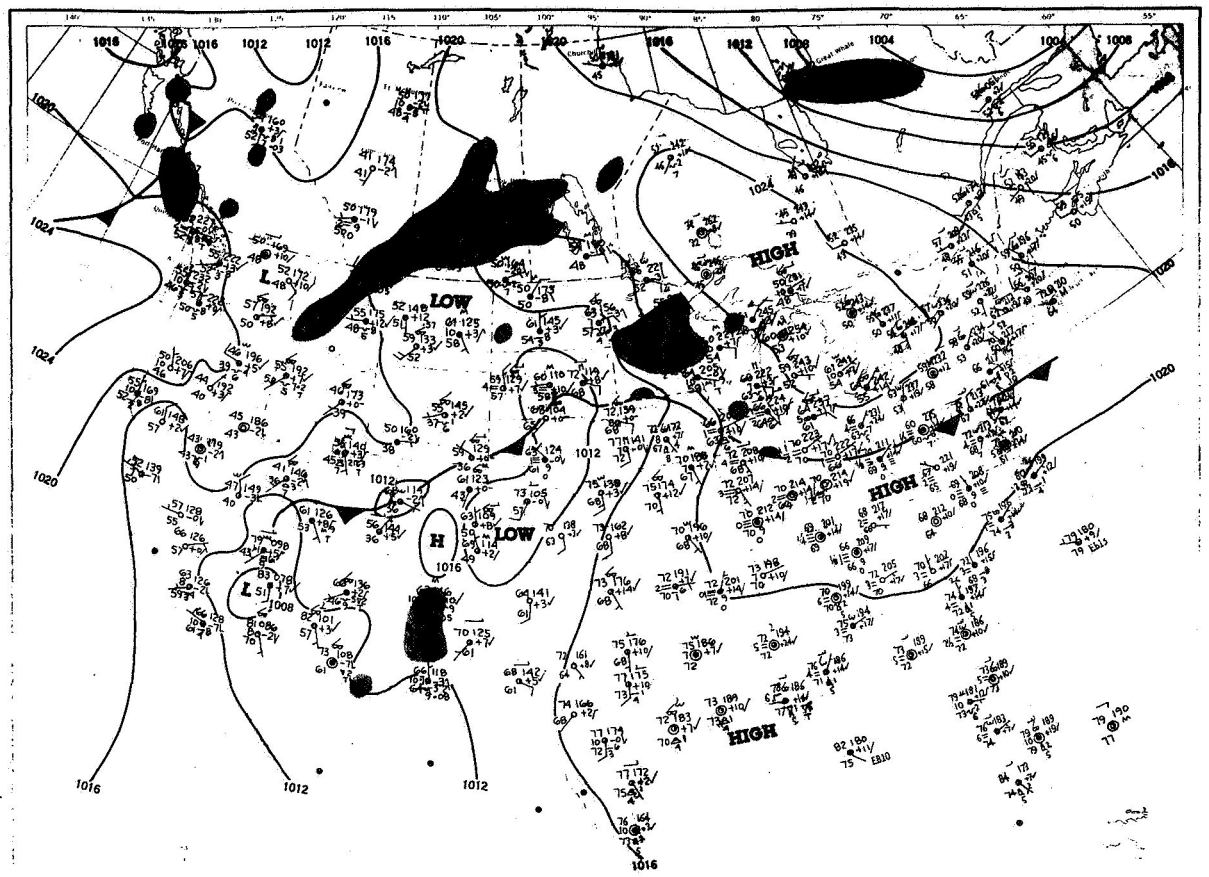
APPENDIX A

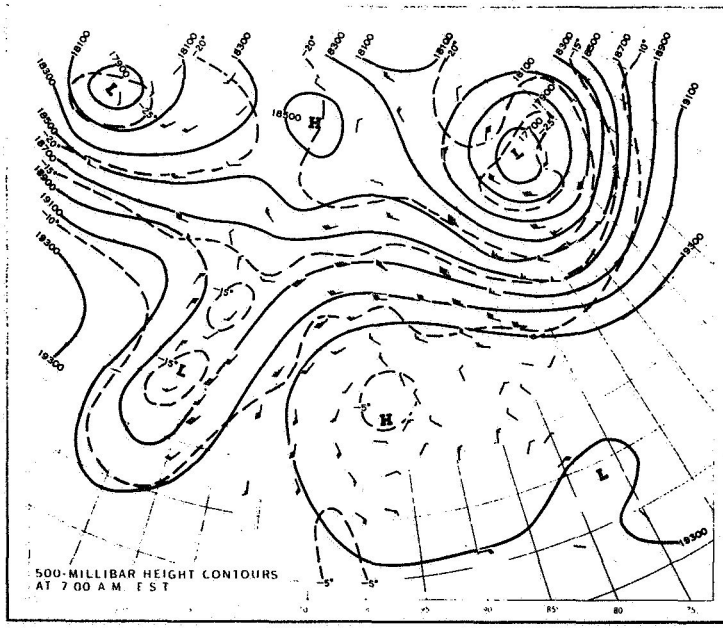
SYNOPTIC CHARTS

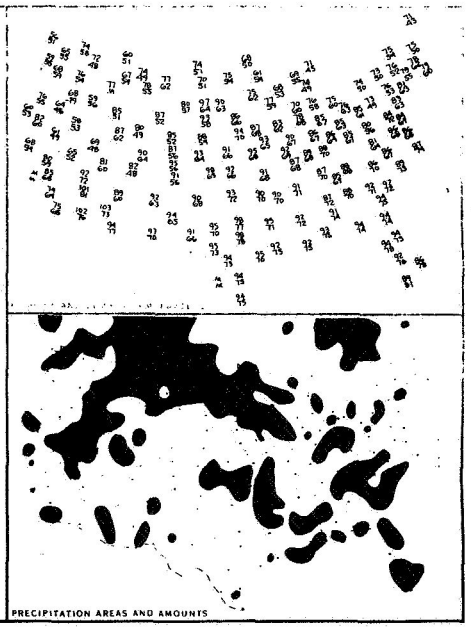

HIGH
HIGH
HIGH
LOW
HOTEL



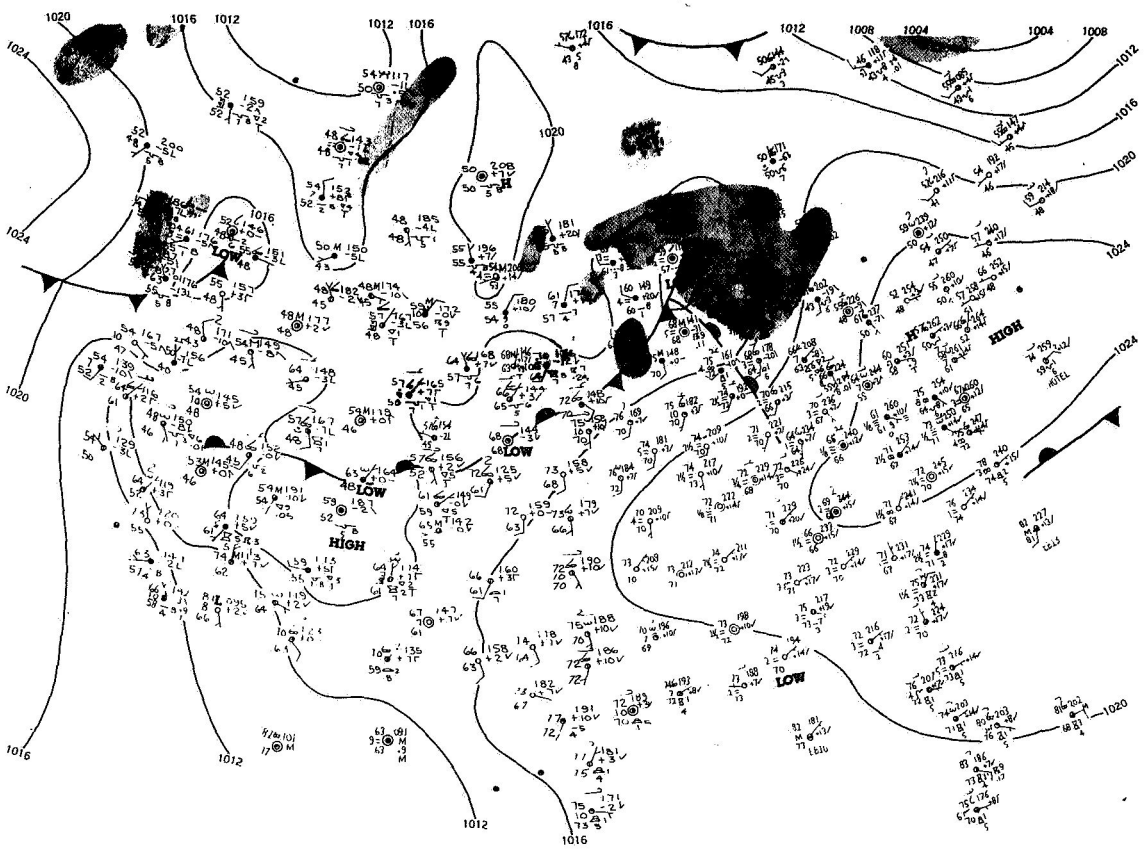
WEDNESDAY, AUGUST 20, 1975

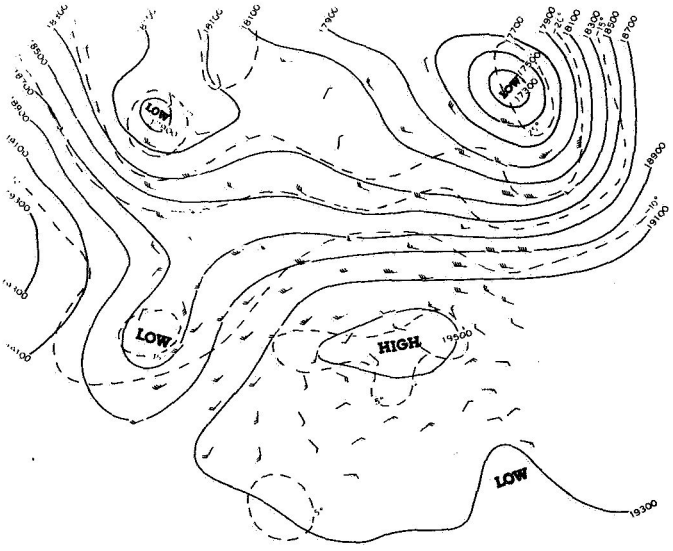






THURSDAY, AUGUST 21, 1975





APPENDIX B

SURFACE DATA

FEDERAL METEOROLOGICAL FORM 1-10 SURFACE WEATHER OBSERVATIONS
(ABRIDGED FORM FOR USE AT AWS STATIONS)

LATITUDE: 28°23' N | LONGITUDE: 80°33' W | STATION ELEVATION (Ft.): 20 Feet MSL | TIME CONVERSION: LST to GMT + 5 Hrs | MAG TO TRUE: 0 Deg | DAY: LST 20 | MONTH: AUG | YEAR: 1975 | STATION AND STATE OR COUNTRY: CAPE CANAVERAL AFS FLA

TYPE (1)	TIME (2)	SKY CONDITION (3)	PVLG VSBY (miles) (4)	WEATHER AND OBSTRUCTIONS TO VISION (5)	SEA LEVEL PRES (mb) (6)	TEMP (°F) (7)	DEW-POINT (°F) (8)	WIND TRUE DIRCTN (9)	WIND SPEED (knots) (10)	WIND CHARACTER (11)	ALSTG (inches) (12)	REMARKS AND SUPPLEMENTARY CODED DATA (All times GMT. DESIRED ORDER OF ENTRY: RVR or RVV, SFC based obscr phenomena, wind shifts, pilot and radar reports of tops and tops, remarks elaborating on preceding coded data, 3- and 6-hourly additive data, radiosonde data, runway conditions, weather modification.) (13)	STATION PRESSURE (inches) (17)	TOTAL SKY COVER (21)	OBS INIT (15)
R	0556	250-	10		183	71	68	00	00		007	51L 1021	30.045	6	NF
R	0658	140 250-	10		180	70	66	00	00		006		30.040	5	NF
R	0757	120 250	10		183	72	69	00	00		007		30.045	5	DS
R	0856	E120 250	10		183	70	68	00	00		007	302 1031 RAOBT 36144	30.050	4	DS
R	0957	120 E250	10		186	70	67	31	02		008		30.060	3	SS
R	1058	E120 250	10		186	70	68	34	02		008	RAOBT 45152	30.060	4	DS
R	1157	E140 250	10		186	74	70	33	02		008	1D3 1031	30.060	4	DS
R	1256	E110 220	10		196	80	72	05	02		011		30.090	10	TH
R	1356	110 E220	10		196	85	72	00	00		011		30.095	10	TH
R	1455	110 E220	10		203	83	70	06	03		013	CU SSW 217 1142	30.110	10	TH
R	1556	110 E220	10		213	83	71	07	05		016	TCU SW	30.140	10	TH
R	1655	28 95 E110 220	10		210	84	72	10	06		015	TCU SW	30.130	10	TH
R	1756	24 110 E220	10		200	84	74	09	05		012	CB S-WSW 803 1542	30.100	10	TH
R	1856	22 100 E200	10		196	86	74	07	07		011	CB WSW	30.085	10	TH
R	1940	22 E100 200	10		196	83	73	10	03		011	CB SW-WSW *	30.085	10	TH
R	1955	22 E100 200	10		196	82	74	09	05		011	CB SW-W	30.090	10	TH
S	2008	23 E100 200	10	T				08	07		009	T SW			NF
S	2030	23 E100 200	10		190	83	74	09	07		009	T DSIPTD *	30.070	10	NF
R	2058	23 E90 200	10		190	84	75	11	08		009	CB S AND W 710 1372	30.070	9	NF
S	2105	23 E90 200	10	T				12	08		009	T W			NF
S	2122	23 E90 200	10	T	190	82	73	13	07		009	T W DSIPTG (T-O TEST 3396) *	30.070	9	NF
R	2157	24 E100 200	10	T	190	82	74	13	09		009	TWNW MOVG N	30.070	9	NF
S	2246	21 E100 200	10					15	05		010	T DSIPTD			NF
R	2257	21 E100 200	10		193	81	73	16	05		010		30.080	9	NF
R	2358	E100 200	10		196	80	74	13	03		011	BINOVC E 307 1072	30.090	10	NF
RCCET		120 E200	10		196	77	72	17	03		011		30.090	7	GG
R	0157	120 E200	10		196	76	72	00	00		011		30.090	8	NF
R	0258	120 200	10		203	75	72	12	03		013	307 1032	30.110	5	NF
R	0357	25	10		213	75	72	12	02		016		30.140	2	NF
R	0456	25 220	10		213	77	72	16	04		016		30.140	5	DS

SYNOPTIC DATA

TIME GMT		FREQ	SNOW	SNOW DEPTH
2556				
0552				
1134				
1755				
2354				

STATION PRESSURE COMPUTATION

TIME (LST)	13			
ATT THERM	14			
CORR TO BAR	15			
TOTAL CORR	16			
STA PRESS	17			
BAROGRAPH	18			
BAR CORR	19			

SUMMARY OF THE DAY

PRECIP	SNOW FALL	SNOW DEPTH
0	0	0

PEAK WIND

SPEED (knots)	DRCTN	TIME GMT
11	38	1905

ACTIVE RWY AND FOLLOW CHANGE

TIME	RWY	TIME	RWY

REMARKS, NOTES AND MISCELLANEOUS PHENOMENA, ETC

* EOR ASM REQ.

APPENDIX C

RAWINSONDE DATA

RAWINSONDE RUN AN/GMD-4
CAPE CANAVERAL AFS, FLORIDA
0915Z 19 AUG 1975
ASCENT NBR 0502

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT	AB HUM G/M3	DENSITY G/M3	I/R N	VS KTS	SHEAR /SEC	SHEAR DEG
16	250	4	24.7	23.3	1017.30	92	20.78	1177.30	385	672	0	0
1000	242	14	25.8	23.2	983.41	86	20.67	1133.40	374	674	.017	238
2000	245	14	24.2	20.8	950.07	81	17.94	1102.13	351	672	.002	296
3000	252	11	22.1	19.7	917.64	87	16.88	1072.72	339	669	.006	40
4000	256	8	20.1	17.7	886.08	86	15.00	1043.46	322	667	.006	65
5000	247	6	18.3	16.1	855.41	87	13.60	1014.18	308	665	.004	96
6000	226	4	16.5	14.5	825.61	88	12.36	985.55	294	663	.004	100
7000	213	2	14.8	11.4	796.65	80	10.19	957.72	275	661	.003	61
8000	303	1	13.1	8.3	768.52	73	8.28	930.41	258	659	.004	14
9000	352	3	11.5	5.8	741.21	68	7.00	902.82	244	657	.004	4
10000	356	5	9.1	6.2	714.67	82	7.27	877.80	241	654	.004	2
11000	0	6	7.2	4.0	688.90	80	6.29	852.38	229	652	.002	19
12000	359	6	5.1	3.1	663.86	87	6.00	827.48	222	650	.001	333
13000	348	7	3.9	-2.0	639.59	65	4.14	801.65	205	648	.002	271
14000	342	7	2.3	-4.6	616.09	60	3.43	777.06	195	647	.001	249
15000	339	6	.7	-10.1	593.30	44	2.28	753.29	182	645	.001	237
16000	353	6	-1.1	-10.9	571.21	50	2.26	730.11	177	643	.003	82
17000	6	7	-2.6	-16.2	549.81	34	1.38	707.24	166	641	.002	74
18000	13	8	-4.5	-18.7	529.07	32	1.12	685.48	160	638	.003	44
19000	15	9	-6.3	-16.6	508.98	44	1.36	663.70	157	636	.002	32
20000	7	8	-8.1	-19.0	489.54	41	1.11	642.84	151	634	.003	229

MANDATORY LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT
513	243	9	25.3	23.3	1000	89
1999	245	14	24.2	20.8	950	81
3550	256	9	20.9	18.7	900	87
5171	243	5	18.0	15.9	850	88
6871	214	2	15.0	11.8	800	81
8658	347	2	12.0	6.5	750	69
10544	359	6	8.0	5.0	700	81
12542	352	7	4.5	-0.2	650	72
14671	340	7	1.2	-8.1	600	50
16953	5	7	-2.6	-16.2	550	34
19412	13	9	-7.1	-17.2	500	44

SIGNIFICANT LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	I/R N
16	250	4	24.7	23.3	1017.30	385
1125	241	15	26.0	23.2	979.19	372
6266	218	3	16.0	13.9	817.83	290
8973	351	3	11.6	5.7	741.95	244
11803	1	6	5.3	4.3	668.75	226
13382	345	7	3.4	-3.7	630.53	200
15138	339	6	.5	-11.0	590.21	180
15670	344	6	-0.8	-5.1	578.43	186
16206	359	6	-1.3	-14.5	566.75	172
18041	13	8	-4.6	-18.8	528.24	160
19165	15	9	-6.6	-16.2	505.74	156
20951	0	5	-8.3	-29.9	471.66	141

RAWINSONDE RUN AN/GMD-4
CAPE CANAVERAL AFS, FLORIDA
1130Z 19 AUG 1975
ASCENT NBR 0503

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT	AB HUM G/M3	DENSITY G/M3	I/R N	VS KTS	SHEAR /SEC	SHEAR DEG
16	220	2	23.8	22.2	1017.60	91	19.54	1182.22	379	671	0	0
1000	243	13	26.1	21.5	983.63	76	18.64	1134.01	362	674	.019	247
2000	243	13	24.8	17.9	950.27	65	14.88	1102.02	333	672	.001	80
3000	243	10	22.4	18.2	917.84	77	15.38	1072.57	330	670	.004	62
4000	242	7	20.4	17.1	886.31	81	14.43	1043.18	319	667	.005	64
5000	241	5	18.8	13.3	855.64	70	11.39	1013.96	294	666	.004	66
6000	252	3	17.1	10.7	825.84	66	9.60	985.52	278	664	.003	42
7000	298	2	15.1	8.2	796.87	63	8.21	958.09	263	661	.004	31
8000	330	2	12.9	6.0	768.71	63	7.10	932.06	251	659	.002	55
9000	343	1	10.8	5.4	741.33	69	6.84	905.40	244	656	.002	139
10000	4	1	8.7	4.9	714.73	77	6.67	879.40	237	654	.001	40
11000	359	4	7.6	1.4	688.95	65	5.24	851.63	222	653	.005	358
12000	358	7	5.9	-0.4	663.96	64	4.62	826.04	213	651	.005	355
13000	353	8	3.9	-0.7	639.70	72	4.53	801.54	207	648	.003	332
14000	350	8	2.1	-3.7	616.17	66	3.66	777.77	197	646	.001	265
15000	347	9	.4	-7.5	593.35	56	2.78	753.99	186	644	.001	271
16000	355	12	-1.0	-7.0	571.27	64	2.92	729.55	181	643	.006	14
17000	358	12	-2.7	-11.2	549.87	52	2.09	707.07	171	641	.001	65
18000	6	12	-4.7	-17.1	529.14	38	1.36	685.77	162	638	.003	113
19000	18	11	-6.5	-21.6	509.03	29	.89	664.58	154	636	.004	116
20000	26	10	-8.1	-24.2	489.58	26	.71	643.00	148	634	.003	131

MANDATORY LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT
521	241	8	25.0	22.0	1000	83
2005	243	13	24.8	17.9	950	66
3557	243	8	21.2	18.1	900	83
5178	241	5	18.6	12.6	850	68
6878	291	2	15.3	8.5	800	64
8664	338	1	11.4	5.5	750	67
10547	1	3	8.0	3.2	700	72
12546	359	8	4.5	.0	650	73
14674	346	8	.5	-6.2	600	61
16955	358	12	-2.7	-11.2	550	52
19414	22	11	-7.3	-22.6	500	28

SIGNIFICANT LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	I/R N
16	220	2	23.8	22.2	1017.60	379
946	243	13	26.1	21.8	985.47	364
1782	243	13	25.4	17.7	957.47	333
3744	243	8	20.8	18.1	894.31	325
7236	312	2	14.7	7.5	790.18	260
10184	6	1	8.3	4.8	709.94	236
11037	359	4	7.6	1.3	688.02	222
12767	359	8	4.0	.1	645.28	211
15479	347	9	.2	-9.5	582.69	180
15757	353	12	-0.6	-5.1	576.57	185
16408	357	12	-1.7	-10.1	562.48	175
17488	359	12	-3.6	-12.1	539.68	168
18320	10	11	-5.3	-20.2	522.65	158
21144	27	9	-9.5	-34.1	468.10	140
23068	38	9	-14.6	-29.6	433.66	133

RAWINSONDE RUN AN/GMD-1
CAPE CANAVERAL AFS, FLORIDA
2022Z 19 AUG 1975
ASCENT NBR 0504

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT	AB HUM G/M3	DENSITY G/M3	I/R N	VS KTS	SHEAR /SEC	SHEAR DEG
16	60	7	30.1	24.3	1016.50	71	21.75	1154.64	383	678	0	0
1000	60	12	26.4	21.1	982.89	73	18.08	1132.38	358	674	.009	60
2000	47	11	24.9	19.9	949.61	74	16.88	1099.71	344	673	.005	307
3000	35	10	22.3	18.1	917.23	77	15.26	1072.20	329	670	.005	277
4000	18	9	20.0	16.6	885.67	81	13.95	1044.25	316	667	.005	273
5000	3	8	17.5	14.5	854.94	83	12.30	1017.43	301	664	.004	271
6000	353	9	15.9	13.0	825.05	83	11.22	987.78	288	662	.003	279
7000	341	9	13.8	10.1	796.03	78	9.32	960.75	271	660	.003	266
8000	320	8	12.5	6.9	767.82	69	7.61	931.97	254	658	.005	219
9000	296	8	10.5	2.5	740.43	58	5.63	905.96	237	656	.006	222
10000	280	8	8.7	-2.5	713.81	46	4.01	879.74	221	654	.004	203
11000	292	5	7.2	-3.0	688.01	49	3.83	852.48	214	652	.005	79
12000	2	4	5.1	-1.8	662.99	61	4.16	827.60	211	650	.010	64
13000	9	5	3.1	-5.0	638.70	55	3.32	803.41	200	648	.001	67
14000	338	3	1.8	-4.3	615.16	64	3.50	777.28	195	646	.004	234
15000	313	2	.6	-14.7	592.37	31	1.57	752.93	178	645	.003	181
16000	355	0	-1.3	-9.8	570.30	52	2.32	729.31	177	642	.003	123
17000	70	1	-2.4	-13.8	548.93	41	1.70	705.31	168	641	.002	89
18000	45	2	-4.0	-17.2	528.26	35	1.27	683.09	160	639	.001	8
19000	27	2	-6.0	99.9	508.23	999	99.99	662.10	154	637	.001	340
20000	31	2	-7.4	99.9	488.84	999	99.99	640.72	143	635	.000	65

MANDATORY LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT
495	62	10	27.9	22.4	1000	72
1985	47	11	25.0	19.9	950	74
3538	25	9	21.1	17.4	900	80
5155	1	8	17.1	14.1	850	83
6849	343	9	14.1	10.6	800	79
8632	304	8	11.2	3.7	750	60
10511	277	8	7.9	-5.2	700	39
12505	10	5	4.0	-3.2	650	59
14630	321	2	1.1	-12.6	600	37
16911	72	1	-2.3	-13.5	550	42
19375	28	2	-6.4	99.9	500	999

SIGNIFICANT LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	I/R N
16	60	7	30.1	24.3	1016.50	383
790	63	12	26.5	21.2	990.00	361
1685	50	12	25.8	20.5	960.00	350
5363	358	8	16.6	13.6	844.00	295
6275	350	9	15.5	12.7	817.00	285
7850	324	8	12.7	7.7	772.00	257
10454	275	8	8.0	-5.6	702.00	213
12163	11	5	4.7	-1.9	659.00	210
14007	337	3	1.8	-4.3	615.00	195
14883	312	2	.8	-15.4	595.00	178
15876	334	0	-1.1	-9.3	573.00	179
17769	54	2	-3.5	-17.6	533.00	161
18639	25	2	-5.6	-16.3	515.00	158
19731	29	2	-6.7	99.9	494.00	144
20734	34	3	-9.2	99.9	475.00	140

RAWINSONDE RUN AN/GMD-4
CAPE CANAVERAL AFS, FLORIDA
0722Z 20 AUG 1975
ASCENT NBR 0505

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT	AB HUM G/M3	DENSITY G/M3	I/R N	VS KTS	SHEAR /SEC	SHEAR DEG
16	0	0	22.3	21.1	1017.30	93	18.32	1188.44	373	670	0	0
1000	198	9	24.4	22.9	983.17	91	20.35	1138.95	374	672	.015	198
2000	197	12	23.2	18.4	949.66	75	15.52	1107.07	339	671	.004	195
3000	197	10	21.5	16.3	917.11	72	13.65	1076.22	321	669	.003	18
4000	187	7	20.1	15.0	885.49	73	12.61	1044.48	308	667	.006	39
5000	167	6	17.9	13.3	854.78	74	11.38	1016.14	295	665	.004	59
6000	152	5	15.4	11.0	824.88	75	9.88	990.02	281	662	.002	49
7000	147	4	13.6	8.0	795.78	69	8.14	961.90	264	660	.002	353
8000	139	3	12.2	5.6	767.54	64	6.91	933.00	250	658	.002	347
9000	115	2	10.2	2.8	740.13	60	5.75	906.58	238	656	.002	16
10000	90	3	8.1	.8	713.50	60	4.98	880.74	227	653	.002	29
11000	76	3	6.0	.1	687.63	66	4.78	855.31	221	651	.001	17
12000	73	3	4.1	1.4	662.55	83	5.29	829.33	218	649	.000	32
13000	87	4	2.5	-5.3	638.20	58	3.41	804.55	201	647	.002	121
14000	91	5	.6	-11.9	614.58	39	1.96	780.94	187	645	.001	116
15000	95	6	-1.0	-12.0	591.69	45	2.00	756.29	181	643	.001	130
16000	99	5	-2.7	-8.9	569.53	62	2.52	732.01	179	641	.001	244
17000	95	4	-4.3	-13.1	548.07	50	1.81	709.21	170	639	.002	292
18000	72	3	-5.7	-16.7	527.31	42	1.35	686.14	162	637	.003	334
19000	27	4	-6.6	-21.1	507.23	31	.92	662.47	154	636	.005	335
20000	999	999	-7.5	-21.1	487.85	33	.93	639.28	149	635	.999	999

MANDATORY LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT
510	198	5	23.5	22.3	1000	93
1987	197	12	23.2	18.4	950	75
3532	194	8	20.5	15.1	900	71
5150	163	5	17.5	12.9	850	74
6841	148	4	13.8	8.5	800	78
8621	126	2	11.1	4.1	750	62
10499	80	3	7.2	.3	700	62
12487	85	4	3.5	-0.8	650	73
14603	94	6	-0.5	-14.1	600	35
16871	97	4	-4.2	-12.8	550	51
19323	14	5	-6.9	-21.2	500	31

SIGNIFICANT LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	N
16	0	0	22.3	21.1	1017.30	373
912	198	9	24.5	23.4	986.17	[illegible]
1634	197	12	23.7	19.1	961.82	[illegible]
4365	179	6	19.7	14.9	874.21	[illegible]
9438	102	3	9.1	1.3	728.39	231
11910	71	3	4.2	1.8	664.79	[illegible]
13535	90	5	1.4	-10.3	625.49	191
14644	94	6	-0.5	-14.1	599.77	181
15709	99	5	-2.2	-7.6	575.92	182
18725	38	4	-6.4	-21.0	512.68	155
20944	999	999	-9.8	-19.8	470.17	145

RAWINSONDE RUN AN/GMD-4
CAPE CANAVERAL AFS, FLORIDA
0922Z 20 AUG 1975
ASCENT NBR 0506

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT	AB HUM G/M3	DENSITY G/M3	I/R N	VS KTS	SHEAR /SEC	SHEAR DEG
16	0	0	21.2	19.9	1017.60	93	17.16	1193.96	368	668	0	0
1000	236	6	25.3	20.1	983.59	73	17.12	1137.69	354	673	.010	236
2000	225	8	24.3	17.7	950.18	66	14.74	1103.78	333	672	.004	198
3000	219	9	21.9	17.2	917.69	75	14.46	1074.98	325	669	.002	179
4000	213	7	20.1	16.0	886.07	77	13.45	1044.55	313	667	.003	63
5000	184	5	18.2	14.9	855.37	81	12.61	1015.24	302	665	.006	75
6000	149	6	16.5	12.4	825.53	77	10.81	986.50	285	663	.005	82
7000	131	6	14.6	10.3	796.55	76	9.47	958.57	271	661	.003	57
8000	115	6	12.6	7.7	768.37	72	8.06	931.81	257	659	.003	24
9000	103	5	11.1	3.7	741.01	60	6.08	904.51	239	657	.002	9
10000	97	5	9.3	3.3	714.45	67	5.95	877.61	232	655	.001	359
11000	92	5	7.1	3.8	688.67	80	6.20	852.21	229	652	.001	351
12000	64	5	5.1	.6	663.67	73	4.99	827.89	216	650	.004	352
13000	62	7	3.5	-3.0	639.39	64	3.92	802.87	204	648	.002	55
14000	70	6	2.1	-7.1	615.84	52	2.93	777.70	192	646	.002	198
15000	76	5	.3	-11.1	593.03	42	2.09	754.13	181	644	.001	199
16000	84	5	-1.5	-11.7	570.91	46	2.04	731.03	176	642	.001	190
17000	86	5	-3.5	-15.8	549.47	38	1.44	709.08	167	640	.000	217
18000	80	5	-5.2	-17.5	528.70	38	1.28	686.51	161	638	.001	344
19000	68	5	-6.5	-22.0	508.60	28	.85	663.86	153	636	.002	335
20000	50	5	-7.8	-21.1	489.17	34	.93	641.76	149	635	.003	328

MANDATORY LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT
520	245	5	25.3	21.6	1000	80
2002	225	8	24.3	17.7	950	66
3550	217	8	20.9	16.5	900	76
5169	177	5	17.9	14.4	850	80
6867	133	6	14.9	10.5	800	75
8652	106	5	11.6	4.6	750	62
10537	94	5	8.1	3.8	700	74
12534	62	6	4.5	-2.1	650	63
14660	73	6	.9	-11.8	600	38
16937	86	5	-3.5	-15.7	550	38
19392	61	5	-7.0	-21.5	500	31

SIGNIFICANT LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	I/R N
16	0	0	21.2	19.9	1017.60	368
248	252	5	25.3	22.4	1009.43	376
2098	225	8	24.2	17.5	946.96	331
2372	222	11	22.8	20.1	938.00	345
7616	120	6	13.2	9.7	779.11	265
9390	100	5	10.5	2.6	730.56	234
11472	91	5	6.1	3.8	676.80	226
11569	65	4	6.1	-0.6	674.36	215
11967	64	5	5.1	.9	664.49	217
12449	62	6	5.0	-3.0	652.67	206
12797	61	7	3.5	-0.3	644.26	210
13230	64	7	3.5	-5.9	633.91	197
13598	68	6	2.8	-3.8	625.24	198
14593	73	6	1.1	-12.1	602.24	182
15638	82	5	-0.8	-9.6	578.86	180
18824	71	5	-6.2	-22.2	512.09	154
20873	31	5	-10.1	-22.9	472.71	145

RAWINSONDE RUN AN/GMD-1
CAPE CANAVERAL AFS, FLORIDA
1222Z 20 AUG 1975
ASCENT NBR 0507

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT	AB HUM G/M3	DENSITY G/M3	I/R N	VS KTS	SHEAR /SEC	SHEAR DEG
16	0	0	23.0	20.4	1018.30	86	17.57	1187.36	369	670	0	0
1000	213	8	25.1	20.4	984.19	75	17.42	1139.03	356	673	.014	213
2000	221	10	24.1	20.3	950.76	79	17.32	1103.81	348	672	.003	264
3000	222	10	21.3	17.9	918.20	81	15.12	1077.34	330	668	.001	252
4000	223	9	19.4	16.2	886.53	82	13.68	1047.58	315	666	.001	38
5000	216	7	17.6	13.5	855.73	77	11.53	1018.20	296	664	.004	62
6000	200	5	15.9	11.5	825.80	75	10.19	989.28	282	662	.004	69
7000	195	4	14.0	9.5	796.74	74	9.01	961.11	269	660	.003	30
8000	225	1	12.1	6.2	768.49	67	7.23	934.05	252	658	.004	0
9000	344	1	10.1	1.8	741.05	57	5.35	908.36	235	656	.004	13
10000	23	2	8.1	1.2	714.38	62	5.12	881.81	228	653	.003	56
11000	47	4	6.3	4.5	688.51	88	6.54	854.38	231	651	.003	80
12000	54	5	4.8	.4	663.43	73	4.92	828.68	216	649	.002	72
13000	51	6	3.0	-0.7	639.13	76	4.54	803.41	208	647	.002	34
14000	43	7	1.4	-5.9	615.56	59	3.15	779.16	194	646	.002	353
15000	42	7	-0.1	-14.8	592.71	32	1.57	755.32	178	644	.000	319
16000	58	6	-2.0	-16.5	570.56	32	1.34	732.31	172	641	.003	163
17000	80	5	-3.9	-17.7	549.08	33	1.23	709.76	166	639	.004	183
18000	82	4	-5.6	-19.8	528.28	32	1.03	687.22	160	637	.001	247
19000	51	4	-7.2	-21.1	508.14	32	.93	665.10	154	635	.004	328
20000	21	5	-8.7	-24.3	488.67	27	.71	643.39	148	633	.004	330

MANDATORY LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT
539	211	6	24.5	20.4	1000	78
2020	221	10	24.0	20.2	950	79
3565	222	10	20.2	17.1	900	82
5180	213	7	17.3	13.0	850	76
6874	194	4	14.3	9.8	800	75
8654	318	1	10.8	3.3	750	60
10531	39	3	7.1	3.5	700	70
12524	53	6	4.1	-0.1	650	74
14646	42	7	.4	-11.8	600	41
16919	79	5	-3.9	-17.6	550	33
19369	36	4	-7.9	-21.9	500	31
22032	348	6	-13.3	-21.2	450	54

SIGNIFICANT LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	I/R N
16	0	0	23.0	20.4	1018.30	369
801	211	8	25.3	20.4	991.00	358
1993	221	10	24.1	20.3	951.00	348
2512	223	10	22.3	18.4	934.00	335
7307	197	3	13.3	8.8	788.00	265
9076	348	2	9.9	1.5	739.00	234
10015	23	2	8.1	1.2	714.00	228
10903	46	4	6.5	4.9	691.00	233
11735	55	5	5.1	.7	670.00	218
13342	49	6	2.2	-1.2	631.00	205
15076	42	7	-0.2	-15.5	591.00	177
21370	356	6	-11.5	-29.9	463.00	140

RAWINSONDE RUN AN/GMD-1
CAPE CANAVERAL AFS, FLORIDA
1622Z 20 AUG 1975
ASCENT NBR 0508

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT	AB HUM G/M3	DENSITY G/M3	I/R N	VS KTS	SHEAR /SEC	SHEAR DEG
16	90	4	28.4	-21.5	1020.70	66	18.45	1168.24	368	676	0	0
1000	159	2	23.4	-19.3	986.63	78	16.44	1149.14	353	671	.007	233
2000	215	3	22.0	-15.5	952.85	67	12.96	1116.82	326	669	.005	261
3000	209	4	20.3	-12.7	920.01	62	10.82	1085.79	307	667	.002	190
4000	189	5	18.1	-11.9	888.07	67	10.40	1056.01	298	665	.003	113
5000	173	4	16.4	-11.0	857.05	70	9.85	1025.06	288	663	.002	71
6000	174	5	14.4	9.4	826.92	72	8.92	996.61	276	661	.001	174
7000	182	5	12.4	8.4	797.63	77	8.35	968.20	267	658	.002	227
8000	191	5	10.4	7.5	769.20	82	7.91	940.31	258	656	.002	310
9000	198	3	7.7	6.1	741.56	89	7.26	915.37	249	653	.002	352
10000	169	2	5.3	1.9	714.65	78	5.45	890.71	233	650	.003	58
11000	116	4	3.4	1.5	688.50	88	5.35	864.17	226	648	.005	75
12000	97	5	2.0	1.1	663.16	93	5.20	836.44	219	646	.004	65
13000	86	6	.3	-1.1	638.62	90	4.47	810.95	209	644	.002	39
14000	75	6	-2.1	-3.7	614.81	89	3.72	788.07	200	641	.002	352
15000	59	5	-4.4	-6.1	591.68	88	3.14	765.13	191	639	.003	304
16000	35	4	-5.1	-13.5	569.28	52	1.76	738.82	176	638	.004	283
17000	22	4	-6.2	-16.7	547.65	43	1.34	713.92	168	636	.002	275
18000	27	4	-7.8	-17.9	526.74	44	1.22	690.75	162	635	.001	52
19000	45	6	-8.8	-19.3	506.53	42	1.09	666.89	156	633	.005	74
20000	52	9	-11.0	-18.7	486.98	53	1.15	646.46	152	631	.004	70

MANDATORY LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT
611	129	3	24.8	-20.5	1000	77
2082	215	3	21.9	-15.2	950	66
3618	195	5	18.5	-11.8	900	65
5223	171	4	16.0	-10.5	850	70
6906	181	5	12.5	8.5	800	76
8675	196	4	8.6	6.6	750	87
10536	133	3	4.2	1.7	700	84
12507	91	6	1.2	.1	650	92
14606	66	6	-3.7	-5.2	600	90
16852	22	4	-6.0	-16.6	550	43
19285	49	7	-9.4	-19.1	500	45

SIGNIFICANT LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	I/R N
16	90	4	28.4	-21.5	1020.70	368
786	144	3	23.7	-20.2	994.00	359
2755	215	4	20.9	13.0	928.00	309
9057	199	3	7.6	6.0	740.00	249
9949	172	2	5.4	1.9	716.00	233
11767	100	5	2.4	1.5	669.00	222
15295	52	5	-5.0	-6.8	585.00	188
16058	33	4	-5.1	-14.1	568.00	175
18676	39	5	-8.3	-19.4	513.00	157
21380	46	10	-13.8	-22.6	461.00	143

RAWINSONDE RUN AN/GMD-1
CAPE CANAVERAL AFS, FLORIDA
1816Z 20 AUG 1975
ASCENT NBR 0509

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT	AB HUM G/M3	DENSITY G/M3	I/R N	VS KTS	SHEAR /SEC	SHEAR DEG
16	80	7	29.1	23.0	1019.30	70	20.09	1162.80	376	677	0	0
1000	91	4	24.8	21.7	985.47	83	18.95	1140.86	366	672	.006	247
2000	148	1	23.6	19.2	951.93	76	16.25	1107.67	343	671	.006	255
3000	203	2	21.7	17.4	919.35	77	14.59	1077.60	327	669	.003	232
4000	207	2	19.9	14.5	887.67	71	12.26	1047.73	307	667	.000	319
5000	212	2	18.0	13.0	856.88	72	11.12	1018.62	294	665	.001	350
6000	203	2	16.3	11.3	826.95	72	10.06	989.20	281	663	.001	67
7000	183	0	14.6	9.9	797.89	73	9.16	960.29	270	661	.003	25
8000	72	1	12.6	7.3	769.66	70	7.81	933.76	256	658	.003	65
9000	102	5	10.4	4.8	742.21	68	6.57	908.02	243	656	.006	114
10000	110	7	8.4	4.4	715.55	76	6.44	881.38	236	654	.005	124
11000	110	7	6.2	2.0	689.67	74	5.49	856.61	225	651	.000	99
12000	101	7	4.6	-0.2	664.54	71	4.70	830.62	215	649	.002	358
13000	93	8	3.0	-2.2	640.16	69	4.09	805.23	205	647	.002	45
14000	89	9	1.7	-4.6	616.56	63	3.43	779.40	195	646	.002	58
15000	64	9	.1	-8.3	593.70	53	2.61	755.42	185	644	.001	345
16000	79	7	-2.2	-11.5	571.53	49	2.02	733.70	177	641	.003	284
17000	76	7	-4.7	-13.2	549.99	51	1.78	712.62	170	638	.001	303
18000	77	8	-6.2	-15.3	529.11	49	1.52	689.70	164	636	.002	78
19000	78	10	-8.4	-13.9	508.90	65	1.71	668.55	160	634	.003	85
20000	76	11	-10.0	-13.0	489.33	78	1.85	646.61	156	632	.001	51

MANDATORY LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT
573	85	5	26.4	22.4	1000	79
2055	157	1	23.5	19.0	950	76
3602	205	3	20.4	16.3	900	78
5218	210	2	17.6	12.6	850	73
6914	193	0	14.8	10.0	800	73
8697	96	4	11.0	5.1	750	67
10576	110	8	7.2	3.3	700	76
12567	96	8	3.6	-1.3	650	70
14690	85	9	.6	-7.1	600	56
16961	76	7	-4.7	-13.2	550	51
19404	77	10	-9.1	-13.3	500	72

SIGNIFICANT LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	I/R N
16	80	7	29.1	23.0	1019.30	376
867	90	4	24.9	22.1	990.00	369
2548	203	2	22.9	17.4	934.00	329
3387	204	3	20.6	17.4	907.00	325
4150	207	2	19.8	13.8	883.00	302
10213	111	8	8.0	4.4	710.00	235
14678	85	9	.7	-6.9	601.00	188
15615	81	8	-1.2	-11.1	580.00	179
17380	76	7	-5.5	-14.2	542.00	168
19965	76	11	-9.9	-12.8	490.00	157

RAWINSONDE RUN AN/GMD-1
CAPE CANAVERAL AFS, FLORIDA
2046Z 20 AUG 1975
ASCENT NBR 0510

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT	AB HUM G/M3	DENSITY G/M3	I/R N	VS KTS	SHEAR /SEC	SHEAR DEG
16	110	7	28.7	23.7	1018.30	75	21.08	1162.67	382	677	0	0
1000	89	8	25.5	22.3	984.54	83	19.64	1136.58	369	673	.005	26
2000	83	5	24.5	16.8	951.10	62	14.01	1104.62	329	672	.005	280
3000	87	2	21.8	15.7	918.57	69	13.13	1077.03	318	669	.005	260
4000	109	1	20.0	14.2	886.90	69	12.01	1046.87	305	667	.002	247
5000	169	3	17.7	11.8	856.12	68	10.30	1019.26	289	664	.004	188
6000	162	3	16.3	10.9	826.19	70	9.77	988.45	279	663	.001	141
7000	170	9	15.6	10.4	797.19	71	9.45	956.24	270	662	.010	175
8000	159	9	11.7	7.8	769.05	77	8.07	935.60	258	658	.003	66
9000	129	6	9.5	5.2	741.54	74	6.78	909.84	245	655	.008	23
10000	118	7	7.1	4.9	714.80	86	6.72	884.50	239	652	.002	57
11000	102	7	5.9	2.7	688.86	80	5.78	856.40	227	651	.003	23
12000	83	9	4.7	1.2	663.76	78	5.19	829.08	217	649	.006	41
13000	74	12	2.3	-0.5	639.40	82	4.64	805.85	209	647	.006	47
14000	69	15	.5	-1.7	615.76	85	4.26	781.33	201	644	.005	48
15000	72	15	-1.6	-4.2	592.84	83	3.57	758.42	192	642	.002	113
16000	80	13	-3.5	-3.6	570.60	99	3.76	734.89	188	640	.005	214
17000	90	11	-5.3	-5.5	549.05	98	3.28	712.14	180	638	.005	225
18000	103	9	-6.7	-8.5	528.20	87	2.61	689.07	171	636	.005	218
19000	114	10	-8.6	-9.6	508.00	92	2.42	667.39	165	634	.003	188
20000	112	11	-9.2	-13.1	488.48	73	1.83	643.68	156	633	.002	98

MANDATORY LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT
546	95	8	26.8	23.9	1000	84
2030	82	5	24.5	16.7	950	62
3577	80	1	20.6	15.8	900	74
5193	166	3	17.4	11.6	850	69
6889	170	8	15.5	10.3	800	71
8674	134	6	10.3	5.5	750	72
10546	110	7	6.2	4.1	700	86
12536	77	11	3.2	.1	650	80
14653	71	15	-0.9	-3.5	600	83
16917	89	11	-5.2	-5.4	550	99
19359	115	10	-8.8	-11.3	500	83
22028	77	11	-12.1	-19.4	450	54

SIGNIFICANT LEVELS

	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	I/R N
16	110	7	28.7	23.7	1018.30	382
722	91	8	26.2	24.0	994.00	381
2094	82	5	24.5	16.4	948.00	325
3520	77	1	20.7	16.1	902.00	317
6520	167	6	15.4	9.9	811.00	273
7253	171	11	15.6	10.6	790.00	269
8002	159	9	11.7	7.8	769.00	258
10298	115	7	6.4	5.0	707.00	238
11749	87	8	5.4	1.6	670.00	220
14949	72	16	-1.5	-4.3	594.00	192
15664	77	14	-2.6	-2.9	578.00	191
16442	84	12	-4.6	-4.6	561.00	184
18899	113	10	-8.5	-9.2	510.00	166
21199	91	11	-10.0	-17.8	466.00	145

RAWINSONDE RUN AN/GMD-1
CAPE CANAVERAL AFS, FLORIDA
2342Z 20 AUG 1975
ASCENT NBR 0511

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT	AB HUM G/M3	DENSITY G/M3	I/R N	VS KTS	SHEAR /SEC	SHEAR DEG
16	130	3	26.5	23.0	1019.00	81	20.30	1172.44	380	674	0	0
1000	144	7	25.7	21.1	985.10	76	18.21	1137.37	360	673	.007	153
2000	144	7	24.7	18.8	951.69	70	15.75	1103.58	339	672	.000	314
3000	142	6	22.2	18.4	919.19	79	15.56	1074.84	332	670	.001	336
4000	140	5	20.6	16.8	887.62	79	14.09	1044.12	317	668	.002	333
5000	127	4	17.3	15.4	856.82	88	13.03	1019.81	306	664	.002	4
6000	118	5	15.3	14.1	826.84	92	12.08	991.17	294	662	.002	73
7000	111	5	13.5	10.1	797.71	80	9.40	963.93	272	660	.001	70
8000	111	6	11.5	10.5	769.41	94	9.70	935.69	268	657	.001	109
9000	117	7	10.1	8.4	741.94	90	8.47	907.54	255	656	.002	141
10000	110	8	8.7	4.9	715.29	77	6.68	880.23	238	654	.002	72
11000	97	9	7.4	3.7	689.48	77	6.16	852.31	228	653	.004	44
12000	92	10	5.4	2.2	664.46	80	5.56	827.64	219	650	.002	56
13000	94	11	2.6	1.1	640.13	90	5.22	805.59	213	647	.001	122
14000	99	11	.6	.3	616.50	98	4.96	781.46	206	645	.002	165
15000	101	11	-0.9	-1.8	593.59	94	4.27	757.06	196	643	.001	193
16000	100	10	-2.8	-3.0	571.39	99	3.94	733.91	189	641	.002	287
17000	93	9	-5.2	-5.2	549.83	100	3.36	712.85	181	638	.003	324
18000	79	9	-7.1	-7.1	528.94	100	2.93	690.81	173	635	.004	344
19000	67	8	-8.7	-8.7	508.70	100	2.59	668.63	166	633	.003	324
20000	73	8	-10.4	-10.4	489.11	100	2.29	647.06	159	632	.001	140

MANDATORY LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	RH PCT
563	141	6	26.1	22.0	1000	79
2048	144	7	24.6	18.8	950	70
3598	141	5	21.2	17.4	900	79
5216	125	4	16.9	15.2	850	90
6908	112	5	13.6	10.5	800	82
8687	116	7	10.5	9.4	750	93
10568	102	9	8.2	4.3	700	77
12565	92	11	3.9	1.4	650	84
14685	100	11	-0.5	-1.1	600	96
16954	93	9	-5.2	-5.2	550	100
19395	65	8	-9.5	-9.5	500	100

SIGNIFICANT LEVELS

ALTITUDE FEET	DIR DEG	SPEED KTS	TEMP DEG C	DEW PT DEG C	PRESS MBS	I/R N
16	130	3	26.5	23.0	1019.00	380
1870	144	7	25.1	18.8	956.00	339
4052	140	5	20.5	16.7	886.00	316
4667	130	4	18.0	15.5	867.00	309
6438	115	5	14.5	13.0	814.00	287
7270	110	5	13.0	8.7	790.00	265
8051	111	6	11.4	10.7	768.00	268
11416	93	10	6.7	3.1	679.00	225
13257	95	11	1.8	1.0	634.00	211
16805	96	9	-4.8	-4.8	554.00	182
21497	100	10	-12.4	-12.4	461.00	150

APPENDIX D

WINDSONDE DATA

TEST NBR. 03396
WINDSONDE
CAPE CANAVERAL AFS, FLA.
1415Z 19 AUG 1975
ASCENT NBR. 0000

ALTITUDE FEET	DIR DEG	SPEED KTS	SHEAR /SEC	SHEAR DIR
16	320	7	0	0
1000	295	10	.009	259
2000	296	14	.006	300
3000	284	11	.007	152
4000	272	10	.004	174
5000	272	10	.001	82
6000	283	8	.004	58
7000	270	5	.006	119
8000	248	2	.005	109
9000	146	2	.006	103
10000	138	2	.000	52
11000	77	2	.004	25
12000	20	6	.009	358
13000	8	8	.004	337
14000	1	9	.003	331
15000	27	9	.007	115
16000	52	9	.006	121
17000	30	6	.007	268
18000	17	7	.003	324
19000	25	9	.003	62
20000	17	10	.004	342

TEST NBR. 03396
WINDSONDE
CAPE CANAVERAL AFS, FLA.
1512Z 20 AUG 1975
ASCENT NBR. 0000

ALTITUDE FEET	DIR DEG	SPEED KTS	SHEAR /SEC	SHEAR DIR
16	60	5	0	0
1000	60	4	.002	241
2000	252	5	.015	246
3000	259	11	.010	265
4000	247	9	.005	125
5000	203	8	.011	127
6000	176	5	.007	58
7000	171	8	.004	162
8000	176	8	.001	222
9000	174	6	.003	0
10000	142	5	.006	39
11000	118	6	.005	75
12000	91	6	.005	359
13000	61	5	.005	342
14000	78	8	.005	109
15000	76	10	.004	71
16000	71	7	.005	269
17000	106	4	.007	214
18000	54	4	.006	341
19000	10	6	.007	331
20000	18	8	.004	35

TEST NBR. 03396
WINDSONDE
CAPE CANAVERAL AFS, FLA.
1657Z 20 AUG 1975
ASCENT NBR. 0000

ALTITUDE FEET	DIR DEG	SPEED KTS	SHEAR /SEC	SHEAR DIR
16	80	6	0	0
1000	124	7	.008	184
2000	105	2	.009	309
3000	244	1	.004	271
4000	206	4	.005	195
5000	195	3	.002	55
6000	159	2	.003	55
7000	188	3	.003	213
8000	233	3	.004	315
9000	288	1	.004	26
10000	88	1	.004	98
11000	84	6	.008	83
12000	89	6	.001	151
13000	56	5	.006	322
14000	39	5	.003	334
15000	74	5	.005	157
16000	91	5	.002	162
17000	104	2	.005	263
18000	50	3	.004	4
19000	53	4	.002	60
20000	75	8	.008	92

TEST NBR. 03396 0-5MIN WINDSONDE
WINDSONDE
CAPE CANAVERAL AFS, FLA.
2117Z 20 AUG 1975
ASCENT NBR. 0000

ALTITUDE FEET	DIR DEG	SPEED KTS	SHEAR /SEC	SHEAR DIR
16	120	8	0	0
1000	142	12	.009	178
2000	143	10	.003	313
3000	187	5	.012	294
4000	197	3	.003	350
5000	112	1	.006	32
6000	193	1	.002	230
7000	131	4	.006	112
8000	110	6	.005	82
9000	101	6	.002	40
10000	132	8	.007	186
11000	127	8	.001	26
12000	104	6	.005	353
13000	77	12	.012	56
14000	67	15	.007	32
15000	67	16	.002	72
16000	78	14	.006	200
17000	108	11	.013	211
18000	123	8	.006	249
19000	116	10	.003	80
20000	132	9	.005	220

APPENDIX E

JIMSPHERE WIND PROFILES

TEST NBR 6300
JIMSPHERE WIND DATA
CAPE CANAVERAL AFS, FLA.
1922Z 19 AUG 1975

ALTITUDE FEET	DIR DEG	SPEED KTS	SHEAR /SEC	ASCENT FPS
16	320.0	7.00	0	99.9*
200	316.0	9.00	0	99.9*
400	306.0	10.00	0	99.9*
600	59.6	11.31	0	16.8
800	67.9	10.36	.0155	17.1
1000	36.3	8.64	.0465	17.4
1200	49.2	5.98	.0264	17.6
1400	34.5	6.16	.0135	18.0
1600	40.4	5.03	.0107	18.0
1800	355.3	3.85	.0300	16.7
2000	350.6	5.51	.0139	18.9
2200	300.6	3.97	.0354	18.1
2400	315.1	10.36	.0558	18.6
2600	315.7	7.16	.0269	17.3
2800	300.5	8.70	.0223	19.0
3000	315.9	8.35	.0195	17.7
3200	319.8	8.94	.0070	19.5
3400	301.0	9.71	.0261	18.4
3600	310.1	10.18	.0142	17.5
3800	315.5	9.47	.0096	19.2
4000	308.4	10.18	.0120	18.4
4200	325.6	11.01	.0279	19.1
4400	314.2	10.12	.0197	18.1
4600	324.3	11.37	.0193	17.5
4800	309.7	10.24	.0248	16.5
5000	319.3	9.12	.0168	17.2
5200	322.0	10.72	.0137	16.8
5400	314.3	10.30	.0123	16.7
5600	319.7	8.41	.0173	16.7
5800	326.5	9.06	.0108	16.8
6000	308.1	9.24	.0252	17.0
6200	325.1	7.87	.0244	17.3
6400	305.1	8.53	.0245	17.3
6600	321.9	8.17	.0209	18.1
6800	312.0	9.59	.0175	17.9
7000	325.9	8.41	.0206	17.7
7200	310.1	8.59	.0196	17.5
7400	316.3	9.12	.0087	17.8
7600	305.8	9.71	.0150	17.7
7800	324.2	7.40	.0301	17.1
8000	318.9	8.23	.0096	15.7
8200	320.7	5.74	.0212	16.7
8400	331.6	7.70	.0195	17.6
8600	315.4	5.80	.0223	17.7
8800	328.7	7.11	.0164	18.8
9000	307.0	5.86	.0227	17.7
9200	321.6	6.51	.0141	18.3
9400	312.4	6.63	.0090	17.6
9600	320.4	7.76	.0125	17.6
9800	317.3	6.34	.0127	18.3
10000	321.8	9.41	.0269	18.4
10200	322.6	7.11	.0195	18.8
10400	318.0	9.06	.0173	17.9
10600	331.6	7.52	.0205	17.3
10800	323.1	9.24	.0177	16.7
11000	315.9	8.05	.0135	17.4
11200	321.5	8.17	.0067	15.4
11400	323.4	8.53	.0035	17.3
11600	339.8	6.22	.0264	16.9
11800	348.2	9.06	.0261	17.9
12000	342.0	7.93	.0125	17.7
12200	3.9	7.76	.0250	17.4
12400	358.3	7.05	.0085	17.7
12600	36.2	7.82	.0415	17.5
12800	40.0	8.64	.0085	16.8
13000	39.2	8.17	.0043	15.7
13200	32.1	6.99	.0125	15.9
13400	38.3	7.11	.0063	16.1
13600	41.6	8.23	.0107	15.8
13800	30.2	6.51	.0195	15.6
14000	11.9	4.91	.0202	15.9
14200	358.1	5.03	.0102	15.0
14400	347.0	7.58	.0234	15.6
14600	333.4	4.91	.0253	16.6
14800	309.3	6.75	.0260	16.8
15000	296.3	2.19	.0400	17.5
15200	281.3	2.07	.0045	16.8
15400	294.3	2.43	.0052	16.9
15600	233.3	2.01	.0192	17.1
15800	324.7	1.00	.0186	16.2
16000	270.0	1.00	.0069	16.6
16200	298.3	3.79	.0258	16.9
16400	330.7	5.33	.0253	16.7
16600	310.0	3.67	.0196	17.6
16800	355.6	3.61	.0239	17.0
17000	312.6	1.00	.0270	17.8
17200	358.2	4.26	.0326	17.4
17400	357.3	1.07	.0270	17.5
17600	254.1	1.00	.0125	17.5
17800	144.1	1.89	.0194	16.6
18000	130.9	3.73	.0163	17.0
18200	110.5	4.74	.0150	16.1
18400	97.6	4.91	.0094	16.0
18600	93.6	4.50	.0046	15.2
18800	87.0	4.68	.0047	15.8
19000	74.1	3.14	.0150	15.7
19200	33.4	1.12	.0205	15.8
19400	37.9	1.36	.0022	16.4
19600	346.2	1.95	.0133	15.8
19800	69.6	2.13	.0230	15.4
20000	104.2	3.43	.0177	15.4

TEST NBR 6400
JIMSPHERE WIND DATA
CAPE CANAVERAL AFS, FLA.
1522Z 20 AUG 1975

ALTITUDE FEET	DIR DEG	SPEED KTS	SHEAR /SEC	ASCENT FPS
16	60.0	5.00	0	99.9*
200	61.0	6.00	0	99.9*
400	61.0	6.00	0	99.9*
600	62.0	6.00	0	99.9*
800	39.5	4.38	0	15.3
1000	357.8	2.84	.0249	15.6
1200	309.4	1.18	.0188	16.7
1400	277.9	3.85	.0241	14.6
1600	257.5	5.27	.0181	15.6
1800	247.4	6.22	.0114	15.6
2000	269.4	7.05	.0226	15.9
2200	265.0	9.41	.0206	16.8
2400	277.3	8.88	.0172	17.1
2600	268.8	6.22	.0239	17.2
2800	257.4	8.76	.0250	16.9
3000	269.7	7.99	.0163	17.8
3200	262.0	7.16	.0110	17.7
3400	259.5	10.60	.0291	18.7
3600	251.0	7.76	.0265	17.1
3800	239.3	6.45	.0163	18.1
4000	212.4	8.05	.0313	18.5
4200	217.7	8.64	.0080	17.5
4400	215.9	6.93	.0148	17.9
4600	199.6	6.99	.0166	17.7
4800	197.9	8.53	.0132	17.1
5000	208.8	6.99	.0177	17.7
5200	185.3	6.75	.0235	17.4
5400	190.8	6.69	.0052	16.7
5600	211.1	4.03	.0274	17.9
5800	154.2	2.84	.0290	17.8
6000	178.2	4.86	.0215	17.7
6200	173.7	4.32	.0056	17.1
6400	162.3	6.63	.0218	17.7
6600	180.3	7.52	.0202	17.4
6800	175.7	6.22	.0119	17.3
7000	170.3	8.88	.0231	16.8
7200	186.2	7.87	.0211	17.1
7400	172.6	7.11	.0159	17.2
7600	184.8	8.23	.0165	16.6
7800	188.1	5.57	.0225	17.8
8000	182.7	7.05	.0135	16.5
8200	198.3	5.80	.0180	16.9
8400	177.3	5.57	.0175	16.3
8600	208.2	4.80	.0239	17.8
8800	170.2	3.08	.0255	16.9
9000	191.9	3.61	.0119	16.5
9200	156.8	2.19	.0191	16.9
9400	163.8	4.80	.0224	16.8
9600	147.1	2.25	.0230	16.6
9800	143.0	4.32	.0174	16.8
10000	165.7	2.84	.0169	16.5
10200	112.3	3.37	.0240	17.1
10400	127.2	3.61	.0070	17.7
10600	96.9	5.03	.0225	17.8
10800	120.5	6.10	.0211	16.9
11000	108.7	4.74	.0143	17.5
11200	115.3	7.22	.0214	16.4
11400	111.6	5.80	.0124	16.4
11600	88.9	7.11	.0239	16.9
11800	99.1	6.28	.0121	16.2
12000	86.3	6.75	.0128	17.8
12200	97.2	6.63	.0106	15.7
12400	82.9	7.11	.0150	16.5
12600	96.8	7.46	.0153	16.1
12800	74.2	6.93	.0243	17.5
13000	83.1	8.29	.0150	16.1
13200	71.2	6.51	.0197	16.8
13400	77.5	8.88	.0211	16.3
13600	72.5	7.40	.0138	16.7
13800	71.1	11.25	.0328	16.5
14000	79.9	9.12	.0224	15.5
14200	77.4	10.89	.0150	16.5
14400	76.4	8.94	.0167	16.2
14600	92.2	9.59	.0220	16.0
14800	83.9	9.35	.0118	15.4
15000	91.8	8.05	.0148	16.5
15200	89.3	9.35	.0114	15.3
15400	88.4	9.06	.0027	15.9
15600	93.0	11.49	.0217	15.0
15800	87.6	9.24	.0208	16.3
16000	84.2	10.30	.0099	16.5
16200	75.2	7.16	.0289	17.0
16400	58.9	7.58	.0180	17.8
16600	88.5	2.43	.0470	17.5
16800	33.1	2.07	.0178	17.1
17000	96.8	2.55	.0205	17.4
17200	19.1	1.66	.0226	18.3
17400	15.0	2.31	.0060	16.2
17600	326.6	2.96	.0191	16.5
17800	9.8	3.20	.0193	17.7
18000	333.7	4.14	.0206	15.7
18200	329.5	3.26	.0076	14.6
18400	330.2	5.57	.0195	14.9
18600	341.2	5.62	.0089	15.4
18800	349.4	6.99	.0138	14.8
19000	2.8	7.58	.0152	14.0
19200	10.0	7.70	.0085	13.6
19400	3.2	8.35	.0096	13.5
19600	2.8	8.53	.0016	14.1
19800	14.7	7.64	.0158	14.2

TEST NBR 3396
JIMSPHERE WIND DATA
CAPE CANAVERAL AFS. FLA.
1709Z 20 AUG 1975

ALTITUDE FEET	DIR DEG	SPEED KTS	SHEAR /SEC	ASCENT FPS
16	80.0	6.00	0	99.9*
200	106.0	6.00	0	99.9*
400	110.0	7.00	0	99.9*
600	116.0	8.00	0	99.9*
800	121.0	7.00	0	99.9*
1000	124.0	7.00	0	99.9*
1200	125.0	6.00	0	99.9*
1400	123.0	5.00	0	99.9*
1600	116.0	3.00	0	99.9*
1800	112.0	2.00	0	99.9*
2000	291.0	1.42	0	17.7
2200	243.7	1.30	.0096	17.6
2400	271.3	1.00	.0086	17.9
2600	166.2	1.00	.0040	17.6
2800	244.5	1.36	.0114	17.3
3000	190.3	1.36	.0107	17.8
3200	241.2	1.89	.0125	17.5
3400	192.3	3.61	.0232	16.7
3600	203.1	2.78	.0089	17.4
3800	168.7	4.91	.0255	16.5
4000	190.0	5.27	.0159	16.6
4200	178.3	2.37	.0253	16.7
4400	162.8	4.68	.0207	16.9
4600	168.7	4.91	.0046	17.0
4800	147.7	4.26	.0149	17.4
5000	181.1	3.02	.0201	17.1
5200	29.8	1.01	.0333	18.0
5400	346.4	1.00	.0064	17.9
5600	31.5	1.95	.0142	18.1
5800	138.8	2.31	.0289	17.6
6000	216.2	1.36	.0203	16.9
6200	176.2	2.72	.0161	17.8
6400	204.0	3.97	.0168	17.1
6600	212.5	2.96	.0095	18.3
6800	196.6	3.14	.0072	17.2
7000	245.8	2.01	.0197	16.9
7200	195.8	1.00	.0141	17.6
7400	239.7	2.49	.0172	17.3
7600	283.0	1.95	.0141	17.4
7800	222.1	2.25	.0178	16.1
8000	250.6	2.07	.0087	16.8
8200	260.4	1.07	.0092	16.9
8400	248.1	2.96	.0163	16.4
8600	285.6	3.20	.0163	17.8
8800	258.7	2.90	.0122	17.9
9000	255.5	3.02	.0018	16.3
9200	310.4	1.60	.0212	16.5
9400	214.7	1.00	.0131	16.4
9600	227.6	1.01	.0081	16.7
9800	302.4	1.00	.0100	16.8
10000	102.2	2.07	.0242	16.4
10200	97.9	2.49	.0040	16.8
10400	87.8	2.49	.0040	16.8
10600	81.3	4.91	.0207	16.8
10800	92.7	6.87	.0195	18.0
11000	93.5	5.39	.0125	17.2
11200	91.1	6.81	.0122	18.0
11400	110.0	6.75	.0189	16.1
11600	88.8	5.98	.0207	17.6
11800	93.9	6.81	.0086	16.0
12000	101.1	7.05	.0076	16.6
12200	103.3	5.68	.0120	16.6
12400	69.7	4.97	.0264	16.5
12600	57.0	5.27	.0098	15.8
12800	51.5	5.57	.0055	15.4
13000	51.3	7.76	.0181	14.9
13200	57.8	7.64	.0074	14.9
13400	61.3	8.47	.0085	14.8
13600	75.9	9.18	.0196	14.9
13800	69.3	8.59	.0099	15.2
14000	81.3	7.22	.0179	15.6
14200	89.7	6.34	.0110	15.7
14400	96.0	6.99	.0085	15.8
14600	89.8	7.34	.0067	16.4
14800	84.7	8.35	.0107	16.4
15000	88.6	7.58	.0082	15.8
15200	85.0	6.51	.0097	16.6
15400	97.9	8.17	.0198	15.9
15600	86.7	7.64	.0136	14.6
15800	74.0	7.28	.0146	16.1
16000	80.7	7.58	.0079	16.4
16200	107.9	4.20	.0365	17.3
16400	130.6	2.66	.0174	15.9
16600	110.5	3.49	.0112	17.8
16800	138.4	3.61	.0146	17.0
17000	122.1	3.08	.0097	17.4
17200	105.9	3.26	.0075	16.2
17400	83.1	2.55	.0112	14.9
17600	82.9	4.14	.0132	15.7
17800	80.0	3.43	.0060	15.1
18000	65.2	6.28	.0262	15.6
18200	58.8	5.51	.0081	15.1
18400	56.5	4.97	.0050	15.3
18600	77.4	6.28	.0208	15.6
18800	87.2	7.11	.0117	15.7
19000	87.0	7.58	.0040	16.2
19200	83.5	7.58	.0040	16.9
19400	91.7	9.41	.0184	14.7
19600	79.5	9.24	.0167	16.8
19800	80.7	10.07	.0070	17.3
20000	80.1	8.70	.0116	16.7

TEST NBR 3396
JIMSPHERE WIND DATA
CAPE CANAVERAL AFS, FLA.
21372 20 AUG 1975

ALTITUDE FEET	DIR DEG	SPEED KTS	SHEAR /SEC	ASCENT FPS
16	120.0	8.00	0	99.9*
200	119.0	7.00	0	99.9*
400	133.0	8.00	0	99.9*
600	143.9	13.32	0	17.4
800	146.8	11.01	.0202	18.2
1000	140.9	12.85	.0188	18.6
1200	139.6	13.09	.0030	18.5
1400	147.3	10.60	.0245	17.7
1600	145.0	12.43	.0156	17.7
1800	144.7	13.09	.0060	18.1
2000	138.0	10.01	.0290	18.1
2200	146.1	11.49	.0181	17.8
2400	144.2	8.11	.0289	18.1
2600	150.5	9.53	.0145	17.1
2800	151.1	7.82	.0142	17.7
3000	165.3	6.16	.0204	16.4
3200	171.5	6.81	.0075	17.0
3400	197.8	4.68	.0280	17.4
3600	179.5	5.80	.0170	16.4
3800	162.1	4.50	.0170	17.0
4000	160.7	4.80	.0028	17.0
4200	182.0	4.09	.0149	16.7
4400	159.2	5.51	.0197	16.3
4600	137.0	6.51	.0213	16.3
4800	135.8	5.74	.0061	16.6
5000	118.3	5.39	.0148	16.3
5200	106.3	6.22	.0126	16.2
5400	86.4	6.45	.0184	16.7
5600	83.4	4.62	.0160	15.8
5800	112.5	4.74	.0201	17.1
6000	92.8	3.37	.0166	18.1
6200	78.4	1.00	.0226	17.6
6400	111.1	3.08	.0213	16.7
6600	66.1	2.13	.0186	16.9
6800	112.7	2.49	.0158	16.4
7000	92.8	4.62	.0199	17.4
7200	100.3	2.66	.0161	18.0
7400	104.8	5.51	.0239	17.8
7600	92.5	5.62	.0102	17.5
7800	99.3	6.75	.0118	16.3
8000	78.7	5.27	.0219	17.5
8200	102.2	6.39	.0224	17.5
8400	93.8	6.87	.0090	18.1
8600	105.5	6.34	.0123	17.6
8800	93.6	7.46	.0156	17.9
9000	88.8	6.16	.0121	17.2
9200	100.8	6.39	.0110	17.8
9400	86.2	6.57	.0137	16.7
9600	96.1	4.68	.0177	16.7
9800	115.2	6.16	.0195	18.2
10000	114.5	6.45	.0025	16.6
10200	117.5	7.46	.0092	16.0
10400	133.3	8.29	.0196	16.0
10600	130.3	7.82	.0050	16.0
10800	127.5	7.40	.0051	15.7
11000	127.6	9.18	.0150	16.9
11200	128.1	10.30	.0096	16.5
11400	131.8	9.18	.0107	15.9
11600	130.1	9.53	.0035	16.5
11800	106.6	8.64	.0317	17.3
12000	109.9	7.28	.0120	18.5
12200	97.7	9.18	.0213	19.1
12400	77.0	6.99	.0306	17.0
12600	78.8	9.24	.0191	19.1
12800	68.2	7.87	.0178	18.3
13000	81.9	7.93	.0158	17.3
13200	79.6	9.06	.0101	17.4
13400	93.3	9.53	.0192	18.4
13600	91.0	8.82	.0067	18.3
13800	87.6	13.26	.0380	17.1
14000	80.5	11.49	.0201	18.4
14200	81.1	18.00	.0550	18.3
14400	71.3	18.59	.0270	19.4
14600	66.8	19.48	.0142	19.6
14800	73.8	18.30	.0217	18.3
15000	74.0	17.41	.0079	19.5
15200	79.0	15.75	.0183	16.4
15400	78.7	14.57	.0101	14.7
15600	81.3	12.55	.0174	14.2
15800	93.3	9.06	.0355	13.3
16000	107.5	9.18	.0191	16.4
16200	115.3	10.78	.0174	16.0
16400	133.7	12.02	.0326	15.2
16600	129.4	14.57	.0229	16.1
16800	130.1	16.05	.0120	15.4
17000	128.7	16.22	.0036	15.7
17200	126.8	14.92	.0123	16.0
17400	123.0	14.80	.0087	15.4
17600	121.1	14.80	.0040	14.8
17800	114.1	13.62	.0177	15.9
18000	115.5	10.60	.0255	15.8
18200	126.4	8.59	.0225	15.4
18400	124.1	8.64	.0028	14.9
18600	126.7	7.52	.0100	16.9
18800	141.9	10.01	.0285	17.3
19000	142.8	12.02	.0166	16.6
19200	144.7	10.48	.0131	16.4
19400	137.3	9.47	.0138	17.1
19600	133.6	11.96	.0226	17.7
19800	148.1	12.49	.0265	18.1
20000	139.6	13.50	.0187	17.4

APPENDIX F

TOWER DATA

Symbols and Units Used on Tower Data
Computer Printout

Symbol	Definition	Units
DIR	Wind Direction	Degrees measured clockwise from north (0°)
DIR DEV	Standard Deviation of Wind Azimuth Angle for Specified Data Sampling interval	Degrees
DP	Dew Point	Deg. Farenheit (°F)
GST	Highest wind speed during specified data sampling interval	Knots
INT	Data Sampling Interval	Minutes
Lapse Rate	Temperature Difference between the 54' and 6' levels	°F
RH	Relative Humidity	Percent
SPD	Wind Speed	Knots
TT	Temperature	°F
5 PPM	Downwind distance at which the ground level pollutant concentration is 5 parts per million (5 PPM) for an assumed ground level emission rate of 1,000 pounds per minute.	Miles
10 PPM	Downwind distance at which the ground level pollutant concentration is 10 parts per million (10 PPM) for an assumed ground level emission rate of 1,000 pounds per minute.	Miles
99,99.9 999 999.9	Missing data	

TEST NBR 00000
WIND SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TWR NBR	12 FT DIR	12 FT SPD	GST	54 FT DIR (295)	54 FT SPD	GST	162 FT DIR (394)	162 FT SPD	GST	204 FT DIR (492)	204 FT SPD	GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	54 FT RH
75	8	20	1230	30	106	21	1	99	999	99	3	999	99	99	999	99	99	7_2	999	999	2.4	16.8	7.4	56.4	74	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1300	30	106	53	2	99	34	3	4	999	99	99	999	99	99	7_6	999	999	.7	14.5	6.4	28.0	77	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1330	30	106	341	2	99	333	3	5	999	99	99	999	99	99	7_8	999	999	.1	12.8	5.6	27.9	78	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1400	30	106	308	3	99	302	3	6	999	99	99	999	99	99	79	999	999	0	11.8	5.2	34.8	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1430	30	106	321	2	99	313	3	6	999	99	99	999	99	99	79	999	999	.1	13.5	5.9	22.9	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1500	30	106	29	3	99	14	4	7	999	99	99	999	99	99	7_8	999	999	.6	13.5	6.0	34.1	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1530	30	106	63	5	99	46	7	9	999	99	99	999	99	99	7_8	999	999	0	19.5	8.6	5.0	78	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1600	30	106	90	5	99	76	6	11	999	99	99	999	99	99	79	999	999	*0.2	16.1	7.1	9.0	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1630	30	106	98	5	99	85	7	10	999	99	99	999	99	99	8_1	999	999	*0.8	12.7	5.6	13.2	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1700	30	106	100	5	99	88	7	11	999	99	99	999	99	99	8_0	999	999	*0.4	14.6	6.5	10.8	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1730	30	106	104	6	99	90	8	12	999	99	99	999	99	99	79	999	999	0	23.6	10.4	2.4	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1800	30	106	102	6	99	88	8	12	999	99	99	999	99	99	8_1	999	999	*0.8	12.6	5.6	13.4	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1830	30	106	89	5	99	80	7	11	999	99	99	999	99	99	8_2	999	999	*1.0	12.2	5.4	12.5	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1900	30	106	80	5	99	68	7	12	999	99	99	999	99	99	8_2	999	999	*0.9	12.4	5.5	13.0	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1931	30	106	96	5	99	79	7	9	999	99	99	999	99	99	8_1	999	999	*0.7	13.0	5.7	12.9	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2000	30	106	87	5	99	73	7	9	999	99	99	999	99	99	79	999	999	.3	16.6	7.3	12.0	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2030	30	106	98	5	99	83	7	10	999	99	99	999	99	99	79	999	999	.5	18.8	8.3	8.8	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2100	30	106	126	6	99	109	9	14	999	99	99	999	99	99	8_0	999	999	.1	16.7	7.4	9.9	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2130	30	106	135	5	99	120	9	13	999	99	99	999	99	99	79	999	999	.9	21.4	9.4	7.4	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2200	30	106	148	5	99	129	8	14	999	99	99	999	99	99	7_8	999	999	1.4	22.4	9.9	9.0	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2230	30	106	151	4	99	133	7	12	999	99	99	999	99	99	7_7	999	999	1.8	26.2	11.6	6.6	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2300	30	106	167	3	99	148	5	7	999	99	99	999	99	99	7_7	999	999	1.9	28.0	12.3	5.5	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2330	30	106	147	2	99	132	4	6	999	99	99	999	99	99	7_6	999	999	2.2	23.3	10.3	13.9	78	99
									999	99	99	999	99	99	999	99	99									
75	8	21	30	30	106	270	1	99	129	2	4	999	99	99	999	99	99	7_5	999	999	3.0	18.7	8.2	96.4	78	99
									999	99	99	999	99	99	999	99	99									
75	8	21	100	30	106	150	2	99	126	4	6	999	99	99	999	99	99	7_3	999	999	4.2	29.7	13.1	20.0	77	99
									999	99	99	999	99	99	999	99	99									
75	8	21	130	30	106	141	2	99	134	6	7	999	99	99	999	99	99	7_2	999	999	4.0	27.0	11.9	25.4	76	99
									999	99	99	999	99	99	999	99	99									
75	8	21	200	30	106	122	1	99	116	4	5	999	99	99	999	99	99	7_2	999	999	4.4	22.3	9.8	68.6	76	99
									999	99	99	999	99	99	999	99	99									
75	8	21	230	30	106	139	1	99	121	5	6	999	99	99	999	99	99	7_1	999	999	5.9	31.5	13.9	41.9	77	99
									999	99	99	999	99	99	999	99	99									
75	8	21	300	30	106	166	2	99	138	6	7	999	99	99	999	99	99	7_1	999	999	5.8	37.4	16.5	20.3	77	99
									999	99	99	999	99	99	999	99	99									

TEST NBR 00000
WIND SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TWR NBR	12 FT DIR	12 FT SPD	12 FT GST	54 FT (295) DIR	54 FT (295) SPD	54 FT (295) GST	162 FT (394) DIR	162 FT (394) SPD	162 FT (394) GST	284 FT (492) DIR	284 FT (492) SPD	284 FT (492) GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	54 FT RH
75	8	20	1200	30	108	281	1	99	287	1	3	999	99	99	999	99	99	77	999	999	0	11.0	4.9	46.2	77	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1300	30	108	337	1	99	350	2	4	999	99	99	999	99	99	80	999	999	*1.0	9.2	4.1	37.3	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1330	30	108	299	2	99	309	3	5	999	99	99	999	99	99	81	999	999	*1.4	9.4	4.1	23.3	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1400	30	108	278	2	99	286	3	5	999	99	99	999	99	99	82	999	999	*1.6	10.0	4.4	15.1	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1430	30	108	296	1	99	310	2	4	999	99	99	999	99	99	82	999	999	*1.4	8.3	3.6	38.6	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1500	30	108	43	3	99	32	4	8	999	99	99	999	99	99	82	999	999	*1.5	7.8	3.4	43.4	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1530	30	108	999	9	99	900	9	9	999	99	99	999	99	99	300	999	999	2.3	0	0	.7	302	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1600	30	108	79	4	99	73	6	13	999	99	99	999	99	99	84	999	999	*2.4	8.3	3.7	12.9	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1630	30	108	90	4	99	81	6	10	999	99	99	999	99	99	84	999	999	*2.3	9.2	4.1	9.8	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1700	30	108	92	5	99	83	7	10	999	99	99	999	99	99	84	999	999	*2.2	11.1	4.9	5.3	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1730	30	108	94	5	99	86	8	12	999	99	99	999	99	99	84	999	999	*2.4	10.7	4.7	4.9	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1800	30	108	90	5	99	81	7	11	999	99	99	999	99	99	86	999	999	*3.4	7.7	3.4	5.3	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1830	30	108	82	5	99	73	7	11	999	99	99	999	99	99	86	999	999	*3.2	7.3	3.2	8.5	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1900	30	108	76	4	99	70	6	9	999	99	99	999	99	99	85	999	999	*2.9	7.5	3.3	10.9	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1931	30	108	83	5	99	74	7	8	999	99	99	999	99	99	85	999	999	*2.8	10.4	4.6	3.5	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2000	30	108	77	4	99	68	6	9	999	99	99	999	99	99	84	999	999	*1.8	11.6	5.1	7.0	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2030	30	108	89	5	99	82	7	10	999	99	99	999	99	99	83	999	999	*1.7	12.5	5.5	5.7	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2100	30	108	114	5	99	104	9	13	999	99	99	999	99	99	85	999	999	*2.5	10.8	4.8	4.2	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2130	30	108	120	5	99	113	9	12	999	99	99	999	99	99	83	999	999	*1.2	16.3	7.2	3.4	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2200	30	108	128	5	99	119	8	12	999	99	99	999	99	99	82	999	999	*0.5	18.1	8.0	4.3	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2230	30	108	136	4	99	127	6	10	999	99	99	999	99	99	81	999	999	*0.1	21.1	9.3	3.4	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2300	30	108	151	3	99	141	5	8	999	99	99	999	99	99	81	999	999	*0.1	18.0	7.9	4.3	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2330	30	108	121	2	99	119	3	5	999	99	99	999	99	99	80	999	999	0	14.4	6.3	14.3	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	30	30	108	999	99	99	99	2	2	999	99	99	999	99	99	79	999	999	1.1	14.1	6.2	48.9	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	100	30	108	133	2	99	124	5	7	999	99	99	999	99	99	78	999	999	2.1	23.7	10.4	12.1	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	130	30	108	121	2	99	126	4	7	999	99	99	999	99	99	77	999	999	1.4	18.6	8.2	18.4	78	99
									999	99	99	999	99	99	999	99	99									
75	8	21	200	30	108	109	1	99	102	3	4	999	99	99	999	99	99	76	999	999	3.1	23.3	10.3	25.4	79	99
									999	99	99	999	99	99	999	99	99									
75	8	21	230	30	108	128	2	99	118	4	6	999	99	99	999	99	99	76	999	999	3.4	27.7	12.2	15.8	79	99
									999	99	99	999	99	99	999	99	99									
75	8	21	300	30	108	146	2	99	138	6	7	999	99	99	999	99	99	76	999	999	3.5	34.5	15.2	7.2	80	99

TEST NBR 00000
WIND SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TWR NBR	12 FT DIR	12 FT SPD	12 FT GST	54 FT DIR (295)	54 FT SPD	54 FT GST	162 FT DIR (394)	162 FT SPD	162 FT GST	204 FT DIR (497)	204 FT SPD	204 FT GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	54 FT RH
75	8	20	1230	30	110	301	1	3	293	2	4	284	2	4	295	2	4	78	73	68	*0.3	9.3	4.1	68.6	78	72
									999	99	99	999	99	99	999	99	99									
75	8	20	1300	30	110	360	1	3	355	2	4	340	2	4	357	2	4	80	71	67	*0.6	10.1	4.5	38.0	79	66
									999	99	99	999	99	99	999	99	99									
75	8	20	1330	30	110	299	1	4	296	1	4	320	1	4	999	1	4	81	71	67	*0.6	9.5	4.2	48.8	80	64
									999	99	99	999	99	99	999	99	99									
75	8	20	1400	30	110	292	2	4	288	2	3	290	2	3	311	2	3	82	71	67	*0.8	13.3	5.9	10.8	81	62
									999	99	99	999	99	99	999	99	99									
75	8	20	1430	30	110	1	2	4	357	3	5	340	3	7	356	3	6	81	70	67	*0.7	11.2	5.0	22.9	80	64
									999	99	99	999	99	99	999	99	99									
75	8	20	1500	30	110	15	3	6	8	4	8	3	4	8	19	4	8	82	71	68	*1.5	9.8	4.3	18.1	81	66
									999	99	99	999	99	99	999	99	99									
75	8	20	1530	30	110	58	5	9	58	6	9	50	7	11	61	7	9	82	71	69	*1.5	10.2	4.5	15.5	81	68
									999	99	99	999	99	99	999	99	99									
75	8	20	1600	30	110	98	4	7	91	5	8	85	6	8	92	5	9	84	72	69	*1.7	13.2	5.8	4.6	82	64
									999	99	99	999	99	99	999	99	99									
75	8	20	1630	30	110	103	5	9	101	7	9	95	7	10	102	7	10	83	70	68	*1.4	12.8	5.6	7.1	82	63
									999	99	99	999	99	99	999	99	99									
75	8	20	1700	30	110	97	6	9	93	7	10	86	8	11	91	8	10	83	71	68	*1.4	13.1	5.8	6.5	82	63
									999	99	99	999	99	99	999	99	99									
75	8	20	1730	30	110	108	7	10	102	8	11	95	9	11	103	9	11	84	71	69	*1.8	11.5	5.1	7.2	82	64
									999	99	99	999	99	99	999	99	99									
75	8	20	1800	30	110	103	6	10	98	8	11	89	8	11	101	8	11	84	73	71	*1.9	11.6	5.1	6.3	82	69
									999	99	99	999	99	99	999	99	99									
75	8	20	1830	30	110	90	5	10	86	7	11	77	8	11	88	8	13	85	73	71	*2.3	11.6	5.1	4.0	83	68
									999	99	99	999	99	99	999	99	99									
75	8	20	1900	30	110	77	5	10	79	7	11	74	8	11	85	7	10	85	73	71	*2.3	11.5	5.1	4.1	83	68
									999	99	99	999	99	99	999	99	99									
75	8	20	1931	30	110	77	5	5	74	6	7	69	7	8	77	7	7	84	73	71	*1.9	10.6	4.7	8.9	82	69
									999	99	99	999	99	99	999	99	99									
75	8	20	2000	30	110	91	4	8	89	6	8	81	7	9	88	6	9	83	73	71	*1.5	10.8	4.8	12.3	82	71
									999	99	99	999	99	99	999	99	99									
75	8	20	2030	30	110	101	6	9	95	8	11	88	9	11	97	8	10	83	73	71	*1.4	14.4	6.3	4.5	82	70
									999	99	99	999	99	99	999	99	99									
75	8	20	2100	30	110	125	7	11	121	9	13	111	10	13	123	10	13	84	73	72	*1.7	11.5	5.1	7.9	82	71
									999	99	99	999	99	99	999	99	99									
75	8	20	2130	30	110	132	7	13	128	10	12	122	11	14	137	11	13	83	73	72	*1.4	12.8	5.3	9.0	82	73
									999	99	99	999	99	99	999	99	99									
75	8	20	2200	30	110	143	7	11	138	9	14	131	11	14	144	11	14	82	72	71	*0.8	14.3	6.3	8.1	81	71
									999	99	99	999	99	99	999	99	99									
75	8	20	2230	30	110	149	5	8	142	7	10	137	9	12	144	8	11	81	72	71	*0.4	17.4	7.7	5.5	81	73
									999	99	99	999	99	99	999	99	99									
75	8	20	2300	30	110	162	4	7	154	6	9	149	7	10	157	7	10	81	72	71	*0.1	18.3	8.1	5.9	81	72
									999	99	99	999	99	99	999	99	99									
75	8	20	2330	30	110	149	3	5	148	4	7	144	6	8	154	5	8	81	73	71	*0.1	15.6	6.9	11.1	81	72
									999	99	99	999	99	99	999	99	99									
75	8	21	30	30	110	172	2	4	167	3	4	159	3	5	167	3	4	80	73	71	.2	12.8	5.6	30.5	80	74
									999	99	99	999	99	99	999	99	99									
75	8	21	100	30	110	155	3	5	151	5	7	145	7	8	154	7	7	80	73	72	.2	15.5	6.8	14.7	80	76
									999	99	99	999	99	99	999	99	99									
75	8	21	130	30	110	144	3	4	148	4	6	145	6	8	152	6	7	80	73	72	.2	15.7	6.9	13.9	80	76
									999	99	99	999	99	99	999	99	99									
75	8	21	200	30	110	120	2	3	130	3	4	125	5	6	141	5	6	78	73	71	.9	17.2	7.6	17.0	79	77
									999	99	99	999	99	99	999	99	99									
75	8	21	230	30	110	131	1	3	144	3	5	128	5	6	142	5	6	78	73	71	1.2	29.1	12.8	2.8	79	76
									999	99	99	999	99	99	999	99	99									
75	8	21	300	30	110	175	2	4	165	4	6	151	6	8	163	6	7	78	73	72	1.1	22.6	9.9	7.0	79	79

TEST NBR 00000
WIND SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TWR NBR	12 FT DIR	12 FT SPD	12 FT GST	54 FT DIR (295)	54 FT SPD	54 FT GST	162 FT DIR (394)	162 FT SPD	162 FT GST	294 FT DIR (492)	294 FT SPD	294 FT GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	54 FT RH
75	8	20	1200	30	303	90	1	99	72	1	3	999	99	99	999	99	99	73	999	999	.3	17.5	7.7	9.8	73	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1300	30	303	53	1	99	39	2	3	999	99	99	999	99	99	78	999	999	*0.6	10.6	4.7	31.8	77	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1330	30	303	29	1	99	12	1	4	999	99	99	999	99	99	81	999	999	*0.9	8.3	3.7	62.0	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1400	30	303	999	99	99	242	2	7	999	99	99	999	99	99	83	999	999	*1.7	6.7	2.9	65.1	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1430	30	303	265	2	99	263	3	7	999	99	99	999	99	99	84	999	999	*2.5	7.2	3.2	20.4	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1500	30	303	349	1	99	341	2	6	999	99	99	999	99	99	83	999	999	*1.6	7.3	3.2	50.3	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1530	30	303	66	3	99	65	6	9	999	99	99	999	99	99	81	999	999	*1.9	10.3	4.6	9.7	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1600	30	303	87	3	99	81	5	9	999	99	99	999	99	99	83	999	999	*2.4	10.0	4.4	6.5	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1630	30	303	105	3	99	107	6	10	999	99	99	999	99	99	82	999	999	*1.8	13.9	6.1	3.4	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1700	30	303	120	4	99	119	6	11	999	99	99	999	99	99	83	999	999	*2.3	9.1	4.0	10.2	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1730	30	303	120	4	99	117	7	11	999	99	99	999	99	99	83	999	999	*2.6	7.5	3.3	15.4	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1800	30	303	118	3	99	120	5	9	999	99	99	999	99	99	84	999	999	*2.4	7.9	3.5	16.3	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1830	30	303	134	4	99	131	6	11	999	99	99	999	99	99	85	999	999	*2.7	8.8	3.9	7.4	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1900	30	303	132	4	99	126	6	12	999	99	99	999	99	99	86	999	999	*3.3	6.2	2.7	14.1	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1931	30	303	127	4	99	123	7	8	999	99	99	999	99	99	84	999	999	*2.5	8.5	3.7	10.8	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2000	30	303	97	4	99	98	6	9	999	99	99	999	99	99	83	999	999	*1.6	11.1	4.9	10.0	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2100	30	303	130	4	99	124	8	12	999	99	99	999	99	99	82	999	999	*1.6	13.5	6.0	4.7	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2200	30	303	139	4	99	134	8	13	999	99	99	999	99	99	81	999	999	*1.1	12.4	5.5	10.6	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2200	30	303	152	4	99	146	8	12	999	99	99	999	99	99	81	999	999	*0.7	21.7	9.5	1.8	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2230	30	303	153	5	99	151	8	13	999	99	99	999	99	99	80	999	999	*0.4	19.6	8.6	3.5	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2300	30	303	153	3	99	161	5	9	999	99	99	999	99	99	80	999	999	*0.2	18.1	8.0	5.7	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2330	30	303	157	2	99	162	5	7	999	99	99	999	99	99	79	999	999	0	17.4	7.7	7.8	79	99
									999	99	99	999	99	99	999	99	99									
75	8	21	00	30	303	144	1	99	140	3	6	999	99	99	999	99	99	77	999	999	1.2	24.3	10.7	5.7	78	99
									999	99	99	999	99	99	999	99	99									
75	8	21	100	30	303	999	99	99	98	2	3	999	99	99	999	99	99	73	999	999	2.9	30.8	13.6	7.6	76	99
									999	99	99	999	99	99	999	99	99									
75	8	21	130	30	303	999	99	99	141	4	5	999	99	99	999	99	99	69	999	999	4.3	63.7	28.1	.4	73	99
									999	99	99	999	99	99	999	99	99									
75	8	21	200	30	303	999	99	99	110	3	5	999	99	99	999	99	99	66	999	999	4.7	67.6	29.8	.4	71	99
									999	99	99	999	99	99	999	99	99									
75	8	21	230	30	303	999	99	99	107	2	4	999	99	99	999	99	99	64	999	999	5.2	72.8	32.1	.4	69	99
									999	99	99	999	99	99	999	99	99									
75	8	21	300	30	303	999	99	99	132	4	5	999	99	99	999	99	99	63	999	999	7.1	54.4	24.0	5.3	70	99

TEST NBR 00000
WIND SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TWR NBR	12 FT DIR	12 FT SPD	12 FT GST	54 FT DIR (295)	54 FT SPD	54 FT GST	162 FT DIR (394)	162 FT SPD	162 FT GST	204 FT DIR (492)	204 FT SPD	204 FT GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	54 FT RH
75	8	20	1230	30	308	312	2	99	295	2	4	999	99	99	999	99	99	76	999	999	2,4	23,2	10,2	16,3	78	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1300	30	308	5	2	99	26	2	4	999	99	99	999	99	99	78	999	999	1,2	16,4	7,2	25,8	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1330	30	308	331	1	99	360	1	3	999	99	99	999	99	99	81	999	999	1,0	14,0	6,2	41,5	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1400	30	308	328	2	99	321	2	5	999	99	99	999	99	99	82	999	999	,8	14,8	6,5	28,6	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1430	30	308	310	2	99	313	2	6	999	99	99	999	99	99	83	999	999	,9	14,2	6,2	36,5	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1500	30	308	345	3	99	340	2	7	999	99	99	999	99	99	84	999	999	,5	15,1	6,7	20,4	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1530	30	308	84	3	99	119	4	10	999	99	99	999	99	99	84	999	999	,4	11,8	5,2	50,1	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1600	30	308	96	5	99	134	6	9	999	99	99	999	99	99	84	999	999	,2	17,9	7,9	8,4	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1630	30	308	114	4	99	149	6	10	999	99	99	999	99	99	85	999	999	0	19,2	8,4	5,4	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1700	30	308	90	6	99	122	8	11	999	99	99	999	99	99	83	999	999	,9	23,9	10,5	4,8	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1730	30	308	99	6	99	135	9	14	999	99	99	999	99	99	84	999	999	,3	19,0	8,4	7,2	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1800	30	308	97	5	99	135	7	11	999	99	99	999	99	99	85	999	999	,4	19,2	8,5	7,5	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1830	30	308	87	6	99	121	7	11	999	99	99	999	99	99	84	999	999	,6	26,1	11,5	2,7	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1900	30	308	85	6	99	116	7	11	999	99	99	999	99	99	84	999	999	,6	19,6	8,6	8,1	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1931	30	308	85	5	99	119	7	10	999	99	99	999	99	99	85	999	999	,7	17,0	7,5	15,3	86	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2000	30	308	89	6	99	125	7	10	999	99	99	999	99	99	84	999	999	1,3	23,7	10,5	6,7	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2030	30	308	103	5	99	136	8	12	999	99	99	999	99	99	83	999	999	1,5	21,9	9,7	10,6	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2100	30	308	115	6	99	151	10	67	999	99	99	999	99	99	84	999	999	1,0	23,8	10,5	5,3	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2130	30	308	124	5	99	161	11	70	999	99	99	999	99	99	83	999	999	2,1	29,3	12,9	5,3	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2200	30	308	138	5	99	175	10	66	999	99	99	999	99	99	81	999	999	3,0	30,5	13,5	8,4	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2230	30	308	136	4	99	170	9	71	999	99	99	999	99	99	80	999	999	3,7	37,9	16,7	5,7	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2300	30	308	162	4	99	193	8	75	999	99	99	999	99	99	80	999	999	3,8	31,0	13,7	13,1	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2330	30	308	155	3	99	186	6	70	999	99	99	999	99	99	79	999	999	4,0	35,5	15,7	8,8	83	99
									999	99	99	999	99	99	999	99	99									
75	8	21	30	30	308	254	1	99	226	2	4	999	99	99	999	99	99	78	999	999	4,8	32,4	14,3	20,3	83	99
									999	99	99	999	99	99	999	99	99									
75	8	21	100	30	308	154	2	99	180	5	53	999	99	99	999	99	99	77	999	999	5,7	33,1	14,6	30,9	83	99
									999	99	99	999	99	99	999	99	99									
75	8	21	130	30	308	140	2	99	176	5	9	999	99	99	999	99	99	77	999	999	5,2	38,7	17,0	12,8	82	99
									999	99	99	999	99	99	999	99	99									
75	8	21	200	30	308	114	3	99	156	5	69	999	99	99	999	99	99	77	999	999	5,1	43,3	19,1	7,8	82	99
									999	99	99	999	99	99	999	99	99									
75	8	21	230	30	308	162	1	99	183	4	60	999	99	99	999	99	99	76	999	999	5,6	31,7	14,0	34,6	82	99
									999	99	99	999	99	99	999	99	99									
75	8	21	300	30	308	199	2	99	206	3	6	999	99	99	999	99	99	75	999	999	6,4	41,7	18,4	14,8	81	99
									999	99	99	999	99	99	999	99	99									

TEST NUR 00000
INA SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TWR NUR	12 FT DIR	12 FT SPD	GST	54 FT DIR (295)	54 FT SPD	GST	162 FT DIR (394)	162 FT SPD	GST	294 FT DIR (492)	294 FT SPD	GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	54 FT RH
75	8	20	1200	30	311	298	2	99	303	2	6	999	99	99	999	99	99	78	999	999	.7	14.2	6.3	30.8	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1300	30	311	356	4	99	354	4	7	999	99	99	999	99	99	79	999	999	.1	13.7	6.0	21.8	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1330	30	311	349	3	99	2	3	4	999	99	99	999	99	99	80	999	999	.2	21.8	9.6	3.9	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1400	30	311	332	2	99	333	2	4	999	99	99	999	99	99	81	999	999	.2	13.5	5.9	25.0	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1430	30	311	285	2	99	213	1	6	999	99	99	999	99	99	83	999	999	.1	11.9	5.2	37.2	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1500	30	311	45	3	99	40	4	9	999	99	99	999	99	99	83	999	999	-0.4	10.5	4.6	39.1	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1530	30	311	101	5	99	92	6	9	999	99	99	999	99	99	85	999	999	-0.7	14.6	6.4	8.4	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1600	30	311	106	5	99	99	7	11	999	99	99	999	99	99	85	999	999	-1.1	12.9	5.7	9.2	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1630	30	311	112	6	99	104	8	13	999	99	99	999	99	99	85	999	999	-0.7	14.1	6.2	9.6	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1700	30	311	104	8	99	98	11	18	999	99	99	999	99	99	85	999	999	-1.3	14.1	6.2	5.3	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1730	30	311	117	7	99	109	11	15	999	99	99	999	99	99	85	999	999	-1.3	13.9	6.1	5.6	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1800	30	311	113	6	99	117	9	13	999	99	99	999	99	99	86	999	999	-1.5	12.4	5.5	7.2	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1830	30	311	102	7	99	96	10	13	999	99	99	999	99	99	85	999	999	-1.5	12.8	5.6	6.4	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1900	30	311	107	7	99	100	10	15	999	99	99	999	99	99	85	999	999	-1.4	12.9	5.7	6.9	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1931	30	311	79	7	99	85	9	8	999	99	99	999	99	99	86	999	999	-1.4	9.7	4.3	21.0	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2000	30	311	62	6	99	97	8	12	999	99	99	999	99	99	86	999	999	-1.2	13.9	6.1	6.2	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2030	30	311	77	8	99	108	11	15	999	99	99	999	99	99	85	999	999	-0.7	14.0	6.2	9.8	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2100	30	311	101	8	99	125	11	15	999	99	99	999	99	99	86	999	999	-1.0	11.4	5.0	16.3	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2130	30	311	103	8	99	140	13	19	999	99	99	999	99	99	86	999	999	-0.5	12.6	5.5	17.7	86	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2200	30	311	97	9	99	151	13	17	999	99	99	999	99	99	84	999	999	.1	19.8	8.7	5.2	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2230	30	311	100	6	99	150	9	14	999	99	99	999	99	99	83	999	999	.5	22.4	9.9	4.5	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2300	30	311	105	5	99	150	8	11	999	99	99	999	99	99	82	999	999	.6	29.8	13.1	1.6	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2330	30	311	103	4	99	159	6	8	999	99	99	999	99	99	82	999	999	.9	26.1	11.5	3.4	83	99
									999	99	99	999	99	99	999	99	99									
75	8	21	30	30	311	125	3	99	190	4	7	999	99	99	999	99	99	81	999	999	1.5	17.8	7.8	24.8	83	99
									999	99	99	999	99	99	999	99	99									
75	8	21	100	30	311	114	4	99	167	7	8	999	99	99	999	99	99	80	999	999	2.1	29.5	13.0	5.2	82	99
									999	99	99	999	99	99	999	99	99									
75	8	21	130	30	311	106	4	99	149	8	10	999	99	99	999	99	99	79	999	999	2.4	28.5	12.6	7.3	81	99
									999	99	99	999	99	99	999	99	99									
75	8	21	200	30	311	119	3	99	130	4	5	999	99	99	999	99	99	80	999	999	1.8	19.9	8.8	19.2	82	99
									999	99	99	999	99	99	999	99	99									
75	8	21	230	30	311	180	4	99	160	6	7	999	99	99	999	99	99	79	999	999	2.9	23.8	10.5	20.6	82	99
									999	99	99	999	99	99	999	99	99									
75	8	21	300	30	311	185	3	99	180	5	7	999	99	99	999	99	99	78	999	999	3.0	25.6	11.3	16.6	81	99

TEST NBR 00000
WIND SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TWR NBR	12 FT DIR	12 FT SPD	12 FT GST	54 FT DIR (295)	54 FT SPD	54 FT GST	162 FT DIR (394)	162 FT SPD	162 FT GST	204 FT DIR (492)	204 FT SPD	204 FT GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	54 FT RH
75	8	20	1230	30	313	304	1	4	319	4	8	279	4	7	288	6	9	75	72	69	*0.3	10.4	4.6	44.1	75	82
									294	6	9	268	6	8	247	7	9									
75	8	20	1300	30	313	340	2	4	350	5	8	333	5	8	340	6	9	77	70	67	*0.6	11.6	5.1	22.2	76	73
									348	6	9	324	5	9	296	6	8									
75	8	20	1330	30	313	999	99	3	26	2	5	11	2	4	29	2	5	79	70	67	*1.0	8.2	3.6	57.8	78	69
									35	2	4	14	2	4	348	2	5									
75	8	20	1400	30	313	335	1	3	1	3	6	331	3	5	342	3	5	80	69	67	*0.9	10.2	4.5	27.2	79	67
									346	2	5	319	2	5	297	3	6									
75	8	20	1430	30	313	2	1	5	8	4	9	354	4	8	999	4	9	82	70	68	*1.3	8.5	3.8	37.8	81	69
									20	4	7	7	3	8	354	4	10									
75	8	20	1500	30	313	6	2	6	20	5	9	999	5	10	3	6	12	83	72	69	*1.9	7.6	3.3	32.7	81	67
									20	5	10	3	4	9	350	4	10									
75	8	20	1530	30	313	118	2	6	123	5	9	107	4	9	103	5	12	84	71	69	*1.8	8.1	3.5	28.4	82	64
									121	5	10	105	4	10	104	4	11									
75	8	20	1600	30	313	80	3	7	85	6	12	70	6	10	71	7	11	84	71	69	*1.7	9.2	4.0	18.9	82	64
									95	6	10	81	6	11	80	6	11									
75	8	20	1630	30	313	93	4	8	97	8	13	85	8	12	85	9	16	85	71	68	*2.4	7.6	3.4	18.2	83	61
									110	9	13	100	8	13	100	8	13									
75	8	20	1700	30	313	103	6	9	104	11	14	94	10	12	92	12	15	83	70	68	*2.0	10.6	4.7	7.8	81	65
									119	11	14	106	10	13	106	11	14									
75	8	20	1730	30	313	102	5	9	103	10	13	91	9	12	91	11	15	84	69	67	*2.3	9.2	4.1	9.8	82	63
									116	10	13	100	10	13	98	10	13									
75	8	20	1800	30	313	99	5	12	97	10	16	87	9	14	86	11	15	85	71	68	*2.6	8.2	3.6	11.0	82	62
									111	10	17	99	10	16	98	10	16									
75	8	20	1830	30	313	97	5	9	102	9	14	87	8	13	87	10	15	85	70	68	*2.4	11.4	5.0	3.9	83	61
									109	9	15	95	9	14	91	9	15									
75	8	20	1900	30	313	94	6	9	98	11	17	84	9	13	85	12	17	86	71	69	*2.7	8.7	3.8	7.7	83	62
									108	11	15	94	10	16	89	11	17									
75	8	20	1931	30	313	87	4	7	89	9	11	72	8	10	74	10	12	85	71	68	*2.5	7.8	3.4	15.0	83	62
									95	9	11	80	8	11	76	9	12									
75	8	20	2000	30	313	88	4	8	90	8	13	79	7	11	81	9	13	86	71	68	*2.2	8.5	3.7	15.0	84	59
									104	8	13	90	8	12	90	8	13									
75	8	20	2030	30	313	100	5	10	101	10	16	90	9	13	92	11	16	84	70	69	*1.8	9.7	4.3	14.0	82	64
									115	11	15	100	10	14	97	11	16									
75	8	20	2100	30	313	118	5	8	119	9	14	109	8	12	106	10	14	85	71	69	*1.9	10.8	4.8	8.1	83	63
									129	10	14	114	9	13	112	10	14									
75	8	20	2130	30	313	135	6	11	140	11	17	129	10	14	125	12	16	85	71	69	*1.7	11.8	5.2	7.2	83	62
									149	12	16	131	12	16	127	12	17									
75	8	20	2200	30	313	138	6	10	142	11	15	133	11	15	128	13	17	83	71	69	*0.9	17.4	7.7	3.5	82	65
									153	13	15	138	13	15	135	14	17									
75	8	20	2230	30	313	148	4	9	153	9	15	143	10	13	138	12	15	81	70	69	*0.4	18.9	8.3	4.0	81	68
									162	11	14	145	11	14	141	12	15									
75	8	20	2300	30	313	156	3	6	158	7	10	148	9	11	142	10	12	81	70	69	*0.3	16.6	7.3	7.2	81	68
									168	10	12	151	10	11	149	11	13									
75	8	20	2330	30	313	147	1	3	154	6	7	148	7	8	145	8	9	80	71	69	0	16.7	7.4	9.2	80	69
									172	8	10	157	8	9	155	9	10									
75	8	21	30	30	313	166	1	3	189	5	8	181	6	8	175	7	9	80	72	70	.3	13.1	5.8	30.1	80	71
									197	7	9	176	6	9	172	7	9									
75	8	21	100	30	313	157	1	4	160	7	8	152	8	9	147	9	10	79	72	70	.5	20.0	8.8	7.0	80	73
									174	9	9	157	8	9	155	9	10									
75	8	21	130	30	313	999	99	1	170	3	6	145	5	8	143	7	9	78	71	70	1.3	14.2	6.3	49.3	79	73
									165	7	9	148	7	9	148	8	10									
75	8	21	200	30	313	999	99	1	84	2	4	106	3	4	114	4	5	75	70	70	3.4	20.6	9.1	49.9	78	75
									147	5	6	132	4	5	132	6	7									
75	8	21	230	30	313	999	99	99	157	3	4	132	5	6	129	5	7	75	70	70	3.8	24.9	11.0	30.7	79	74
									161	5	7	150	5	7	150	6	7									
75	8	21	300	30	313	180	1	1	171	5	6	159	7	7	152	7	8	74	70	71	4.2	33.6	14.8	12.3	78	79

TEST NBR 00000
WIND SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TWR NBR	12 FT DIR	12 FT SPD	12 FT GST	54 FT DIR (295)	54 FT SPD	54 FT GST	102 FT DIR (394)	102 FT SPD	102 FT GST	204 FT DIR (492)	204 FT SPD	204 FT GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	54 FT RH
75	8	20	1200	30	403	999	99	99	71	2	6	999	99	99	999	99	99	81	999	999	*0.7	8.7	3.8	60.9	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1300	30	403	12	1	99	47	4	6	999	99	99	999	99	99	83	999	999	*1.3	8.9	3.9	31.7	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1330	30	403	290	2	99	296	4	7	999	99	99	999	99	99	85	999	999	*1.4	9.1	4.0	26.3	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1400	30	403	275	2	99	267	5	8	999	99	99	999	99	99	85	999	999	*1.5	8.8	3.9	27.0	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1430	30	403	310	2	99	311	4	7	999	99	99	999	99	99	86	999	999	*1.5	8.4	3.7	32.5	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1500	30	403	289	2	99	298	5	6	999	99	99	999	99	99	85	999	999	*1.2	11.3	5.0	14.1	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1530	30	403	15	1	99	37	2	9	999	99	99	999	99	99	86	999	999	*1.5	6.8	3.0	74.2	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1600	30	403	82	3	99	87	6	10	999	99	99	999	99	99	86	999	999	*1.7	8.7	3.8	23.5	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1630	30	403	109	5	99	113	8	11	999	99	99	999	99	99	87	999	999	*1.8	9.3	4.1	16.2	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1700	30	403	120	6	99	123	9	13	999	99	99	999	99	99	88	999	999	*2.4	8.0	3.5	15.1	86	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1730	30	403	116	6	99	121	9	13	999	99	99	999	99	99	87	999	999	*2.2	9.9	4.4	8.2	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1800	30	403	132	4	99	130	7	12	999	99	99	999	99	99	87	999	999	*2.1	8.2	3.6	19.6	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1830	30	403	115	4	99	120	6	10	999	99	99	999	99	99	89	999	999	*2.2	7.3	3.2	26.5	87	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1900	30	403	127	3	99	130	6	11	999	99	99	999	99	99	89	999	999	*1.8	8.0	3.5	29.5	87	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1931	30	403	126	6	99	125	10	11	999	99	99	999	99	99	88	999	999	*2.3	8.8	3.9	11.7	86	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2000	30	403	116	5	99	120	8	12	999	99	99	999	99	99	87	999	999	*1.8	10.0	4.4	12.4	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2030	30	403	105	6	99	106	9	12	999	99	99	999	99	99	86	999	999	*1.8	9.5	4.2	14.9	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2100	30	403	123	7	99	123	11	14	999	99	99	999	99	99	86	999	999	*2.0	11.0	4.9	6.8	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2130	30	403	135	7	99	136	11	14	999	99	99	999	99	99	86	999	999	*1.8	11.9	5.3	6.2	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2200	30	403	142	6	99	143	11	15	999	99	99	999	99	99	86	999	999	*1.7	11.1	4.9	9.2	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2230	30	403	148	6	99	148	10	14	999	99	99	999	99	99	86	999	999	*1.6	13.2	5.8	5.2	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2300	30	403	152	5	99	153	9	12	999	99	99	999	99	99	85	999	999	*1.5	12.2	5.4	7.7	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2330	30	403	152	4	99	152	7	10	999	99	99	999	99	99	85	999	999	*1.3	14.2	6.3	5.2	84	99
									999	99	99	999	99	99	999	99	99									
75	8	21	30	30	403	999	99	99	143	5	6	999	99	99	999	99	99	84	999	999	*0.9	8.5	3.8	55.7	83	99
									999	99	99	999	99	99	999	99	99									
75	8	21	100	30	403	999	99	99	94	4	6	999	99	99	999	99	99	83	999	999	*0.3	9.4	4.1	65.4	83	99
									999	99	99	999	99	99	999	99	99									
75	8	21	130	30	403	139	2	99	139	7	8	999	99	99	999	99	99	82	999	999	0	22.1	9.7	3.1	82	99
									999	99	99	999	99	99	999	99	99									
75	8	21	200	30	403	123	1	99	118	6	7	999	99	99	999	99	99	81	999	999	0	16.8	7.4	9.0	81	99
									999	99	99	999	99	99	999	99	99									
75	8	21	230	30	403	84	1	99	117	6	6	999	99	99	999	99	99	81	999	999	.5	22.1	9.7	4.7	82	99
									999	99	99	999	99	99	999	99	99									
75	8	21	330	30	403	999	99	99	118	5	8	999	99	99	999	99	99	81	999	999	.1	29.5	13.0	0	81	99

TEST NBR 00000
WIND SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TNR NBR	12 FT DIR	12 FT SPD	12 FT GST	54 FT DIR (295)	54 FT SPD	54 FT GST	162 FT DIR (394)	162 FT SPD	162 FT GST	274 FT DIR (492)	274 FT SPD	274 FT GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	54 FT RH
75	8	20	1250	30	412	297	2	99	291	2	5	999	99	99	999	99	99	75	999	999	.6	13.5	6.0	34.4	76	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1300	30	412	346	3	99	343	4	6	999	99	99	999	99	99	76	999	999	.1	13.1	5.8	25.6	76	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1330	30	412	74	2	99	61	2	4	999	99	99	999	99	99	79	999	999	-0.1	11.4	5.0	37.6	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1400	30	412	345	1	99	342	1	4	999	99	99	999	99	99	80	999	999	.1	10.6	4.7	58.8	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1430	30	412	290	2	99	299	3	6	999	99	99	999	99	99	82	999	999	-0.3	11.6	5.1	28.7	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1500	30	412	251	2	99	257	2	6	999	99	99	999	99	99	83	999	999	-0.3	11.3	5.0	32.6	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1530	30	412	131	3	99	136	4	8	999	99	99	999	99	99	85	999	999	-0.9	10.6	4.7	23.8	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1600	30	412	109	4	99	115	5	8	999	99	99	999	99	99	86	999	999	-1.2	12.5	5.5	9.3	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1630	30	412	90	5	99	91	6	11	999	99	99	999	99	99	85	999	999	-1.2	12.9	5.7	8.4	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1700	30	412	87	7	99	86	8	12	999	99	99	999	99	99	84	999	999	-1.1	13.3	5.9	8.1	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1730	30	412	90	6	99	90	8	11	999	99	99	999	99	99	84	999	999	-1.3	13.3	5.8	6.8	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1800	30	412	85	6	99	83	7	10	999	99	99	999	99	99	85	999	999	-1.6	12.9	5.7	5.6	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1830	30	412	73	5	99	73	6	11	999	99	99	999	99	99	85	999	999	-1.3	11.5	5.1	11.9	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1900	30	412	84	7	99	85	8	13	999	99	99	999	99	99	85	999	999	-1.2	17.4	7.7	2.6	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1931	30	412	83	6	99	82	7	7	999	99	99	999	99	99	85	999	999	-1.4	13.0	5.7	6.6	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2000	30	412	84	5	99	83	6	10	999	99	99	999	99	99	86	999	999	-1.3	13.6	6.0	6.1	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2030	30	412	95	6	99	95	8	12	999	99	99	999	99	99	84	999	999	-0.8	14.1	6.2	8.7	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2100	30	412	105	5	99	107	6	11	999	99	99	999	99	99	85	999	999	-0.6	14.4	6.4	9.5	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2130	30	412	119	6	99	119	9	13	999	99	99	999	99	99	85	999	999	-0.7	15.3	6.8	6.9	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2200	30	412	135	6	99	136	10	14	999	99	99	999	99	99	83	999	999	0	16.8	7.4	8.9	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2230	30	412	132	5	99	134	7	11	999	99	99	999	99	99	82	999	999	.3	19.1	8.4	7.1	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2300	30	412	141	4	99	139	7	10	999	99	99	999	99	99	81	999	999	.4	17.3	7.6	11.3	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2330	30	412	150	3	99	145	5	7	999	99	99	999	99	99	81	999	999	.7	22.9	10.1	4.8	82	99
									999	99	99	999	99	99	999	99	99									
75	8	21	30	30	412	157	2	99	142	3	6	999	99	99	999	99	99	79	999	999	1.4	14.6	6.4	47.2	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	100	30	412	147	3	99	142	6	8	999	99	99	999	99	99	79	999	999	1.2	19.5	8.6	13.2	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	130	30	412	168	2	99	154	4	6	999	99	99	999	99	99	79	999	999	1.5	17.9	7.9	23.3	81	99
									999	99	99	999	99	99	999	99	99									
75	8	21	200	30	412	250	1	99	114	1	3	999	99	99	999	99	99	76	999	999	3.1	19.8	8.7	48.2	79	99
									999	99	99	999	99	99	999	99	99									
75	8	21	230	30	412	221	2	99	158	2	4	999	99	99	999	99	99	76	999	999	3.7	23.7	10.4	35.2	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	300	30	412	165	2	99	149	4	5	999	99	99	999	99	99	76	999	999	3.2	29.2	12.9	11.3	79	99
									999	99	99	999	99	99	999	99	99									

TEST NBR 00000
WIND SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TWR NBR	12 FT DIR	12 FT SPD	12 FT GST	54 FT DIR (295)	54 FT SPD	54 FT GST	162 FT DIR (394)	162 FT SPD	162 FT GST	204 FT DIR (492)	204 FT SPD	204 FT GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	54 FT RH
75	8	20	1230	30	415	999	99	99	999	99	99	999	99	99	999	99	99	999	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1300	30	415	999	99	99	999	99	99	999	99	99	999	99	99	999	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1330	30	415	999	99	99	999	99	99	999	99	99	999	99	99	999	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1400	30	415	999	99	99	999	99	99	999	99	99	999	99	99	999	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1430	30	415	999	99	99	999	99	22	999	99	99	999	99	99	999	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1500	30	415	21	4	99	22	6	9	999	99	99	999	99	99	82	999	999	*1,6	11,9	5,3	7,6	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1530	30	415	47	2	99	48	3	7	999	99	99	999	99	99	84	999	999	*2,2	7,2	3,2	28,3	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1600	30	415	78	2	99	68	4	11	999	99	99	999	99	99	86	999	999	*2,3	6,8	3,0	31,6	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1630	30	415	75	5	99	73	7	12	999	99	99	999	99	99	87	999	999	*3,0	7,4	3,2	10,4	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1700	30	415	84	5	99	79	8	12	999	99	99	999	99	99	85	999	999	*2,0	10,5	4,6	8,2	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1730	30	415	90	5	99	86	8	13	999	99	99	999	99	99	86	999	999	*2,9	7,3	3,2	11,8	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1800	30	415	86	5	99	80	7	12	999	99	99	999	99	99	87	999	999	*2,9	6,7	2,9	17,1	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1830	30	415	54	6	99	54	9	13	999	99	99	999	99	99	86	999	999	*2,5	8,7	3,9	9,6	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1900	30	415	58	5	99	59	8	14	999	99	99	999	99	99	86	999	999	*2,8	7,3	3,2	13,9	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1930	30	415	68	5	99	66	8	10	999	99	99	999	99	99	85	999	999	*2,4	10,0	4,4	6,4	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2000	30	415	82	4	99	76	6	10	999	99	99	999	99	99	87	999	999	*2,8	7,0	3,1	15,7	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2030	30	415	80	5	99	75	9	16	999	99	99	999	99	99	87	999	999	*2,7	7,5	3,3	13,9	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2100	30	415	101	5	99	90	8	13	999	99	99	999	99	99	84	999	999	*1,3	11,7	5,2	10,9	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2130	30	415	95	5	99	88	9	14	999	99	99	999	99	99	85	999	999	*1,1	13,7	6,1	7,2	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2200	30	415	124	5	99	111	9	14	999	99	99	999	99	99	84	999	999	*0,5	13,7	6,0	12,9	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2230	30	415	130	5	99	117	9	15	999	99	99	999	99	99	82	999	999	0	22,3	9,8	3,0	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2300	30	415	143	3	99	123	6	11	999	99	99	999	99	99	81	999	999	0	14,8	6,5	14,7	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2330	30	415	165	1	99	135	3	7	999	99	99	999	99	99	80	999	999	.3	13,6	6,0	26,3	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	30	30	415	151	1	99	141	4	6	999	99	99	999	99	99	79	999	999	1,2	21,6	9,5	9,8	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	100	30	415	360	1	99	15	2	3	999	99	99	999	99	99	77	999	999	1,5	18,2	8,8	21,8	79	99
									999	99	99	999	99	99	999	99	99									
75	8	21	130	30	415	323	1	99	317	1	1	999	99	99	999	99	99	76	999	999	2,9	50,7	22,3	,7	79	99
									999	99	99	999	99	99	999	99	99									
75	8	21	200	30	415	341	1	99	999	99	3	999	99	99	999	99	99	75	999	999	4,7	43,5	19,2	6,1	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	230	30	415	336	1	99	999	99	4	999	99	99	999	99	99	74	999	999	4,8	52,6	23,2	3,1	79	99
									999	99	99	999	99	99	999	99	99									
75	8	21	300	30	415	999	99	99	161	2	5	999	99	99	999	99	99	74	999	999	4,1	25,1	11,0	36,2	78	99
									999	99	99	999	99	99	999	99	99									

TEST NBR 00000
WIND SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TWR NBR	12 FT DIR	SPD	GST	54 FT DIR (295)	SPD	GST	162 FT DIR (394)	SPD	GST	204 FT DIR (492)	SPD	GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	RH
75	8	20	1230	30	509	999	99	99	328	1	3	999	99	99	999	99	99	76	999	999	*1.0	9.4	4.2	34.2	75	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1300	30	509	14	1	99	9	2	4	999	99	99	999	99	99	78	999	999	*1.7	8.7	3.8	23.1	76	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1330	30	509	999	99	99	58	1	5	999	99	99	999	99	99	82	999	999	*3.3	3.9	1.7	80.1	79	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1400	30	509	342	1	99	332	3	5	999	99	99	999	99	99	84	999	999	*3.7	4.6	2.0	25.8	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1430	30	509	360	1	99	352	3	5	999	99	99	999	99	99	84	999	999	*3.3	6.0	2.7	15.3	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1500	30	509	284	1	99	274	2	6	999	99	99	999	99	99	85	999	999	*3.7	4.0	1.8	45.2	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1530	30	509	175	2	99	165	3	7	999	99	99	999	99	99	87	999	999	*4.3	4.6	2.0	11.5	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1600	30	509	171	1	99	162	3	9	999	99	99	999	99	99	88	999	999	*4.4	2.9	1.3	59.5	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1630	30	509	154	3	99	137	5	9	999	99	99	999	99	99	89	999	999	*4.5	3.7	1.6	18.6	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1700	30	509	95	3	99	91	6	12	999	99	99	999	99	99	87	999	999	*3.9	4.4	2.0	22.8	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1730	30	509	96	4	99	91	9	14	999	99	99	999	99	99	88	999	999	*4.7	3.7	1.6	14.0	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1800	30	509	88	3	99	90	7	13	999	99	99	999	99	99	88	999	999	*4.7	3.8	1.7	12.8	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1830	30	509	96	2	99	92	5	11	999	99	99	999	99	99	88	999	999	*3.9	4.2	1.8	29.3	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1900	30	509	82	3	99	82	6	11	999	99	99	999	99	99	87	999	999	*3.6	6.0	2.6	10.7	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1931	30	509	46	3	99	52	6	7	999	99	99	999	99	99	88	999	999	*4.0	4.0	1.7	30.8	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2000	30	509	65	3	99	64	8	13	999	99	99	999	99	99	87	999	999	*3.7	5.2	2.3	15.7	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2030	30	509	97	4	99	93	8	14	999	99	99	999	99	99	87	999	999	*3.7	6.6	2.9	6.5	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2100	30	509	122	4	99	114	8	13	999	99	99	999	99	99	87	999	999	*3.3	6.5	2.9	11.2	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2130	30	509	134	4	99	129	9	15	999	99	99	999	99	99	86	999	999	*2.9	7.8	3.4	9.3	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2200	30	509	150	4	99	140	8	13	999	99	99	999	99	99	84	999	999	*2.0	11.6	5.1	5.5	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2230	30	509	137	3	99	130	7	11	999	99	99	999	99	99	82	999	999	*1.4	18.2	8.0	1.8	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2300	30	509	145	2	99	140	6	8	999	99	99	999	99	99	82	999	999	*1.2	12.9	5.7	8.3	81	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2330	30	509	154	1	99	147	4	7	999	99	99	999	99	99	82	999	999	*1.1	11.0	4.8	17.3	81	99
									999	99	99	999	99	99	999	99	99									
75	8	21	30	30	509	999	99	99	6	1	3	999	99	99	999	99	99	80	999	999	*0.1	10.7	4.7	47.5	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	100	30	509	158	1	99	135	4	6	999	99	99	999	99	99	79	999	999	.4	12.5	5.5	39.5	79	99
									999	99	99	999	99	99	999	99	99									
75	8	21	130	30	509	999	99	99	133	4	6	999	99	99	999	99	99	78	999	999	.5	99.*	99.*	99.*	79	99
									999	99	99	999	99	99	999	99	99									
75	8	21	200	30	509	341	1	99	343	2	4	999	99	99	999	99	99	77	999	999	.3	13.0	5.7	31.3	77	99
									999	99	99	999	99	99	999	99	99									
75	8	21	230	30	509	999	99	99	999	99	3	999	99	99	999	99	99	77	999	999	1.0	99.*	99.*	99.*	78	99
									999	99	99	999	99	99	999	99	99									
75	8	21	300	30	509	129	1	99	149	3	4	999	99	99	999	99	99	76	999	999	2.6	20.4	9.0	30.7	79	99
									999	99	99	999	99	99	999	99	99									

TEST NBR 00000
WIND SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TWR NBR	12 FT DIR	12 FT SPD	12 FT GST	54 FT DIR (295)	54 FT SPD	54 FT GST	162 FT DIR (394)	162 FT SPD	162 FT GST	204 FT DIR (492)	204 FT SPD	204 FT GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	54 FT RH
75	8	20	1200	30	714	309	1	99	315	1	5	999	99	99	999	99	99	77	999	999	0	13.0	5.7	24.3	77	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1300	30	714	324	2	99	311	3	5	999	99	99	999	99	99	78	999	999	-0.3	16.0	7.1	8.3	78	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1330	30	714	318	1	99	312	1	2	999	99	99	999	99	99	80	999	999	-0.5	9.9	4.3	45.6	80	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1400	30	714	255	1	99	257	1	3	999	99	99	999	99	99	83	999	999	-0.7	10.0	4.4	36.6	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1430	30	714	251	2	99	261	3	5	999	99	99	999	99	99	84	999	999	-1.1	10.4	4.6	20.9	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1500	30	714	279	2	99	277	2	4	999	99	99	999	99	99	85	999	999	-1.2	11.5	5.1	13.2	84	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1530	30	714	229	2	99	225	2	5	999	99	99	999	99	99	86	999	999	-1.5	8.3	3.7	34.0	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1600	30	714	251	2	99	254	3	5	999	99	99	999	99	99	88	999	999	-1.5	9.5	4.2	20.4	87	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1630	30	714	259	2	99	260	2	5	999	99	99	999	99	99	88	999	999	-1.5	8.3	3.7	33.9	87	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1700	30	714	193	2	99	195	3	6	999	99	99	999	99	99	88	999	999	-1.5	9.3	4.1	21.9	87	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1730	30	714	101	4	99	103	4	9	999	99	99	999	99	99	88	999	999	-1.4	9.3	4.1	24.4	87	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1800	30	714	112	5	99	115	4	8	999	99	99	999	99	99	87	999	999	-1.3	11.4	5.0	12.3	86	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1830	30	714	57	5	99	60	4	9	999	99	99	999	99	99	88	999	999	-1.3	11.0	4.9	13.9	87	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1900	30	714	999	7	99	46	7	10	999	99	99	999	99	99	86	999	999	-1.0	14.8	6.5	6.0	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1931	30	714	49	6	99	49	6	6	999	99	99	999	99	99	87	999	999	-1.7	10.0	4.4	13.4	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2000	30	714	63	5	99	60	4	8	999	99	99	999	99	99	87	999	999	-1.3	10.4	4.6	17.4	86	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2030	30	714	76	5	99	80	5	10	999	99	99	999	99	99	88	999	999	-1.1	11.7	5.1	13.6	87	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2100	30	714	102	6	99	105	6	8	999	99	99	999	99	99	86	999	999	-0.7	15.3	6.7	7.0	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2130	30	714	105	6	99	108	5	9	999	99	99	999	99	99	85	999	999	-0.4	17.4	7.7	5.5	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2200	30	714	112	7	99	116	7	10	999	99	99	999	99	99	85	999	999	0	21.1	9.3	3.7	85	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2230	30	714	125	6	99	129	6	8	999	99	99	999	99	99	83	999	999	.1	18.0	7.9	7.5	83	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2300	30	714	126	3	99	129	4	6	999	99	99	999	99	99	82	999	999	.2	19.6	8.6	5.9	82	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2330	30	714	180	1	99	165	1	3	999	99	99	999	99	99	82	999	999	.3	11.4	5.8	52.0	82	99
									999	99	99	999	99	99	999	99	99									
75	8	21	30	30	714	999	99	99	180	1	5	999	99	99	999	99	99	81	999	999	.7	11.3	5.8	74.6	82	99
									999	99	99	999	99	99	999	99	99									
75	8	21	100	30	714	344	2	99	343	2	4	999	99	99	999	99	99	80	999	999	.7	14.6	6.5	27.3	81	99
									999	99	99	999	99	99	999	99	99									
75	8	21	130	30	714	341	1	99	339	2	3	999	99	99	999	99	99	79	999	999	1.1	16.5	7.3	23.6	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	200	30	714	319	1	99	332	1	2	999	99	99	999	99	99	79	999	999	1.1	21.0	9.2	9.3	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	230	30	714	999	99	99	30	1	2	999	99	99	999	99	99	78	999	999	2.3	15.4	6.8	73.6	80	99
									999	99	99	999	99	99	999	99	99									
75	8	21	300	30	714	291	1	99	999	99	2	999	99	99	999	99	99	78	999	999	1.6	16.8	7.4	32.3	80	99
									999	99	99	999	99	99	999	99	99									

TEST NBR 00000
WIND SYSTEM TOWER DATA
CAPE CANAVERAL AFS, FLA.

YR	MON	DAY	TIME (Z)	INT	TWR NBR	12 FT DIR	12 FT SPD	GST	54 FT DIR (295)	54 FT SPD	GST	162 FT DIR (394)	162 FT SPD	GST	204 FT DIR (492)	204 FT SPD	GST	6FT TT	6FT DP	54FT DP	LAPSE RATE	5 PPM	25 PPM	DIR DEV	54 FT TT	FT RH
75	8	20	1200	30	803	311	1	99	336	1	3	999	99	99	999	99	99	74	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1300	30	803	21	2	99	48	1	3	999	99	99	999	99	99	77	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1330	30	803	5	2	99	2	1	4	999	99	99	999	99	99	79	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1400	30	803	281	1	99	267	2	6	999	99	99	999	99	99	82	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1430	30	803	301	2	99	278	3	6	999	99	99	999	99	99	82	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1500	30	803	267	1	99	255	2	5	999	99	99	999	99	99	84	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1530	30	803	205	1	99	176	2	9	999	99	99	999	99	99	85	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1600	30	803	123	2	99	127	4	10	999	99	99	999	99	99	87	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	995	99	99									
75	8	20	1630	30	803	124	2	99	120	6	12	999	99	99	999	99	99	87	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1700	30	803	132	3	99	124	7	14	999	99	99	999	99	99	88	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1730	30	803	151	4	99	137	8	14	999	99	99	999	99	99	86	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1800	30	803	122	3	99	122	6	12	999	99	99	999	99	99	88	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	1830	30	803	127	2	99	120	5	10	999	99	99	999	99	99	88	999	999	999,9	99,9	99,9	99,9	99	99
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75	8	20	1900	30	803	82	2	99	107	4	9	999	99	99	999	99	99	87	999	999	999,9	99,9	99,9	99,9	99	99
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									999	99	99	999	99	99	999	99	99									
75	8	20	2000	30	803	121	2	99	122	6	10	999	99	99	999	99	99	87	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2030	30	803	107	2	99	119	6	10	999	99	99	999	99	99	85	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2100	30	803	141	4	99	135	8	14	999	99	99	999	99	99	86	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2130	30	803	145	3	99	137	7	15	999	99	99	999	99	99	84	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
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75	8	20	2230	30	803	158	4	99	155	6	11	999	99	99	999	99	99	82	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2300	30	803	156	3	99	152	6	10	999	99	99	999	99	99	82	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	20	2330	30	803	150	3	99	151	4	6	999	99	99	999	99	99	81	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	21	30	30	803	336	2	99	306	2	4	999	99	99	999	99	99	80	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	21	100	30	803	4	1	99	979	99	3	999	99	99	999	99	99	78	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	21	130	30	803	149	1	99	183	1	2	999	99	99	999	99	99	76	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	21	200	30	803	10	1	99	360	1	2	999	99	99	999	99	99	75	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	21	230	30	803	999	99	99	999	1	3	999	99	99	999	99	99	75	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									
75	8	21	300	30	803	274	1	99	305	1	3	999	99	99	999	99	99	74	999	999	999,9	99,9	99,9	99,9	99	99
									999	99	99	999	99	99	999	99	99									

APPENDIX G

CALCULATION OF THERMODYNAMIC VARIABLES FROM RAWINSONDE DATA

The equations used for calculation of thermodynamic variables from measurements of altitude, temperature and relative humidity obtained from the GMD-4, AMQ-9 rawinsonde system are summarized herein; these equations, originally developed for the GMD-2 system (Ref. 1), must be used in conjunction with the list of symbols and units provided at the end of this appendix.

Atmospheric Density, ρ

$$\rho = 348.38 \frac{P}{T_v}$$

Pressure, P

$$P = P' 10^{-(h-h')/(221.266\ T_{vm})}$$

Geopotential Height, h

$$h = \frac{g_o}{9.8} \frac{r_e H}{r_e + H}$$

Virtual Temperature, T_v

$$T_v = T(1 + .376932\ e/P')$$

Mean Virtual Temperature, T_{vm}

$$T_{vm} = \frac{T_v' + T_v}{2}$$

Vapor Pressure, e

$$e = 6.11\ f_D\ 10^{7.5t/(t+237.3)}$$

Dew Point Temperature, t_d

$$t_d = \frac{237.3 \log e - 186.527}{8.236 - \log e}$$

Potential Temperature, Θ

$$\Theta = T \left(\frac{1000}{P}\right)^{.288}$$

Virtual Potential Temperature Θ_v

$$\Theta_v = T_v \left(\frac{1000}{P}\right)^{.288}$$

Absolute Humidity, ρ_w

$$\rho_w = 216.7\ e/p$$

Microwave Refractive Index, n

$$n = 1 + \left[\frac{1}{T}\left(77.6P - 11e + \frac{374808e}{T}\right)\right] 10^{-6}$$

For data tabulation, use:

$$N = (n-1)10^6$$

Speed of Sound, V_s

$$V_s = 643.855 \left(\frac{T}{273.16}\right)^{0.5}$$

LIST OF SYMBOLS AND UNITS

e	vapor pressure	millibars (mb)
f_D	relative humidity expressed as a decimal	
g_o	acceleration of gravity at geographical location of the rawinsonde station	meters/seconds^2 (m/sec^2)
h	geopotential height at the top of the layer bounded by h and h'	feet (ft)
h'	geopotential height at the bottom of the layer bounded by h and h'	(ft)
H	geometric altitude at the top of the layer bounded by H and H'	(ft)
H'	Geometric altitude at the bottom of the layer bounded by H and H'	(ft)
n	microwave refractive index	
N	unit of refractive index used for simplification of data tabulation	
P	pressure at geopotential height h	(mb)
p'	pressure at geopotential height h'	(mb)
r_e	radius of the earth	(ft)
t	temperature	degrees Celsius (^oC)
T	temperature	degrees Kelvin (^oK)
t_d	dew point temperature	(^oC)
T_v	virtual temperature at geopotential height h	(^oK)

T_v'	virtual temperature at geopotential height h'	(^oK)
T_{vm}	the mean virtual temperature of layer bounded by h and h'	(^oK)
V_s	speed of sound	knots
ρ	atmospheric density	grams/meter^3 (gm/m^3)
ρ_w	absolute humidity	(gm/m^3)
Θ	potential temperature	(^oK)
Θ_v	virtual potential temperature	(^oK)

REFERENCE

Daniel, O. H.: Digital Computer Reduction of AN GMD-2 Rawinsonde Data. Pan American World Airways, Guided Missile Range Division, Patrick Air Force Base, Florida, 10 May 1962.

APPROVAL

COMPENDIUM OF METEOROLOGICAL DATA FOR VIKING A LAUNCH IN AUGUST 1975

The information in this report has been reviewed for security classification. Review of any information concerning Department of Defense or Atomic Energy Commission programs has been made by the MSFC Security Classification Officer. This report, in its entirety, has been determined to be unclassified.

This document has also been reviewed and approved for technical accuracy.

GEORGE H. FICHTL
Chief, Environmental Dynamics Branch

WILLIAM W. VAUGHAN
Chief, Aerospace Environment Division

CHARLES A. LUNDQUIST
Director, Space Sciences Laboratory

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