NATIONAL BUREAU OF STANDARDS REPORT

9958

A SUMMARY OF LOW VISIBILITY CONDITIONS AT THE ARCATA AIRPORT

U.S. DEPARTMENT OF COMMERCE

NATIONAL BUREAU OF STANDARDS

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This report summarizes data on occurrence of low visibility conditions at the Arcata (California) Airport for a period from 1957 through 1967. The times with transmittances below 0.5 over a 500-foot baseline (equivalent to a transmissivity of about 10^{-5} per statute mile) are given for a 10-year period. The times with runway visual ranges below 1000 feet, 800 feet, and 600 feet for 1965, 1966 and 1967 are also included. The accumulated times as reported by the Federal Aviation Administration Flight Service Station observers are summarized over the period 1962 through 1967 for several ranges of low visibility and low ceiling.

1. INTRODUCTION

Several requests for information on the frequency and characteristics of fog at the Arcata Airport are received each year. Although the specific data desired depend on the particular application intended, a general summary of the hours of fog and the frequency distribution of occurrence will help supply the need for information.

Much of the data on low visibility conditions has been reported in piecemeal form in Quarterly Progress Reports, specific task reports, etc. When presented in this manner the information does not give a full picture. The reports of the Landing Aids Experiment Station (LAES) located at Arcata Airport included summaries of fog occurrence during the time of its operation (1946 through 1949).

Summaries of low visibility conditions as determined from transmissometer records and Federal Aviation Administration (FAA) observations are given in this report for 1957 through 1967.

2. TEN-YEAR SUMMARY OF LOW VISIBILITY CONDITIONS

Instrument records are perhaps the most useful source of information on fog because of continuity and precise knowledge of what is being measured. Fortunately, several years of Arcata transmissometer records are available. There has been a transmissometer located near the touchdown area or runway 31 for most of the time since 1946 and continuous records for more than 10 years are

available. There was one change in location of the transmissometer in 1962 when the Weather Bureau (WB) installed the transmissometer for official use behind the ILS glidepath building and the NBS transmissometer on the runway side of the glidepath building was removed. The earlier transmissometer had a 750-foot baseline and the WB instrument has a 500-foot baseline.

In this summary, the times when the transmittance was less than 0. 5 for the 500-foot baseline unit (0. 35 for the 750-foot baseline unit) were considered low visibility periods. (A transmittance of 0. 5 over a 500-foot baseline corresponds to a transmissivity of approximately 10^{-5} per statute mile.) These transmittances are equivalent to meteorological visibilities of 2100 feet by day and 4300 feet by night. Transmittance is used in this summary instead of visibility as the transmittance in a given atmospheric condition is the same for day and night.

The times that the transmittance over a 500-foot baseline was below 0. 5 as measured by the transmissometer near the touchdown area of runway 31 is summarized in table 1 for the 10-year period from 1957 through 1966. The data are totaled by the month and the year for day and night. Some of the data are also presented in figures 1 to 4 for easier assimilation.

3. LOW RUNWAY VISUAL RANGE CONDITIONS

The efforts to improve air operations by making it practical to land aircraft in low visibility conditions are now centered on the requirements for the low end of Category II and for Category III operations. Most airports have some knowledge of the time that conditions are below operating minimums or are below Category I limits but data concerning the frequency and duration of periods of very dense fog are meager. To obtain some idea of the frequency and duration of conditions that might be encountered, the records of the WB transmissometer at Arcata for 1965, 1966 and 1967 were reviewed and the date, time, and duration of all periods when RVR would have been less than 1000, 800, and 600 feet were tabulated. The data are separated into day and night conditions. The RVR's were based on the runway lights being operated at 100 percent intensity. The transmittances for RVR at 1000, 800, and 600 feet are, respectively, for a 500-foot baseline in daytime 0. 029, 0.011, and 0. 0009 and at night 0. 0012, 0. 00012, and 0. 0000018; and for a 250-foot baseline in daytime 0. 197, 0. 103, and 0. 030 and at night 0. 035, 0. 011, and 0. 0013. The transmittances used in this report are more accurate than those which could be obtained from most operational transmissometers in these low visibility conditions because an automatic range control was used to increase indicator sensitivity by a factor of five for low transmittances and the individual pulses from the receiver were counted in the very low visibility conditions. Part of this time the records from a 250-foot baseline transmissometer located in the same area were used to obtain more accurate measurements.

Table I. Summary of low-visibility conditions at the Arcata Airport for the period 1957-1966.

Hours of low visibility conditions by month

		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1966	Night	5.3	2.0	26.0	26.5	13.8	7.5	12.0	36.1	44.2	62.3	7.0	17.6
	Day	0.6	0.3	3.8	12.9	6.3	2.5	8.4	31.8	19.1	31.3	11.3	7.2
	Total	5.9	2.3	29.8	39.4	20.1	10.0	20.4	67.9	63.3	93.6	18.3	24.8
1965	Night	75.9	47.7	0.0	10.4	1.4	5.3	37.1	62.4	30.2	123.6	5.8	0.3
	Day	21.1	25.3	0.0	4.7	2.4	16.1	35.5	22.5	22.5	75.2	1.3	1.7
	Total	97.0	73.0	0.0	15.1	3.8	21.4	72.6	84.9	52.7	198.8	7.1	2.0
1964	Night	2.5	6.3	20.4	10.0	13.1	7.8	31.5	43.8	33.8	104.8	13.3	40.6
	Day	0.6	0.6	12.7	1.7	3.1	2.5	35.2	22.2	13.6	51.8	0.0	15.6
	Total	3.1	6.9	33.1	11.7	16.2	10.3	66.7	66.0	47.4	156.6	13.3	56.2
1963	Night	21.3	15.6	0.1	0.3	13.8	12.2	4.3	40.7	61.5	3.6	11.7	21.3
	Day	4.3	4.3	0.7	2.3	9.3	12.7	11.9	21.8	38.0	1.1	2.0	2.2
	Total	25.6	19.9	0.8	2.6	23.1	24.9	16.2	62.5	99.5	4.7	13.7	23.5
1962	Night	20.5	1.4	7.3	19.3	9.8	15.3	47.0	77.1	27.5	76.8	56.6	151.7
	Day	7.3	0.8	0.3	10.8	6.0	6.7	25.2	47.1	25.3	75.0	8.0	35.8
	Total	27.8	2.2	7.6	30.1	15.8	22.0	72.2	124.2	52.8	151.8	64.6	187.5
1961	Night	24.8	2.3	0.5	3.3	0.0	2.5	37.5	95.3	23.8	103.8	34.4	36.7
	Day	2.1	2.3	0.2	1.3	0.1	10.9	32.9	42.0	10.3	31.7	7.1	6.8
	Total	26.9	4.6	0.7	4.6	0.1	13.4	70.4	137.3	34.1	135.5	41.5	43.5
1960	Night	4.1	2.8	21.7	28.9	6.1	30.9	38.8	46.3	123.0	53.0	8.4	41.6
	Day	0.0	0.0	8.8	24.8	1.1	22.0	21.5	24.3	50.3	10.1	0.7	9.8
	Total	4.1	2.8	30.5	53.7	7.2	52.9	60.3	70.6	173.3	63.1	9.1	51.4
1959	Night	7.7	5.3	1.5	38.1	6.2	8.9	57.8	20.2	9.3	85.4	67.3	10.8
	Day	0.6	4.7	2.7	22.2	8.5	15.3	38.8	16.9	9.7	39.0	18.5	0.8
	Total	8.3	10.0	4.2	60.3	14.7	24.2	96.6	37.1	19.0	124.4	85.8	11.6
1958	Night	11.9	2.4	0.0	6.0	18.0	3.8	55.6	73.9	8.1	123.1	109.3	71.0
	Day	3.2	1.6	0.0	7.7	15.4	4.0	57.3	54.8	7.8	38.1	40.3	17.8
	Total	15.1	4.0	0.0	13.7	33.4	7.8	112.9	128.7	15.9	161.2	149.6	88.8
1957	Night	0.8	33.9	18.2	15.0	0.8	4.1	15.3	8.8	60.6	20.8	6.8	27.8
	Day	0.6	14.4	9.9	4.3	6.9	11.5	10.3	4.1	25.7	6.8	8.5	3.4
	Total	1.4	48.3	28.1	19.3	7.7	15.6	25.6	12.9	86.3	27.6	15.3	31.2

Summary for each month for ten year period

		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Night	Sum.	174.8	119.7	95.7	157.8	83.0	98.3	336.9	504.6	422.0	757.2	320.6	419.4
	Min.	0.8	2.0	0.0	0.3	0.0	2.5	4.3	8.8	8.1	3.6	5.8	0.3
	Max.	57.9	47.7	26.0	38.1	18.0	30.9	57.8	95.3	123.0	123.6	109.3	151.7
	Avg.	17.5	12.0	9.6	15.8	8.3	9.8	33.7	50.5	42.2	75.7	32.1	41.9
Day	Sum.	40.4	54.3	39.1	92.7	59.1	104.2	277.0	287.5	222.3	360.1	97.7	101.1
	Min.	0.0	0.0	0.0	1.3	0.1	2.5	8.4	4.1	7.8	1.1	0.0	0.8
	Max.	21.1	25.3	12.7	24.8	15.4	22.0	57.3	54.8	50.3	75.2	40.3	35.8
	Avg.	4.0	5.4	3.9	9.3	5.9	10.4	27.7	28.8	22.2	36.0	9.8	10.1
Month	Sum.	215.2	174.0	134.8	250.5	142.1	202.5	613.9	792.1	644.3	1117.3	418.3	520.5
	Min.	1.4	2.3	0.0	2.6	0.1	7.8	16.2	12.9	15.9	4.7	7.1	2.0
	Max.	97.0	73.0	33.1	60.3	33.4	52.9	112.9	137.3	173.3	198.8	149.6	187.5
	Avg.	21.5	17.4	13.5	25.1	14.2	20.3	61.4	79.2	64.4	111.7	41.8	52.1

Summary of each year on monthly basis

	Min.	Max.	Avg.	Total
1966	2.0	62.3	21.7	260.3
	0.3	31.8	11.3	135.5
	2.3	93.6	32.8	395.8
1965	0.0	123.6	33.3	400.1
	0.0	75.2	19.0	228.3
	0.0	198.8	52.2	628.4
1964	2.5	104.8	27.3	327.9
	0.0	51.8	13.3	159.6
	3.1	156.6	40.5	487.5
1963	0.1	61.5	17.2	206.4
	0.7	38.0	9.2	110.6
	0.8	99.5	26.3	317.0
1962	1.4	151.7	42.5	510.3
	0.3	75.0	20.7	248.3
	2.2	187.5	63.3	758.6
1961	0.0	103.8	30.4	364.9
	0.1	42.0	12.3	147.7
	0.1	137.3	42.7	512.6
1960	2.8	123.0	33.8	405.6
	0.0	50.3	14.4	173.4
	2.8	173.3	48.2	579.0
1959	1.5	85.4	26.5	318.5
	0.6	39.0	14.8	177.7
	4.2	124.4	41.3	496.2
1958	0.0	123.1	40.2	483.1
	0.0	57.3	20.7	248.0
	0.0	161.2	60.9	731.1
1957	0.8	60.6	17.7	212.9
	0.6	25.7	8.8	106.4
	1.4	86.3	26.6	319.3

Summary on annual basis

Night	3490.0
Day	1735.5
Month	5225.5

"Low Visibility": - Transmittance over 500-foot path less than 0.5 corresponding to a meteorological visibility of 2100 feet by day and 4300 feet by night.

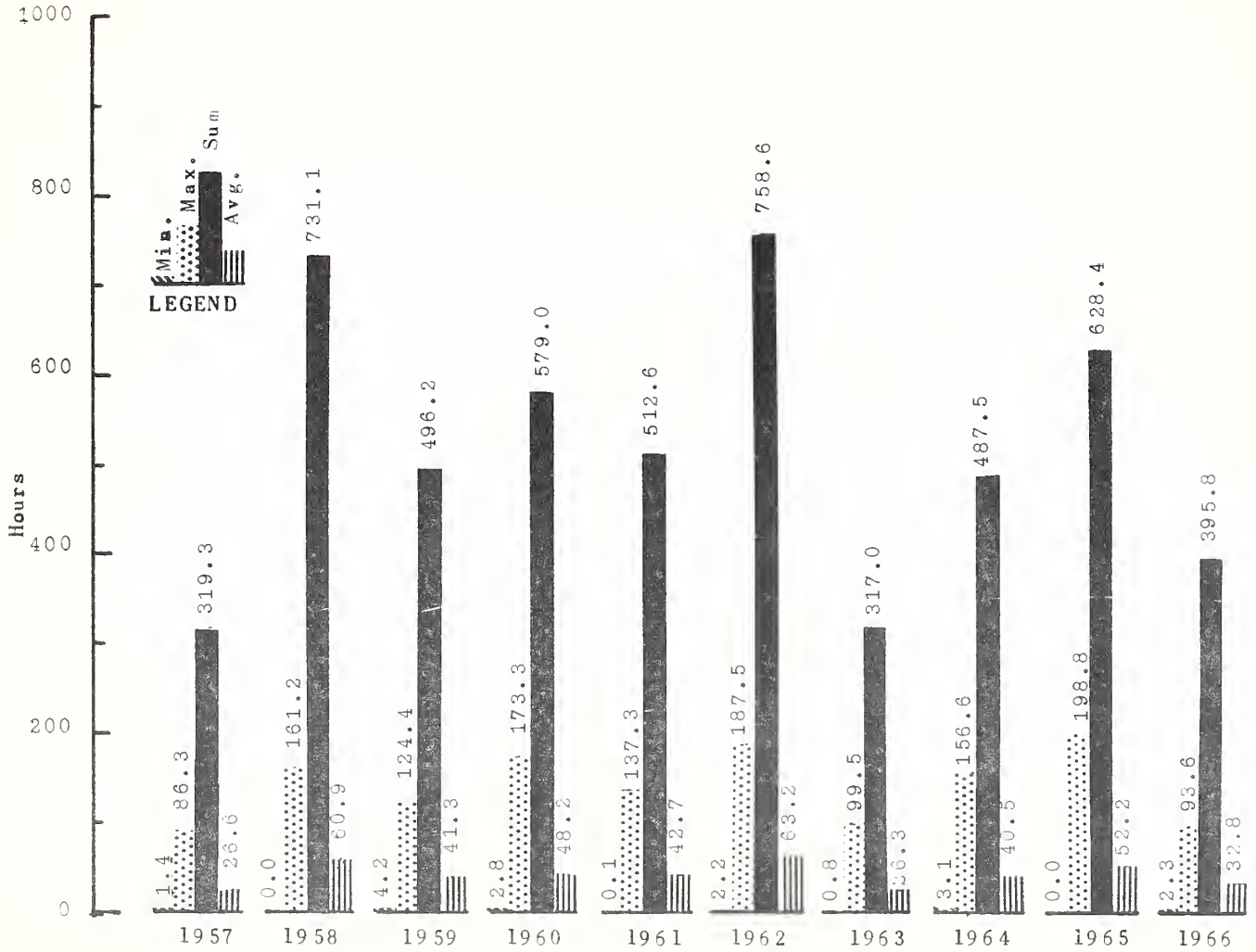

Figure 1. Monthly hours of low-visibility conditions at the Arcata Airport by the year for 1957-1966.

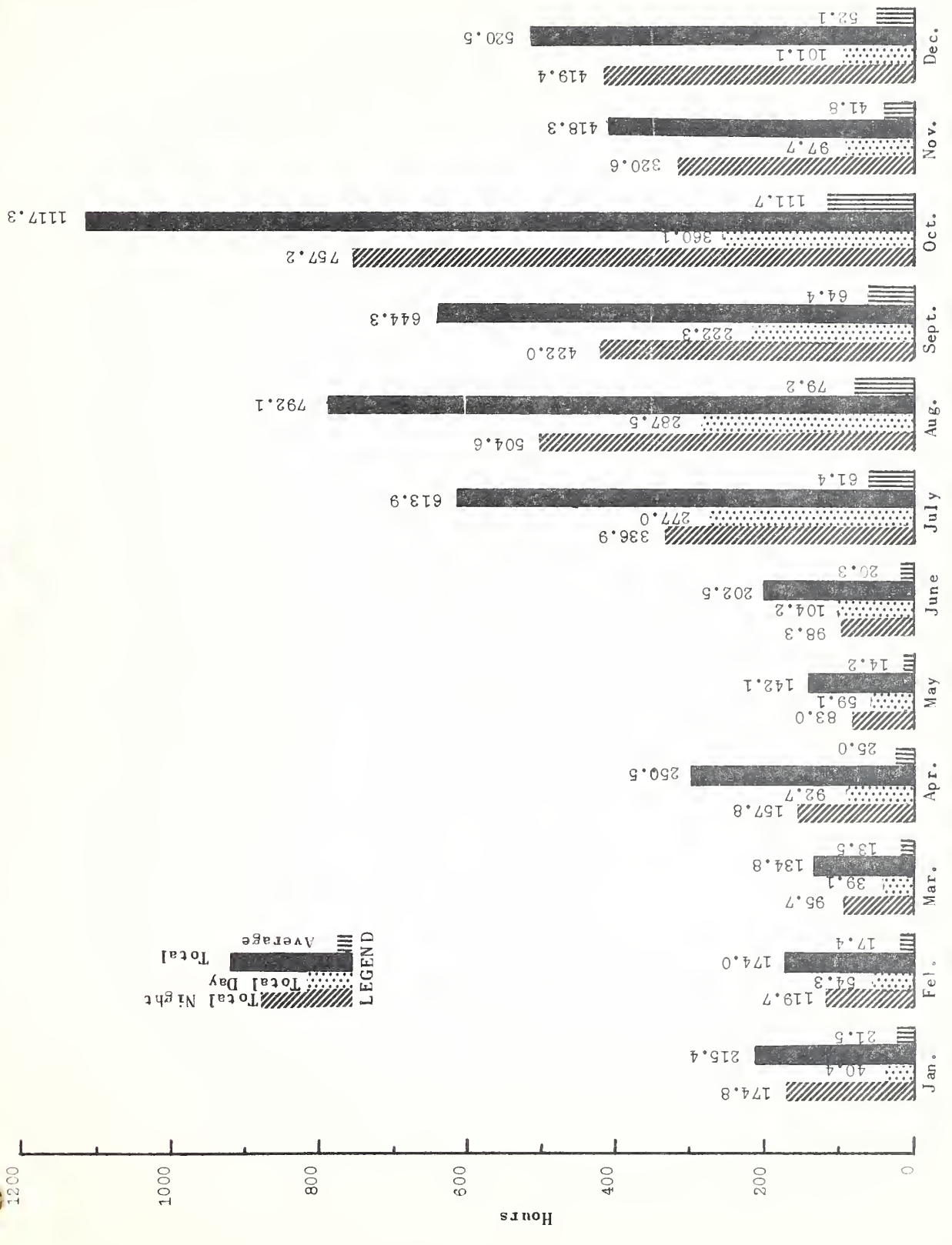

Figure 2. Low-visibility conditions at the Arcata Airport by month for 1957-1966.

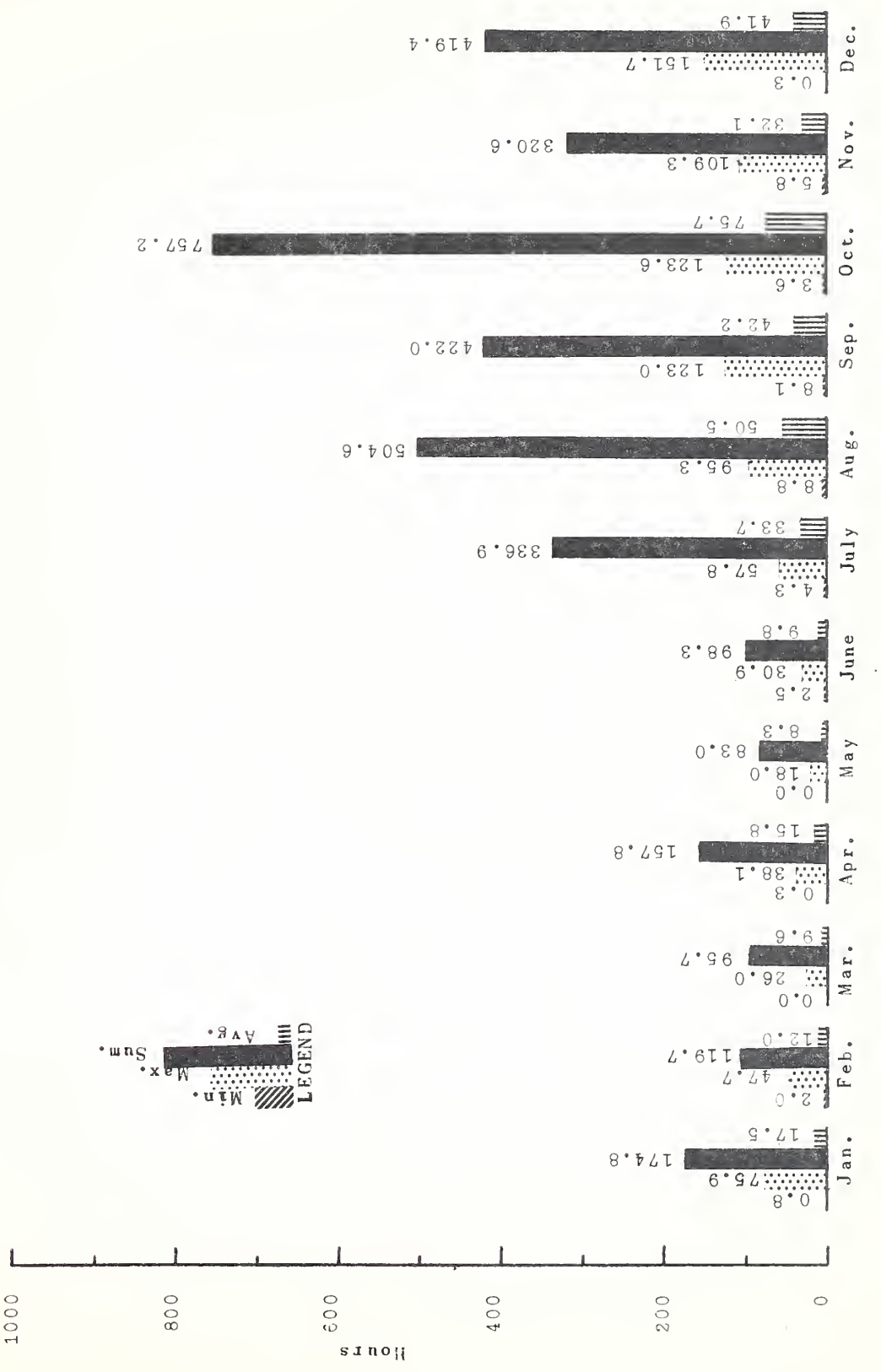

Figure 3. Yearly hours of nighttime low-visibility conditions at the Arcata Airport by month for 1957-1966.

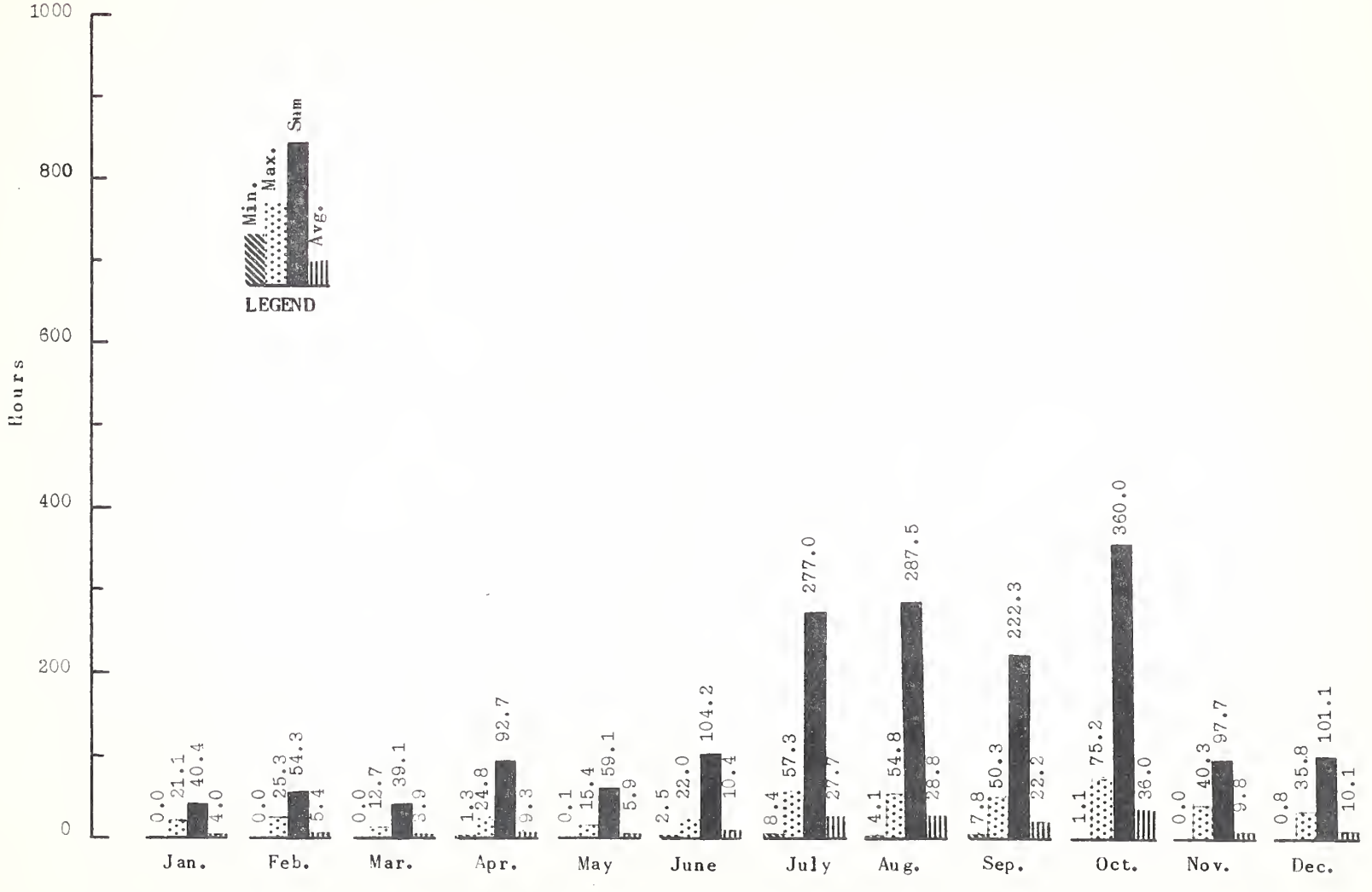

Figure 4. Yearly hours of daytime low visibility conditions at the Arcata Airport by month for 1957-1966.

Since a large portion of the low RVR occurrences last only a few minutes and low RVR's may re-occur after a short period of clearer conditions the data were also evaluated by considering periods in which clearing above the RVR level lasted less than 30 minutes into a single period of low RVR. The duration of these combined periods was considered as from the beginning of the initial occurrence to the end of the final occurrence. The total time, number of periods, and maximum and average duration of periods are given in tables 3, 4, and 5 for the individual and combined occurrences.

NOTE: The RVR computers are designed to provide an RVR readout of 1000 feet for any RVR between 900 feet and 1100 feet. Similarly, a reported RVR of 800 feet includes any RVR between 700 feet and 900 feet, etc. Therefore, in table 3 the periods listed are for RVR's below 900 feet actual; in table 4, the RVR's are below 700 feet actual; and in table 5, the RVR's are below 500 feet actual. In table 6 the RVR's values listed are actual ranges computed from the transmittances.

These data are summarized in table 2. Details of the occurrences of fogs with an RVR of less than 1000 feet are given in table 3 and figures 5, 6, and 7; with an RVR of less than 800 feet in table 4 and figures 8, 9, and 10; with an RVR of less than 600 feet in table 5. The time of day and duration of these conditions are included in this report because they may be of interest in evaluating scheduling and length of possible delays. At Arcata where fog conditions frequently occur, the transmittance over a 500-foot baseline is below 0.5 about six percent of the time, the RVR is below 1000 feet about one percent of the time, below 800 feet about 0.2 percent of the time, and below 600 feet only a few hours each year.

Note from tables 2 and 5 that RVR's less than 600 feet occurred only once at night (for 0.02 hours) and 25 times by day (for a total of 4.30 hours) during the three years covered by the this report. More detailed knowledge of the RVR during these periods is given in table 6. In preparing this table the minimum RVR during each period was determined from the transmissometer record charts whenever this was possible. However, the sensitivities of the transmissometers installed at Arcata were not sufficient to provide transmittance measurements in the densest of these fogs. (During parts of 1965 and 1966 only 500-foot baseline instruments were available. During the remainder of 1965 and 1966 and throughout 1967, 250-foot baseline instruments were available.)

Table 2

Summary, Periods of Low RVR at Arcata Airport
during 1965, 1966, and 1967

a. "Reported" RVR below 1000 feet

	NIGHT (Hours)				DAY (Hours)			
	1965	1966	1967	Period	1965	1966	1967	Period
Individual Occurrences								
Total time (hours)	31.19	4.49	19.71	55.32	52.15	35.87	29.84	117.71
Number of occurrences	96	22	83	201	186	125	119	430
Maximum duration (hours)	2.92	0.62	1.62	2.92	3.10	1.70	2.58	3.19
Mean duration (hours)	0.32	0.22	0.24	0.28	0.29	0.29	0.25	0.27
**Median duration (hours)	0.15	0.16	0.13	0.15	0.08	0.10	0.08	0.08
*Combined Periods								
Total time (hours)	38.61	5.83	24.59	69.03	65.80	47.59	35.86	149.25
Number of occurrences	50	16	39	105	48	41	52	144
Maximum duration (hours)	5.07	0.90	2.45	5.07	8.32	5.58	3.00	8.32
Mean duration (hours)	0.77	0.39	0.61	0.66	1.26	1.16	0.70	1.04
**Median duration (hours)	0.38	0.37	0.27	0.33	0.76	0.70	0.57	0.68

b. "Reported" RVR below 800 feet

	NIGHT (Hours)				DAY (Hours)			
	1965	1966	1967	Period	1965	1966	1967	Period
Individual Occurrences								
Total time (hours)	0.17	0	3.26	3.43	13.88	12.02	10.67	36.57
Number of occurrences	1	0	25	29	54	48	64	166
Maximum duration (hours)	-	-	0.52	0.52	1.92	1.68	1.10	1.92
Mean duration (hours)	-	-	0.12	0.12	0.26	0.24	.17	0.22
Median duration (hours)	-	-	0.08	0.08	0.12	0.08	0.07	0.08
*Combined Periods								
Total time (hours)	0.17	0	4.61	4.78	17.54	14.62	15.80	47.96
Number of occurrences	1	0	16	17	27	23	25	74
Maximum duration (hours)	-	-	0.88	0.88	2.37	1.85	2.47	2.47
Mean duration (hours)	-	-	0.29	0.28	0.67	0.70	0.63	0.65
Median duration (hours)	-	-	0.21	0.17	0.31	0.47	0.38	0.52

c. "Reported" RVR below 600 feet

	NIGHT (Hours)				DAY (Hours)			
	1965	1966	1967	Total	1965	1966	1967	Total
Total time (hours)	-	-	0.02	0.02	0.77	3.24	1.25	5.26
Number of occurrences	-	-	1	1	11	10	3	24
Maximum duration (hours)	-	-	-		0.30	1.33	0.77	1.33
Mean duration (hours)	-	-	-	-	0.07	0.32	0.42	0.22
Median duration (hours)	-	-	-	-	0.03	0.13	0.43	0.07
*Combined Periods								
Total time (hours)	-	-	0.02	0.02	1.15	3.76	1.25	6.16
Number of occurrences	-	-	1	1	8	6	3	17
Maximum duration	-	-	-	0.02	0.63	1.33	0.77	1.33
Mean duration (hours)	-	-	-	0.02	0.14	0.63	0.42	0.36
Median duration (hours)	-	-	-	0.02	0.04	0.62**	0.43	0.10

*Combined periods containing conditions above the RVR level lasting less than 30 minutes are considered as a single occurrence with the duration of the period extending from the beginning of the first period to the end of the last period.

**Three periods had a duration of 0.17 or less and three periods had durations of 1.07 or more.

Table 3

3. a. Periods of RVR below a Reported RVR of 1000 feet at Arcata Airport during 1965. (Based on runway lights operated at brightness step 5).

DATE 1965	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Jan. 13	2323	2325	.03	
Jan. 14	0057	0113	.27	
	1101	1102		.02
	1115	1132		.17
	1136	1146		.17
	1153	1155		.03
	1157	1158		.02
	1200	1204		.07
	1210	1217		.12
	1729	1750	.35	
	1758	1808	.17	
	1856	1859	.05	
	1901	2032	1.52	
	2039	2218	1.65	
	2222	2224	.03	
	2233	2243	.17	
	2248	2254	.10	
	2304	2333	.48	
Jan. 15	0005	0023	.30	
	0100	0101	.02	
	0742	0752		.17
	0759	0819		.33
	0825	0829		.07
	0851	0955		1.07
	1005	1010		.08
	1017	1030		.22
	1041	1047		.10
	1048	1127		.65
	1129	1304		1.58
	1305	1407		1.03
	1409	1411		.03
	1415	1416		.02
	1417	1430		.22
	1444	1451		.12
	1457	1500		.05
	1506	1516		.17
	1517	1522		.08
	1535	1539		.07
	1543	1544		.02
	1546	1549		.05
	1553	1555		.03
	1556	1557		.02
	1558	1601		.05
	1653	1700		.12
Jan. 16	0230	0239	.15	
	2116	2137	.35	
	2303	2314	.18	
Jan. 17	0124	0159	.58	
Jan. 18	1917	1925	.13	
Jan. 29	0235	0307	.53	
	0717	0737		.33
Jan. 30	0736	0740		.07
	0744	0846		1.03
	0854	0857		.05
	0909	0940		.52
	1037	1147		1.17
	1152	1157		.08
	1226	1326		1.00
	1352	1411		.32
Feb. 1	0654	0844	1.83	
	0850	0906	.27	
Feb. 2	0352	0410	.30	
	1014	1017		.05
	1021	1048		.45
	1150	1154		.07
Feb. 17	1637	1643		.10
	1647	1651		.07
	1652	1653		.02
	1658	1735		.62
	2004	2042	.63	

Table 3, cont'd.

3. a cont'd.

DATE 1965	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Feb. 18	0352	0647	2.92	
	0647	0654		.12
	0738	0740		.03
	0853	0955		1.03
	0956	0957		.02
	1003	1005		.03
	1006	1008		.03
	1012	1013		.02
	1015	1017		.03
	1020	1040		.33
	1049	1111		.37
	1124	1125		.02
	1129	1131		.03
	1141	1146		.08
	1151	1157		.10
	1201	1203		.03
	1231	1234		.05
	1247	1257		.17
	1600	1735		1.58
	1740	1805	.42	
	1812	1815	.05	
	1843	1848	.08	
	1853	1856	.05	
	1857	1858	.02	
	1905	1909	.07	
	1914	1915	.02	
	1928	1937	.15	
Feb. 19	0304	0305	.02	
	1728	1735		.12
Feb. 20	0654	0717		.38
	0731	0811		.67
	0837	0954		1.28
	1415	1416		.02
	1424	1427		.05
	1652	1722		.50
	1727	1735		.13
	1900	1901	.02	
	1952	1954	.03	
	2035	2036	.02	
	2043	2050	.12	
Feb. 21	0224	0227	.05	
	0242	0323	.68	
	0349	0356	.12	
	0416	0420	.07	
Apr. 26	0526	0601		.58
	0605	0614		.15
June 10	0305	0339	.57	
July 14	0512	0515		.05
	0528	0532		.07
	0534	0553		.32
	0647	0649		.03
	0700	0702		.03
July 17	0707	0717		.17
	0726	1728		.03
	0744	0757		.22
	0759	0800		.02
	0802	0803		.02
July 23	0514	0519		.08
July 28	0525	0531		.10
	0536	0600		.40
	0607	0609		.03
	0611	0615		.07
	0616	0634		.30
	0637	0641		.07
	0645	0650		.08
	0652	0703		.18
	0704	0706		.03

Table 3, cont'd.

3. a cont'd

DATE 1965	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Aug. 7	1909	1911		.03
	1924	1932		.13
	2006	2009	.05	
	2309	2318	.15	
	2325	2335	.17	
Aug. 8	0046	0059	.22	
	0146	0147	.02	
	1818	1819		.02
	1836	1838		.03
	1846	1851		.08
	1854	1857		.05
	1900	1906		.10
	1909	1926		.28
Aug. 9	0737	0747		.17
	0748	0754		.10
	0755	0800		.08
	0801	0803		.03
	1820	1841		.35
	1843	1849		.10
	1901	1904		.05
	1909	1913		.07
Aug. 10	0655	0657		.03
	0700	0718		.30
	2303	2306	.05	
	2327	2341	.23	
	2352	2400	.13	
Aug. 11	0000	0009	.15	
	0102	0105	.05	
	0528	0617		.82
	0648	0650		.03
Aug. 13	0102	0122	.33	
	0211	0217	.10	
	0248	0249	.02	
	0524	0526		.03
	0530	0635		1.08
	0820	0824		.07
	0830	0831		.02
	0901	0904		.05

DATE 1965	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Sept. 14	0631	0647		.27
	0648	0650		.03
	0721	0723		.03
	0729	0747		.30
Sept. 21	0214	0219	.08	
	0410	0414	.07	
	0447	0453	.10	
	0456	0526	.50	
	0606	0814		2.13
	0822	0827		.08
Sept. 22	1745	1746		.02
	1749	1755		.10
	1802	1805		.05
	1807	1809		.03
Sept. 23	0612	0918		3.10
Sept. 29	0807	0814		.12
Oct. 5	2152	2307	1.25	
Oct. 6	0455	0515	.33	
	0754	0805		.18
Oct. 7	0738	0851		1.22
	0853	0856		.05
	0858	0903		.08
	0905	0911		.10
	0913	0921		.13
	0922	0925		.05
	0926	0930		.07
	1809	1855		.77
	2223	2241	.30	
	2250	2400	1.17	
Oct. 8	0000	0011	.18	
	0724	0727		.05
	0732	0735		.05
	0736	1015		2.65
	1813	1815		.03
	1820	1826		.10
	1829	1834		.08

Table 3, cont'd.

3. a cont'd

DATE 1965	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Oct. 13	0025	0029	.07	
	0056	0102	.10	
	0130	0152	.37	
Oct. 19	1056	1219		1.27
	1618	1620		.03
	1625	1629		.07
	1631	1540		.15
Oct. 26	2139	2141	.03	
	2143	2144	.02	
Oct. 28	0659	0700	.02	
	0755	0937		1.70
	0945	0955		.17
	1113	1115		.03
	1130	1131		.02
	1145	1158		.22
Oct. 29	0530	0605	.58	
	0800	1047		2.78
	1048	1050		.03
	1051	1053		.03
	1055	1108		.22
	1109	1112		.05
	1118	1129		.18
	1140	1236		.93
	1238	1241		.05
	1449	1452		.05
	1455	1456		.02
	1458	1500		.03
	1501	1618		1.28
	1620	1624		.07
	1625	1627		.03
	1628	1629		.02
	1631	1622		.03
	1634	1626		.03
	1640	1641		.02
	1648	1650		.03
	1716	1719		.05
	1720	1726		.10
	1727	1731		.07
	1732	1817		.75
	1923	1948	.42	
	2046	2209	1.38	
	2247	2259	.20	
	2312	2320	.13	
	2331	2333	.03	
	2343	2400	.37	

Table 3, cont'd.

3. a cont'd.

DATE 1965	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Oct. 30	0000	0017	.28	
	0048	0118	.50	
	0317	0326	.15	
	0339	0406	.45	
	0452	0453	.02	
	0455	0456	.02	
	0500	0504	.07	
	0522	0542	.33	
	0653	0743	.83	
	0901	1012		1.18
	1021	1050		.48
	1307	1308		.02
	1707	1709		.03
	1716	1717		.02
	1722	1805		.72
	1813	1817		.07
	1837	1843	.10	
	1848	1858	.17	
	1913	1918	.08	
	1942	1944	.03	
	1948	2003	.25	
	2006	2028	.37	
	2035	2041	.10	
	2053	2149	.93	
	2153	2312	1.32	
	2326	2341	.25	
Total time for 1965 (hours)			31.19	52.15
Number of occurrences			96	186
Maximum duration (hours)			2.92	3.10
Mean duration (hours)			0.32	0.29
Median duration (hours)			0.15	0.08
*Combined periods				
Total time for 1965 (hours)			38.61	65.80
Number of occurrences			50	48
Maximum duration (hours)			5.07	8.32
Mean duration (hours)			0.77	1.26
Median duration (hours)			0.38	0.76

*Combined periods containing conditions above the RVR level lasting less than 30 minutes are considered as a single occurrence with the duration of the period extending from the beginning of the first period to the end of the last period.

Table 3, cont'd.

3. b. Periods of RVR below a Reported RVR of 1000 feet at Arcata Airport during 1966. (Based on runway lights operated at brightness step 5).

DATE 1966	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Jan. 6	2056	2107	.13	
	2114	2123	.15	
	2138	2153	.25	
Jan. 7	0039	0054	.25	
	0125	0132	.12	
Feb. 17	0145	0147	.03	
Mar. 6	0659	0703	.07	
	0706	0721	.25	
Apr. 1	0106	0108	.03	
Apr. 15	0520	0530		.17
	0538	0548		.17
	0550	0552		.03
	0603	0606		.05
	0613	0616		.05
	0632	0644		.20
	0650	0703		.22
	0707	0749		.70
	0808	0811		.05
	0818	0822		.07
	0828	0847		.32
	0900	0901		.02
	0904	0907		.05
	0934	0939		.08
	1203	1207		.07
	1228	1230		.03
	1240	1242		.03
Apr. 16	0638	0640		.03
	0645	0706		.35
Apr. 23	0523	0608		.75
	0609	0629		.33
	0635	0638		.05
May 3	0545	0554		.15
	0559	0614		.25
	0615	0634		.32
	0640	0643		.05
	0653	0658		.08
	0702	0712		.17
May 25	0557	0727		1.50
May 26	1821	1824		.05
	1847	1851		.07
July 24	0610	0617		.12
	0621	0624		.05
	0626	0640		.23
	0647	0658		.18
	0708	0709		.02
	0754	0802		.13
	0809	0823		.23
Aug. 5	0609	0712		1.05
Aug. 6	0617	0637		.33
	0647	0653		.10
	0656	0817		1.35
Aug. 14	0600	0615		.25
	0622	0638		.27
Aug. 16	0610	0612		.03
	0613	0614		.02
	0624	0712		.80
Aug. 21	0600	0613		.22
	0627	0632		.08
	0640	0642		.03
	0928	0930		.03
	0932	0935		.05
	0937	0940		.05

Table 3, cont'd.

3. b. cont'd.

DATE 1966	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Sept. 3	0816	0824		.13
	0827	0829		.03
	0903	0906		.05
	0912	0918		.10
Sept. 4	0520	0643		1.38
	0715	0723		.13
	0847	0848		.02
	0853	0854		.02
Sept. 5	0450	0500	.17	
	0544	0609	.42	
	0640	0822		1.70
Sept. 6	1650	1653		.05
	1657	1659		.03
	1710	1714		.07
	1716	1717		.02
	1753	1758		.08
Sept. 7	0218	0242	.40	
Sept. 18	0502	0532	.50	
Sept. 21	0610	0624		.23
Sept. 26	0552	0558		.10
	0634	0643		.15
	0645	0654		.15
	0655	0720		.42
Sept. 30	0746	0747		.02
	0834	0836		.03
	0852	0858		.10
Oct. 6	1002	1004		.03
Oct. 23	1052	1230		1.63
	1238	1241		.05
	1242	1254		.20
	1303	1304		.02
	1307	1314		.12
	1816	1839		.38

DATE 1966	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Oct. 24	0740	0742		.03
	0805	0904		.98
	0950	1122		1.53
	1124	1131		.12
	1133	1144		.18
	1147	1150		.05
	1641	1644		.05
	1655	1657		.03
	1659	1700		.02
	1702	1704		.03
	1707	1708		.02
	1713	1725		.20
	1727	1810		.72
	2350	2400	.17	
Oct. 25	0000	0004	.07	
	0735	0908		1.55
	0920	0923		.05
	0925	0938		.22
	1000	1048		.80
	1105	1134		.48
	1136	1232		.93
	1234	1236		.03
	1238	1243		.08
	1245	1300		.25
	1304	1306		.03
	1307	1310		.05
Oct. 27	0923	0926		.05
Oct. 28	2035	2040	.08	
	2043	2120	.62	
	2242	2252	.17	
Oct. 30	0206	0221	.25	
Nov. 2	0520	0525	.08	
	0547	0556	.15	
	0637	0645	.13	
	0645	0823		1.63
	0852	0947		.92
	0950	0951		.02
	1015	1052		.62
	1054	1116		.37
	1120	1129		.15

Table 3, cont'd

3. b. cont'd.

DATE 1966	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Nov. 4	0700	0705		.08
	0712	0715		.05
	0719	0809		.83
	0914	1040		1.43
	1044	1111		.45
	1115	1119		.07
	1125	1127		.03
	1133	1134		.02
Dec. 16	0736	0741		.08
	0810	0820		.17
	0842	0937		.92
Dec. 17	0837	0839		.03
Total time for 1966 (hours)			4.49	35.87
Number of occurrences			22	125
Maximum duration (hours)			0.62	1.70
Mean duration (hours)			0.22	0.29
Median duration (hours)			0.16	0.10
*Combined Periods				
Total time for 1966 (hours)			5.83	47.59
Number of occurrences			16	41
Maximum duration (hours)			0.90	5.58
Mean duration (hours)			0.39	1.16
Median duration (hours)			0.37	0.70

*Combined periods containing conditions above the RVR level lasting less than 30 minutes are considered as a single occurrence with the duration of the period extending from the beginning of the first period to the end of the last period.

Table 3, cont'd.

3. c. Periods of RVR below a Reported RVR of 1000 feet at Arcata Airport during 1967. (Based on runway lights operated at brightness step 5).

DATE 1967	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Jan. 14	1555	1655		1.00
	1658	1704		.10
Jan. 15	0822	0846		.40
	0850	0856		.10
	0901	0905		.07
Feb. 5	0725	0759		.57
	0801	0805		.07
	0910	0927		.28
Feb. 7	2158	2204	.10	
	2206	2227	.35	
Feb. 10	0716	0723		.12
	0724	0726		.03
	0820	0825		.08
Feb. 17	1754	1758		.07
May 6	0657	0659		.03
	0705	0707		.03
	0712	0731		.32
	0733	0735		.03
	0737	0743		.10
June 21	0717	0718		.02
July 1	2324	2328	.07	
	2332	2358	.43	
July 2	0005	0010	.08	
	0015	0020	.08	
	0655	0728		.57
	0803	0807		.07
	0809	0834		.42
	0837	0906		.48
	1949	1951		.03
	2007	2008		.02
July 4	0637	0716		.65
July 9	0708	718		.17
	0832	0836		.07
July 18	0708	0726		.30
	0744	0750		.10
July 19	0725	0730		.08
Aug. 12	1805	1810		.08
	1816	1819		.05
	1821	1826		.08
	1827	1829		.03
	1830	1832		.03
	1842	1853		.18
	1855	1912		.28
	1923	1930		.12
	1934	1947		.22
Aug. 13	1834	1835		.02
	1837	1838		.02
	1846	1848		.03
	1911	1915		.07
Aug. 15	0723	0807		.73
	0819	0822		.05
	0921	0922		.02
Aug. 17	1920	1921		.02
	1926	1927		.02
	1934	1935		.02
Aug. 18	0725	0849		1.40
Aug. 19	1849	1856		.12
	1906	1908		.03
	1909	1911		.03
	1914	1932		.30

Table 3, cont'd.

3. c. cont'd.

DATE 1967	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Aug. 20	0749	0806		.28
Aug. 21	0502	0521	.32	
	0736	0840		1.07
Aug. 22	0740	0758		.30
	0800	0817		.28
	0818	0824		.10
	0828	0835		.12
Aug. 27	0744	0748		.07
	0835	0842		.12
	0843	0845		.03
	0846	0848		.03
Sept. 3	0758	0804		.10
	0805	0810		.08
	0811	0814		.05
	0828	0834		.10
	0835	0839		.07
	0842	0844		.03
	0845	0846		.02
	2211	2217	.10	
	2309	2315	.10	
Sept. 4	0009	0025	.27	
	0200	0211	.18	
	0220	0229	.15	
Sept. 6	0416	0421	.08	
	0424	0435	.18	
	0438	0446	.13	
	0447	0501	.23	
	0511	0515	.07	
	0516	0537	.35	
	0544	0548	.07	
	0718	0722		.07
	0725	0744		.32
	0755	0827		.53
	0832	0847		.25
Sept. 13	2302	2308	.10	
	2332	2400	.47	
Sept. 14	0002	0013	.18	
	0051	0056	.08	
	0139	0204	.42	
	0208	0216	.13	
	0222	0314	.87	
	0756	1031		2.58
	1035	1046		.18
Sept. 19	0640	0646	.10	
	0649	0750	.02	
Sept. 23	0528	0533	.08	
	0806	0818		.20
	0833	0852		.32
	0902	0945		.72
Sept. 26	1929	1931	.03	
	2041	2042	.02	
	2045	2047	.03	
	2050	2051	.02	
	2058	2108	.17	
	2128	2142	.23	
	2148	2218	.50	
	2220	2245	.42	
Sept. 27	0028	0035	.12	
	0037	0214	1.62	
	0219	0220	.02	
	0228	0238	.17	
	0240	0241	.02	
	0245	0247	.03	
	0251	0255	.07	
	0430	0605	1.58	
	0728	0731	.05	
	0809	1001		1.87

Table 3, cont'd.

3. c. cont'd.

DATE 1967	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Sept. 29	1553	1634		.68
	1736	1750		.23
Sept. 30	0530	0543	.22	
Oct. 8	0941	0949		.13
	0951	1002		.18
	1004	1006		.03
	1233	1235		.03
	1241	1246		.08
	1250	1251		.02
	1252	1255		.05
Oct. 10	1151	1154		.05
	1816	1824		.13
Oct. 12	0410	0413	.05	
	0424	0427	.05	
	1102	1104		.03
	1107	1112		.08
	1133	1134		.02
Oct. 19	2344	2400	.27	
Oct. 20	0000	0005	.08	
	0052	0057	.08	
	0226	0353	1.45	
	0415	0427	.20	
	0440	0448	.13	
	0603	0606	.05	
	0610	0644	.57	
	0801	0950		1.82
	0952	1101		1.15
Oct. 22	0802	0810		.13
Oct. 23	0240	0244	.07	
Oct. 25	0917	0920		.05
Nov. 1	0457	0531	.57	
	0537	0547	.17	
	0657	0749		.87
	0951	0956		.08
	0957	1001		.08
	1003	1015		.20
	1020	1025		.08
	2245	2258	.22	
Nov. 2	0419	0426	.12	
	0501	0504	.05	
	0543	0552	.15	
	0557	0616	.32	
	0808	0902		.90
Nov. 21	0648	0705	.28	
	0734	0736	.03	
Dec. 26	2247	2248	.02	
	2325	2332	.12	
	2337	2341	.07	
Dec. 27	0145	0151	.10	
	0226	0246	.33	
	0250	0308	.30	
	0316	0420	1.07	
	0513	0527	.23	
	0726	0757		.52
	0759	0807		.13
	0820	0825		.08
	0827	0845		.30
	1030	1032		.03
	1035	1037		.03
	1221	1223		.03

Table 3, cont'd.

3. c. cont'd.

DATE 1967	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Dec. 28	0530	0539	.15	
	0541	0545	.07	
	0732	0822		.83
	0823	0826		.05
	0832	0835		.05
	0838	0845		.12
	0852	0907		.25
	0954	0956		.03
	1000	1004		.07
Dec. 29	0117	0122	.08	
	0136	0202	.43	
	0447	0505	.30	
	0506	0510	.07	
	0522	0529	.12	
	0531	0545	.23	
Total time for 1967 (hours)			19.71	29.84
Number of occurrences			83	119
Maximum duration (hours)			1.62	2.58
Mean duration (hours)			0.24	0.25
Median duration			0.13	0.08
*Combined Periods				
Total time for 1967 (hours)			24.59	35.86
Number of occurrences			39	52
Maximum duration (hours)			2.45	3.00
Mean duration (hours)			0.61	0.70
Median duration (hours)			0.27	0.57

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*Combined periods containing conditions above the RVR level lasting less than 30 minutes are considered as a single occurrence with the duration of the period extending from the beginning of the first period to the end of the last period.

Table 3, cont'd.

3. d. Recapitulation, Periods of RVR below a Reported RVR of 1000 feet at Arcata Airport during 1965, 1966, and 1967

	NIGHT (Hours)				DAY (Hours)			
	1965	1966	1967	Period	1965	1966	1967	Period
Individual Occurrences								
Total time (hours)	31.19	4.49	19.71	55.32	52.15	35.87	29.84	117.71
Number of occurrences	96	22	83	201	186	125	119	430
Maximum duration (hours)	2.92	0.62	1.62	2.92	3.10	1.70	2.58	3.10
Mean duration (hours)	0.32	0.22	0.24	0.28	0.29	0.29	0.25	0.27
**Median duration (hours)	0.15	0.16	0.13	0.15	0.08	0.10	0.08	0.08
*Combined Periods								
Total time (hours)	38.61	5.83	24.59	69.03	65.80	47.59	35.86	149.25
Number of occurrences	50	16	39	105	48	41	52	144
Maximum duration (hours)	5.07	0.90	2.45	5.07	8.32	5.58	3.00	8.32
Mean duration (hours)	0.77	0.39	0.61	0.66	1.26	1.16	0.70	1.04
**Median duration (hours)	0.38	0.37	0.27	0.33	0.76	0.70	0.57	0.68

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*Combined periods containing conditions above the RVR level lasting less than 30 minutes are considered as a single occurrence with the duration of the period extending from the beginning of the first period to the end of the last period.

Table 4

4. a. Periods of RVR below a Reported RVR of 800 feet at Arcata Airport during 1965. (Based on runway lights operated at brightness step 5).

DATE 1965	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Jan. 14	1123	1124		.02
Jan. 15	0743	0745		.03
	0746	0752		.10
	0806	0807		.02
	0808	0816		.13
	0855	0940		.75
	1105	1108		.03
	1113	1119		.10
	1135	1145		.17
	1146	1152		.10
	1156	1201		.08
	1203	1210		.12
	1211	1215		.07
	1223	1227		.07
	1322	1327		.08
Jan. 17	0148	0158	.17	
Jan. 30	1040	1114		.57
	1227	1317		.83
Feb. 1	0658	0713		.25
	0733	0801		.47
Feb. 2	1027	1044		.28
Feb. 18	0647	0652		.08
	0854	0934		.67
	0936	0942		.10
	0945	0952		.12
	1027	1028		.02
	1032	1033		.02
	1625	1626		.02
	1630	1632		.03
	1633	1636		.05
	1643	1700		.30
	1704	1735		.52
Feb. 20	0658	0701		.05
	0754	0808		.23
	0853	0906		.22
July 28	0518	0519		.02
	0526	0530		.07
	0536	0549		.22
Aug. 9	1826	1827		.02
Aug. 11	0528	0538		.17
	0540	0542		.03
	0548	0602		.23
Aug. 13	0533	0632		.98
Sept. 21	0606	0801		1.92
Sept. 23	0612	0613		.02
	0622	0623		.02
	0628	0753		1.42
	0802	0813		.18

Table 4, cont'd.

4. a. cont'd.

DATE 1965	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Oct. 28	0755	0802		.12
Oct. 29	0847	0934		.77
	0955	0957		.03
Oct. 30	0908	0950		.70
	1023	1031		.13
	1739	1742		.05
	1743	1748		.08
Total time for 1965 (hours)			0.17	13.88
Number of occurrences			1	54
Maximum duration (hours)			-	1.92
Mean duration (hours)			-	0.26
Median duration (hours)			-	0.12

*Combined Periods

Total time for 1965 (hours)	0.17	17.54
Number of occurrences	1	27
Maximum duration (hours)	-	2.37
Mean duration (hours)	-	0.67
Median duration (hours)	-	0.31

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*Combined periods containing conditions above the RVR level lasting less than 30 minutes are considered as a single occurrence with the duration of the period extending from the beginning of the first period to the end of the last period.

Table 4, cont'd.

4. b. Periods of RVR below a Reported RVR of 800 feet at Arcata Airport during 1966. (Based on runway lights operated at brightness step 5).

DATE 1966	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Apr. 15	0712	0734		.37
	0841	0844		.05
Apr. 23	0547	0557		.17
May 3	0547	0552		.08
May 25	0624	0628		.07
	0630	0652		.37
Aug. 6	0622	0629		.12
	0702	0704		.03
	0708	0715		.12
	0725	0800		.58
Aug. 16	0625	0630		.08
	0653	0657		.07
	0702	0708		.10
Sept. 4	0520	0643		1.38
Sept. 5	0640	0821		1.68
Sept. 21	0611	0624		.22
Sept. 26	0554	0556		.03
	0658	0706		.13
	0708	0718		.17
Oct. 23	1151	1157		.10
Oct. 24	1034	1038		.07
	1049	1057		.13
Oct. 25	1735	0904		1.48
	1006	1012		.10
	1140	1155		.25
	1215	1220		.08
Nov. 2	0645	0756		1.18
	0801	0805		.08
	0810	0821		.18
	0859	0903		.07
	0905	0907		.03
	0915	0924		.15
	0927	0931		.07
	1037	1040		.05
	1106	1110		.07

Table 4, cont'd.

4. b. cont'd.

DATE 1966	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Nov. 4	0720	0753		.55
	0801	0806		.08
	0916	0926		.17
	0930	1000		.50
	1002	1006		.07
	1007	1008		.02
	1011	1014		.05
	1017	1019		.03
	1046	1048		.03
	1049	1053		.07
	1054	1057		.05
	1058	1102		.07
	1106	1107		.02

Total time for 1966 (hours)	0	12.02
Number of occurrences	0	48
Maximum duration (hours)	-	1.68
Mean duration (hours)	-	0.24
Median duration (hours)	-	0.08

*Combined Periods

Total time for 1966 (hours)	0	14.62
Number of occurrences	0	23
Maximum duration (hours)	-	1.85
Mean duration (hours)	-	0.70
Median duration (hours)		0.47

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*Combined periods containing conditions above the RVR level lasting less than 30 minutes are considered as a single occurrence with the duration of the period extending from the beginning of the first period to the end of the last period.

Table 4, cont'd.

4. c. Periods of RVR below a Reported RVR of 800 feet at Arcata Airport during 1967. (Based on runway lights operated at brightness step 5).

DATE 1967	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Feb. 5	0725	0757		.53
Feb. 10	0719	0720		.02
July 2	0719	0724		.08
	0812	0819		.12
	0837	0839		.03
	0848	0849		.02
	0853	0854		.02
July 4	0637	0642		.08
Aug. 12	1816	1818		.03
	1822	1824		.03
	1828	1829		.02
	1847	1850		.05
	1906	1908		.03
Aug. 15	0738	0741		.05
Aug. 18	0729	0730		.02
	0745	0751		.10
	0809	0815		.10
	0818	0819		.02
	0824	0826		.03
Aug. 19	1915	1916		.02
	1920	1925		.08
Aug. 20	0749	0753		.07
Aug. 21	0728	0747		.32
	0748	0817		.48
	0818	0825		.12
	0833	0834		.02
Sept. 6	0416	0420	.07	
	0426	0432	.10	
	0439	0445	.10	
	0447	0449	.03	
	0451	0456	.08	
	0719	0721		.03
	0730	0744		.23
	0755	0757		.03
	0758	0825		.45
	0840	0841		.02
Sept. 13	2348	2357	.15	
Sept. 14	0756	0800		.07
	0811	0915		1.07
	0919	0925		.10
	0931	0936		.07
	0948	1022		.57
Sept. 23	0910	0933		.38
Sept. 27	0049	0053	.07	
	0055	0100	.08	
	0116	0120	.07	
	0435	0440	.08	
	0457	0528	.52	
	0809	0816		.12
	0830	0936		1.10
Sept. 29	1608	1616		.13
	1617	1625		.13
Sept. 30	0532	0542	.17	
Oct. 8	0946	0948		.03
	0956	1002		.10
	1242	1245		.05
	1252	1254		.03

Table 4. cont'd

4.c.. cont'd.

DATE 1967	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Oct. 10	1817	1820		.05
Oct. 20	0227	0235	.13	
	0240	0148	.13	
	0249	0254	.08	
	0336	0353	.28	
	0610	0620	.17	
	0801	0842		.68
	0845	0850		.08
	0854	0856		.03
	0912	0913		.02
	0915	0916		.02
	0926	0931		.08
	0932	0940		.13
	1016	1018		.03
Nov. 1	0502	0503	.02	
	0657	0747		.83
	2252	2256	.07	
Nov. 2	0421	0423	.03	
	0549	0551	.03	
	0606	0608	.03	
	0612	0615	.05	
	0809	0837		.47
	0839	0853		.23
Nov. 21	0650	0651	.02	
Dec. 27	0345	0400	.25	
	0726	0747		.35
	0750	0753		.05
	0801	0803		.03
	0828	0844		.27
Dec. 28	0741	0742		.02
	0747	0749		.03
	0755	0759		.07
Dec. 29	0151	0200	.15	
	0449	0504	.25	
	0507	0510	.05	

	NIGHT	DAY
Total time for 1967 (hours)	3.26	10.67
Number of occurrences	25	64
Maximum duration (hours)	0.52	1.10
Mean duration (hours)	0.12	0.17
Median duration (hours)	0.08	0.07
*Combined Periods		
Total time for 1967 (hours)	4.61	15.80
Number of occurrences	16	25
Maximum duration (hours)	0.88	2.47
Mean duration (hours)	0.29	0.63
Median duration (hours)	0.21	0.38

*Combined periods containing conditions above the RVR level lasting less than 30 minutes are considered as a single occurrence with the duration of the period extending from the beginning of the first period to the end of the last period.

Table 4, cont'd

4.d. Recapitulation, Periods of RVR below a Reported RVR of 800 feet at Arcata Airport during 1965, 1966, and 1967

	NIGHT (Hours)				DAY (Hours)			
	1965	1966	1967	Period	1965	1966	1967	Period
Individual Occurrences								
Total time (hours)	0. 17	0	3. 26	3. 43	13. 88	12. 02	10. 67	36. 57
Number of occurrences	1	0	. 25	29	54	48	64	166
Maximum duration (hours)	-	-	0. 52	0. 52	1. 92	1. 68	1. 10	1. 92
Mean duration (hours)	-	-	0. 12	0. 12	0. 26	0. 24	. 17	0. 22
Median duration (hours)	-	-	0. 08	0. 08	0. 12	0. 08	0. 07	0. 08
*Combined Periods								
Total time (hours)	0. 17	0	4. 61	4. 78	17. 54	14. 62	15. 80	47. 96
Number of occurrences	1	0	16	17	27	23	25	74
Maximum duration (hours)	-	-	0. 88	0. 88	2. 37	1. 85	2. 47	2. 47
Mean duration (hours)	-	-	0. 29	0. 28	0. 67	0. 70	0. 63	0. 65
Median duration (hours)	-	-	0. 21	0. 17	0. 31	0. 47	0. 38	0. 52

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*Combined periods containing conditions above the RVR level lasting less than 30 minutes are considered as a single occurrence with the duration of the period extending from the beginning of the first period to the end of the last period.

Table 5

Periods of RVR below a Reported RVR of 600 feet at the Arcata Airport during 1965, 1966, and 1967

5. a. For 1965

DATE 1965	LOCAL TIME Start	Stop	DAY Hours
Jan. 30	1242	1243	. 02
Feb. 18	1714	1717	. 05
July 28	0518	0520	. 03
Aug. 13	0539	0541	. 03
Sept. 21	0625	0627	. 03
	0731	0735	. 07
Sept. 23	0635	0636	. 02
	0642	0644	. 03
	0659	0707	. 13
	0709	0713	. 06
Oct. 30	0610	0628	. 30
			(1965)

5. b. For 1966

DATE 1966	LOCAL TIME Start	Stop	DAY Hours
Sept. 4	0523	0643	1. 33
Sept 26	0650	0700	0. 17
Oct. 25	0654	0712	0. 30
	0715	0717	0. 03
	0724	0758	0. 57
	1048	1049	0. 02
Nov. 2	0645	0722	0. 62
	0740	0745	0. 08
	0748	0749	0. 02
Nov. 4	0732	0738	0. 10
			(1966)

5. c. For 1967

DATE 1967	LOCAL TIME Start	Stop	NIGHT Hours	DAY Hours
Feb. 5	0730	0756		. 43
Sept. 6	0444	0445	. 02	
Nov. 1	0659	0745		. 77
Dec. 27	0728	0731		. 05
				(1967)

5. d. Recapitulation, Periods of RVR below a Reported RVR of 600 feet at Arcata Airport during 1965, 1966, and 1967.

	NIGHT (Hours)				DAY (Hours)			
	1965	1966	1967	Total	1965	1966	1967	Total
Total time (hours)	-	-	0. 02	0. 02	0. 77	3. 24	1. 25	5. 26
Number of occurrences	-	-	1	1	11	10	3	24
Maximum duration (hours)	-	-	-		0. 30	1. 33	0. 77	1. 33
Mean duration (hours)	-	-	-	-	0. 07	0. 32	0. 42	0. 22
Median duration (hours)	-	-	-	-	0. 03	0. 13	0. 43	0. 07
*Combined Periods								
Total time (hours)	-	-	0. 02	0. 02	1. 15	3. 76	1. 25	6. 16
Number of occurrences	-	-	1	1	8	6	3	17
Maximum duration	-	-	-	0. 02	0. 63	1. 33	0. 77	1. 33
Mean duration (hours)	-	-	-	0. 02	0. 14	0. 63	0. 42	0. 36
Median duration (hours)	-	-	-	0. 02	0. 04	0. 62**	0. 43	0. 10

*Combined periods containing conditions above the RVR level lasting less than 30 minutes are considered as a single occurrence with the duration of the period extending from the beginning of the first period to the end of the last period.

**Three periods had a duration of 0. 17 or less and three periods had durations of 1. 07 or more.

Table 6

Minimum Value of RVR's during Periods of RVR below a Reported RVR of 600 feet at Arcata Airport during 1965, 1966, and 1967

	Time for Period Below 600 Feet		Time of Minimum RVR Condition		Minimum Transmittances	Minimum RVR
DATE	START	STOP	START	STOP	T_{500}	FEET
1965						
Jan. 30	1242	1243	1242	1243	<.001 (3)	<505
Feb. 18	1714	1717	1714	1717	0.0001 (2)	410
July 28	0518	0520	0519	0520	.0004 (2)	460
Aug. 13	0539	0541	0539	0540	.0005 (1)	470
Sept. 21	0625	0627	0625	0627	.0006 (1)	480
	0632	0635	0632	0635	.0004 (1)	460
Sept. 23	0635	0636	0635	0636	.0004 (1)	460
	0642	0644	0642	0644	.0006 (1)	480
	0659	0707	0700	0707	.0006 (1)	480
	0709	0713	0711	0713	.0008 (1)	490
Oct. 30	0610	0628	0613	0617	.0003 (1)	450
1966						
Sept. 4	0523	0643	0600	0605	.0006 (2)	480
			0630	0640	.0006 (2)	480
Sept. 26	0650	0700	0651	0658	.0003 (5)	450
Oct. 25	0654	0712	0656	0700	.0004 (5)	460
	0715	0717	0716	0717	.0007 (4)	490
	0724	0758	0727	0730	.0003 (4)	450
	1048	1049	1048	1049	.0006 (5)	480
Nov. 2	0645	0722	0700	0705	.000036 (5)	370
	0740	0745	0740	0743	.0005 (5)	470
	0748	0749	0748	0749	.0003 (4)	450
Nov. 4	0732	0738	0732	0738	.0004 (1)	460

Table 6, cont'd.

DATE	Time for Period Below 600 Feet START	STOP	Time of Minimum RVR Condition START	STOP	Minimum Transmittances T_{500}	Minimum RVR FEET
1967						
Feb. 5	0730	0756	0749	0751	.00006 (4)	390
Sept. 6	0440	0445	0444	0445	.000001 (5)	480 (Night-time)
Nov. 1	0659	0745	0711	0727	.000006 (4)	325
Dec. 27	0728	0731	0728	0731	.000008 (5)	330

(1) Pulse count from records of 500-foot baseline transmissometer, fair accuracy.

(2) Pulse count from 500-foot baseline transmissometer estimated from records of poor quality.

(3) Below minimum useful range of 500-foot baseline transmissometer.

(4) Pulse count and readings from records of 250-foot baseline transmissometer, good accuracy.

(5) Readings and pulse counts from records of 250-foot baseline transmissometer, fair accuracy.

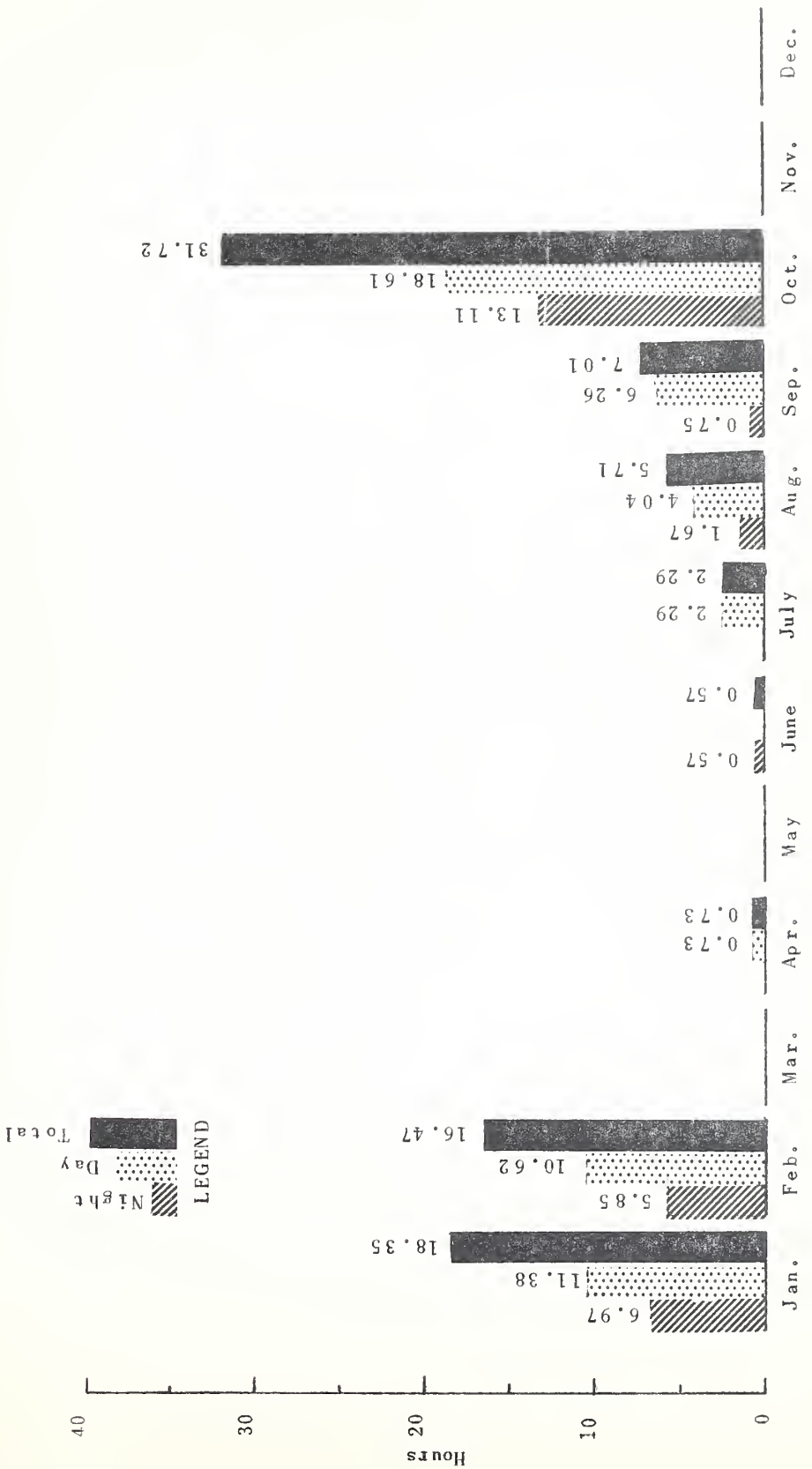

Figure 5. Hours of RVR of 1000 feet or less during 1965.

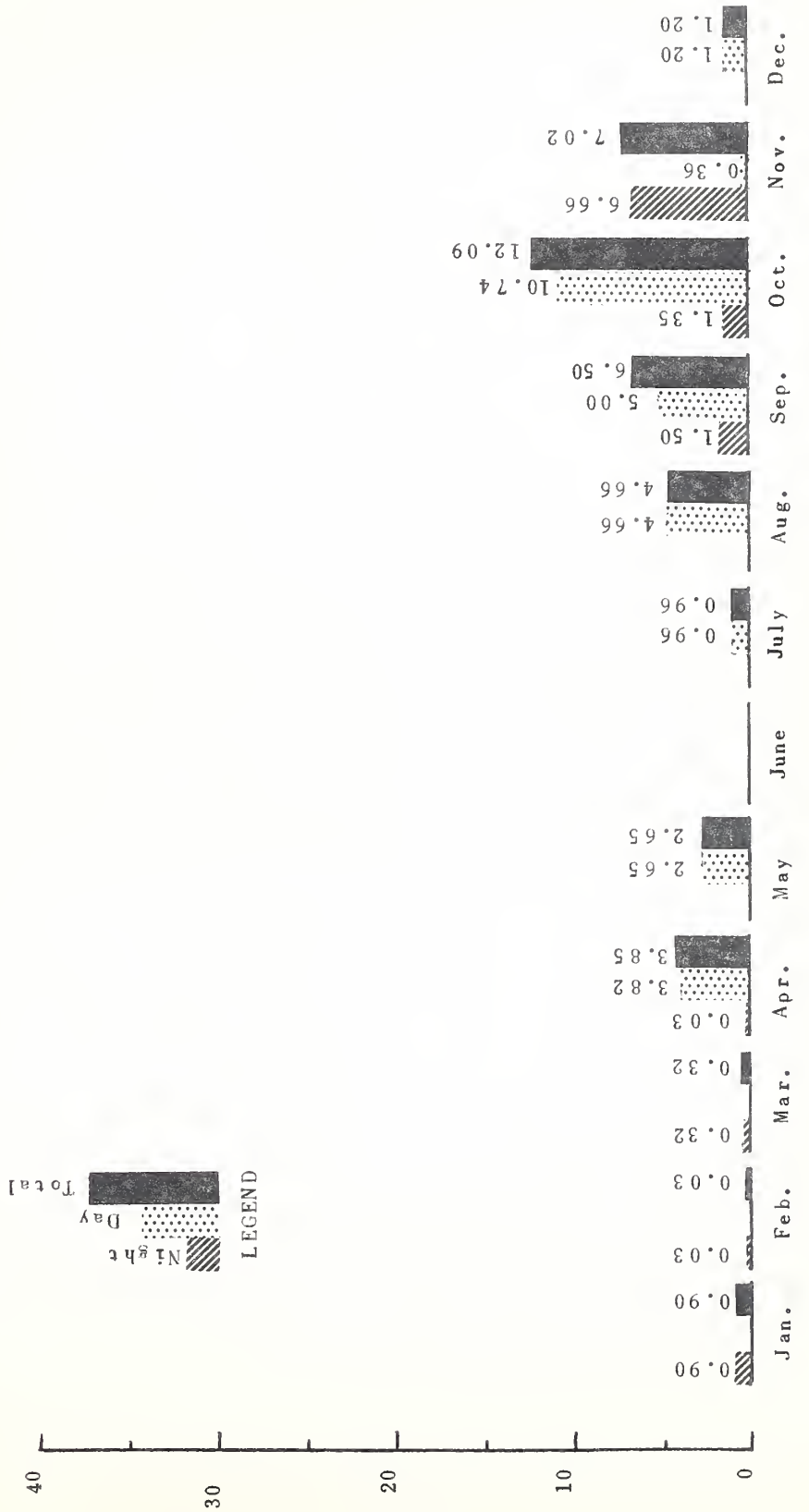

Figure 6. Hours of RVR of 1000 feet or less during 1966.

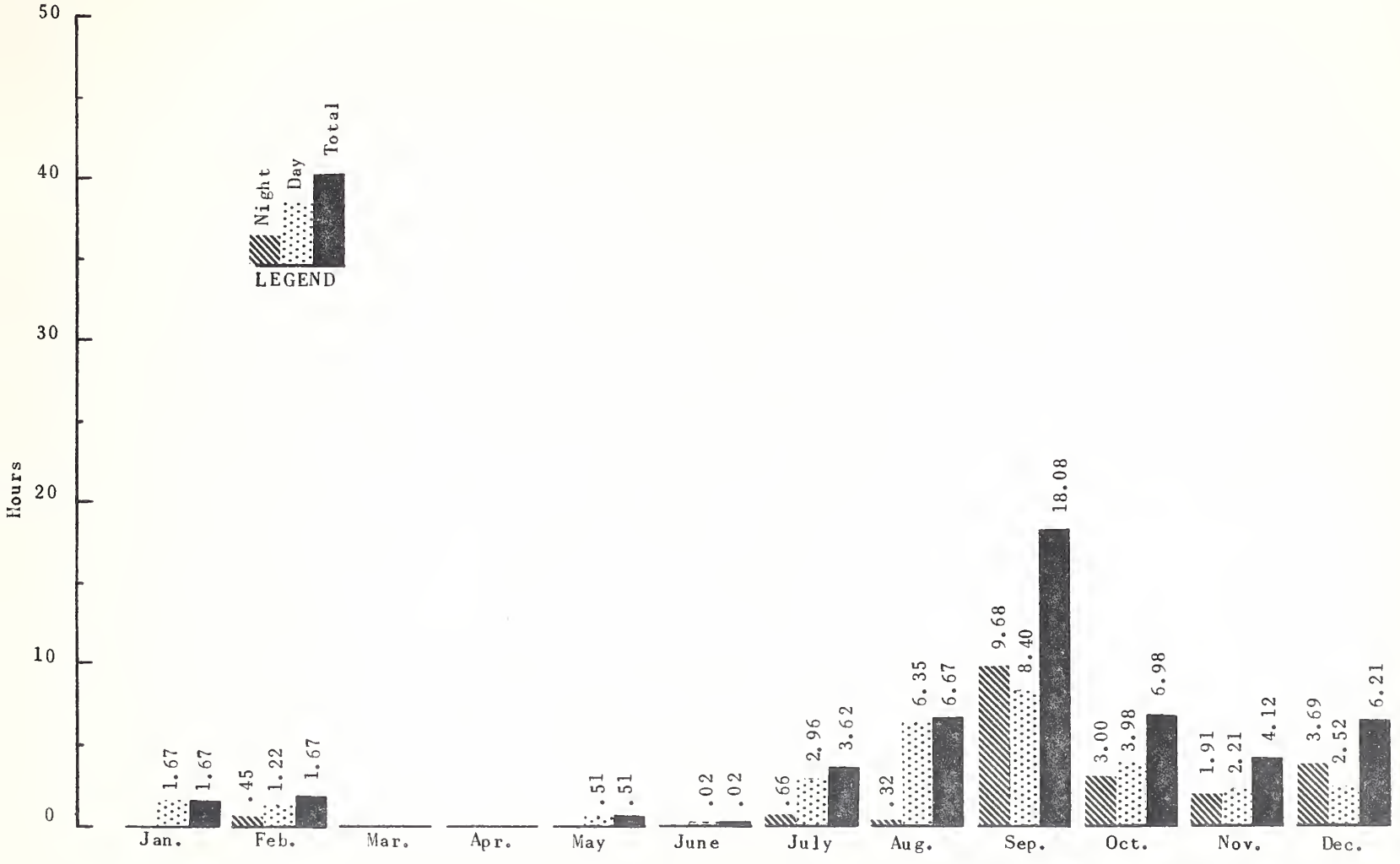

Figure 7. Hours of RVR of 1000 feet or less during 1967.

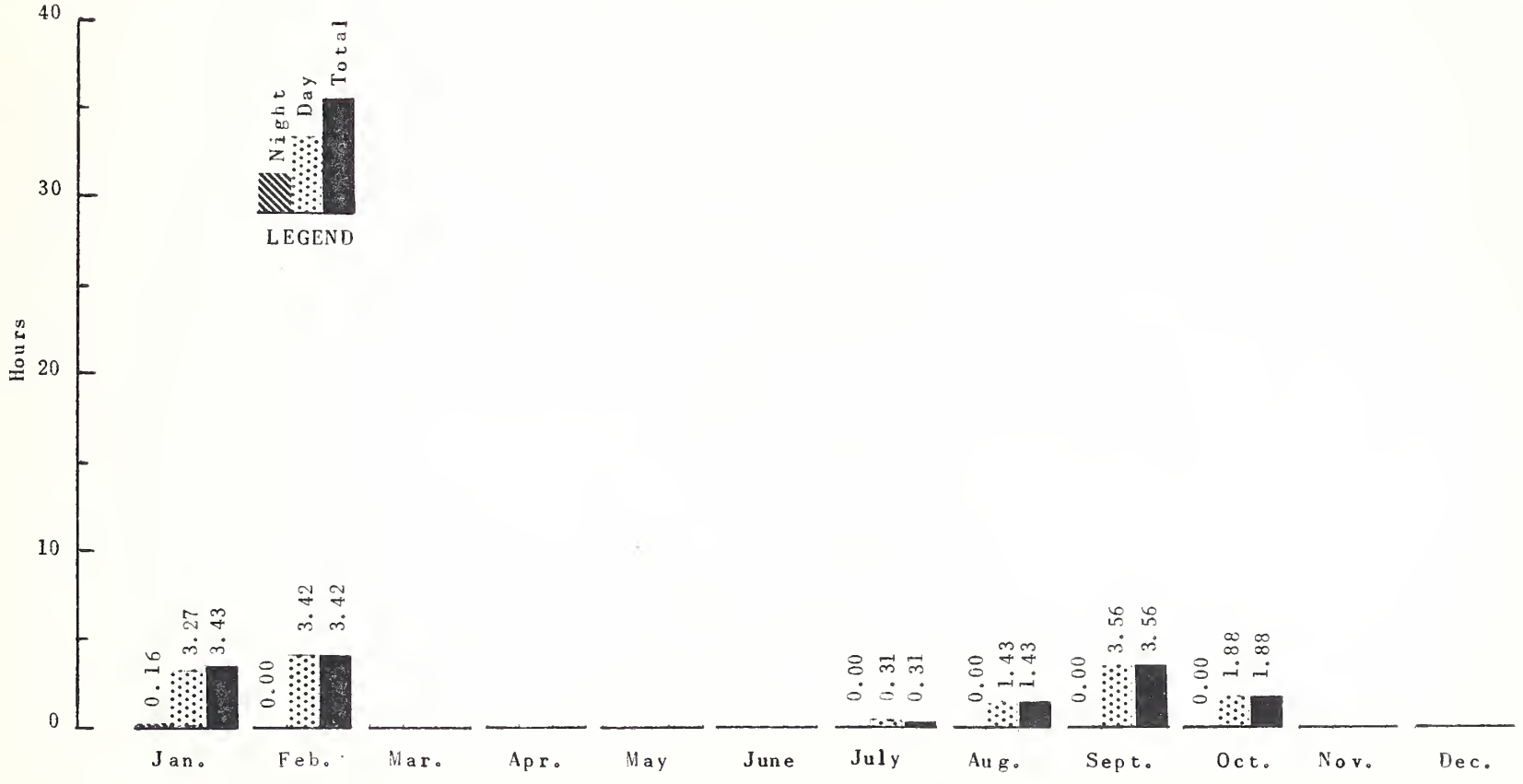

Figure 8. Hours of RVR of 800 feet or less during 1965.

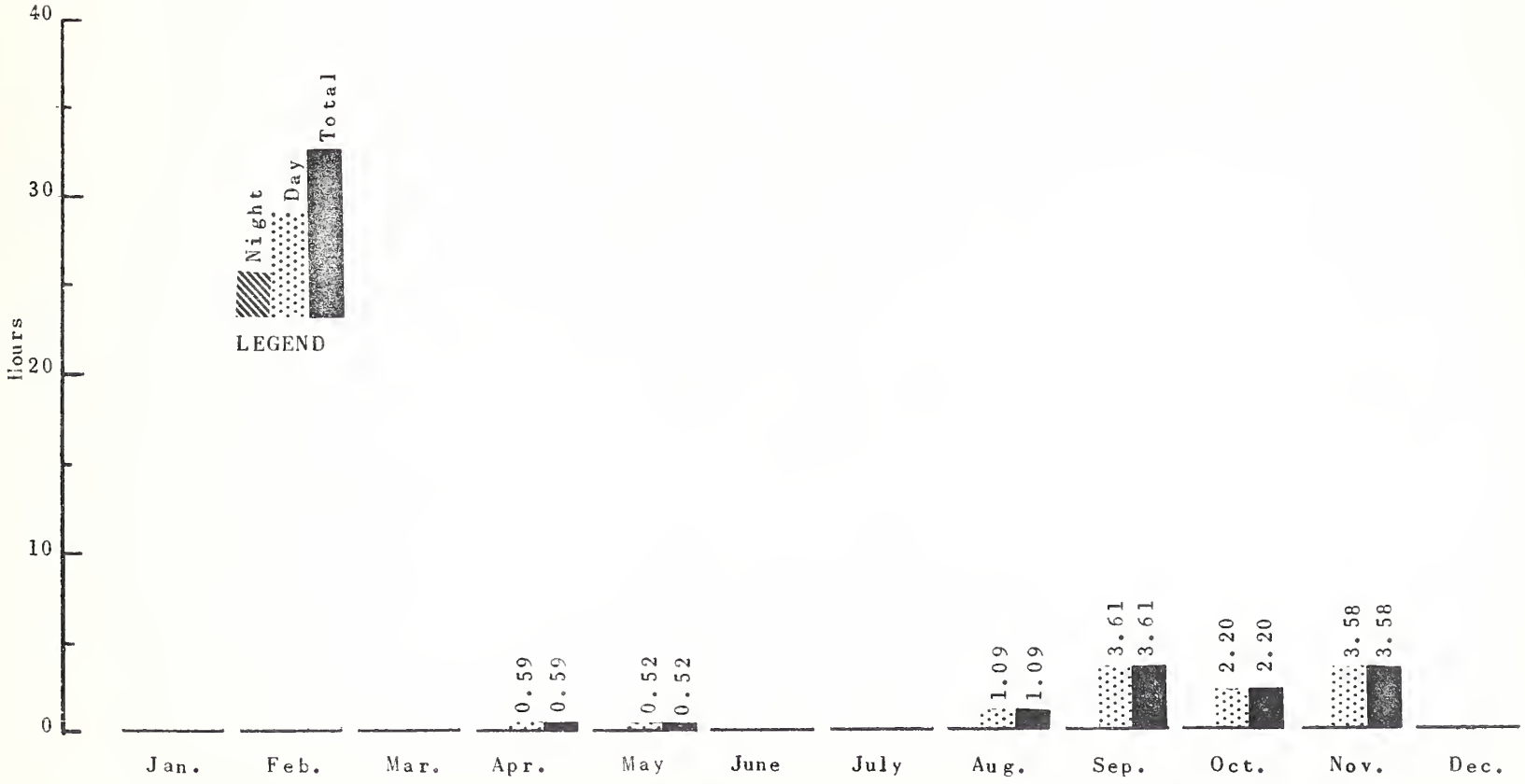

Figure 9. Hours of RVR of 800 feet or less during 1966.

Figure 10. Hours of RVR of 800 feet or less during 1967.

4. SUMMARY OF FAA OBSERVATIONS

The FAA Flight Service Station (FSS) WBAN-10 observations for the period from 1962 through 1967 for the Arcata Airport are summarized in table 7. Both ceilings and visibilities are included in this summary. The total hours during which visibility was below 1/4, 1/2, 1, 2, and 3 miles and during which the ceiling was below 100, 200, 300, 500, and 800 feet are reported here. The number of days of each year during which these conditions occurred are indicated. The observations were made by the FSS communicators on duty as part of the hourly and special weather observations. The reported condition may have been determined from personal observation, instrument reading, or pilot report. Observations are reported regularly each hour and special observations are required for changes at specified levels. Other specials may be made when significant changes in conditions occur even though these observations are not specifically required. Often the times of change from one interval to the next cannot be determined accurately. In these instances the time for the change was estimated to the nearest quarter hour. Conditions lasting for less than 15 minutes were unlikely to be reported. As is evident from the data there is a fairly close relationship between ceiling and visibility at Arcata.

5. DISCUSSION

The several summaries presented in this report are based on different criteria and are not suitable for direct comparison with each other. From the different summaries, information on the occurrence of fog conditions at Arcata ranging from three miles visibility down to 600 feet RVR can be obtained. The amounts by year, month, and day or night may be especially helpful in scheduling projects or for determining of conditions suitable for given tests are likely to occur. Data similar to that given in these summaries will continue to be reported at intervals in the Quarterly Progress Reports.

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Table 7. Summary of low visibility and ceiling conditions at the Arcata Airport FAA-FSS observations from 1962 through 1967.

YEAR	VISIBILITY					CEILING				
	Below 1/4 Mile (Hours/Days)	Below 1/2 Mile (Hours/Days)	Below 1 Mile (Hours/Days)	Below 2 Miles (Hours/Days)	Below 3 Miles (Hours/Days)	Below 100 Ft. (Hours/Days)	Below 200 Ft. (Hours/Days)	Below 300 Ft. (Hours/Days)	Below 500 Ft. (Hours/Days)	Below 800 Ft. (Hours/Days)
1962*	127/20	165/21	278/27	304/29	355/34	101/17	147/20	208/25	264/27	294/34
1963	200/64	312/86	560/113	864/138	1155/164	188/57	310/80	514/104	906/137	1440/184
1964	432/92	622/113	876/142	1224/164	1546/191	433/92	700/121	920/138	1384/186	1797/203
1965	552/96	809/114	1115/135	1521/167	1944/193	568/99	987/131	1308/150	1894/178	2413/204
1966	320/82	490/99	756/130	1140/166	1606/200	312/79	582/106	806/131	1214/164	1658/193
1967	500/99	750/126	1133/149	1462/165	1727/184	487/100	880/127	1220/147	1694/172	2122/190

* November and December only.


DEPARTMENT OF COMMERCE
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