



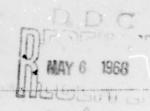
# MONTHLY MICROCLIMATIC SUMMARY

FEBRUARY 1967

ENVIRONMENTAL DATA BASE FOR REGIONAL STUDIES IN THE HUMID TROPICS

USATECOM Project No. 9-4-0013-01

US ARMY
TROPIC TEST CENTER
Fort Clayton, Canal Zone



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### ENVIRONMENTAL DATA BASE FOR REGIONAL STUDIES IN THE HUMID TROPICS

# MONTHLY MICROCLIMATIC SUMMARY

FEBRUARY 1968

## Prepared by

Michael A Fradel, Project Officer and Dr. Wilfried H. Portig, Meteorologist

USATECOM Project No. 9-4-0013-01

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### Conducted by

US Army
Tropic Test Center
Fort Clayton, Canal Zone
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### MONTHLY MICROCLIMATIC SUMMARY

### Introduction

Monthly microclimatic data summarized in this series of reports were collected by the US Army Tropic Test Center and the Weather Engineers of Panama Corporation under the project, Environmental Data Base for Regional Studies in the Humid Tropics. The project is sponsored by the Advanced Research Projects Agency of the Department of Defense and by the Army Research Office, Office of the Chief of Research and Development. It is an investigation of microclimatic, air chemistry, vegetation, soils, microbiological, and macrofaurial conditions at selected sites in the principal tropical environments of the Panama Canal Zone and the Rio Hato Military Reservation. The objective of the project is to assemble quantitative environmental data for RDT&E purposes.

Sites. Data summarized in this report were collected at the Albrook Forest and Chiva Chiva sites. Figure 1 shows the site locations within the Isthmus of Panama. Geographic coordinates are shown below:

Albrook Forest	09°	ol'N,	79°	33'W
Chiva Chiva	09°	01'N,	79°	35 <b>'</b> W

The Chiva Chiva open site and the Albrook Forest site are paired for comparative study of environmental conditions in a tropical semideciduous forest and in a large clearing. Both are located in a region where the annual precipitation is approximately 80 inches and there is a pronounced dry season. The other satellite sites were located primarily for soil studies purposes. Albrook and Fort Kobbe have climatic regimes similar to the principal sites.

The Albrook and Chiva Chiva main sites are approximately four kilometers apart. Each has a 46 meter walk-up tower and an air-conditioned building to house the recording equipment and observers. Both sites are approximately 30 meters above sea level. The top of the forest canopy at the Albrook site is about 26.5 meters above the ground.

Instrumentation. A wide range of climatic elements are measured at the Albrook and Chiva Chiva sites. Types of observations and frequencies are shown on Figure 2. The towers at the Albrook and Chiva Chiva sites are similarly oriented. Sensing equipment is mounted at several levels on the towers to provide measurements through the vertical profile. Additional instruments are emplaced in the immediate vicinity on or near the ground. All instrument exposures are duplicated at each site. Figures 3, 4, and 5 show the instrument array at these sites.

Data Reduction and Storage. All data, as applicable, are recorded at or reduced to each full hour and transposed to punch cards. These punch cards, cogether with all raw data, are stored in the Tropic Test Center Technical Library Annex.

The relative humidity data contained in this report required some adjustment due to the difficult problems in maintaining hair hygrometers in the humid tropics. The hygrometers show saturation at a time when the psychrometer shows a relative humidity well below 100%. For this reason the hourly measurements made by means of a hair hygrometer have been modified on the basis of simultaneous psychrometer readings of other levels. Details will be given in the fourth Semiannual Report. It can be assumed that the means of relative humidity presented in this volume are very close to the true means.

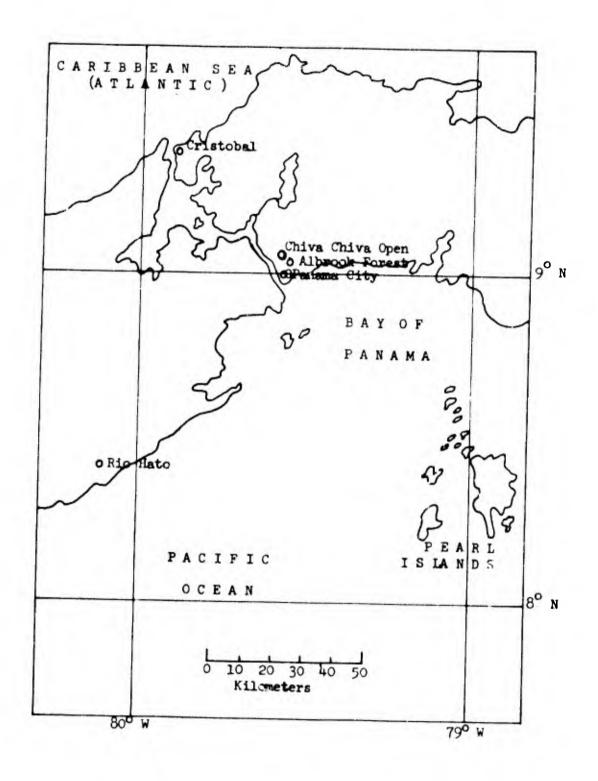


FIGURE 1. LOCATION MAP, ISTHMUS OF PANAMA

# FIGURE 2. FREQUENCY OF OBSERVATIONS

# Height (meters)

# Element	Sf	3	0.1	2.0	0 4	8.0	Sfc 0.5 1.0 2.0 4.0 8.0 13.5 26.5 28.5 46.0	36.5	28.5	0.94	Prequency
Dry Eulb	٠,	н н	٦,	4-	4-		٦,	٠,	1	4	Hourly*/Continuously
Grass Minimum	3		1			•			•		Once Daily
WBOT Index	•	•	ч	•	•	•	•	1	•	•	Hourly (0600-1900 EST)
Relative Humidity	•	н	٦	н	н		7	н	•		Hourly*/Continuously
Barometric Pressure	1	•	ч	•	•	•	•	i	•	•	Continuously
Evenoration	1	-	•	•	•		C4	c		8	Once Daily
Precipitation: Recording Gage	•		7	•					-	0	. [s.m. t month
Mamual Gage	•	,	2			,	,				L Times Della
Stem Flow	•	•		8		1	•		•	•	4 Times Daily
Wind: Direction	•	,	•		-				•	-	Comt tomes 1 se
	•	•	٠	*	н	•	3	<b>.</b> –	•		Hourly**/Contimously
Albrook and Chiva Albrook only Chiva Chiva only		Chiva				*	Observations made with sli recorders are inoperative.	ations ers are	made inop	with seretive	Observations made with sling psychrometer when recorders are inoperative.
						*	** Hourly				

# Instrument descriptions are contained in the Environmental Data Base semiannual reports.

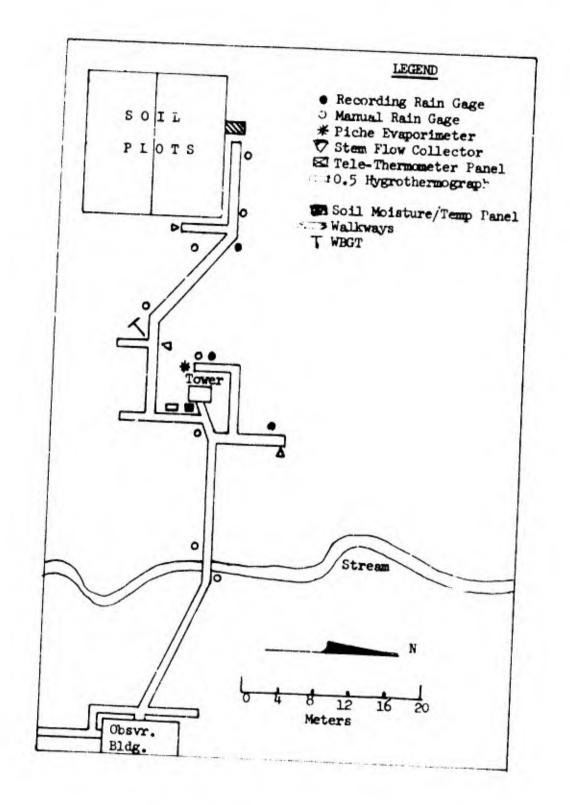


FIGURE 3. ALBROOK FOREST SITE, GENERALIZED PLOT

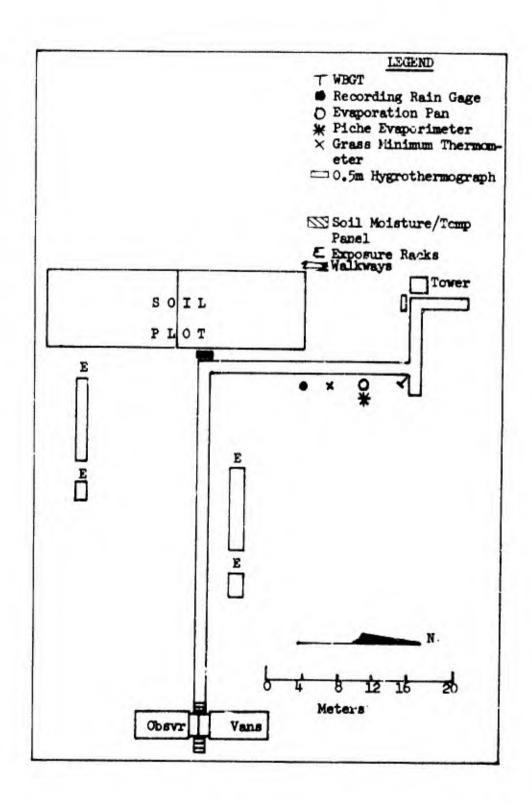


FIGURE 4. CHIVA CHIVA OPEN, GENERALIZED PLOT

# SUMMARY OF METEOROLOGICAL OBSERVATIONS HOURLY DATA

FEBRUARY 1967

Monthly Macra of Air Temperature by Hour  10 2 03 04 05 06 07 08 09 16 11 12 13 13 14 15 16 17 18 19 20 21 22 23 24 No. Monthly Summary  11 73,9 73.6 73.4 73.3 73.3 73.5 75.6 79.5 81.7 84.0 84.9 85.2 85.4 85.7 84.6 82.9 80.8 77.9 76.6 75.6 75.1 74.6 74.5 672 71.2 78.3 88.5  1.2 72.8 72.6 72.5 72.3 72.0 71.7 71.8 74.3 78.8 81.5 83.6 85.8 87.0 87.0 87.0 85.8 83.9 80.9 77.7 76.2 75.3 74.0 73.6 672 67.8 77.8 88.5  1.2 72.8 72.6 72.3 72.0 71.7 71.8 74.3 78.8 81.5 83.6 85.6 85.7 84.6 83.2 80.5 77.7 76.2 75.3 74.0 73.6 672 67.8 77.8 88.5  1.2 72.9 72.6 72.3 72.0 71.7 71.8 74.2 78.6 81.4 83.5 84.9 85.4 85.5 84.1 82.2 79.2 76.5 75.7 76.2 75.3 74.0 73.6 672 67.8 77.9 88.5  1.2 71.9 71.5 71.1 70.8 71.1 74.2 78.6 81.4 83.5 84.9 85.4 85.5 84.7 82.6 79.4 76.3 75.4 74.2 73.6 73.7 76.7 77.0 89.5 88.7 77.7 77.0 89.5 77.7 76.2 75.3 77.0 77.0 89.5 87.0 77.7 77.0 77.0 77.0 77.0 77.0 77.0	73.6 73.4 73.3 73.3 73.5 75.6 79.5  This level was a Table 72.8 72.6 72.5 72.3 73.2 76.6 81.1 72.6 72.3 72.0 71.7 71.8 74.3 78.8 This level was a Table 71.5 71.1 70 8 71.1 74.2 78.6 71.8 71.4 71.0 70.6 70.3 73.9 78.2 71.7 71.3 70.9 70.9 71.1 73.9 78.0 71.7 71.3 70.9 70.9 71.1 73.9 78.0
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1.6 7		.4 7	1.2 7	-	1.6.7	2.3 7	2.4 7	2.0 7
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73.4	Ē	73.0	72.8	Ē	72.6	72.4	72.1	72.1
75.2	s lev	75.2	75.1	. lew	17.4	77.6	78.8	80.2
78.8	I we	78.9	78.9	Mar.	80.6	1.	82.5	85.0
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81.2 83.6 84.5 84.9 85.3 85.3 84.5 82.9 80.8 78.1 76.8 75.4 75.0 74.6 672 70.1 78.3 87.3	S Gran	83.	83.	De Erun	. 85.	. 86	88.	86.1 90.3 91.3 91.5 91.4 90.* 98.3 85.6 81.7 77.7 75.9 74.9 74.4 73.7 73.1 671 67.1 79.9 94.4
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5 84	-	9 85	9 85	. Igi	7 86.	2 87.	8 89	3 91
9 85	ir tom	.3 85	.3 85	F	9 #7	.3 87	.5 90	. 5 91
.3 85	perst	.8 8	.7 8	peran	.3 87	. 8	.0.	. 9
.3 8	This level was not instrumented for air temperature at this time	81.6 83.9 84.9 85.3 85.8 85.6 84.9 83.3 81.1 78.5 77.0 76.1 75.5 75.1 74.6 671 70. 75.4 88.4	81.5 83.9 84.9 85.3 85.7 85.7 85.0 83.2 81.1 78.3 76.9 75.8 75.4 74.9 74.5 668 69.3 78.2 87.7	This level was not instrumented for air semperature at this time	83.4 85.5 86.7 86.9 47.3 87.1 86.1 83.8 80.6 77.9 76.3 75.3 75.0 74.5 73.9 671 67.6 78.6 90.1	83.8 86.1 87.2 87.3 87.8 87.7 86.5 84.0 80.5 77.5 76.0 75.2 74.7 74.2 73.4 670 67.7 78.6 91.2	86.2 88.4 89.8 89.5 90.0 89.0 88.3 84.6 81.1 77.8 76.8 75.5 75.0 74.4 73.9 660 66.5 79.4 94.0	9
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2.9	•	3.3 6	3.2 8	ě	3.8	4.0	4.6	5.6
8.0		1.1	7		9.0	5.0	1.1	1.7
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16.8	ula len	17.0	6.92		76.3	0.92	8.94	75.9
75.8		76.1	75.8		75.3	75.2	75.5	74.9
75.		75.5	75.4		75.0	74.7	75.0	74.4
75.0	_	75.1	74.9		74.	74.	74.	73.7
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1 78	_	7.6	3 78		9	7 78	5 79	1 79
.3	_	*	2 83		9	9	6	6

# SUMMARY OF METFOROLOGICAL OBSERVATIONS HOURLY DATA FEBRUARY 1967

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=	3.5 m	4.2	5.2	8.8	6.1 6.1 6.5 7.9 7.5	6.1	6.5	7.9	7.5	8.3	0.9	5.5	9.6	13.6	11.5	7.5	10.0	10.5		5.6	6.0 5.5 5.6 13.6 11.5 7.5 10.0 10.5 8.1 5.6 4.3 5.1 5.2 5.0 4.8	5.1	5.2	5.0	8	
00	8.0 m				-			Ē	s love		not in	trum	ited f	or air	16: T. 91	This level was not instrumented for air tem seature at this time	at this	ume	2000		atericals.			-		
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2	2.0 m	9.6	8.8	6.7	1.4	8.9	9.9	8.5	6.7	6.5	6.5	6.5	4.9	13.7	9.11	7.9	0.6	9.8	6.5	4.2	6.5 6.5 6.4 13.7 11.6 7.9 9.0 9.5 5.9 4.2 5.3 4.5 5.8		8.8	-	30	
	E 0.1	6.1	0.9	•.	2.9	6.5 6.3	6.3	7.1	9.9	1.9	0.9	6.9	5.4	15.0	13.0	9.8	8.	10.0	6.1	7.1	6.0 6.9 5.4 15.0 13.0 9.5 9.8 10.0 6.1 7.1 4.9 4.8 4.5 5.4			4.5	5.6	_
0	0.5 m	5.3 5.3	5.3	5.9 5.9		2.9	6.2 5.8 6.4	4.9	8.8	1.4	7.2	7.0	7.1	13.8	12.4	8.2	0.6	9.5	6.7	7	7.2 7.0 7.1 13.8 12.4 8.2 9.0 9.5 6.7 4.1 4.8 4.5 4.3 4.4 4.8		£.4	:	8.	

	7																								was computed for the ranges.
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28.5 m	-	-			- 20		7	s leve	This level was not instrumented for air temperature at this time	not ins	Trum	best &	T air	empe	ature o	t this	E I	-	and the s			166			_
26.5 m	.3	5.7	5.3 5.7 5.2 6.0 4.7 4.7 5.2 5.4 7.5	0.9	4.7	4.7	5.5		7.5	6.	4.8	6.0	14.1	11.7	7.9	7.0		4.9 4.8 6.0 14.1 11.7 7.9 7.0 8.4 5.2 3.5 2.3 3.0 3.3 4.1 4.6	3.5	2.3	3.0	3.3	7	4.6	
13.5m 5.8 6.0 6.7 5.9 6.1 5.8 5.6 5.6 5.9	8.8	6.0	6.7	6.5	1.9	5.8	5.6	5.6	5.9	4.5	4.6	0.9	14.3	11.0	7.0	6.9	0.6	4.5 4.6 6.0 14.3 11.0 7.0 6.9 9.0 5.3 4.2 3.6 3.1 3.9 4.3	4.2	3.6	3.1	3.9	.3	4.5	
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4.0m 6.5 7.0 7.5 7.0 7.9 8.0 7.5 6.7	6.5	7.0	7.5	7.0	2.0	9.0	7.5	6.7	7.5	6.4	9.6	7.7	13.4	10.3	4.7	÷.	4	4.9 5.6 7.7 13.4 10.3 4.7 4.3 8.4 4.3 3.1 3.3 3.3 4.2 4.0 5.9	3.1	3.3	3.3	4.2	0.	5.9	
2.0 m	9.9	7.3	6.6 7.3 7.5 6.8 7.8 7.3 7.5 7.4	8.9	7.8	7.3	7.5	7.4	9.6	5.0	5.7	7.8	18.7	10.4	5.4		9.5	5.0 5.7 7.8 15.7 10.4 5.4 4.8 9.5 3.6 2.2 3.0 2.8 3.8 4.6 5.5	2.2	3.0	2.8	3.8	9.	5.5	
1.0m 6.1 7.4 7.5 7.5 7.4 8.7 8.5 8.4 9.9	5.1	7.4	7.5	7.5	7.4	8.7	8.5	4.	6.6	9.7	8.0	7.7	18.5	12.0	13.0	6.5	8	7.6 8.0 12.2 18.5 12.0 13.0 6.5 9.8 4.0 3.3 3.6 3.5 4.1 5.1 5.0	3.3	9.6	3.5	7	5.1	5.0	
0.5m 6.5 7.2 7.7 7.3 8.0 8.2 7.6 10.2 10.9	6.5	7.2	1.7	7.3	8.0	8.2	1.6	10.2	6.01	7.7	8.6	1.0	17.9	10.6	8.8	4.7	8.5	4.5	3.2	7.7 8.6 10.7 17.9 10.6 5.8 4.7 8.5 4.5 3.2 3.1 3.8 4.1 6.1 5.4	3.8	7.	6.1	5.4	

# SUMMARY OF METEOROLOGICAL OBSERVATIONS HOURLY DATA FEEWUARY 1967

Exposure	ure										Mon	hly M	Monthly Means of Relative Humidity by Hour (%)	Relati	H eAH	umidit	7 57	four								Mont	Monthly Summary	mma.	C
Site	Level	10	20	03	8	0.5	90	02	80	60	10	=	12	13 14	Ξ	13	16 17 18 19	1.7	81	19	20	-12	22   23   24	23		No of obs.	Min.	Mean Max.	
	46.0m	2	2	4	88	88	88	Z	8	12	99	65	\$5		23	25	2	88	9	72	92	08	82	83	83	672	36	72	
	28.5 m							Ž	. level	*	not in	gramer	not instrumented for relative humidity of this time	r relat	ive h	- India	o: th	s tim											
	26.5 m	87	88	80	88	88	68	81	18	02	3	65	99	5.5	55	3	57	19	89	76	90	83	88	.0	87	670	36	75	
150.	13.5 m	68	06	06	06	6	92	92	88	16	29	9	88	22	57	55	89	09	99	23	79	83	85	98	88	672	38	36	
(F.01	8.0 m							į	. level	W.08	of Ine	trumer	ot instrumented for relative hundity	r relat	Ive h	midit	**	et this time	-	-									
SLOOK	4.0 m	95	93	66	*	98	9.	86	16	78	69	63	09	65	65	23	19	3	17	78	83	98	68	06	6	929	38	62	
(IV	2.0m	9.5	93	93	*	.5	96	8	92	80	11	. 9	19	88	09	88	62	9	7.2	79	78	44	96	16	5	670	0	80	
	1.0 m	95	95	9.5	93	93	*	98	*6	80	11	5	19	09	09	88	19	65	71	62	2	- 48	68	06	6	672	\$	08	
	0.5 m	16	16	16	6	93	63	*6	16	83	*	57	5	62	. 19	19	62	67	73	79	82	88	- 48	68	68	899	£	80	

46.0m	28.5 m	26.5 m	13.5 m	8.0 E	40 E	2.0m	1.0m	U.5m
<b>7</b>		88	96		88	68	88	88
8		88.5	98		88	06	88	88
88		98	98		68	96	68	68
38		98	87		06	16	90	06
98		19	88		6	63	26	16
98		37	88		16	93	16	35
96	Ē	8	8	E	06	92	16	16
8	level	8	08	level :	79	62	78	73
73		72	11	Was n	11	20	99	62
99	ot in	9		ot ins	63	63	09	\$5
88	ot instrumented	88	22	not instrumented	22	99	53	51
5		55	2	ted fo	3	*	52	48
53	relat	23	53	relati	*	*	20	48
25	Ive H	25	25	ive h	25	25	8	41
15	to relative humidity	25	52	for relative humidity	52	15	•	48
23	at this	53	3	at this	53	53	. 15	52
88	s time	88	89	S LITTE	65	65	55	55
*9	5	3	9		99	67	63	63
72	-	72	72		73	7.4	73	73
11		82	82		78	62	78	79
. 08	نياش	18			18	82	82	82
18		82	82	-	82	*	83	83
78			83			98	98	50
83		2	88		87	88	87	_
672		699	572		672	670	699	671
53		31	32	-	*	35	30	33
72		73			74 100	75	73	72

SUMMARY OF METEOROLOGICAL OBSERVATIONS
HOURLY DATA
FEBRUARY 1367

Exposure	e l'e										W	nthly i	unges	of Re	lative	Humid	Monthly Ranges of Relative Humidity by Hour	Hour							Г		1
Site L	Level	3	02	03	0	, a	2	1-	1	i.					_			-								Monthly Summary*	ary.
-		1			1	3	90	3	80	60	10	=	10 11 , 12 13	13	=	- 1	15 16 17 18	17	18	19	20	19 20 21 22 23	22	23	24	-	1
*	46.0m	11	15	51	Ξ	13	12	Ξ	=	- 8	53	20	25		43 43	35	6	47	37	. 56	18	16	4	4		-	╀
28	28.5m							É	This level	e was	not 10	S Grune	nted f	or rela	Live h	umidit	was not instrumented for relative humidity at this time	ds tim								_	
(911	26.5 ₽	£.1	:	17	11	10	7	=	20	56	27	22	21	47	47 50	39	52	*	. %	00		:		-			_
-	3.5 m	61	6	8	•	=	15	1.5	1.5	25	26	7.	27	\$	45 53				2 4	3 6	2 2	= .	4 5	61	6		
-	3.0 m							The	This level	Sew P	not in	- Trume	nted fo	or rela	Live h	aipima				3	4	1	77	23	2	_	
*	4.0 m	4	5	01	13	6	=	15	1.8	25	31	27	33	48	55	£3	3	3		6						_	
7	2.0 m	9.	15	1.2	12	•	on	13	12	24	F	97	32	*	53	-		2 2	; ;	9 9	67	77	9 :	77	20	_	_
	E 0.	=	6	1.5	01	1	9	10	12	23	23	20	28	=	8	7	47		: 2	36		07	- :		6		_
\$	6.5.0	1.2	1.2	1.5	7	7	12	10	13	7	52	26	34	20	9	4	53	25	4	53	74	22	2 4	= :	2 1		

20 19 14 18 17 17 15 9 17 16 21 24  This level was not instrumented for 15 13 16 15 18 18 26  22 17 16 17 17 16 17 12 17 15 19 23  This level was not instrumented for 23 18 16 27  23 18 16 13 15 16 15 20 24 25 16 27  24 17 17 15 14 11 15 20 26 23 20 28  25 18 16 15 14 11 15 14 19 30 23 23 23 23 23					1		1																				was computed for the ranges.
This level was not in 18 15 15 15 11 19 15 22 17 16 17 17 16 17 12 17 15 15 15 15 15 15 15 15 15 15 15 15 15	12	E	5.7	ž .	7	67	17	1.1	1.5	9	1.7	9	12		*		48 41 39		50	25	25 20 12 13	12	13	16		9.	
18 15 13 16 15 15 15 11 19 15 22 17 16 17 17 16 17 12 17 15 23 19 16 13 15 16 15 20 24 25 24 14 15 15 14 11 15 20 26 23 17 17 15 14 15 15 14 19 30 23	-	E .							Ē	s leve	Naw L	not in	S STUTIES	nted f	br rela	tive h	Gipimi	rat th	S LIM								
22 17 16 17 16 17 15 16 17 12 17 15  This level was not ins 23 18 16 13 15 16 15 20 24 25 23 19 15 15 14 11 15 20 26 23 17 17 15 14 16 15 18 26 23 18 15 14 15 14 19 30 23	1	E S	<u></u>	5	13	16	1.5	1.5	1.5	11	19	1.5	80	26	5	8	7	36	8	23	6	11		-			_
73 19 16 13 15 16 15 20 24 25 23 14 15 15 14 19 30 23 14 15 14 19 30 23	-	E .	7.7	11	9	11	13	91	1.1	13	11	1.5	19	23	7	15	37	34	47		. 8	: :		1 2	13 . 17	2 2	
23 19 16 13 15 16 15 20 24 25 23 14 15 14 11 15 20 26 23 14 17 17 15 14 16 15 18 26 23 14 15 14 15 14 19 30 23		-							The	s leve	S PM	not in		nted fo	or rela	tive h	- midin	at th	S time							:	
13 14 15 15 14 11 15 20 26 23 TV 28 14 17 17 15 14 16 15 18 26 23 19 30 14 15 14 15 14 17 14 19 30 23 23 32 32		E	23	21	9		1.5	1.6	1.5	20	24	52	16	27	4	48	35	33	4	22	23	11	0	-		;	
if 17 i7 i5 14 16 15 18 26 23 19 30 14 15 14 19 30 23 23 23 23 23		£	£,		5.7	1.5	4	=	1.5	50	97	23	3	28	4	*	33	28	4	22	21		20		17 .1	7 %	
1 15 14 15 14 17 14 19 30 23 23 23 23		E	:	1.7	1	22	Ξ	•	1.5	18	97	23	61	30	4	<b>\$</b>	36	36	\$	28	13	1.5	17	. 6	16	5 5	
40		E.	·	.n	7	5	7	ć.	•	1 6	30	23	23	32	*	48 41	53	. 8	7	25	61	15	1.5	3	-	17	

# SUMMARY OF METEOROLOGICAL OBSERVATIONS HOURLY DATA

FEBRUARY 1967

70.4 70.4 70.4 70.1 70.0 69.8 70.1 72.1 73.3 73.6 73.9 74.1 74.0 73.9 73.5 73.5 70.4 70.4 70.4 70.5 70.1 70.0 69.8 70.1 72.2 73.5 73.9 74.1 74.3 74.1 74.0 74.0 73.8 70.4 70.5 70.1 70.0 69.9 71.4 73.6 74.2 74.5 74.4 74.5 74.5 74.4 74.1 74.0 74.0 74.1 74.1 75.7 70.5 70.4 70.3 70.1 70.0 69.9 71.4 73.6 74.2 74.5 74.4 74.5 74.5 74.4 74.1 77.5 75.8 74.6 777 75.0 779 770 770 787 804 809 801 777 750 726 770 691		Code 1 01	0.2	_	03	040	0.5	06 07	12	80		Mon	My M	sues	Monthly Means <sup>2</sup> of other Dements by Hour	her D	ments	1 64	9 1-	377.0	Jes	anc.	aur.	anc	our.	ınc	ınc	M M	Monthly	Monthly Summary
0.4 70.4 70.4 70.1 70.0 69.8 70.1 72.1 73.3 73.6 73.9 74.1 74.0 73.9 73.5 73.5 73.0 72.  0.4 70.4 70.5 70.1 70.0 69.8 70.1 72.2 73.5 73.9 74.1 74.3 74.1 74.0 74.0 73.8 73.2 72.  0.7 70.5 70.4 70.3 70.1 70.0 69.9 71.4 73.6 74.2 74.5 74.4 74.5 74.5 74.5 74.4 74.1 73.7 73.  775 775 776 776 777 779 779 770 770 770 770 770 770 770	_						- 1				60	0	=	2	=	=	15	91	17	-	00	8   19	8 i 19 i 20	8   19   20   21	8   19   20   21   22	8   19   20   21   22   23	8   19   20   21   22   23   24	8 19 20 21 22 23 24 NO O	8 19 20 21 22 23 24 Obs. Min.	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 059 Min. Mean Max.
70.4 70.4 70.5 70.1 70.0 69.8 70.1 72.2 73.5 73.9 74.1 74.3 74.1 74.0 74.0 73.8 73.2 72.5 71.7 71.4 71.2 71.3 70.9 70.7 672 64.3 72.0 78.3 70.4 70.5 70.4 70.3 70.1 70.0 69.9 71.4 73.6 74.2 74.5 74.4 74.5 74.4 74.1 73.7 73.2 72.3 71.7 71.5 71.4 71.2 71.1 66.8 66.4 72.2 77.9 775 7759 7749 7749 7770 7770 7770 7770 7770 777	WB (4.0 m)	70.	1 70	.4 70	.4 70	2 (*)	0.0	9.8 70	0.1 7	2.1 7	3.3 7	3.6 7	3.9 7	7.	0.4	73.9	73.5	73.5	73.0	72.2		71.5	71.5 71.2	71.5 71.2 71.2	71.5 71.2 71.2 71.2	71.5 71.2 71.2 70.9	8.05 71.2 71.2 70.9 70.8	571.5 71.2 71.2 70.9 70.8 672	71.5 71.2 71.2 71.2 70.9 70.8 672 66.5	6 73.9 74.1 74.0 73.9 73.5 73.5 73.0 72.2 71.5 71.2 71.2 71.2 70.9 70.8 672 66.5 71.9 77.7
70.7 70.5 70.4 70.3 70.1 70.0 69.9 71.4 73.6 74.2 74.5 74.4 74.5 74.4 74.1 73.7 73.2 72.3 71.7 71.5 71.4 71.2 71.1 66.4 72.2 77.9 77.9 759 .759 .756 .756 .767 .757 .758 .766 .783 .792 .786 672 .640 .755 .895	.vB 2.0 m)	70.	4 70	.4 70	.5 70	.1 70	0.0	9.8 70	7 1.0	2.2 7	3.5 7	3.9 7	4.1 7	.3	7.	0.42	74.0	73.8	73.2	72.5	~		1.7 71.4	1.7 71.4 71.2	1.7 71.4 71.2 71.3	1.7 71.4 71.2 71.3 70.9	7.14 71.2 71.3 70.9 70.7	1.7 71.4 71.2 71.3 70.9 70.7 672	1.7 71.4 71.2 71.3 70.9 70.7 672 66.3	1.7 71.4 71.2 71.3 70.9 70.7 672 66.3 72.
.775 .758 .746 .737 .739 .749 .770 .787 .804 .809 .801 .777 .750 .726 .700 .691 .693 .706 .726 .746 .766 .783 .792 .786 .672 .640 .755 .895	_	70.1	7.70	.5 70	.4.70	.3 70	1.1	0.0	7.6.6	1.4 7	3.6 7	4.2 7	4.5 7	-	4.5	34.5	74.4	74.1	73.7	73.2	72.	m	3 71.7	3 71.7 71.5	3 71.7 71.5 71.4	3 71.7 71.5 71.4 71.2	3 71.7 71.5 71.4 71.2 71.1	3 71.7 71.5 71.4 71.2 71.1 668	3 71.7 71.5 71.4 71.2 71.1 668 66.4	3 71.7 71.5 71.4 71.2 71.1 668 66.4 72
		.775	5 .7	58 .7	46 .7	37 .7	39	7. 64.	04	787	. 108	608	. 108	. 111	750	726	.700	169.	.693	.706	.7.	-	6 .746	49. 746 .766	6 .746 .766 .783	26 .746 .766 .783 .792	6 .746 .766 .783 .792 .786	5. 746 .766 .783 .792 .786 672	6 .746 .766 .783 .792 .786 672 .640	6 .746 .766 .783 .792 .786 672 .640 .75

-	(e:	its neq	O) BVIA	£ 2 ₩1	S CP
	WB (4.0 m)	WB 2.0m)	WB (0.5m)		
	WB 70.7 70.7 70.6 70.4 70.2 70.3 70.6 72.7 73.5 73.7 73.6 73.7 73.5 73.4 73.0 72.6 72.2 71.5 71.4 71.2 71.2 71.2 71.1 672 67.1 71.9 77.1	70.7 70.7 70.6 70.4 70.2 70.3 70.7 72.9 73.7 74.0 74.0 74.0 73.9 73.8 73.3 73.0 72.3 71.5 71.5 71.3 71.2 71.3 71.0 671 67.2 72.1 77.2	70.2 70.1 69.9 69.9 69.5 69.4 70.2 73.5 74.7 75.4 75.6 75.5 75.4 75.1 74.9 74.4 73.3 72.3 71.2 71.1 70.9 70.7 70.4 671 65.6 72.2 78.9	.866 .851 .839 .831 .845 .864 .552 .500 .907 .900 .876 .949 .821 .798 .792 .805 .825 .842 .859 .854 .854 .555	0.09 0.00 0.00 0.00 0.00 0.00 0.00 0.00
	70.1	70,7	70.1	. 851	00.0
	70.6	70.6	6.69	. 839	0.00
	70.4	70.4	6.69	. 831	0.00
	70.	70.	69	. 833	0.00
	70.	70.	69.	. 845	0.00
	3 70.	3 70.	. 70.	.8	0.0
	6 72.	7 72.	2 73.		0.0
	7 73	9 73	5 74	10	0.0
	.5 73	7 74	7 75	6. 00	0 0.
	.7 73	.0 73	4 75	6. 70	0 0.
	.6 73	.9 74	.6 75	8. 00	00 00
	.6 7	.0 7	.5 75	76 .9	04 0.
	1.7.7	.0 7	.4 7	49.	20 0.
	3.5.7	6.9	1 7	. 121	00 00
	3.4 7	3.8 7	1.9 7	86	0 00
	3.0 7	3.3 7	1.4 7	684	0 00
	2.6	3.0 %	3.3 7	792	0 00
	2.2	2.3	2.3 7	808	00.
	21.5	1.7	1.3	825	00.
	11.4	71.5	71.2	842	0.00
	71.2	71.3	71.1	959	00.0
	71.2	71.2	6.07	97.0	00.00
	71.2	71.3	70.7	9	00.0
	71.1	71.0	70.4	979	00.00
	672	671	671		, ,
	67.1	67.2	65.6	300	2 0 0 0 45 0 45 0 5
	71.9	72.1	72.2		
_	-			-	_

WB - Wet bulb tempera.ure (°F)
BP - Bacometric pressure (in. of Hg minus 29.0)

PS - Precipitation at 1.0 m. in open area (in.)
Pl - Precipitation at 46.0 m. above canopy-(in.)
P2 - Precipitation under full canopy (in.)

P3 - Precipitation under drip canopy (in.) P4 - Precipitation under open canopy (in.)

othly means of precipitation are computed for precipitation days.

Precipitation totals are substituted for the mean in the monthly summary.

# SUMMARY OF METEOROLOGICAL OBSERVATIONS

HOURLY DATA

ŝ ŀ	Site	3	- 2			Albr
Exposure	Code	WB (4.0 m)	WB (2.0 m)	WB 0.5m	96	P 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	10	4.	4.5	5.1	951.	9.00
	70	3	4.5 4.9 5.6	÷	.156 .155 .155	0.00
	03	5.7	5.6	5.2	.155	0.00
	ō	4.5 5.2 5.7 5.7 5.5 6.4	5.7	4.9 5.2 5.5 5.6 5.6	57	0.00
	0.5	5.5	9.6	5.6	. 145	0.00
	90	4.9	0.9	5.6	.145	0.00
	02	6.2	6.7		.150	0.00
	0.8	5.0	5.5	6.5 6.7	.145 .15014014	0.00
	60	6.4	5.2	2.9		00000
2	10	5.0	8.0	4.	.145	0.00
nthly	=	5.5	6.5	5.5	.130	0.000
Range	12	9.	9.9	5.5	.150	00000
o to s	13	5.0	5.5	5.7	.130 .135	0.00
ther E	7	6.5	6.9	o.	.135	0.00
Monthly Ranges' of other Elements by Hour	11 12 13 14 15 16 17 18 19 20 2; 22 23 24	5.5 6.6 5.0 6.7 7.8 6.2 8.1 5.6 5.6 3.8 4.2 4.P 5.5 5.0	6.9 8.1	5.5 5.5 5.7 4.9 7.0 6.1 7.2 6.2 5.2 4.3 3.5 3.7 4.6 5.0	.130 .130 .120 .130 .135 .135 .130 .145 .150	0.00
s by F	9	6.2		6.1	.130	0.00
lour	11	£.	9.6	7.2	.120	0.00
	18	5.0	9.	.,	.130	0.000
	61	9.	5.7	5.2	.135	0.00
	20	3.8	4.5		.135	0.00
	2:	4.5	3.7	3.5	.130	0.00
	22	ž.	6.4 8.6 4.9 5.7 4.5 3.7 4.7 5.3 5.0	3.7	.145	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
	23	5	5.3	4.6	150	0.00
Ī	72	5.0	5.0	5.0	150	0.00
Monthly Summary.						
mary.	+				_	

5.3 5.5 4.8 5.6 8.2 7.3 7.7 4.4 4.6 4.2 3.8 4.6 5.9 4.2 5.5 5.4 4.6 5.7 7.4 6.8 7.1 4.8 3.9 3.5 3.2 4.3 4.3 4.1 4.5 4.5 4.4 3.8 5.8 8.0 4.2 6.3 4.4 4.5 3.3 3.6 4.9 4.7 4.1 1.140 .155 .145 .145 .145 .145 .145 .145 .145
7.3 7.7 4.4 4.6 4.2 3.8 4.6 6.8 7.1 4.8 3.9 3.5 3.2 4.3 4.2 6.3 4.4 4.5 3.3 3.6 4.9 145 .140 .143 .145 .145 .150 .160 0.00 0.00 0.00 0.00 0.00 0.00 0.0
4.6 4.2 3.8 4.6 3.9 3.5 3.2 4.3 4.5 3.3 3.6 4.9 .145 .145 .150 .160

\* No monthly summary was computed for

(a)ts dad() PAT4.1 PAT4.1

PS - Precipitation at i.d m. in open area (in.)
F1 - Precipitation at 4e.6 m. above canopy (in.)
P2 - Precipitation under full canopy (in.)

P3 - Precipitation under drip lancpy (in.)
P4 - Precipitation under open canopy (in.)

Wenthly ranges of presuptation are or imputed for precipitation days.

# SUMMARY OF METEOROLOGICAL OBSERVATIONS HOURLY DATA

1.0   0.2   0.3   0.4   0.5   0.6   0.7   0.8   0.9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24	Exposure	e n											Š	nthly	Men (	Monthly Meens of Wind Speed by Hour (miles/hr.)	nd Spe	E E	, Hour									Mon	Monthly Summary	- mm	,
46.0 m       5       5       5       5       6       6       5       5       5       6       6       6       5       5       5       6       6       6       5       5       5       6       6       6       5       5       6       6       6       5       6       6       6       6       6       6       6       6       6       6       7       6       6       5       6       6       7       6       6       5       6       6       7       6       6       5       6       6       7       6       6       5       6       6       7       6       6       5       6       6       7       6       6       5       6       6       7       6 <th>Site</th> <th>evel</th> <th>ō</th> <th></th> <th>Н</th> <th></th> <th>ļŀ</th> <th></th> <th>  </th> <th><math>\vdash</math></th> <th>  </th> <th></th> <th>-</th> <th></th> <th></th> <th>13</th> <th>7</th> <th>15</th> <th>16</th> <th>17</th> <th></th> <th>19</th> <th>20</th> <th>21</th> <th>22</th> <th>23</th> <th>_</th> <th>No of</th> <th>Mın.</th> <th>Mean</th> <th>. ¥e×</th>	Site	evel	ō		Н		ļŀ			$\vdash$			-			13	7	15	16	17		19	20	21	22	23	_	No of	Mın.	Mean	. ¥e×
This level was not instrumented for wind speed at this time  This level was not instrumented for wind speed at this time  This level was not instrumented for wind speed at this time  This level was not instrumented for wind speed at this time  This level was not instrumented for wind speed at this time  This level was not instrumented for wind speed at this time  This level was not instrumented for wind speed at this time  This level was not instrumented for wind speed at this time	<u> </u>	16.0 m	s	-··-	<b>.</b> ,				٠.		•			0	11	11	01	ெ	'n	6	7	9	9	\$	s	s	2	654	٥	,	22
26.5m 3 2 3 2 2 2 4 4 5 5 6 5 4 4 4 2 3 2 2 3 3 3 654 0 3  13.5m  8.0m  4.0m 1 0 0 1 0 1 0 1 1 1 1 2 2 1 1 1 1 0 0 0 0	. •	.8.5 m			-					-	his le	vel wa	a not	Institut	nentec	for 💌	ind sp	# pee	t this	tine tine											
8.0 m 4.0 m 1 0 0 1 0 1 0 1 1 1 2 2 1 1 1 1 0 0 0 0		.6.5 m	9				m	-		2	7	•	-	 	S	9	so.	-	₹	-	7	m	7	7	E	m	٣	654	0	~	1.2
8.0 m 4.0 m 1 0 0 1 0 1 1 1 2 2 1 1 1 1 0 0 0 0 0 0	12 12	3.5 ш			_					1-0+ (6	his je		s not	nstilur	Bentec	for w	ind tp	4 pee	t this	time	- 1 11				-					,	
4.0 m 1 0 0 1 0 1 0 1 1 1 1 2 2 1 1 1 1 0 0 0 0	Fore	8.0 m								H	his le	rel wa	a not	nstilut	bented	for	tnd \$p	# pee	£	ttme .						-	-				
1.0 m  This level was not instrumented for wind speed at this time  This level was not instrumented for wind speed at this time  This level was not instrumented for wind speed at this time		₩ 0.		0	• (-	-			_		0	1	_		7	7		-	~	-	0	0	0	0		c	c	6.35	_		U
This level		2.0 m		_				-			Pis s	rei 👣	a not	nstitur	nented	for w	thd \$p	P 0	t this	E Be						,	)	3	,	•	ר
This level w		1.0 m								F	his len	rel wa	a not	nsta	nente-	- for	- Ç≱ puj	- 4 Pe	t this	E 13	***	Tolerand II	-		-			•			
		0.5 m			·		-			F	Pis -	rel wa	I not	nstau	nented	forw	Ind ep	# pec	r chia	3											

46.0m		28.5 m	26.5m	13.5 m	8.0m	<b>E</b> 0. <b>₽</b>	2.0m	1.0 m	0.5m
7			٠	т		Ю	7		
_			9	m 		•	7		
•			٠	e .		•	7		
œ			^	6		•	8		
,		-1	•	<b>(*)</b>		-	7		
,			•	7		m	-		
			v	m		m	_	_	
		į	9	S	Fig.	•	m	This	This 1
2	2	level +	6	80	This level wa	9	s	evel *	This level wa
12	7.	res not	=	12	'as not	•	<b>60</b>	as not	as not
	-	Instru	13	*	instit	6	60	institu	is not institutented for wind speed at this time
· .		mentec	13	15	mentho	<b>o</b> n	10	mentad	nented
	2	l for w	1	1.5	for w	01	01	for w	- Los
	:	ind pri	13	7	ind sp	01	6	the sp	- but
	61	This level was not instrumented for wind speed at this time	7	16	as not instrumented for wind speed at this time	10	10	This tevel was not instrumented for wind speed at this time	
	<u>.</u>	this ti	7	16	this ti		10	this ti	,
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# SUMMARY OF METEOROLOGICAL OBSERVATIONS

HOURLY DATA

											E De	(miles/hr.)	ind Si	peed	monthly langes of Wind Speed by Hour (miles/hr.)									S office N	1
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٥		-	•	9	•	S	10	•	œ	6	==	6 11 11	•	1	50	1	w	*	*	•	4	5			
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* 111							This level was	vel w	s not	not instrumented for wind speed at this time	nente	for w	# put	peed a	t this	time							_		
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ALBROOK (Forest site) FEBRUARY 1967

							Rela	tive F	requen	Relative Frequencies* of Wind Directions by Hour at 46.0 m.	of Wir	od Dire	ctions	by Hc	our at	46.0 n	. ا							
±																					ľ			
) d	ō	05	03	8	03	8	07	8	8	10	==	12	13	14	13	16	17	18	19	02	21	22	23	74
Z					7.6				11.5	15.4	11.5	18.5	21.4	10.7	35.7	21.4	17.9	10.7	3.6		10.7		,	
ZZE								3.9		3.9	7.6		7.0	7.0	3.6	3.6	7.0							
ZE		ļ							9.7		3.9		3.6	7.0			3.6							
ENE										3.9							<u> </u>							
ш										3.9				3.6		3.6								
ESE													3.6											
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SSE																								
S												3.7												
SSW																								
SW											3.9		3.6	3.6				3.6						
wsw					11.5			7.6	3.9		3.9					7.0		3.6	3.6			7.0	3.6	7.0
A	62.9	51.8	59.2	62.9	53.9	65.5	65.5	73.1	30.8	7.6	7.6	14.8	14.3	3.6	10.7	7.0	10.7	17.9	28.6	39.3	42.9	50.0	39.3	42.9
WNW	14.8	29.6	22.2	18.5	19.2	23.0	15.4	3.9	11.5	19.2	7.6	3.7	7.0	7.0	17,9	7.0	25.0	14.3	17.9	14.3	14.3		25.0	-
NA	18.5	11.1	14.8	11.1	3.9		3.9	3.9	7.6	26.9	38.4	~	17.9	25.0	14.3							0		14.3
NNN						3.9	7.6		23.1	15.4	15.4	33.3	21.4	28.6	17.9	25.0	17.9						10.7	7.0
CALM	3.7	7.3	3.7	7.3	3.9	7.6	7.6	7.6		3.9				3.6							3.6		3.6	

• Note: Due to rounding, percentage totals do not equal 100%

ALBROOK (Forest site) FEBRUARY 1967

Dir.	10	03	0.3	04	03	8	07	8	8	10	=	12	=	-	-	,		:	9	1	7			L
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-						3	1		5.5	.,	13.4	77.77	17.9	25.0	17.9	10.7	10.7			10.7	7.0	3.6		7.0
N. N.				3.7						11.5	3.9	1		10.7		7.0	3.6	7.0	10.7	7.0	3.6		3.6	
Z		1						3.9		15.4	7.6	7.3	3.6	7.0	10 7	10 7		2	,					L
ENE									3.9	4		1					2	2.0	0.0		3.6		3.6	
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1								3.9	3.9	3.9	3.9	3.7		3.6	10.7		3.6	3.6	3.6					Ы
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WSW	3.7	3.7		3.7	3.7 11.5		15.4	-				3.7			,	!	•							7.0
×	14.8		27.72	25.9	26.9	38.4		_	11.5			=	7.0	7.0	10.7	3.6	10	100	10 7	0	-	0 0	$\overline{}$	
KNW	5.1.5	23.9	37.0	18.5	30.8	26.9		15.4	19.2	3.9	11.5	14.8	21.4	7.0	1	7.0	0	_	1 2	0	9 0	2 10	7	14.3
NW	::	7.8.1	27.22	18.5	23.0	15.4	19.2	23.0	1 1	15.4	23.0	18.	14.3	-	1 0				_	2 6	21.6	35.7	34.1	23.6
NNK	14.8	3.7	3.7	18.5	3.9	3.9	3.9	7.6	19.2	7.6	15.4	7.3	_	14.3	-		1			21.4		10.7	,	20.0
CALM	3.7	14.8	1.1.	11.1	3.9	11.5	11.5	3.9	3.9	3.9							1			4		-	_	

\* Note: Due to rounding, percentage totals do not equal 1000%

ALBROOK (Forest site) FEBRUARY 1967

												(*)												
ž/ž	ō	03	03	В	03	8	07	8	8	10	11	12	13	1.	13	16	17	18	61	02	12	22	23	~
z		3.7	7.3			3.9	7.6	7.9		3.9	16.1	7.6	3.7		10.7	3.6	7.0	3.7	7.0	3.6			10.7	
NNE	7.3	1.7	3.7	3.7	3.9	3.9	3.9		3.9			11.5	14.9		3.6	3.6				3.6			7.0	3.6
NE						1			7.6		12.0	7.6	3.7		3.6	10.7	10.7	7.3						
ENE									3.9	7.6	7.9		7.3	3.7		3.6	10.7		3.6					
E									3.9		4.0	3.9	14.9	11.11	3.6	3.6	7.0							
ESE									4.0	3.9		3.7	3.6		3.6									
SE									3.9	3.9	4.0	3.9		3.7	7.0	7.0			3.6			T		
SSE							1		3.9		4.0	3.9			3.6		3.6							
s			1							3.9	12.0	3.9	7.3	3.7	10.7	3.6	7.0	793	3,6	3.6				
MSS	3.7		-	7.3		7.6			3.9	3.9			7.3	11.11	10.7	10.7	7.0			3.6				
SW		3.7	I						15.4	11.5	12.0	11.5	11.1	14.6	17.9		3.6	3.7	3.6	3.6				
WSW		3.7		3.7	3.9	3.9		4.0	2	7.6	4.0	7.6	7.3	3.7	3.6	13.7			3.6					3.6
B	7.3	7.3	7.3		7.6	3.9		7.9	11.5	7.6	4.0	19.2	7.3		3.6	3.6		7.3	3.6	7.0	3.6			
WNW	3.7			3.7	7.6	3.9	7.6	7.9	7.6	11.5	7.9	3.9	7.3		3.6	7.0		7.3	7.0	7.0	7.0	7.0	3.6	10.7
NA	25.9	14.8	14.8	29.62	7.6	34.6	15.4	12.0	3.9	3.9		3.9	3.7	22.2		10.7	3.6	3.7		10.7	10.7		14.3	-
NN	3.7	3.7	7.3	7.3	11.6		11.6		3.9	3,9					3.6		7.0				3.6			
CALM	48.1	59.4	59.2	44.5	87.8	38.4	53.9	60.2	6	30.8	7.9	7.6	3.7	3.7 22.2 10.7		21.4	28 6	9		57 0 75 0 82 1 64 3	75.0	1 60	6 43	1 03

• Note: Due to rounding, percentage totals do not equal 100%.

CHIVA CHIVA (Open site) FEBRUARY 1967

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z	18.5			22.2	1.1	25.9	11.1	22.2	39.3	37.0	44.5	53.6	21.4	35.7	35.7	28.6	32.1	39.3	28:6	39.3	17.9	14.3	25.9	22.2
NNE		3.7							7.0	18.5		11.1 14.3	10.7		10.7	10.7	7.0	3.6						
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KNE	3.7	3.7		7.3	7.3	3.7	3.7	3.7			3.7			7.0		10			3 6					
NW	33.3	5.5	44.5	22.2	22.2 44.5	_	4	37.0	28.6	18.5	7.3	7.0	7.0		17.9	2	10.7	7.0 10.7 11 4 14 3 10 7	2 2	10.7		3.0		
NNN	44.5	33,3	40.8	44.5	37.0	37.0	29.6	29.6	25.0 22.2		29.6	17.9	60.7	46.4	1 0	46.4				29.6 17.9 60.7 46.4 32 1 46 4 50 0 35 3 53 5 5 5 5 5 5 5 5 5 5 5 5 5			0	25.
CALM				3.7													-	200	0000		20.00		21.8 44.5	44.5

\* Niste: Due to rounding, percentage totals do not equal 100e;

CHIVA CHIVA (Open site) FEBRUARY 1967

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1	5	õ	60	8	8	8	6	8	8	10		13	13	14	13	91	11	81	61	8	12	22	2	7
z	64.3	35.7	60.7	9.99	50.0	39.3	32.1	60.7	60.7	25.9	37.0	39.3	53.6	46.4	0.08	60.7	64.3	53.6	57.1	57.1	4	-	3	1
NNE	7.0	21.4	10.7	11.1	3.6	17.9	10.7	3.6	21.4	22.2	18.5	32.1	21.4	21.4 28.6		10.7 10.7				-	35 7 14 3		6.70 6.70	,
Z.				3.7		3.6			3.6	33.3	25.9	17.9	17.9 10.7 10.7	10.7	32.1	21.4	_		_		2	2.5	17.3	1
ENE									3.6	7.3	7.3	7.0	3.6				1	-		2.0	3.6		3.6	3.6
E										-		-					3 6							1
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SSW											3:			I										
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wsw												3.6				,		T			1	1		
M			3.6			3.5		3.6															1	,
WNW																							-	,
NA		7.0	7.0	7.3	10.7	7.0	10.7	3.6						10	-	1				1			1	
NN	21.4	28.6	14.3	7.3	35.7	25.0	35.7		10.7	17:11	7.3		10.7	2	0						3.6	7.0		1
CAIN	7.0	7.0	3.6	3.7		3 6	3 6 10 7							1	-	-		?	0.,	3.0	3.0 (0.7	7.0	14.3	14.3

\* Note: Due to rounding, percentage totals do not equal 100%.

CHIVA CHIVA (Open site) FEBRUARY 1967

Ī	L							-																
) d	ō	05	10	2	8	8	0	8	8	10	=	12	13	7	13	91	11	81	61	02	12	22	12	1
Z	10.7	7.0	14.3	10.7		17.9	7.0	7.0	17.9	22.2	29.6	35.7	25.0	32.1	32.1	0 86	35.0	21.4						
NNE		7.0	3.6			3.6	7.0		7.0	29.6					1				3	4.12		6.71	19.7	6.
NE				3.6	3.6	7.0					4					2		9.0	3.6	3.6			7.0	
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MSS						-		3.6		!								-		1	1	1	1	3.6
SW	3.6	3.6					+			1	1	-	İ						1	1		_	_	,
wsw							3.6								-			,					_	3.6
M	3.6	3.6			7.0		7.0			3.7	1		2		3.5	1				1	1	T	i	1
W.N.W.	7.0	10.7	17.9	7.0	32.1		3.6	3.6 19.7		3.7	1 6			3 6	5			1	1	1	3.6	1	1	
NA	46.4	46.4		42.9		39.3	9	35.7	32.1	25.9	-	21.4	28.6	25 -1	35.7	33.1		0 0			_		7.0	3.6
MNN	25.0	21.4	28.6	32.1	25.0	14.3	7.0	32.1		-	_		1 0	17					_	-	N.		32.1	46.4
CALL	3.6		7.0				1			-			1	27		0.03	07.0	23.6	53.6	42.9	39.3	42.9	40 0	25.0

\* Note: Due to rounding, percentage totals do not equal 100er.

# SUMMARY OF NON HOURLY DATA

FEBRUARY 1967

	Summary of Ele	ments with Non-hourly	Frequencies o	of Observation	on	
Site	Element, Units and Exposure	Description	Number of Obs.	Minimum Value	Mean or Total Value	Maximum Value
	WBGT Index <sup>1</sup> (at 1.0 meters)	Index value Dry bulb temp. Wet bulb temp. Black bulb temp.	392 392 392 392 392	67.0 66.8 66.5 68.5	76.2 80.3 74.0 81.5	85.0 89.9 89.9 98.0
ê	Evaporation <sup>3</sup> (in. at 4 levels)	Piche (46.0 m) Piche (26.5 m) Piche (13.5 m) Piche ( 0.5 m)	28 28 28 28	0.159 0.098 0.024 0.018	19.302* 12.023* 5.994* 4.376*	1.025 0.616 0.311 0.226
Albrook (Forest site)	Precipitation from Raingauge Network <sup>2</sup> (in. at 1.0 meters)	Gauge # 1 Gauge # 2 Gauge # 3 Gauge # 4 Gauge # 5 Gauge # 6 Gauge # 7 Gauge # 8	2 2 2 2 2 2 2 2 2	0.13 0.12 0.10 0.09 0.09 0.09 0.09	0.51* 0.58* 0.67* 0.47* 0.53* 0.43* 0.53*	0.41 0.46 0.57 0.38 0.43 0.43 0.28
	Stem Flow <sup>2</sup> (in. at 2,0 ineters)	Small tree Medium tree Large tree	1 1	0.46 0.44 0.15	0.46* 0.44* 0.15*	0.46 0.44 0.15
te)	WBGT Index <sup>1</sup> (at 1.0 meters)	Index value Dry bulb temp. Wat bulb temp. Black bulb temp.	392 392 392 386	96.0 66.5 66.0 65.3	78.9 83.4 74.0 93.7	87.3 94.0 94.0 116.0
Chiva Chiva (Open site)	Evaporation <sup>3</sup> (in. at 0.5 meters)	Piche Pan	27 27	0.159 0.163	14.990* 7.144*	0.781 0.346
Chiva	M.nimum Grass temp <sup>3</sup> (°F at grass tips)	None	27	60.5	65.8	76,4

<sup>1 -</sup> Hourly observations between 0600 and 1900 hours inclusive 2 - Six hourly observations 3 - Paily observations

\* Total Value

Security Classification			
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This report contains detailed microclimatic in the Panama Canal Zone and vicinity. The summarized for hourly and/or daily observatelements listed are: temperature, pressure relative humidity, and evaporation.	e data are pr tions from su	resented in urface to 4	n tabular form, 6-meter levels.

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UNCIASSIFIED Societies Classification

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Security Classification LINK A LINK B LINK C **KEY WORDS** ROLE WT WT ROLE ROLE Climate Microclimatology Tropic Environment Humid Tropics Panama Canal Zone Microclimatology Data Base

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