Precipitation STATION Purace

CAUCA RIVER, IN THE BASIN OF CAUCA ELEVATION 2,646 UNIT mm YEAR 1974

DATE	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul	Aug.	Sep	Oct	Nov	Dec	DATE
1	0	12.0	0	14.0	12.0	0	2 0	0	0	10 0	0		1
2	0	30.0	10.0	15.0	10.0	0	0	0	0	8.0	0		2
3	0	8.0	8.0	0	23.0	7 0	0	0	4.0	5 0	0		3
4	0	15.0	0	15.0	0	0	0	3 0	0	28.0	0		4
5	0	0	15.0	10.0	25.0	0	0	0	5 0	5 0	0		5
6	0	10 0	18.0	10.0	25.0	0	8 0	0	0	0	0		6
7	15.0	35.0	8.0	0	0	0	9 0	0	0	0	12 0		7
8	0	45.0	45.0	0	0	0	0	0	0	0	30 0		8
9	0	20.0	46 0	10.0	0	4 0	0	0	00	4.0	10 0		9
10	0	10.0	0	10.0	0	0	0	0	0	0	25 0		10
11	0	15 0	18.0	0	0	0	5.0	2.0	0	0	17 0		11
12	30.0	5.0	6 0	3.0	0	0	3.0	0	0	0	32 0		12
13	29 0	5.0	50.0	0	0	0	4.0	0	0	9.0	3 0		13
14	0	0	5.0	0	0	0	0	0	0	18.0	15 0		14
15	10.0	2.0	40.0	0	0	3.0	3 0	0	0	0	3 0		15
16	28.0	9.0	18.0	0	0	0	0	0	18.0	0	0		16
17	14.0	25 0	0	0	0	0	0	0	0	0	4.0		17
18	30.0	5.0	33.0	0	0	8.0	0	0	17.0	8.0	0		18
19	23 0	0	13.0	0	0	0	7.0	0	20 0	0	9 0		19
20	0	4.0	15.0	0	0	0	0	0	0	0	6 0		20
21	40.0	0	30.0	0	0	0	0	0	0	0	25.0		21
22	0	0	10.0	0	12.0	0	0	0	0	0	13 0		22
23	0	0	0	0	3.0	3.0	0	0	12.0	35 0	20 0		23
24	0	10.0	9.0	0	0	4 0	0	0	0	15.0	31 0		24
25	0	0	0	0	0	0	0	0	25.0	12.0	45.0		25
26	0	10.0	16.0	0	0	0	0	0	0	9 0	0		26
27	0	0	0	20.0	0	0	0	5.0	8.0	13.0	0		27
28	0	0	4.0	18.0	0	0	7.0	0	0	28.0	3 0		28
29	0		0	18.0	0	0	11.0	0	10.0	15 0	5 0		29
30	0		0	9.0	8.0	3.0	4.0	0	0	8.0	20 0		30
31	25.0		0		5.0		5 0	10 0		30.0			31
Sum	244.0	275.0	417.0	152.0	123.0	32 0	68.0	20.0	119 0	260 0	328 0		

Annual Total ( )

Precipitation STATION Purace

CAUCA RIVER, IN THE BASIN OF CAUCA ELEVATION 2,646 UNIT mm YEAR 1975

DATE	Jan.	Feb.	Mar.	Apr.	May	Jun	Jul	Aug	Sep.	Oct	Nov.	Dec	DATE
1	43.0	0	48.0	0	0	0	0	0	0	0	20 0	40.0	1
2	26.0	12.0	10.0	12.0	20.0	3.0	8.0	0	0	0	5 0	15 0	2
3	8.0	50.0	3.0	8.0	15.0	0	10 0	0	0	0	0	10.0	3
4	0	5.0	4.0	0	43.0	5 0	4 0	0	0	0	6 0	0	4
5	0	10.0	0	0	10.0	6.0	0	0	0	0	4.0	0	5
6	0	15.0	15.0	0	4.0	8.0	0	0	0	0	3.0	20 0	6
7	0	38.0	0	0	18.0	0	20.0	0	0	0	2 0	30.0	7
8	0	13.0	0	20.0	20.0	0	0	0	0	0	24 0	14 0	8
9	0	4.0	5.0	0	10.0	0	0	0	8.0	0	60 0	10 0	9
10	0	8.0	0	0	0	0	4.0	0	4.0	0	0	0	10
11	0	0	0	0	0	0	19.0	0	15.0	15.0	50.0	0	11
12	0	0	0	0	0	5.0	25.0	0	0	14.0	0	0	12
13	0	0	25.0	0	5.0	8.0	25 0	0	0	13 0	0	0	13
14	0	0	0	0	0	0	27.0	0	5.0	10.0	0	0	14
15	0	0	18.0	0	10.0	8.0	25.0	0	0	14.0	0	0	15
16	0	0	10.0	0	0	0	10.0	0	0	31.0	0	38 0	16
17	40.0	3.0	0	0	0	0	0	0	0	14.0	0	10 0	17
18	0	5.0	0	0	0	6.0	0	0	15.0	13.0	10 0	20 0	18
19	0	14.0	0	0	0	0	0	15.0	30.0	0	0	17.0	19
20	0	10.0	0	0	0	0	0	13.0	35.0	16 0	0	30.0	20
21	0	28.0	0	0	0	0	0	0	3.0	30.0	5.0	25.0	21
22	25.0	15.0	0	0	0	10.0	0	0	10.0	5.0	23 0	8.0	22
23	15.0	45.0	5.0	0	0	8.0	0	0	0	4.0	0	12.0	23
24	0	26.0	0	0	0	0	0	0	14.0	0	0	42 0	24
25	0	25.0	0	0	0	0	0	20.0	0	70.0	30.0	20.0	25
26	18.0	15.0	0	20.0	0	0	0	20.0	0	18.0	9.0	40.0	26
27	0	28.0	0	50.0	0	0	0	0	4.0	10.0	18.0	90 0	27
28	0	16.0	0	10.0	0	0	0	8.0	0	8.0	60.0	28.0	28
29	0		0	115.0	0	18.0	0	15.0	0	0	35.0	0	29
30	0		0	0	0	33.0	0	10.0	0	50.0	50.0	0	30
31	0		0		4.0		0	10.0		0		0	31
Sum	175.0	385.0	143.0	235.0	159.0	118.0	177.0	111.0	143.0	335.0	414.0	519 0	

Annual Total (2,914.0)

Precipitation STATION Purace

CAUCA RIVER, IN THE BASIN OF CAUCA ELEVATION 2,646 UNIT mm YEAR 1976

DATE	Jan.	Feb	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	DATE
1	0	0	00	0	0	0	0	4.0	0	10.0	10.0	10.0	1
2	0	0	10.0	0	0	0	0	0	0	30.0	4.0	8.0	2
3	0	0	0	0	10.0	0	0	0	0	10.0	8.0	55.0	3
4	0	0	0	0	13.0	0	0	0	4.0	20.0	20.0	7.0	4
5	0	35.0	0	0	0	0	0	0	0	15.0	13.0	12.0	5
6	0	10 0	20.0	0	0	0	0	0	8.0	10.0	6.0	0	6
7	0	20 0	33.0	0	0	0	3.0	0	0	3.0	4.0	3.0	7
8	0	15 0	0	0	0	0	0	0	0	25.0	0	0	8
9	0	0	.0	10.0	0	4.0	0	0	0	8.0	3.0	0	9
10	0	3.0	0	0	0	0	0	0	0	0	0	0	10
11	0	6.0	10 0	5 0	5.0	10.0	4 0	0	0	0	0	0	11
12	0	20.0	0	4.0	0	8.0	0	0	0	0	0	0	12
13	0	30.0	0	10.0	0	4 0	0	0	0	15.0	30.0	0	13
14	0	30.0	0	60.0	0	0	0	0	0	0	10.0	10.0	14
15	0	8.0	4.0	40.0	0	0	0	10.0	0	3.0	9.0	0	15
16	0	0	0	20.0	0	0	0	0	0	0	4.0	30.0	16
17	0	3.0	2.0	10.0	18.0	3.0	0	0	0	2.0	0	12.0	17
18	0	0	0	25.0	9.0	0	8 0	0	0	0	0	10.0	18
19	0	5.0	0	10.0	0	2.0	10.0	0	0	7.0	0	0	19
20	0	10.0	0	12.0	0	10.0	0	0	0	0	6.0	0	20
21	0	5 0	18 0	0	0	0	0	0	9.0	0	0	12.0	21
22	0	13.0	0	0	0	0	0	0	0	15.0	0	0	22
23	0	0	0	0	0	0	0	0	0	10.0	0	22.0	23
24	0	0	10 0	0	0	0	0	0	0	22.0	0	0	24
25	0	0	27 0	10.0	0	0	0	0	20.0	0	0	0	25
26	10 0	8.0	20.0	0	0	0	0	0	25.0	40 0	0	8.0	26
27	23 0	0	23.0	0	0	0	0	0	15.0	6 0	0	4.0	27
28	35 0	0	30 0	8.0	0	0	0	0	10.0	0	0	0	28
29	28 0	0	20.0	0	0	5.0	0	0	0	5.0	20 0	0	29
30	65 0		9 0	0	5.0	0	0	0	0	15.0	0	0	30
31	0		0		0		0	0		8.0		0	31
Sum	161 0	221 0	236 0	224.0	60.0	46.0	25.0	14.0	91.0	279.0	147.0	203.0	

Annual Total (1,707.0)

Precipitation STATION Purace

CAUCA RIVER, IN THE BASIN OF CAUCA ELEVATION 2,646 UNIT mm YEAR 1977

DATE	Jan	Feb.	Mar	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	DATE
1	0	8 0	0	0	0	0	0	0	0	10.0	0	0	1
2	0	0	0	30 0	16.0	5.0	0	0	0	0	32.0	0	2
3	0	0	0	40.0	0	0	0	0	0	0	20.0	0	3
4	0	0	0	8.0	5.0	0	0	0	0	10.0	14.0	0	4
5	0	0	0	8.0	15.0	0	0	0	0	4.0	5.0	8.0	5
6	0	8 0	0	0	0	0	0	0	0	8.0	25.0	0	6
7	0	3.0	0	0	0	4.0	0	0	0	13.0	9.0	0	7
8	0	0	0	0	0	0	0	0	0	10.0	0	0	8
9	0	0	0	0	0	0	0	0	0	11.0	12.0	0	9
10	0	0	0	0	0	0	0	0	0	12.0	10.0	0	10
11	0	0	0	0	4.0	35.0	0	0	0	10.0	35.0	10.0	11
12	0	0	0	0	0	20.0	0	0	0	13.0	0	0	12
13	0	0	0	0	0	0	0	20.0	0	0	35.0	0	13
14	0	0	0	4.0	0	0	5.0	0	0	0	0	0	14
15	0	8 0	8.0	0	12.0	0	6.0	0	0	0	0	0	15
16	0	6.0	0	0	4.0	0	0	0	0	0	0	4.0	16
17	0	5 0	0	0	0	0	0	00	0	5.0	0	3.0	17
18	0	0	0	0	0	0	0	0	10.0	0	0	10.0	18
19	5.0	0	0	0	0	0	0	0	30.0	8.0	30.0	0	19
20	0	5.0	0	0	4.0	0	0	12.0	0	0	8.0	15.0	20
21	0	3.0	0	4.0	0	0	0	0	0	0	0	0	21
22	12.0	0	10.0	0	0	0	0	0	0	0	5.0	0	22
23	22 0	0	8.0	20 0	0	0	0	0	15 0	0	4.0	0	23
24	0	5 0	12.0	20 0	4.0	0	0	0	5.0	30.0	0	0	24
25	0	0	0	22.0	13.0	0	0	0	13.0	10.0	0	0	25
26	0	0	0	0	3.0	0	0	0	25.0	9.0	0	0	26
27	0	0	0	8.0	0	10.0	15.0	0	18.0	10.0	0	16.0	27
28	3 0	0	28.0	42.0	0	0	0	0	12.0	12.0	0	0	28
29	0		6.0	13.0	0	4.0	0	0	0	15.0	0	41.0	29
30	0		13.0	0	0	20.0	0	0	10.0	5 0	0	0	30
31	10 0		3.0		3.0		0	3.0		10.0		30.0	31
Sum	52 0	51 0	88 0	237.0	83 0	98.0	26.0	35 0	138.0	215.0	244.0	139.0	

Annual Total (1,406.0)

Precipitation STATION PIENDAMO

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 1,840 UNIT mm YEAR 1968

DATE	Jan	Feb	Mar	Apr	May	Jun.	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	0	65.0	10 0	0	4 0	2 0	14 0	0	25 0	1 0	0	0	1
2	0	12 0	16 0	0	0	5 0	5 0	0	2 0	0	0	14 0	2
3	0	8 0	2.0	0	0	0	3 0	0	0	0	0	9 0	3
4	0	33.0	0	2 0	0	3 0	15 0	0	5 0	2.0	5 0	19 0	4
5	0	3 0	0	10.0	0	38 0	0	14 0	2 0	1.0	0	0	5
6	0	4.0	0	25.0	12.0	1.0	0	0	0	5 0	2 0	0	6
7	0	7.0	2.0	1.0	4.0	0	0	0	2.0	8 0	0	0	7
8	0	0	16.0	0	5.0	0	0	0	9 0	37 0	0	0	8
9	0	0	2.0	43.0	5.0	5 0	0	0	0	17.0	14.0	0	9
10	0	0	32.0	17.0	11.0	0	0	0	1.0	0	6 0	23 0	10
11	0	0	21.0	4.0	0	1 0	0	0	0	7 0	15 0	2.0	11
12	3.0	2 0	0	2 0	0	31.0	0	0	0	26.0	20 0	0	12
13	28 0	0	8.0	10.0	2.0	0	0	0	0	3.0	2 0	0	13
14	0	0	6.0	10.0	12.0	12 0	0	0	4.0	2 0	14 0	0	14
15	8.0	0	10 0	10.0	2 0	0	0	0	6 0	0	0	0	15
16	0	0	34.0	3.0	3.0	0	6 0	0	0	0	10 0	0	16
17	0	0	2.0	8.0	0	15 0	13.0	00	0	24 0	7.0	0	17
18	0	0	2.0	2.0	0	2.0	11 0	0	1 0	38 0	0	0	18
19	11.0	7 0	0	0	0	0	9 0	0	3 0	7.0	35 0	3.0	19
20	3.0	1.0	0	0	0	4 0	4 0	0	3 0	16 0	3 0	0	20
21	29.0	12.0	0	4.0	25.0	0	0	0	0	1 0	10 0	7.0	21
22	0	18.0	0	60.0	1.0	35.0	0	0	0	0	14 0	21 0	22
23	5.0	8 0	0	41.0	0	0	4.0	0	0	0	27 0	7 0	23
24	18.0	0	2.0	5.0	0	0	0	0	0	0	10 0	2 0	24
25	10.0	0	0	0	1.0	3.0	0	5 0	0	2.0	0	0	25
26	0	20.0	0	2 0	8.0	1.0	0	3.0	0	0	18 0	0	26
27	0	14.0	0	6.0	1.0	0	0	2.0	16.0	17 0	25 0	0	27
28	0	10.0	0	0	1.0	0	0	3.0	0	47 0	3 0	0	28
29	71 0	7.0	0	6.0	3.0	0	0	0	0	3 0	20 0	0	29
30	18.0		0	3.0	0	16.0	0	8.0	0	1 0	16 0	0	30
31	14 0		0		5.0		0	20.0		0		0	31
Sum	218 0	231.0	165 0	274.0	105.0	174.0	84.0	55 0	79 0	265 0	276 0	107 0	

Annual Total (2,033 0)

Precipitation STATION PIENDAMO

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 1,840 UNIT mm YEAR 1969

DATE	Jan.	Feb	Mar.	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	12 0	1.0	0	9.0	11.0	11 0	0	0	0	4 0	3 0	2 0	1
2	0	0	6.0	1 0	19.0	5 0	0	0	0	24 0	3.0	5 0	2
3	0	2.0	2 0	19.0	15.0	36 0	0	0	0	2.0	0	8.0	3
4	0	11.0	0	27.0	4.0	17.0	0	0	0	31.0	58 0	5.0	4
5	0	2.0	0	48.0	0	0	0	0	0	12 0	16 0	3 0	5
6	0	8.0	0	0	3.0	3.0	0	0	0	25.0	25 0	3.0	6
7	0	3.0	0	41.0	0	36.0	1 0	0	0	1.0	19 0	0	7
8	0	9.0	0	0	0	0	0	0	0	0	38.0	2 0	8
9	0	13.0	0	14.9	18.0	7.0	0	0	0	2 0	8 0	4 0	9
10	8.0	11.0	0	1.0	7.0	4.0	0	0	0	26 0	2 0	0	10
11	1.0	29.0	0	5.0	1.0	9.0	0	0	0	11.0	3.0	18 0	11
12	5 0	1.0	4.0	23.0	1.0	2.0	0	2.0	0	9 0	2.0	45 0	12
13	10.0	0	2.0	0	1.0	14.0	0	0	0	15.0	1 0	2 0	13
14	16.0	43.0	14.0	17.0	9.0	6 0	0	0	0	20.0	3 0	0	14
15	3.0	41.0	16.0	24.0	51.0	0	0	1.0	0	2.0	5.0	0	15
16	0	34.0	1.0	24 0	4 0	0	0	24 0	0	8 0	22.0	0	16
17	4.0	3.0	2.0	11.0	10.0	0	0	0	0	6.0	14.0	30 0	17
18	44.0	6.0	0	4.0	0	0	0	2.0	35.0	0	0	1 0	18
19	10.0	2.0	0	5.0	8.0	3.0	0	0	7.0	0	0	6 0	19
20	10.0	0	0	0	3.0	2.0	0	0	12.0	0	3 0	2.0	20
21	31.0	0	0	2.0	0	0	0	5.0	1 0	3.0	2 0	15 0	21
22	1.0	1.0	2.0	15.0	0	0	0	0	1 0	2 0	0	4 0	22
23	38.0	4.0	0	2.0	0	0	0	11.0	5 0	15.0	64 0	2 0	23
24	9.0	3.0	2.0	7.0	0	0	0	0	15.0	0	6 0	4 0	24
25	1.0	3.0	6.0	8.0	0	2.0	0	0	3.0	6.0	12.0	4.0	25
26	16.0	0	2.0	0	0	0	0	2.0	0	30.0	1 0	0	26
27	0	0	4.0	0	0	3 0	0	0	9.0	0	0	1 0	27
28	10.0	6.0	10.0	5.0	0	0	0	0	15.0	0	2.0	0	28
29	1.0		44.0	2.0	0	0	0	0	0	9 0	33.0	0	29
30	1.0		1.0	39.0	0	6.0	0	0	14.0	2.0	0	0	30
31	27.0		19.0		0		0	0		0		0	31
Sum	258.0	236.0	137 0	353.0	165.0	166.0	1.0	47 0	117.0	265 0	345 0	166.0	

Annual Total (2,256.0)

Precipitation STATION PIENDAMO

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 1,840 UNIT mm YEAR 1970

DATE	Jan	Feb	Mar.	Apr	May	Jun	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	DATE
1	2 0	19 0	9 0	0	0	0	1.0	0	0	13.0	17.0	18.0	1
2	2 0	7 0	67.0	32.0	0	0	0	0	23.0	22.0	26.0	2.0	2
3	0	6.0	30 0	0	20.0	3.0	0	4.0	0	1.0	17 0	20.0	3
4	0	47 0	2 0	0	1.0	2.0	0	0	0	3.0	53.0	2.0	4
5	0	7 0	3.0	0	1.0	6.0	1.0	0	0	26.0	1.0	1.0	5
6	0	20 0	9.0	0	0	9.0	7.0	0	1.0	6.0	1 0	0	6
7	0	7 0	1.0	2.0	3.0	1.0	2.0	0	0	3.0	45.0	3.0	7
8	1.0	2.0	6 0	3.0	0	0	0	0	0	18.0	43.0	1.0	8
9	0	0	5 0	8.0	1.0	22.0	0	0	0	5 0	27.0	9 0	9
10	2 0	0	3.0	12.0	0	3.0	25 0	0	0	2.0	0	0	10
11	2.0	0	45.0	6.0	0	2.0	0	0	0	0	0	0	11
12	60 0	0	0	25.0	0	2 0	0	0	1.0	0	7 0	1.0	12
13	27 0	0	4.0	10.0	0	2.0	0	0	0	0	1 0	1.0	13
14	42 0	0	0	6 0	9.0	0	0	0	0	0	2.0	5.0	14
15	0	0	0	3.0	19.0	0	0	0	0	0	50.0	4.0	15
16	0	20 0	0	6.0	27.0	0	0	0	0	0	25 0	1.0	16
17	1 0	30 0	0	0	1.0	0	0	0	0	0	2 0	0	17
18	35 0	30 0	0	0	45 0	0	5 0	2 0	0	0	24.0	4.0	18
19	2 0	55 0	0	1.0	3 0	0	3 0	0	0	0	4.0	19.0	19
20	20 0	50.0	0	0	2 0	0	0	0	43.0	30 0	6.0	35.0	20
21	11 0	2 0	0	0	6.0	0	0	0	2.0	13.0	14.0	31.0	21
22	0	18 0	0	2.0	3.0	1.0	0	0	14.0	2.0	62.0	0	22
23	3 0	11.0	0	17 0	1 0	1.0	0	0	2.0	7.0	48.0	0	23
24	14.0	30 0	0	0	0	37.0	0	17.0	0	2.0	35.0	12.0	24
25	5 0	8 0	0	0	12.0	0	2.0	3.0	3.0	7.0	11 0	0	25
26	7.0	8 0	0	3.0	11.0	0	4.0	0	10.0	2.0	7.0	10.0	26
27	0	0	0	1.0	19.0	0	0	4.0	46.0	7.0	13.0	0	27
28	0	38 0	18.0	1.0	4.0	1.0	2.0	18 0	0	0	2.0	0	28
29	0		4.0	17 0	0	3.0	10.0	31.0	3.0	7.0	33.0	3.0	29
30	34 0		0	6 0	0	0	0	8 0	9 0	1.0	32.0	0	30
31	25.0		0		0		0	1.0		8.0		0	31
Sum	295 0	415 0	206.0	161.0	188.0	95.0	62.0	88.0	157.0	185.0	608.0	182.0	

Annual Total (2,642 0)

Precipitation STATION PIENDAMO

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 1,840 UNIT mm YEAR 1971

DATE	Jan	Feb	Mar.	Apr	May	Jun	Jul	Aug	Sep.	Oct	Nov	Dec	DATE
1	0	6 0	29 0	46.0	9.0	1 0	2 0	0	4.0	1.0	26.0	0	1
2	0	6 0	13 0	6 0	8.0	0	2.0	0	0	8.0	3.0	8.0	2
3	16 0	25 0	1 0	0	1.0	0	0	0	2.0	25.0	9.0	13.0	3
4	29 0	3 0	12 0	2 0	29.0	1.0	0	1.0	9.0	6.0	1.0	1.0	4
5	44.0	0	0	2.0	1.0	4.0	3.0	11.0	0	23.0	1.0	2.0	5
6	18 0	44 0	0	31.0	1.0	4.0	0	0	6.0	0	3.0	0	6
7	46.0	3 0	18.0	0	3.0	4.0	0	0	14.0	4.0	6.0	0	7
8	4 0	25.0	0	20.0	2.0	0	0	0	10.0	1.0	12 0	0	8
9	0	28.0	4 0	9 0	0	0	0	0	8 0	0	18.0	3.0	9
10	4 0	15 0	29.0	6 0	1.0	2 0	0	0	2.0	0	1.0	1.0	10
11	8 0	12 0	21 0	17 0	0	1.0	0	0	0	5.0	0	0	11
12	1 0	7 0	4 0	0	0	5.0	8 0	3 0	1.0	1.0	0	0	12
13	2 0	10 0	0	1.0	20 0	1 0	0	14.0	0	0	0	0	13
14	3 0	0	3.0	3 0	3 0	1 0	0	0	0	1.0	12.0	2.0	14
15	4 0	10 0	3 0	15 0	1.0	4 0	0	0	0	0	2.0	0	15
16	68 0	18 0	18 0	76 0	15.0	0	0	2.0	1.0	3 0	12 0	1 0	16
17	7 0	18 0	31 0	15 0	1.0	0	0	1.0	2 0	1.0	39 0	5.0	17
18	10 0	20 0	2 0	0	0	10 0	0	1.0	1 0	0	3 0	4 0	18
19	9 0	14 0	51 0	4 0	9 0	0	0	0	0	3 0	1 0	0	19
20	8 0	0	2 0	1 0	1 0	0	0	21.0	13 0	0	0	0	20
21	6 0	5.0	40 0	22.0	0	1 0	0	0	3.0	2.0	16.0	3.0	21
22	5 0	7 0	12 0	33.0	1.0	4 0	0	0	0	4.0	2.0	50.0	22
23	5 0	1.0	26.0	0	0	0	0	1.0	0	0	1.0	7.0	23
24	17 0	0	5.0	0	4 0	0	0	15.0	0	10.0	12.0	11.0	24
25	23 0	0	7 0	3.0	1.0	0	0	2.0	0	9.0	11.0	14.0	25
26	3.0	10.0	3 0	25.0	0	8.0	0	4.0	0	13.0	2.0	1.0	26
27	0	0	25.0	0	0	1.0	0	0	0	10.0	0	10.0	27
28	12.0	8.0	78 0	10.0	1.0	2.0	0	0	0	1.0	0	6.0	28
29	2.0		10 0	1.0	1.0	0	0	0	0	3 0	0	3.0	29
30	17.0		19 0	16 0	0	2.0	0	0	3 0	0	0	0	30
31	2 0		23.0		1.0		0	0		0		0	31
Sum	373.0	295.0	489 0	364.0	113.0	56.0	15 0	76.0	79.0	134.0	193.0	145.0	

Annual Total (2,332.0)

Precipitation STATION PIENDAMO

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 1,840 UNIT mm YEAR 1972

DATE	Jan	Feb	Mar	Apr.	May	Jun.	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	0	0	2 0	0	0	0	0	0	12 0	0	4 0	8 0	1
2	0	0	18.0	0	2 0	0	0	0	0	0	23 0	0	2
3	3 0	5 0	1 0	0	5.0	0	0	0	0	19 0	117 0	4 0	3
4	2.0	0	0	0	1 0	0	0	0	0	0	7 0	0	4
5	0	0	2.0	0	22.0	0	1 0	0	0	0	0	7 0	5
6	3.0	13.0	36.0	0	16 0	0	1 0	0	0	0	4 0	0	6
7	0	42 0	36.0	0	2.0	0	2 0	0	0	7 0	15 0	2 0	7
8	14.0	1 0	0	0	1 0	0	0	0	0	0	3 0	11 0	8
9	0	1 0	18 0	13.0	3 0	1.0	0	0	0	4 0	2 0	19 0	9
10	0	28.0	21.0	5.0	0	7 0	0	0	0	12 0	7 0	14 0	10
11	0	36.0	0	0	0	1 0	0	0	0	23 0	9 0	0	11
12	4 0	1 0	0	13 0	0	1 0	0	0	0	1 0	9 0	0	12
13	5 0	8 0	0	6.0	0	1 0	0	0	0	21 0	41 0	7 0	13
14	19 0	1 0	26 0	0	0	12 0	0	0	0	0	7 0	1 0	14
15	46 0	2.0	0	0	0	0	0	0	39 0	0	18 0	0	15
16	59 0	19 0	1 0	29 0	15 0	0	0	8 0	3 0	0	2 0	12 0	16
17	12 0	4 0	2 0	0	23 0	0	0	39 0	1 0	0	14 0	36 0	17
18	3 0	0	15 0	15 0	36 0	0	0	4 0	3 0	0	0	25 0	18
19	2.0	0	18.0	36.0	4.0	0	0	3 0	29 0	0	0	15 0	19
20	28 0	17.0	0	1.0	3 0	0	0	0	1 0	0	13 0	18 0	20
21	13 0	0	56.0	21 0	15 0	1.0	0	5.0	0	0	12 0	4 0	21
22	0	0	5.0	9 0	11 0	0	0	0	6 0	4 0	54 0	0	22
23	3 0	0	10.0	4.0	5 0	1 0	0	0	0	3 0	5 0	0	23
24	12.0	0	0	33.0	0	0	0	0	0	0	24 0	0	24
25	25.0	0	4.0	4.0	0	4 0	0	0	0	0	13 0	1 0	25
26	18.0	0	5.0	0	30 0	0	0	10 0	0	0	0	0	26
27	10 0	0	2.0	8 0	0	0	0	0	0	0	13 0	0	27
28	22 0	13 0	2 0	19 0	7 0	0	0	0	2 0	44 0	2 0	0	28
29	16.0	3.0	3.0	16.0	0	0	0	0	37 0	30 0	7 0	0	29
30	0		0	0	0	0	0	17 0	0	39 0	71 0	0	30
31	0		0		0		0	16 0		11 0		0	31
Sum	319 0	194 0	283 0	232.0	201.0	29 0	4.0	101 0	133 0	209 0	499 0	184 0	

Annual Total (2,388 0)

Precipitation STATION PIENDAMO

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 1,840 UNIT mm YEAR 1973

DATE	Jan.	Feb.	Mar	Apr.	May	Jun	Jul.	Aug	Sep	Oct	Nov	Dec	DATE
1	1.0	0	37 0	26.0	2.0	0	2 0	6.0	5 0	0	3.0	36 0	1
2	0	0	26 0	7.0	4.0	1.0	0	2 0	0	6 0	0	1 0	2
3	0	0	8.0	0	3.0	0	0	12 0	0	3 0	11 0	10 0	3
4	0	0	0	9.0	22 0	0	0	0	0	28 0	1 0	1 0	4
5	0	0	0	0	15.0	5 0	0	2 0	5 0	2 0	1 0	18 0	5
6	0	36.0	7.0	5 0	0	1 0	0	0	4.0	8 0	0	18 0	6
7	10.0	3 0	5.0	11.0	10 0	1 0	0	0	1 0	4 0	28 0	13 0	7
8	10 0	9 0	14.0	0	0	0	0	0	1 0	0	22 0	3 0	8
9	0	3.0	0	1.0	0	0	0	0	0	14 0	63 0	50 0	9
10	2.0	0	12 0	0	1.0	4 0	0	0	1.0	0	9 0	2 0	10
11	3 0	0	3 0	0	0	1.0	0	0	6 0	0	29 0	47 0	11
12	1 0	0	0	3 0	0	3 0	0	00	20 0	0	6 0	0	12
13	0	15 0	3 0	0	0	0	0	1 0	4 0	2 0	10 0	4 0	13
14	0	5 0	42 0	20 0	0	1 0	0	4 0	19 0	3 0	24 0	2 0	14
15	0	3.0	0	21 0	1 0	0	7 0	1 0	1 0	32 0	20 0	7 0	15
16	7.0	0	0	12.0	0	6 0	0	0	22 0	17 0	6 0	0	16
17	14 0	0	0	11.0	7.0	6 0	4 0	0	4 0	0	0	4 0	17
18	13.0	0	0	0	36 0	5 0	0	0	8 0	30 0	1 0	0	18
19	0	0	0	0	15.0	1 0	1 0	4 0	0	5 0	2.0	21 0	19
20	3.0	0	0	1.0	15 0	0	14 0	4 0	20 0	1 0	0	39 0	20
21	3.0	2.0	0	0	8 0	0	0	6 0	2.0	0	0	11 0	21
22	7.0	0	0	6 0	3.0	13 0	0	0	6 0	11 0	1 0	3 0	22
23	7.0	2.0	0	1.0	3.0	0	4 0	0	6 0	10 0	0	1 0	23
24	0	0	19 0	11.0	9 0	0	11.0	0	14 0	2 0	1 0	0	24
25	0	0	0	32.0	5.0	1 0	14 0	0	5 0	4 0	0	0	25
26	0	0	0	0	0	0	0	30 0	5 0	3 0	1 0	0	26
27	0	0	7.0	0	4.0	0	0	17 0	0	0	15 0	6 0	27
28	0	0	2 0	0	0	1 0	1.0	4 0	8 0	3 0	45 0	0	28
29	0		0	1.0	4.0	0	6.0	5 0	0	3 0	3 0	13 0	29
30	0		10.0	1.0	4.0	0	3.0	0	0	0	25 0	48 0	30
31	0		7.0		0		20 0	23.0		75.0		1 0	31
Sum	81.0	78.0	202.0	179.0	171.0	50 0	87 0	121.0	167.0	266.0	327 0	359 0	

Annual Total (2,088 0)

Precipitation STATION PIENDAMO

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 1,840 UNIT mm YEAR 1974

DATE	Jan	Feb	Mar.	Apr.	May	Jun	Jul	Aug	Sep.	Oct.	Nov.	Dec.	DATE
1	1 0	13 0	9 0	7 0	7 0	1.0	0	1 0	3.0	7.0	0	25.0	1
2	9 0	53 0	6 0	5 0	5 0	3 0	0	0	0	7.0	0	10.0	2
3	16 0	10 0	3 0	0	5.0	0	0	0	0	9.0	1.0	1.0	3
4	0	1.0	3.0	7 0	3 0	0	0	1.0	0	40.0	18.0	0	4
5	23 0	34 0	0	10 0	10.0	0	0	0	0	9.0	4 0	1.0	5
6	7 0	15 0	8 0	0	11 0	0	0	0	1.0	3.0	0	2.0	6
7	1 0	36 0	15 0	16.0	2.0	0	0	0	0	4.0	0	2.0	7
8	0	26 0	34 0	1.0	0	0	0	0	0	5 0	17 0	3.0	8
9	13 0	16 0	18 0	4.0	3 0	0	0	0	2.0	0	7 0	0	9
10	0	21 0	2 0	1 0	0	2.0	0	0	0	0	34.0	0	10
11	14 0	22 0	27 0	5 0	0	0	1 0	0	7 0	0	25.0	0	11
12	1 0	7 0	25 0	0	10 0	1 0	0	12 0	3 0	0	0	0	12
13	27 0	18 0	78 0	0	0	0	0	18 0	9 0	2 0	2 0	0	13
14	4 0	0	2 0	0	0	1.0	4.0	0	7.0	8.0	54.0	39.0	14
15	9 0	4 0	2 0	11.0	0	3.0	2 0	0	0	0	40.0	25.0	15
16	5 0	10 0	15 0	0	0	0	0	0	4.0	11.0	1.0	14.0	16
17	27.0	16.0	0	5.0	1.0	12.0	26.0	0	10.0	0	9.0	0	17
18	16 0	8 0	6 0	0	0	10.0	17.0	0	1.0	3.0	9.0	1.0	18
19	34 0	10 0	5 0	0	0	1.0	3.0	0	1.0	2.0	1.0	0	19
20	0	0	4 0	0	0	4.0	1.0	0	13 0	0	27.0	0	20
21	0	2 0	7.0	0	0	9 0	4.0	0	7.0	2 0	9.0	0	21
22	0	0	4 0	0	33.0	0	0	0	4.0	10 0	3.0	0	22
23	5 0	0	7 0	18 0	18.0	1 0	0	0	21.0	44.0	49.0	0	23
24	1 0	1 0	9.0	2 0	1.0	0	0	0	3.0	2.0	4.0	0	24
25	12 0	0	4.0	0	0	1 0	1 0	0	33.0	19 0	8 0	2.0	25
26	13 0	25 0	2 0	31 0	0	1 0	0	0	76.0	3 0	13 0	0	26
27	2 0	0	8 0	8 0	0	0	0	2.0	4 0	1 0	1 0	9.0	27
28	1 0	0	0	8.0	0	0	0	1.0	2 0	1 0	0	2 0	28
29	3.0		0	6 0	0	0	1 0	8 0	1 0	0	2.0	20.0	29
30	27 0		0	45 0	3 0	0	0	19 0	11.0	37 0	47.0	1 0	30
31	42 0		9 0		2 0		0	5.0		4.0		26 0	31
Sum	315 0	354 0	312 0	190 0	114.0	50.0	60 0	57 0	223.0	233.0	385 0	183 0	

Annual Total (2,476.0)

Precipitation STATION PIENDAMO

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 1,840 UNIT mm YEAR 1975

DATE	Jan	Feb	Mar	Apr.	May	Jun.	Jul.	Aug	Sep.	Oct.	Nov.	Dec.	DATE
1	14 0	42.0	9 0	0	2.0	3 0	7.0	0	1.0	0	2.0	24.0	1
2	38.0	27 0	2 0	0	39.0	0	8 0	0	0	0	7 0	25.0	2
3	1 0	50.0	7.0	12 0	3.0	2.0	17.0	0	1.0	13.0	3.0	0	3
4	0	0	2.0	1.0	8 0	1.0	24.0	0	0	1.0	5 0	0	4
5	0	22 0	2 0	2 0	1.0	36 0	3.0	0	0	0	9.0	5.0	5
6	0	15 0	1 0	4.0	38.0	2 0	2.0	0	0	14.0	13.0	47.0	6
7	0	27.0	4.0	0	2.0	2 0	7.0	0	1.0	0	3.0	12.0	7
8	0	2.0	2.0	4.0	6 0	0	0	0	0	3.0	4.0	1.0	8
9	0	24.0	16.0	0	8.0	0	14.0	0	0	0	21.0	8.0	9
10	1.0	0	0	0	2.0	0	2.0	0	1.0	8.0	40.0	1.0	10
11	0	0	0	1.0	0	0	46.0	0	12.0	16.0	51.0	0	11
12	0	1.0	4 0	0	0	0	0	0	0	1.0	2 0	0	12
13	6 0	0	33 0	0	3.0	0	9.0	4.0	0	9.0	1.0	0	13
14	1 0	0	8 0	0	18 0	0	14.0	0	1.0	4.0	11.0	0	14
15	0	0	2.0	3.0	4.0	0	4 0	0	0	13.0	8.0	3.0	15
16	1 0	12.0	2 0	7.0	2 0	0	1.0	0	0	38.0	8.0	66 0	16
17	3.0	40 0	17.0	3.0	0	0	0	0	16.0	0 0	1.0	36.0	17
18	1.0	2.0	2 0	0	34.0	0	0	0	2.0	6 0	3 0	2.0	18
19	0	19 0	1 0	0	0	0	0	33.0	19.0	7.0	8.0	6.0	19
20	0	3.0	3.0	0	0	0	0	7.0	10.0	6.0	5.0	28.0	20
21	11 0	32.0	0	0	0	2 0	0	5.0	1.0	20 0	3.0	32.0	21
22	1 0	32 0	1.0	0	1.0	10 0	0	0	7.0	0	25.0	2.0	22
23	21 0	13 0	13 0	0	4.0	2.0	0	1.0	2.0	0	30.0	24.0	23
24	0	3.0	23.0	0	1.0	0	1.0	9.0	2.0	4.0	0	20.0	24
25	0	5 0	7.0	0	2.0	0	0	13 0	0	6.0	1.0	16.0	25
26	5 0	28 0	0	18 0	0	0	0	5.0	1.0	39.0	56.0	11.0	26
27	0	7 0	0	25 0	1.0	1 0	1 0	3.0	0	19.0	52.0	55.0	27
28	0	15.0	0	26 0	1.0	1 0	12.0	15.0	0	7.0	42 0	17.0	28
29	0		1 0	11 0	1.0	14.0	0	6.0	0	1.0	24.0	8.0	29
30	0		2.0	0	2 0	16 0	0	29.0	0	17.0	34.0	0	30
31	5.0		69.0		16.0		1.0	8.0		5.0		0	31
Sum	109 0	421.0	233.0	117 0	199.0	92.0	173.0	138 0	77.0	257.0	472.0	449.0	

Annual Total (2,737.0)

Precipitation STATION PIENDAMO

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 1 840 UNIT mm YEAR 1976

DATE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct.	Nov	Dec	DATE
1	0	13 0	1 0	0	2.0	0	1 0	0	0	58 0	6 0	34 0	1
2	1 0	1 0	10 0	0	3.0	0	0	0	0	21 0	2 0	62 0	2
3	1 0	0	1 0	0	2.0	0	0	0	0	16 0	11 0	31 0	3
4	31 0	0	9 0	0	1 0	0	0	0	2.0	7 0	0	18 0	4
5	5.0	9 0	0	1.0	2 0	0	0	0	2.0	6 0	0	2 0	5
6	3 0	15 0	30.0	2.0	0	0	0	0	0	0	0	0	6
7	1.0	16 0	5 0	0	1.0	1 0	0	0	0	0	7 0	1 0	7
8	3 0	0	0	0	0	0	0	0	0	22.0	2 0	3 0	8
9	0	0	12 0	33.0	0	0	0	0	0	1 0	0	0	9
10	0	25 0	1.0	21.0	0	0	0	0	0	0	1 0	0	10
11	0	17.0	1.0	0	0	0	0	0	0	0	1 0	0	11
12	0	1.0	0	2.0	0	4 0	0	0	0	0	9 0	0	12
13	0	5.0	7.0	15.0	4.0	2 0	0	0	0	18 0	1 0	0	13
14	0	21.0	3 0	27.0	16.0	0	0	0	0	2 0	0	45 0	14
15	0	3 0	0	2.0	2.0	3 0	0	0	0	3 0	0	0	15
16	0	20 0	2.0	10 0	16.0	0	0	0	0	0	1 0	10 0	16
17	0	1 0	4 0	34.0	4.0	0	0	4.0	0	3.0	1 0	11.0	17
18	0	3.0	0	0	1.0	0	0	0	0	4 0	0	1 0	18
19	0	15.0	4 0	1.0	0	0	0	23 0	0	5 0	0	0	19
20	0	12.0	1.0	7.0	0	0	0	0	0	0	2 0	2 0	20
21	0	4.0	2.0	1.0	0	0	0	0	0	1 0	1 0	4 0	21
22	0	13.0	0	0	0	0	0	0	0	3 0	0	0	22
23	4 0	7.0	1 0	0	1.0	0	0	0	0	3 0	0	11 0	23
24	0	1.0	11.0	41 0	0	0	0	0	22.0	12.0	0	1.0	24
25	0	8 0	2 0	3 0	0	0	0	0	19.0	6 0	0	0	25
26	40 0	9.0	14.0	7.0	1 0	0	0	0	33 0	29 0	0	0	26
27	11.0	4 0	6 0	3 0	2.0	2 0	0	0	15 0	1.0	0	0	27
28	7 0	3 0	0	0	2.0	0	0	0	4.0	0	5 0	14 0	28
29	28 0	0	2.0	4 0	3 0	0	0	0	0	1 0	9 0	0	29
30	17.0		0	1 0	1.0	0	0	0	13 0	13 0	11 0	2 0	30
31	0		35.0		1 0		0	0		0		7 0	31
Sum	152 0	226.0	164.0	215 0	65.0	12 0	1 0	27.0	97 0	235 0	70 0	259 0	

Annual Total (1,523 0)

Precipitation STATION PIENDAMO

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 1,840 UNIT mm YEAR 1977

DATE	Jan	Feb	Mar.	Apr.	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	0	1 5	0	3 0	9 0	29 0	0	1 0	0	7 0	3 0	1 0	1
2	0	0	0	2 0	24.0	3 0	9 0	0	0	3 0	11 0	1.0	2
3	0	1 5	0	15 0	0	0	0	0	0	1 0	5 0	3 0	3
4	0	0	0	4.0	34.0	12 0	0	0	0	15 0	1 0	0	4
5	0	0	0	9.0	6.0	0	1 0	0	0	2.0	4 0	3 0	5
6	0	0	0	0	0	0	1.0	12 0	0	56 0	26.0	0	6
7	0	1.0	0	2.0	0	5 0	0	10 0	0	10 0	3 0	1 0	7
8	0	0	0	7.0	2.0	0	0	0	0	29 0	1 0	0	8
9	0	0	0	0	2.0	5 0	0	3 0	0	0	0	0	9
10	1 0	6 0	0	0	1.0	1.0	0	0	0	9 0	0	3 0	10
11	1.0	0	0	0	8 0	36.0	0	0	0	4.0	1 0	2 0	11
12	0	0	8.0	0	0	1.0	0	1.0	0	2 0	22 0	1 0	12
13	0	1.0	0	1.0	0	6 0	0	2 0	1 0	2 0	0	3 0	13
14	0	1 0	0	1.0	5.0	0	0	4 0	4 0	0	22 0	1 0	14
15	0	1.0	0	0	33.0	0	0	0	0	0	0	0	15
16	0	0	0	0	1.0	0	0	0	0	18 0	5 0	0	16
17	0	2.0	0	1.0	21.0	0	0	0	0	34.0	28 0	0	17
18	1.0	3.0	1.0	0	0	0	0	0	9 0	0	3 0	0	18
19	6 0	8.0	0	0	1.0	0	0	18 0	0	0	8 0	3 0	19
20	0	30.0	0	12.0	0	3 0	0	2 0	11 0	0	0	0	20
21	1 5	0	2.0	6 0	0	3.0	0	18 0	14.0	0	0	0	21
22	3 0	0	12 0	23.0	0	0	0	1.0	6 0	0	0	0	22
23	6.0	4.0	2.0	12.0	3.0	0	0	0	1 0	14 0	3 0	0	23
24	1 5	0	3 0	0	0	0	0	0	7 0	2 0	9 0	12 0	24
25	4.5	6.0	2.0	62.0	35.0	0	1 0	0	19 0	7 0	4 0	1 0	25
26	6 0	0	0	104.0	3.0	0	1 0	0	41.0	22 0	5 0	0	26
27	0	1.0	0	45.0	3.0	0	3 0	0	13 0	1 0	0	2 0	27
28	0	0	37.0	60.0	0	0	0	0	2 0	2 0	0	11 0	28
29	0		32.0	3.0	0	1.0	0	0	2.0	1.0	0	6 0	29
30	26 8		12.0	5.0	0	10.0	0	2 0	21.0	1 0	0	5 0	30
31	7.4		17.0		0		1.0	0		17 0		72 0	31
Sum	65.7	67.0	128.0	377.0	191.0	115 0	17.0	74.0	151.0	259 0	164 0	131 0	

Annual Total (1,739 7)

Precipitation STATION PIENDAMO

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 1,840 UNIT mm YEAR 1978

DATE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	30 0	0	4 0	3 0	0	2 0							1
2	5 0	0	40 0	4 0	3 0	4 0							2
3	0	0	0	3.0	14.0	2.0							3
4	0	0	15 0	0	0	1 0							4
5	15 0	4 0	3 0	15 0	2 0	0							5
6	6 0	5 0	23 0	4.0	3 0	1 0							6
7	4 0	5.0	5 0	1 0	1 0	1.0							7
8	3 0	11 0	4 0	2 0	6.0	0							8
9	41 0	0	19 0	0	8 0	0							9
10	30 0	0	0	10 0	11 0	0							10
11	35 0	0	0	1.0	0	1 0							11
12	13 0	1 0	0	0	0	0							12
13	0	0	0	0	3.0	0							13
14	7 0	0	0	0	0	0							14
15	0	0	0	52.0	0	10.0							15
16	22 0	0	0	15 0	1 0	4 0							16
17	0	0	0	2.0	0	1.0							17
18	0	0	0	1 0	0	1 0							18
19	0	0	0	0	0	0							19
20	0	0	0	0	0	1 0							20
21	0	0	0	4.0	0	0							21
22	0	0	6 0	2.0	0	0							22
23	0	0	12 0	12 0	0	0							23
24	0	0	13.0	34 0	1.0	0							24
25	0	0	5 0	2 0	15 0	0							25
26	0	1 0	14 0	0	9 0	0							26
27	0	0	1 0	2 0	3.0	0							27
28	3 0	20 0	15 0	0	0	0							28
29	0		65 0	2 0	7 0	0							29
30	0		10 0	0	1.0	24.0							30
31	0		1.0		21.0								31
Sum	214 0	47 0	255 0	171 0	109 0	53 0							

Annual Total ( )

Precipitation STATION SILVIA

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 2,400 UNIT mm YEAR 1968

DATE	Jan	Feb	Mar	Apr.	May	Jun	Jul	Aug	Sep	Oct.	Nov	Dec.	DATE
1	0	4 0	8 0	0	0	0	0	0	0	0	0	14 0	1
2	0	9 0	7 0	0	0	0	0	0	0	0	0	19.0	2
3	0	13 0	1 0	0	0	14.0	0	0	0	0	0	14 0	3
4	0	15 0	0	0	0	32.0	0	0	1.0	0	0	19.0	4
5	0	22.0	0	0	0	1.0	0	0	0	0	0	4.0	5
6	0	6 0	0	0	0	49.0	0	0	0	0	0	0	6
7	0	4 0	0	0	2.0	4 0	0	0	0	0	0	0	7
8	0	3 0	0	0	0	2.0	0	0	0	0	0	2.0	8
9	0	0	5.0	0	7.0	0	0	0	0	1.0	0	0	9
10	0	0	2.0	57.0	7.0	0	3.0	0	0	16.0	0	0	10
11	0	0	0	6 0	0	0	3 0	0	0	2.0	0	0	11
12	0	0	0	15 0	0	0	0	0	0	8.0	9 0	13.0	12
13	0	0	0	8.0	0	0	0	0	0	14.0	18.0	0	13
14	0	0	0	0	0	0	0	0	0	11.0	9.0	0	14
15	9 0	0	0	7.0	9 0	0	0	0	0	13.0	18 0	0	15
16	0	0	4.0	9 0	0	0	0	0	0	0	0	0	16
17	0	0	0	5 0	7 0	0	0	0	0	9 0	8.0	0	17
18	0	0	14.0	49.0	0	0	0	0	0	10 0	4.0	0	18
19	0	0	0	7.0	6 0	9.0	2 0	0	0	16.0	7.0	0	19
20	0	7 0	0	0	0	2.0	0	0	0	32.0	11 0	0	20
21	0	0	0	0	0	0	0	0	0	0	12.0	0	21
22	0	2 0	0	3.0	0	0	0	0	0	0	9 0	0	22
23	0	2.0	0	5 0	0	0	0	0	0	0	6.0	0	23
24	0	3 0	0	9.0	0	0	0	0	0	0	13 0	3.0	24
25	1.0	0	0	3 0	0	0	0	0	0	0	8 0	9 0	25
26	7 0	0	0	0	0	0	0	0	0	0	3.0	0	26
27	0	0	0	0	0	0	0	0	0	0	2 0	0	27
28	0	5 0	0	0	0	0	0	0	2.0	2.0	18.0	0	28
29	0	5 0	0	0	0	0	0	0	2.0	14.0	11.0	0	29
30	11 0		0	0	0	0	0	0	3.0	0	2.0	0	30
31	7.0		0		0		0	0		0		0	31
Sum	35.0	100 0	41 0	183.0	38 0	113 0	8 0	0.0	8.0	148.0	168.0	97.0	

Annual Total (939.0)

Precipitation STATION SILVIA

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 2,400 UNIT mm YEAR 1969

DATE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	0	0	0	0	0	0	0	0	0	8 0	5 0	0	1
2	3 0	0	0	2 0	7 0	0	0	0	0	14 0	4 0	0	2
3	0	0	7 0	2 0	8 0	4 0	0	0	0	38 0	0	11.0	3
4	0	0	0	0	4 0	9 0	0	0	0	14 0	4 0	0	4
5	0	0	0	5 0	0	27 0	0	0	0	11 0	5 0	4 0	5
6	0	0	0	4 0	0	0	0	0	0	2 0	3 0	3 0	6
7	0	7 0	0	9.0	0	0	0	0	0	3 0	32 0	9 0	7
8	0	0	0	0	0	0	0	0	0	5 0	14 0	9 0	8
9	0	0	0	4.0	0	0	0	0	0	9 0	9 0	4 0	9
10	0	0	0	7.0	0	0	0	0	0	7 0	15 0	8 0	10
11	0	0	0	9.0	0	0	0	0	0	0	10 0	0	11
12	2 0	2 0	0	13 0	0	0	0	0	0	9 0	2 0	12 0	12
13	3 0	1 0	4 0	10 0	0	0	0	0	0	6 0	0	11 0	13
14	6.0	0	0	15.0	0	0	0	0	0	21 0	0	0	14
15	7 0	3.0	0	16 0	0	0	0	0	0	26 0	14 0	0	15
16	6 0	0	0	61 0	0	0	0	0	0	9 0	4 0	0	16
17	2.0	4 0	0	6.0	10 0	0	0	0	0	13 0	5 0	0	17
18	4 0	4.0	0	0	0	0	0	0	0	0	3 0	0	18
19	4 0	0	0	0	0	0	0	0	3 0	0	6 0	0	19
20	17 0	0	0	0	0	0	0	0	0	0	0	0	20
21	11 0	0	0	9.0	0	0	0	0	0	0	2 0	5 0	21
22	4.0	1 0	0	8 0	0	0	0	0	0	5 0	2 0	3 0	22
23	4 0	0	0	7 0	0	0	0	0	0	6 0	0	5 0	23
24	1 0	0	0	0	0	0	0	0	0	33 0	19 0	0	24
25	9 0	5 0	0	3.0	0	0	0	0	2 0	1 0	13 0	0	25
26	2.0	0	0	25 0	0	4 0	0	0	0	3.0	0	0	26
27	17 0	0	0	0	0	0	0	0	2 0	19 0	0	0	27
28	9 0	0	0	0	0	0	0	0	19 0	4 0	2 0	0	28
29	0		0	0	0	0	0	0	40 0	12 0	0	0	29
30	0		0	0	0	0	0	0	2 0	0	0	0	30
31	0		0		0		0	0		0		0	31
Sum	111.0	27 0	11 0	215.0	29 0	44 0	0 0	0 0	68 0	278 0	175 0	86 0	

Annual Total (1,044 0)

Precipitation STATION SILVIA

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 2,400 UNIT mm YEAR 1970

DATE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	0	16 0	0	0	0	3 0	0	0	0	5 0	9 0	0	1
2	3 0	1 0	26.0	0	0	1 0	0	0	0	43 0	0	1 0	2
3	0	5 0	13.0	0	0	0	0	0	0	16 0	8 0	0	3
4	0	9.5	0	0	0	0	0	0	0	6 0	16 0	0	4
5	0	5 0	0	0	0	0	0	0	0	0	26 0	0	5
6	0	5.0	0	0	1.0	0	0	0	0	0	20 0	1 0	6
7	0	3.0	4.0	0	0	7.0	3 0	0	0	20 0	33 0	0	7
8	0	0	0	0	3.0	10.0	0	0	0	18 0	14 0	0	8
9	0	3 0	0	0	0	0	0	0	0	4.0	4 0	0	9
10	0	0	0	0	0	0	0	0	0	0	7 0	4 0	10
11	0	0	5 0	1.0	0	0	0	0	0	0	6 0	0	11
12	2.0	0	5.0	4.0	0	0	0	0	0	0	1 0	0	12
13	3.0	0	0	2.0	0	0	0	0	0	0	6 0	0	13
14	6 0	0	0	10.0	9.0	0	0	0	0	0	5 0	0	14
15	7.0	0	0	28.0	0	0	0	0	0	0	3 0	0	15
16	6.0	0	0	10.0	23.0	0	0	0	0	0	9 0	1 0	16
17	2.0	9.0	0	5.0	41.0	0	0	0	0	0	1 0	0	17
18	4.0	5.0	0	0	42.0	0	00	0	0	0	6 0	0	18
19	4.0	6.0	0	0	57.0	0	0	0	0	0	13 0	3.0	19
20	17.0	14.0	0	0	4.0	0	0	0	0	0	3 0	25.0	20
21	11.0	1.0	0	0	22.0	0	0	0	0	9 0	11 0	8 0	21
22	4.0	0	0	0	0	3.0	0	0	12.0	0	21.0	5 0	22
23	4.0	1.0	0	0	12.0	0	0	0	10.0	0	16 0	0	23
24	1.0	15.0	0	0	7.0	0	0	0	4.0	6.0	1 0	0	24
25	9.0	9.0	0	0	8.0	0	0	0	7.0	1.0	16 0	0	25
26	2.0	10 0	0	0	8.0	0	0	1.0	0	20.0	3 0	0	26
27	17.0	1.0	0	0	0	0	3.0	1.0	3.0	6 0	0	0	27
28	9.0	0	0	0	4.0	0	0	0	3 0	12 0	3.0	0	28
29	0		0	0	3.0	0	1.0	0	11.0	9.0	3 0	0	29
30	0		0	0	0	0	0	0	3.0	15 0	1 0	0	30
31	14.0		0		2.0		00	0		4.0		0	31
Sum	125.0	118.0	53.0	60.0	246.0	24.0	7.0	2.0	53.0	194.0	265.0	48 0	

Annual Total (1,950 0)

Precipitation STATION SILVIA

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 2,400 UNIT mm YEAR 1971

DATE	Jan	Feb	Mar	Apr.	May	Jun.	Jul	Aug.	Sep.	Oct.	Nov.	Dec.	DATE
1	0	0	9 0	26 0	0	0	0	0	0	2.0	5 0	0	1
2	0	9 0	23 0	28 0	0	0	0	0	0	4.0	36.0	4.0	2
3	0	0	12.0	9.0	0	0	0	0	0	13 0	10.0	7.0	3
4	0	5 0	8 0	2 0	1 0	0	0	0	1.0	2.0	2 0	0	4
5	8 0	4 0	0	22.0	17 0	0	0	0	0	5.0	0	0	5
6	17.0	1 0	1 0	0	6 0	0	0	0	1.0	0	0	0	6
7	23 0	0	0	0	3 0	0	0	0	4.0	12.0	0	0	7
8	8 0	0	0	0	0	0	0	0	21.0	0	3.0	0	8
9	2 0	1 0	0	0	0	4 0	1 0	0	1.0	0	4.0	0	9
10	4 0	3 0	0	0	0	0	2.0	0	0	8.0	0	0	10
11	5 0	3 0	0	0	0	0	6 0	0	0	9.0	0	0	11
12	0	3 0	0	0	0	0	0	0	2.0	2 0	0	0	12
13	0	1.0	0	0	1 0	0	2 0	0	0	0	0	0	13
14	0	1 0	0	2.0	1.0	0	0	0	0	0	4 0	0	14
15	0	0	0	0	2 0	0	0	0	0	00	2.0	0	15
16	6 0	12.0	0	6.0	3.0	0	0	0	0	4.0	0	0	16
17	11.0	0	2.0	23.0	18.0	0	0	0	0	5.0	22.0	0	17
18	23 0	17.0	11.0	21.0	5.0	0	0	0	0	9.0	0	18.0	18
19	5.0	17 0	1.0	0	0	2.0	0	0	0	2.0	20.0	10.0	19
20	7 0	6 0	2 0	8 0	0	0	0	0	0	0	12.0	12.0	20
21	2 0	0	0	0	0	0	0	0	0	2.0	11.0	15.0	21
22	0	1.0	0	7.0	0	0	0	0	0	2.0	15.0	32.0	22
23	0	1 0	4.0	5.0	25.0	0	1.0	1.0	0	2.0	17.0	33.0	23
24	0	0	15.0	0	1.0	0	0	4.0	0	0	9.0	6.0	24
25	0	0	17.0	0	3.0	0	0	0	0	11.0	5.0	22.0	25
26	0	0	3.0	0	1.0	0	0	0	0	0	4.0	0	26
27	0	0	15.0	0	0	0	0	00	0	6.0	3 0	2.0	27
28	0	0	12.0	0	0	0	0	4.0	0	2.0	0	0	28
29	0		12.0	0	0	0	0	4.0	0	0	0	0	29
30	2.0		28.0	0	0	0	0	0	0	37.0	0	0	30
31	7.0		32 0		0		0	0		3.0		0	31
Sum	130 0	85 0	207.0	159.0	87.0	6 0	12.0	13.0	30.0	142.0	184.0	161.0	

Annual Total (1,216.0)

Precipitation STATION SILVIA

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 2,400 UNIT mm YEAR 1972

DATE	Jan.	Feb	Mar	Apr.	May	Jun	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	DATE
1	5 0	0	0	0	0	0	7.0	0	0	0	6.0	4.0	1
2	0	0	0	0	2 0	0	4 0	0	0	0	3.0	9.0	2
3	0	0	0	0	0	0	0	0	0	0	62.0	0	3
4	0	0	0	0	0	0	0	0	0	0	17.0	0	4
5	0	0	0	0	0	0	4.0	0	0	0	0	0	5
6	0	0	7.0	0	1.0	0	8 0	0	0	0	0	0	6
7	0	7 0	3.0	0	0	0	0	0	0	0	9 0	0	7
8	0	11.0	0	0	0	0	0	0	0	0	0	6.0	8
9	0	10 0	0	0	5 0	0	0	2 0	0	0	0	31.0	9
10	0	18 0	34.0	4.0	0	5.0	0	1.0	0	3.0	0	0	10
11	0	19.0	0	0	0	4.0	0	0	0	9.0	0	0	11
12	0	24 0	0	23 0	0	17.0	0	0	0	11.0	0	0	12
13	0	10 0	3.0	7.0	0	4 0	0	0	0	9.0	8 0	0	13
14	32 0	15 0	8 0	7.0	0	0	0	0	0	0	4.0	0	14
15	27 0	0	0	6 0	0	3.0	0	0	3.0	0	23.0	0	15
16	19 0	0	3 0	11 0	2 0	0	0	0	0	0	3 0	0	16
17	2 0	9 0	0	12.0	5.0	0	0	15.0	6.0	0	10 0	31.0	17
18	4 0	0	1.0	5.0	0	0	0	3.0	0	0	0	11.0	18
19	4 0	0	2 0	39.0	0	0	0	0	1 0	0	14.0	33.0	19
20	12 0	10 0	7 0	5 0	0	0	0	0	3.0	0	17.0	12.0	20
21	25 0	14 0	75 0	10 0	9 0	0	0	0	0	0	28.0	0	21
22	4 0	0	22 0	28 0	6 0	0	0	0	0	0	8.0	0	22
23	2 0	0	12.0	8.0	1.0	0	0	0	0	0	6.0	0	23
24	9 0	0	1.0	14 0	0	0	0	0	0	0	0	0	24
25	49 0	0	0	4.0	0	0	0	0	0	0	0	0	25
26	5 0	0	0	0	0	0	4.0	0	0	0	0	0	26
27	12.0	0	3.0	5.0	0	0	2.0	10	0	0	0	0	27
28	6 0	0	2.0	31.0	6.0	0	0	0	0	15.0	0	0	28
29	0	0	25.0	8.0	0	14 0	0	0	0	4.0	2.0	0	29
30	0		0	0	0	7.0	0	0	0	13.0	73.0	0	30
31	0		0		0		0	0		12.0		00	31
Sum	217.0	147.0	208.0	227.0	37.0	54.0	29.0	21.0	13.0	76.0	293.0	137.0	

Annual Total (1,459.0)

Precipitation STATION SILVIA

PIENDAMO RIVER. IN THE BASIN OF CAUCA ELEVATION 2,400 UNIT mm YEAR 1973

DATE	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug.	Sep	Oct	Nov	Dec	DATE
1	0	0	0	0	1 0	0	7 0	25 0	0	0	1 0	29 0	1
2	0	0	4 0	9 0	0	0	0	0	0	10 0	0	3 0	2
3	0	0	3 0	9 0	2 0	0	0	0	0	9 0	3 0	24 0	3
4	0	0	0	0	0	0	0	0	0	42 0	0	0	4
5	0	17 0	0	0	0	0	0	3.0	1 0	33 0	0	4 0	5
6	0	24 0	0	0	1 0	0	0	4 0	0	35 0	0	40 0	6
7	0	4 0	2 0	25 0	1 0	0	0	0	0	0	0	21 0	7
8	0	0	16 0	1.0	0	0	0	0	0	0	0	7 0	8
9	0	5 0	11 0	0	0	0	0	0	0	0	32 0	5 0	9
10	0	0	2 0	0	0	0	0	0	0	0	26 0	0	10
11	0	0	0	0	0	22 0	0	0	0	0	46 0	24 0	11
12	0	0	0	0	2 0	0	0	0	12 0	0	20 0	26 0	12
13	0	0	0	0	0	0	0	0	4 0	0	14 0	1 0	13
14	0	0	0	0	0	0	0	1 0	27.0	0	21 0	2 0	14
15	0	0	0	0	0	0	0	0	6 0	0	35 0	1 0	15
16	0	0	0	0	10 0	0	0	0	5 0	28 0	4 0	0	16
17	0	0	0	0	13 0	5 0	0	0	33 0	7.0	1 0	4 0	17
18	0	0	0	0	2 0	1 0	0	0	0	22 0	0	0	18
19	3 0	0	0	0	1.0	0	2 0	0	0	0	5 0	0	19
20	0	0	0	0	0	0	0	0	0	4 0	0	0	20
21	0	0	0	0	4.0	0	5 0	0	4 0	0	1 0	38 0	21
22	0	0	0	13 0	0	2 0	0	0	0	16 0	0	26 0	22
23	0	0	0	15 0	0	0	7 0	0	0	30 0	0	7 0	23
24	0	0	0	5.0	1.0	0	10 0	0	0	17 0	0	0	24
25	0	0	0	13 0	0	4 0	30 0	0	7 0	19 0	0	0	25
26	0	0	0	0	0	0	0	30 0	0	1 0	0	0	26
27	0	0	0	0	1 0	0	0	20 0	0	0	12 0	6	27
28	0	0	0	0	0	0	0	0	0	0	32 0	4 0	28
29	0		0	0	0	2 0	0	4 0	0	15 0	12 0	6 0	29
30	0		2 0	0	10 0	0	7.0	0	0	0	19 0	0	30
31	0		0		0		28 0	4 0		0		0	31
Sum	3 0	50 0	40 0	90 0	47 0	38 0	96 0	91 0	99 0	288 0	284 0	272 0	
										Annual Total (1,398 0)			

Precipitation STATION SILVIA

PIENDAMO RIVER. IN THE BASIN OF CAUCA ELEVATION 2,400 UNIT mm YEAR 1974

DATE	Jan	Feb	Mar.	Apr.	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	0	35 0	14.0	12 0	17 0	0	0	0	0	20 0	0	50 0	1
2	0	30 0	3.0	8 0	5 0	10 0	1 0	0	0	20 0	0	10 0	2
3	0	7.0	20.0	2.0	17 0	0	0	0	2 0	22 0	0	0	3
4	0	10 0	0	3 0	21.0	0	0	0	0	6 0	0	0	4
5	0	17 0	0	0	27.0	0	0	0	0	7 0	0	0	5
6	0	4.0	4.0	12 0	32 0	0	10.0	0	0	0	0	18 0	6
7	0	16.0	14 0	0	0	0	16 0	0	0	10 0	1 0	0	7
8	0	29.0	9.0	0	0	0	2 0	0	0	0	6 0	0	8
9	0	15.0	0	17.0	0	3 0	0	0	0	0	5 0	0	9
10	0	22.0	2.0	3 0	0	0	1.0	0	0	0	19 0	0	10
11	0	0	6 0	0	0	1.0	2 0	0	0	0	41 0	0	11
12	0	1.0	8.0	0	0	0	0	0	4 0	0	3 0	0	12
13	30 0	4 0	43 0	0	0	0	0	0	3 0	0	4.0	3 0	13
14	3.0	0	0	0	0	0	0	0	0	34 0	23 0	30 0	14
15	2.0	0	6.0	0	0	0	1 0	0	0	3 0	5 0	7 0	15
16	15 0	9.0	10.0	0	0	0	0	0	12 0	0	0	4 0	16
17	29 0	13.0	0	0	0	0	0	0	9 0	0	0	2 0	17
18	16.0	1 0	2.0	0	0	0	0	0	12 0	17 0	0	0	18
19	71.0	0	6.0	0	0	0	0	0	16 0	0	1 0	0	19
20	0	0	2.0	0	0	0	0	0	0	0	5 0	0	20
21	0	0	4.0	0	0	0	0	0	0	0	2 0	0	21
22	0	0	4.0	0	0	0	4 0	0	5 0	2 0	0	0	22
23	12.0	0	5.0	0	0	0	0	0	6 0	42 0	7 0	0	23
24	0	0	25.0	0	0	0	1 0	0	1 0	5 0	0	0	24
25	4.0	0	2.0	0	0	0	0	0	2 0	0	12 0	0	25
26	0	0	7.0	28.0	0	4 0	0	0	7 0	2 0	2 0	0	26
27	0	0	18.0	18.0	0	0	0	0	0	1 0	0	0	27
28	0	0	0	2.0	0	4 0	7 0	0	0	32 0	0	0	28
29	0		10.0	2.0	0	0	2 0	0	0	2 0	0	26 0	29
30	0		12.0	47.0	0	0	0	0	6 0	34 0	0	3 0	30
31	29.0		0		0		0	9 0		11 0		16 0	31
Sum	211.0	213.0	236.0	154.0	119.0	22.0	47 0	9 0	85 0	270 0	136 0	169.0	
										Annual Total (1,671 0)			

Precipitation STATION SILVIA

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 2,400 UNIT mm YEAR 1975

DATE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug.	Sep	Oct	Nov	Dec	DATE
1	29 0	0	30 0	0	0	0	2 0	0	0	0	10 0	60.0	1
2	13 0	4 0	8 0	15 0	29.0	0	10 0	0	0	0	11.0	28 0	2
3	0	30 0	4 0	20 0	60 0	0	13 0	0	0	0	14.0	0	3
4	0	5 0	0	13 0	30 0	2 0	19 0	0	0	0	0	0	4
5	0	3 0	10 0	4 0	20 0	0	0	0	0	0	2 0	19 0	5
6	0	7 0	6 0	5 0	15 0	1 0	0	0	4.0	0	38 0	13 0	6
7	0	13 0	0	0	7 0	0	7 0	0	0	0	15 0	12 0	7
8	0	7 0	0	0	2 0	0	8 0	0	0	0	1.0	0	8
9	0	0	0	0	0	0	0	0	0	0	2 0	2.0	9
10	0	0	0	0	0	0	0	0	0	0	14.0	0	10
11	0	0	0	1 0	0	0	0	0	0	2 0	7.0	0	11
12	0	0	0	0	0	0	10 0	0	0	6.0	14 0	0	12
13	0	0	4 0	0	2 0	0	1.0	0	0	19.0	0	0	13
14	0	0	16 0	0	0	5 0	30 0	0	5.0	4.0	0	0	14
15	0	0	2 0	0	15.0	0	6.0	0	0	32.0	0	22.0	15
16	0	0	0	0	0	1 0	0	3.0	0	21.0	0	16.0	16
17	0	3.0	0	0	0	0	0	5.0	0	9.0	3 0	1.0	17
18	0	6 0	0	0	0	0	0	0	15.0	0	0	14.0	18
19	0	1.0	0	0	0	0	0	6.0	7 0	0	0	20 0	19
20	0	5 0	0	0	0	0	0	9.0	14.0	2.0	0	46.0	20
21	0	26.0	0	0	0	0	0	0	0	13 0	2 0	20.0	21
22	8 0	30 0	0	0	0	10 0	0	0	7 0	0	10.0	4.0	22
23	2 0	20 0	2 0	0	0	1 0	0	5 0	0	0	4.0	31.0	23
24	0	7 0	0	0	0	0	0	0	2.0	0	9.0	8.0	24
25	2 0	9 0	3 0	10.0	0	0	0	12 0	10.0	12.0	0	1.0	25
26	11 0	3 0	0	18 0	0	0	0	0	0	20 0	27 0	10.0	26
27	0	24 0	0	22.0	0	0	0	0	0	14.0	72 0	6.0	27
28	0	21 0	0	2 0	0	0	0	0	0	6 0	23 0	4 0	28
29	0		0	3.0	0	0	0	0	0	0	12 0	0	29
30	0		0	8 0	0	21 0	0	8 0	0	10.0	22 0	0	30
31	0		0		0		0	0		8.0		0	31
Sum	65 0	224.0	85 0	121.0	180.0	41 0	106.0	48 0	64.0	178.0	312 0	337 0	

Annual Total (1,761.0)

Precipitation STATION SILVIA

PIENDAMO RIVER IN THE BASIN OF CAUCA ELEVATION 2,400 UNIT mm YEAR 1976

DATE	Jan	Feb	Mar.	Apr.	May	Jun	Jul	Aug	Sep.	Oct.	Nov	Dec.	DATE
1	0	1 0	0	0	0	0	0	0	0	2.0	20 0	3.0	1
2	0	0	11 0	0	0	0	0	0	0	16 0	6 0	6 0	2
3	0	0	0	0	4 0	0	0	0	0	3 0	21.0	16.0	3
4	0	0	16.0	0	15 0	0	0	0	0	10 0	0	8.0	4
5	13 0	2 0	21 0	0	0	0	0	0	0	2 0	14.0	0	5
6	0	59 0	11.0	0	0	0	1 0	0	0	9 0	0	0	6
7	0	10 0	6 0	0	0	0	0	0	0	0	0	0	7
8	0	0	0	0	0	0	0	0	0	30 0	0	6.0	8
9	0	0	16.0	6 0	0	0	4 0	0	0	0	0	0	9
10	0	2 0	0	1 0	0	0	2.0	0	0	0	0	0	10
11	0	24 0	0	12.0	0	0	4.0	0	0	0	0	0	11
12	0	20 0	0	36 0	0	4.0	3.0	0	0	0	12.0	0	12
13	0	24 0	0	5 0	0	0	0	0	0	0	14 0	0	13
14	0	5 0	0	24 0	0	0	0	0	0	26.0	2.0	5.0	14
15	0	6.0	0	5 0	5 0	10 0	0	0	0	6.0	0	0	15
16	0	13 0	0	22.0	0	0	0	5.0	0	0	0	4.0	16
17	0	0	0	10.0	6 0	0	0	0	0	0	0	13.0	17
18	0	0	0	0	0	0	6 0	0	0	6.0	0	7.0	18
19	0	0	0	10 0	0	0	0	0	0	2.0	0	0	19
20	0	0	0	4.0	0	2 0	0	0	0	0	0	0	20
21	2 0	2 0	2 0	0	0	10 0	0	0	0	0	0	10.0	21
22	0	1.0	0	0	0	0	0	0	0	1.0	0	3.0	22
23	0	0	4.0	0	0	0	0	0	0	33.0	0	0	23
24	0	0	5.0	0	0	0	0	0	18.0	28.0	0	20.0	24
25	0	0	16.0	3.0	0	0	0	0	15.0	18.0	0	0	25
26	0	0	11.0	0	0	0	0	0	20.0	11.0	0	0	26
27	13 0	4.0	4.0	2 0	2.0	0	0	0	22.0	17.0	0	0	27
28	4 0	0	0	0	0	0	0	0	9.0	0	0	0	28
29	15 0	0	0	1.0	0	0	0	0	0	0	10 0	0	29
30	31 0		5.0	7.0	0	0	0	0	0	15.0	9.0	0	30
31	0		0		0		0	0		2.0		0	31
Sum	78 0	173 0	128.0	148.0	32 0	26.0	20 0	5.0	84.0	237.0	108.0	101.0	

Annual Total (1,140 0)

Precipitation STATION SILVIA

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 2,400 UNIT mm YEAR 1977

DATE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	0	2 0	0	31 0	0	2 0	0	0	0	8 0	0	0	1
2	0	0	0	8 0	0	6 0	0	0	0	0	15 0	0	2
3	0	0	0	8 0	0	0	0	0	0	0	15 0	0	3
4	0	0	0	5.0	4 0	0	0	0	0	8.0	21 0	0	4
5	0	0	0	4.0	8 0	0	0	0	0	0	0	0	5
6	0	2.0	0	3 0	0	0	0	0	0	2 0	15 0	0	6
7	0	2.0	0	0	0	0	0	0	0	23 0	14 0	0	7
8	0	0	0	3.0	0	0	0	0	0	22 0	0	0	8
9	0	0	0	0	0	0	0	0	0	5 0	3 0	0	9
10	0	0	0	0	1.0	0	0	0	0	3 0	4 0	0	10
11	0	1.0	0	0	0	10 0	0	0	0	3 0	14 0	0	11
12	0	2 0	0	2.0	0	30 0	0	10 0	0	2 0	49 0	3.0	12
13	0	0	0	0	6 0	0	0	1.0	0	0	21 0	1 0	13
14	0	2 0	0	0	7.0	0	10 0	0	0	0	6 0	7 0	14
15	0	4 0	0	0	14.0	0	2.0	0	0	0	8 0	0	15
16	0	0	0	0	10 0	0	3 0	4.0	0	0	0	0	16
17	0	4.0	0	0	0	0	0	0	0	1 0	6 0	0	17
18	0	2.0	0	0	0	0	0	0	0	0	15.0	0	18
19	0	0	0	0	0	10 0	0	0	0	0	3 0	1 0	19
20	0	4.0	0	0	0	4.0	0	0	25 0	0	0	11 0	20
21	0	8.0	0	0	0	0	0	7 0	28.0	0	1.0	0	21
22	20 0	0	0	0	0	0	0	0	0	0	0	1 0	22
23	0	0	7.0	10.0	0	0	0	0	0	0	0	0	23
24	3.0	2 0	9.0	2 0	0	0	0	0	0	5 0	0	0	24
25	0	0	0	8.0	0	0	0	0	15 0	0	0	0	25
26	0	0	0	7.0	0	1.0	0	4 0	19 0	14 0	0	0	26
27	0	0	0	19 0	0	0	0	0	18.0	0	0	1 0	27
28	0	0	15.0	33.0	0	0	0	0	23 0	19 0	0	10 0	28
29	0		3 0	18.0	0	0	0	0	0	2 0	0	28 0	29
30	0		11.0	9.0	0	2.0	0	0	7 0	6 0	0	6.0	30
31	2.0		12 0		0		0	0		12 0		28 0	31
Sum	25.0	35 0	57.0	170 0	50 0	65.0	15 0	26 0	135 0	135 0	210 0	97 0	
										Annual Total (1,020 0)			

Precipitation STATION SILVIA

PIENDAMO RIVER, IN THE BASIN OF CAUCA ELEVATION 2,400 UNIT mm YEAR 1978

DATE	Jan	Feb	Mar	Apr.	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	4 0	0	10 0	7 0		0							1
2	0	0	3 0	6 0		0							2
3	0	0	0	5 0		0							3
4	0	0	15 0	1 0		4 0							4
5	0	0	10.0	10.0		0							5
6	0	2 0	14.0	0		3 0							6
7	0	16.0	34.0	2.0		0							7
8	0	0	23.0	22.0		0							8
9	28 0	0	9.0	3 0		0							9
10	28.0	0	0	0		0							10
11	58 0	0	0	0		0							11
12	2 0	0	0	0		0							12
13	0	0	0	0		0							13
14	0	0	0	0		0							14
15	0	0	0	6.0		0							15
16	2.0	0	0	5.0		0							16
17	0	0	0	26.0		0							17
18	0	0	0	2.0		1.0							18
19	0	0	2.0	0		2.0							19
20	0	0	1.0	0		0							20
21	0	0	0	5.0		0							21
22	0	0	0	0		0							22
23	0	0	0	16.0		2.0							23
24	0	0	0	17.0		0							24
25	0	0	12.0	0		0							25
26	0	0	0	0		0							26
27	0	0	0	3.0		0							27
28	0	3.0	0	0		0							28
29	0		37.0	0		0							29
30	0		3.0	0		2.0							30
31	0		20.0										31
Sum	122.0	21.0	193.0	136.0		14 0							
										Annual Total ( )			

Precipitation STATION EL TAMBO

TIMBIO RIVER, IN THE BASIN OF PATIA ELEVATION 1,700 UNIT mm YEAR 1968

DATE	Jan	Feb	Mar	Apr.	May	Jun	Jul	Aug.	Sep.	Oct.	Nov.	Dec.	DATE
1	0	15.0	20.0	0	0	0	1.0	0	31.0	11.0	0	43.0	1
2	0	6.0	16.0	20.0	0	0	0	0	1.0	30.0	0	4.0	2
3	0	1.0	6.0	0	0	2.0	0	0	4.0	0	0	0	3
4	0	5.0	2.0	0	0	0	10.0	0	1.0	0	0	0	4
5	0	3.0	3.0	0	0	10.0	2.0	0	0	2.0	0	4.0	5
6	0	0	2.0	1.0	0	20.0	2.0	0	0	0	0	0	6
7	0	2.0	4.0	0	10.0	1.0	0	10.0	2.0	2.0	0	10.0	7
8	0	1.0	1.0	19.0	3.0	2.0	0	0	1.0	0	0	1.0	8
9	0	0	2.0	20.0	10.0	0	0	0	2.0	70.0	30.0	0	9
10	0	2.0	0	41.0	0	0	0	0	0	4.0	15.0	50.0	10
11	20.0	1.0	2.0	60.0	0	0	0	0	0	10.0	2.0	3.0	11
12	5.0	1.0	3.0	4.0	0	2.0	0	0	0	0	0	0	12
13	0	0	0	0	0	1.0	0	0	0	64.0	15.0	0	13
14	0	4.0	1.0	20.0	0	0	0	0	0	1.0	13.0	34.0	14
15	0	5.0	2.0	14.0	16.0	0	0	0	2.0	0	0	0	15
16	0	0	11.0	28.0	20.0	0	0	0	0	0	7.0	0	16
17	0	2.0	8.0	0	38.0	0	24.0	0	1.0	2.0	5.0	0	17
18	0	0	3.0	0	1.0	2.0	8.0	0	2.0	8.0	0	0	18
19	0	0	9.0	0	4.0	1.0	3.0	0	3.0	53.0	0	0	19
20	0	0	0	0	0	3.0	2.0	0	2.0	24.0	20.0	0	20
21	4.0	0	0	0	2.0	0	0	0	0	2.0	5.0	0	21
22	4.0	20.0	2.0	0	0	0	0	0	0	3.0	10.0	0	22
23	1.0	20.0	0	2.0	0	0	0	0	0	0	35.0	35.0	23
24	6.0	5.0	0	46.0	0	0	0	0	0	0	25.0	14.0	24
25	0	4.0	0	12.0	0	1.0	0	0	0	20.0	10.0	0	25
26	11.0	5.0	0	0	0	0	0	20.0	30.0	5.0	2.0	5.0	26
27	11.0	10.0	0	6.0	0	0	0	5.0	0	2.0	0	1.0	27
28	20.0	20.0	0	3.0	0	0	0	5.0	30.0	8.0	0	0	28
29	16.0	3.0	0	17.0	5.0	10.0	0	2.0	0	40.0	20.0	0	29
30	40.0		0	0	0	0	0	18.0	1.0	0	20.0	0	30
31	17.0		0		0		0	21.0		0		0	31
Sum	155.0	135.0	97.0	313.0	109.0	55.0	52.0	81.0	113.0	361.0	234.0	204.0	

Annual Total (1,909.0)

Precipitation STATION EL TAMBO

TIMBIO RIVER, IN THE BASIN OF PATIA ELEVATION 1,700 UNIT mm YEAR 1969

DATE	Jan	Feb	Mar	Apr.	May	Jun.	Jul.	Aug	Sep	Oct.	Nov.	Dec.	DATE
1	5.0	0	0	40.0	0	0	0	0	0	18.0	0	4.0	1
2	0	0	0	0	30.0	0	0	0	0	3.0	10.0	1.0	2
3	0	0	0	0	60.0	0	0	0	0	12.0	0	12.0	3
4	0	0	0	0	10.0	30.0	0	0	0	1.0	8.0	8.0	4
5	0	0	0	50.0	0	3.0	0	0	0	3.0	13.0	10.0	5
6	0	0	0	2.0	0	0	0	0	0	0	7.0	15.0	6
7	0	3.0	3.0	15.0	0	0	0	0	0	23.0	3.0	3.0	7
8	0	29.0	16.0	25.0	0	0	0	0	0	20.0	4.0	2.0	8
9	0	16.0	0	3.0	0	0	0	0	0	3.0	7.0	8.0	9
10	0	2.0	0	0	0	0	0	0	0	14.0	35.0	7.0	10
11	0	1.0	0	0	0	0	0	0	0	0	8.0	20.0	11
12	0	4.0	0	3.0	0	30.0	0	0	0	11.0	2.0	6.0	12
13	0	20.0	29.0	20.0	0	0	0	0	0	14.0	1.0	15.0	13
14	12.0	12.0	0	17.0	0	0	0	0	0	0	38.0	0	14
15	50.0	1.0	0	41.0	0	0	0	0	0	6.0	40.0	0	15
16	0	0	0	18.0	0	0	0	0	0	10.0	18.0	0	16
17	0	3.0	0	1.0	0	50.0	0	0	0	35.0	0	0	17
18	0	0	2.0	2.0	1.0	0	0	0	0	1.0	0	0	18
19	0	0	0	10.0	0	0	0	0	7.0	0	0	1.0	19
20	0	0	0	0	0	0	0	0	3.0	0	0	8.0	20
21	8.0	0	0	0	0	0	0	0	0	58.0	2.0	7.0	21
22	4.0	0	0	3.0	0	1.0	0	20.0	0	8.0	2.0	13.0	22
23	0	0	0	0	0	0	0	0	0	25.0	1.0	10.0	23
24	2.0	10.0	0	0	0	0	0	0	3.0	75.0	15.0	0	24
25	45.0	6.0	20.0	0	0	0	0	0	0	20.0	0	0	25
26	0	2.0	0	25.0	0	0	0	10.0	34.0	6.0	35.0	5.0	26
27	0	0	0	0	0	2.0	0	0	3.0	4.0	10.0	3.0	27
28	25.0	0	0	5.0	0	0	0	0	16.0	4.0	1.0	6.0	28
29	0		0	10.0	0	0	0	0	23.0	2.0	19.0	0	29
30	0		2.0	25.0	0	0	0	0	0	0	10.0	0	30
31	0		1.0		0		30.0	0		0		0	31
Sum	151.0	109.0	73.0	315.0	101.0	116.0	30.0	30.0	89.0	376.0	289.0	164.0	

Annual Total (1,843.0)

Precipitation STATION EL TAMBO

TIMBIO RIVER, IN THE BASIN OF PATIA ELEVATION 1,700 UNIT mm YEAR 1970

DATE	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul	Aug.	Sep.	Oct	Nov	Dec	DATE
1	0	0	20 0	0	28.0	0	0	0	0	0	26 0	1 0	1
2	0	0	50 0	0	0	0	0	1 0	0	7 0	7.0	4 0	2
3	0	14.0	10.0	3.0	0	0	0	21.0	0	30 0	34 0	41.0	3
4	0	6.0	0	7 0	0	0	0	0	0	18 0	22 0	0	4
5	0	30.0	0	0	0	0	0	0	0	26 0	26 0	2 0	5
6	0	0	30 0	0	8.0	6 0	0	0	4 0	1.0	0	5 0	6
7	0	0	0	0	30.0	0	10 0	0	0	3 0	4 0	0	7
8	0	2 0	0	11.0	0	0	0	0	0	0	13 0	11 0	8
9	1 0	0	12 0	0	0	0	0	0	0	0	14 0	0	9
10	0	0	2.0	0	0	0	0	0	0	0	15 5	1 0	10
11	1.0	0	0	0	35 0	0	0	0	0	0	0	1 0	11
12	0	0	3.0	10.0	0	0	0	0	0	0	3 0	2 0	12
13	5 0	0	0	0	7.0	0	0	1 0	0	0	30 0	4 0	13
14	41.0	0	0	11.0	0	0	0	0	0	0	8 0	1 0	14
15	0	0	0	11.0	3 0	0	0	0	0	0	6 0	1 0	15
16	0	0	0	5 0	11 0	0	0	0	0	0	29 0	0	16
17	1.0	0	0	0	22 0	8 0	0	0	0	0	0	8 0	17
18	5 0	0	0	0	4 0	0	0	0	4 0	9 0	34 0	1 0	18
19	0	0	0	0	2 0	0	0	0	10 0	0	3 0	21 0	19
20	0 5	0	0	0	0	0	0	0	16.0	0	18 0	9.0	20
21	0	26 0	0	0	0	0	0	0	2.0	27 0	16.0	11 0	21
22	1.0	5 0	0	0	0	0	0	0	0	0	4 0	18 0	22
23	15 0	0	0	9.0	0	0	0	0	8 0	21.0	6 0	33 0	23
24	35 0	5.0	0	10 0	0	0	0	5 0	6.0	3.0	20 0	1 0	24
25	20.0	16.0	0	0	4.0	10 0	0	0	2.0	6 0	10.0	0	25
26	0	6.0	0	0	0	0	0	2 0	1.0	0	28 0	0	26
27	2.0	0	0	0	0	0	18 0	2.0	0	7 0	25 0	10 0	27
28	0	25 0	28.0	0	20 0	0	4.0	1.0	39.0	00	22 0	0	28
29	0		5.0	0	10.0	0	6 0	2.0	0	0	20 0	0	29
30	0		0	11.0	0	0	0	7.0	20.0	20 0	2 0	0	30
31	0		0		0		0	0		24 0		0	31
Sum	127.5	135 0	160.0	88.0	184.0	24.0	38 0	42 0	112.0	202 0	445 5	186 0	

Annual Total (1,744 0)

Precipitation STATION EL TAMBO

TIMBIO RIVER, IN THE BASIN OF PATIA ELEVATION 1,700 UNIT mm YEAR 1971

DATE	Jan.	Feb.	Mar.	Apr.	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	0	0	0	15 0	13.0	0	0	0	0	42 0	1 0	1 0	1
2	0	2 0	4.0	10 0	2 0	0	0	0	0	0	12 0	22 0	2
3	11.0	28 0	0	0	5.0	0	25 0	2.0	0	20 0	0	0	3
4	13.0	16 0	0	0	0	0	3 0	14.0	10.0	1 0	0	21 0	4
5	25.0	9.0	0	0	31.0	0	0	1 0	4.0	0	1.0	0	5
6	15 0	0	0	0	0	9.0	2.0	9.0	12.0	3 0	2 0	0	6
7	9 0	0	0	0	27.0	0	1.0	6.0	13.0	36 0	0	0	7
8	0	18.0	0	0	0	0	0	0	16.0	4 0	12 0	0	8
9	8 0	2.0	0	0	0	0	0	0	0	0	0	0	9
10	0	3.0	0	0	5.0	16 0	0	0	1.0	20 0	8 0	18 0	10
11	0	20.0	20.0	0	4.0	1.0	0	0	0	0	13.0	0	11
12	0	40 0	0	0	0	0	2 0	0	0	3 0	7.0	0	12
13	26.0	5.0	0	0	2.0	7.0	2.0	10.0	0	0	0	0	13
14	7.0	1.0	11.0	23.0	32.0	1 0	0	2.0	0	0	10 0	0	14
15	4.0	0	0	1.0	65.0	0	0	0	0	0	2 0	0	15
16	9.0	0	8.0	3.0	0	0	0	0	0	0	5 0	0	16
17	30.0	0	0	0	18.0	5.0	0	0	1.0	2.0	11 0	20 0	17
18	10.0	35.0	3.0	4.0	5.0	0	0	8 0	0	1 0	0	30 0	18
19	13.0	0	0	0	17.0	15.0	0	1.0	12.0	0	0	5 0	19
20	10.0	8 0	0	19.0	0	0	0	2.0	31.0	8 0	0	20 0	20
21	0	0	0	49.0	0	3.0	0	0	0	0	1 0	10 0	21
22	0	0	0	53.0	0	0	0	0	0	2.0	18 0	9 0	22
23	0	0	0	5.0	10.0	0	29 0	5.0	0	0	3 0	8 0	23
24	0	0	0	0	0	0	0	1.0	0	1 0	15 0	32 0	24
25	0	0	1.0	0	16.0	0	0	0	0	14 0	13 0	20 0	25
26	0	0	18.0	0	4.0	0	0	5.0	0	22 0	0	9 0	26
27	0	0	0	30.0	0	0	12 0	0	0	11.0	5 0	3 0	27
28	4.0	0	29.0	1.0	2.0	29.0	0	0	0	0	11 0	1 0	28
29	0	0	2.0	2.0	17.0	0	0	0	0	0	3 0	0	29
30	0		29.0	0	0	0	0	0	0	6 0	20 0	0	30
31	4 0		1.0		0		0	0		6 0		0	31
Sum	198.0	187 0	(126.0)	215.0	275.0	86.0	76.0	66 0	100.0	204 0	173 0	229 0	

Annual Total (1,935.0)

Precipitation STATION EL TAMBO

TIMBIO RIVER, IN THE BASIN OF PATIA ELEVATION 1,700 UNIT mm YEAR 1972

DATE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep.	Oct.	Nov.	Dec.	DATE
1	0	3 0	30 0	0	0	0	0	0	0	0	7.0	0	1
2	0	0	0	0	0	0	0	0	0	0	10.0	0	2
3	0	0	0	0	0	0	0	0	0	0	3 0	0	3
4	0	0	0	0	0	0	0	0	0	0	0	0	4
5	0	0	16 0	0	0	0	40.0	0	0	27.0	0	0	5
6	0	54 0	20 0	0	0	0	0	0	0	0	4.0	0	6
7	10 0	0	15 0	0	0	0	0	0	0	0	0	0	7
8	0	9 0	0	0	0	21.0	4.0	0	0	0	10 0	0	8
9	0	1 0	2.0	2.0	0	0	0	0	0	7.0	26.0	0	9
10	0	10 0	0	9.0	0	8.0	0	0	10.0	14.0	2.0	0	10
11	0	0	0	0	0	10.0	0	0	0	10.0	0	0	11
12	0	0	0	4.0	0	2.0	0	0	0	2.0	7 0	0	12
13	34.0	0	0	3.0	0	0	0	0	0	0	0	0	13
14	0	0	11 0	0	0	6 0	0	10.0	0	3 0	5.0	0	14
15	20.0	9 0	0	0	0	0	0	0	0	0	20 0	0	15
16	2 0	0	0	0	0	0	0	0	0	0	5.0	0	16
17	0	0	30 0	10 0	30.0	0	0	33.0	0	0	0	47.0	17
18	4 0	26 0	0	4.0	0	0	0	3.0	0	0	0	0	18
19	0	1 0	15 0	34.0	10 0	0	0	0	12.0	0	12.0	0	19
20	0	0	4 0	2 0	5 0	0	2 0	0	6.0	0	36 0	0	20
21	15 0	0	0	1.0	30.0	0	0	0	0	0	25.0	0	21
22	33 0	0	56 0	9 0	20 0	0	0	0	0	5.0	3 0	0	22
23	26 0	0	0	0	0	0	0	0	0	0	2.0	0	23
24	28 0	0	5 0	0	0	0	0	0	0	0	0	0	24
25	18.0	0	4 0	0	8.0	0	0	0	0	0	10.0	0	25
26	0	0	0	13 0	0	0	0	0	20.0	0	0	0	26
27	12 0	0	14 0	51 0	0	0	0	0	0	0	0	10.0	27
28	0	0	58 0	19 0	4 0	0	0	0	0	25.0	5 0	0	28
29	0	0	10 0	4 0	0	0	0	0	0	28 0	0	0	29
30	0		0	0	0	0	0	20 0	0	40.0	40 0	0	30
31	0		0		0		0	13.0		22 0		0	31
Sum	202 0	113 0	290 0	165 0	107 0	47 0	46.0	79 0	48.0	183.0	232 0	57.0	

Annual Total (1,569 0)

Precipitation STATION EL TAMBO

TIMBIO RIVER, IN THE BASIN OF PATIA ELEVATION 1,700 UNIT mm YEAR 1973

DATE	Jan	Feb.	Mar.	Apr.	May	Jun	Jul	Aug.	Sep.	Oct.	Nov.	Dec.	DATE
1	0	0	0	0	0	0	0	20.0	0	0	2.0	0	1
2	0	0	0	13 0	5 0	0	0	8.0	0	10.0	54.0	2.0	2
3	0	0	0	0	0	0	0	0	20.0	2.0	0	0	3
4	0	0	0	0	2.0	1.0	1 0	0	5.0	30.0	3.0	2.0	4
5	0	3 0	0	3.0	0	3.0	0	11.0	8.0	0	13.0	1.0	5
6	0	11.0	0	0	1.0	25.0	0	5.0	0	57.0	20.0	0	6
7	0	0	9.0	0	8.0	0	0	0	3.0	2.0	2.0	3.0	7
8	0	12.0	28.0	10.0	0	1.0	0	0	0	0	36.0	16.0	8
9	0	0	0	0	5.0	0	0	0	1.0	0	0	2.0	9
10	0	0	43.0	0	12.0	0	0	0	0	27.0	21.0	1.0	10
11	0	0	0	35.0	0	25.0	0	0	1.0	25.0	22.0	10.0	11
12	0	0	14.0	0	0	1.0	0	0	15.0	0	2.0	0	12
13	0	0	6 0	3.0	0	0	0	0	7.0	0	0	0	13
14	0	2 0	0	24.0	0	0	0	0	0	0	0	3.0	14
15	0	0	0	0	0	0	0	14.0	23.0	33.0	4.0	46.0	15
16	0	0	0	8.0	0	0	0	0	1.0	2.0	0	0	16
17	0	0	0	0	0	8.0	0	0	0	3.0	00	35.0	17
18	20.0	0	0	0	60.0	33.0	0	0	8.0	15.0	29.0	0	18
19	5.0	0	0	0	1.0	0	10.0	0	0	10.0	6.0	8.0	19
20	0	0	0	10.0	0	0	28.0	0	0	0	14.0	7.0	20
21	0	0	0	0	0	16.0	0	6.0	8.0	3.0	1.0	17.0	21
22	0	10.0	0	51.0	5.0	0	11.0	0	6.0	9.0	0	0	22
23	0	0	19.0	0	0	25.0	0	0	0	4.0	4.0	0	23
24	8.0	0	0	0	0	21.0	0	0	0	10.0	0	0	24
25	0	0	0	16.0	0	3.0	0	0	0	20.0	0	0	25
26	0	0	0	0	0	20.0	10.0	42.0	0	0	0	0	26
27	0	0	0	0	0	0	0	0	0	0	10.0	0	27
28	0	0	0	0	0	0	0	5.0	6.0	25.0	23.0	0	28
29	0		0	0	0	0	28.0	0	0	22.0	4.0	27.0	29
30	0		0	0	0	0	75.0	0	0	1.0	8.0	1.0	30
31	0		0		3.0		27.0	33.0		11.0		3.0	31
Sum	33.0	38.0	119.0	173.0	102.0	182.0	190.0	144.0	112.0	321.0	278.0	184.0	

Annual Total (1,876.0)

Precipitation STATION EL TAMBO

TIMBIO RIVER, IN THE BASIN OF PATIA ELEVATION 1,700 UNIT mm YEAR 1974

DATE	Jan	Feb	Mar.	Apr.	May	Jun.	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	0	0	0	11 0	5 0	12 0	0	0	26 0	7 0	0	0	1
2	4.0	0	0	1 0	1 0	0	1 0	0	0	1 0	0	22 0	2
3	0	27 0	0	0	6 0	0	2 0	0	0	28 0	30 0	3 0	3
4	0	17 0	0	0	0	0	0	0	0	3 0	27 0	25 0	4
5	0	0	7 0	0	15 0	0	0	0	0	15 0	0	0	5
6	0	14 0	6.0	0	70 0	0	0	0	0	39 0	39 0	0	6
7	0	5 0	10 0	0	2 0	5 0	0	0	0	2 0	0	23 0	7
8	0	5 0	9.0	0	0	6 0	0	0	0	3 0	23 0	36 0	8
9	0	8 0	54 0	0	3 0	23 0	0	0	0	1 0	0	20 0	9
10	0	0	5 0	0	0	6 0	0	0	0	0	28 0	0	10
11	45 0	0	0	0	0	1 0	0	0	0	0	19 0	9 0	11
12	0	5 0	4 0	0	0	0	0	0	14 0	0	1 0	0	12
13	6 0	29 0	29 0	4 0	0	1 0	0	0	0	15 0	26 0	5 0	13
14	20 0	0	1.0	2 0	0	0	6 0	0	2 0	39 0	18 0	0	14
15	19 0	20 0	0	0	0	8 0	0	0	1 0	0	24 0	21 0	15
16	19 0	31 0	18 0	4 0	0	0	0	0	4 0	4 0	30 0	3 0	16
17	0	27 0	0	0	0	1 0	0	0	20 0	1 0	28 0	5 0	17
18	20 0	11 0	0	0	0	22 0	0	0	6 0	45 0	2 0	3 0	18
19	0	0	28.0	0	0	0	4.0	0	6 0	2.0	0	0	19
20	0	0	3.0	0	0	5 0	0	0	1 0	0	0	0	20
21	0	0	1 0	0	0	3 0	0	0	0	1.0	4 0	0	21
22	5.0	10 0	0	0	9 0	0	0	0	0	10 0	36 0	0	22
23	0	5.0	0	5.0	0	0	0	0	20.0	23 0	25 0	0	23
24	0	10 0	0	0	1.0	1.0	0	0	50.0	20 0	3 0	0	24
25	0	12.0	9.0	0	0	0	5 0	0	30.0	23.0	15.0	0	25
26	50 0	1.0	0	7.0	0	0	0	0	31 0	0	6 0	31.0	26
27	0	0	0	0	0	0	0	10 0	0	0	16 0	20 0	27
28	0	0	0	8 0	0	0	0	0	11.0	16.0	0	2 0	28
29	0		0	15.0	1.0	0	0	2 0	20.0	14 0	10 0	15.0	29
30	0		0	5.0	0	0	0	0	0	0	24 0	18 0	30
31	14.0		1.0		0		0	23 0		35 0		0	31
Sum	202.0	237.0	185.0	62 0	113.0	94.0	18.0	35.0	242.0	367 0	436 0	261 0	

Annual Total (2,252 0)

Precipitation STATION EL TAMBO

TIMBIO RIVER, IN THE BASIN OF PATIA ELEVATION 1,700 UNIT mm YEAR 1975

DATE	Jan.	Feb	Mar.	Apr.	May	Jun	Jul	Aug	Sep.	Oct.	Nov	Dec	DATE
1	1.0	0	0	12 0	28 0	0	0	0	0	10 0	2 0	5 0	1
2	25.0	20.0	43.0	15.0	20 0	0	52.0	0	0	0	5 0	18 0	2
3	0	27.0	20.0	17.0	0	0	8.0	0	0	15 0	13.0	8.0	3
4	0	5.0	1.0	0	18.0	21 0	12 0	0	0	4 0	7 0	7.0	4
5	0	39.0	0	50.0	0	7 0	16 0	0	0	20 0	10 0	17 0	5
6	0	3.0	0	0	15.0	14.0	1 0	0	0	15.0	19 0	30 0	6
7	0	54.0	20.0	0	0	0	2.0	0	5 0	10 0	15 0	28 0	7
8	0	1 0	0	2.0	29.0	0	5 0	1 0	10 0	0	33 0	17 0	8
9	0	1.0	0	1.0	3.0	0	25 0	0	12 0	0	14.0	8 0	9
10	0	31.0	0	9 0	0	0	4 0	0	0	4 0	12 0	15 0	10
11	0	0	0	2.0	5.0	0	16.0	0	0	3 0	5 0	8 0	11
12	0	0	0	0	16.0	0	1 0	3 0	0	20 0	6 0	4.0	12
13	0	4.0	1.0	0	0	0	40 0	6.0	0	10 0	6 0	2 0	13
14	0	0	5 0	0	17.0	0	32.0	0	2.0	25 0	11 0	13 0	14
15	0	0	15.0	1.0	29.0	0	8 0	0	0	20 0	15 0	29 0	15
16	0	0	0	4.0	0	0	0	0	0	3.0	30 0	16 0	16
17	10 0	25.0	3.0	1.0	0	0	0	0	0	0	25 0	10 0	17
18	0	34.0	0	0	0	0	0	0	10.0	5 0	3 0	12 0	18
19	0	0	0	0	0	0	0	37.0	15.0	0	4 0	22 0	19
20	1.0	7.0	0	0	5 0	0	0	0	0	20 0	5 0	32 0	20
21	6.0	30.0	0	0	0	0	0	3 0	35.0	18 0	25 0	19 0	21
22	0	11.0	0	0	0	0	0	0	29 0	9 0	14 0	19 0	22
23	2 0	11.0	3.0	0	0	14.0	0	0	0	0	32 0	11 0	23
24	0	49 0	0	6.0	0	0	0	9.0	15 0	0	30 0	3 0	24
25	14.0	31.0	5.0	6.0	3 0	1.0	0	11 0	0	9 0	15 0	18 0	25
26	15 0	21.0	0	19 0	19 0	0	0	1 0	0	21 0	25 0	31 0	26
27	0	5.0	0	55.0	0	0	0	28 0	0	2.0	6 0	15 0	27
28	0	0	0	5 0	1.0	22 0	0	0	0	5 0	5 0	11 0	28
29	0		5.0	5 0	0	3 0	0	10.0	0	6.0	6 0	5 0	29
30	0		0	0	38.0	0	0	0	0	18 0	10.0	13.0	30
31	0		16.0		3 0		0	0		8.0		0	31
Sum	74.0	409.0	136.0	210.0	249.0	82.0	222.0	109.0	133.0	280 0	408.0	446 0	

Annual Total (2,758 0)

Precipitation STATION EL TAMBO

TIMBIO RIVER, IN THE BASIN OF PATIA ELEVATION 1,700 UNIT mm YEAR 1976

DATE	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	DATE
1	0	0	0	0	0	0	0	0	0	3.0	4.0	4.0	1
2	0	0	15.0	0	3.0	3.0	0	0	0	3.0	17.0	15.0	2
3	0	11 0	0	0	10.0	0	0	0	0	3.0	30.0	0	3
4	0	10.0	3.0	0	7.0	0	0	0	0	10.0	10.0	0	4
5	2.0	9 0	33.0	0	3.0	0	0	0	0	0	4.0	0	5
6	0	13.0	1 0	0	0	0	0	0	0	0	0	0	6
7	0	0	2.0	0	2.0	0	0	0	5.0	22.0	20.0	0	7
8	5 0	1 0	0	40.0	2.0	5.0	0	0	0	0	16.0	5.0	8
9	0	10 0	3.0	23.0	3.0	6.0	0	0	0	3.0	0	0	9
10	4 0	9.0	5 0	31 0	0	0	0	0	0	0	10 0	0	10
11	13 0	6 0	4 0	0	0	7.0	3.0	0	0	0	3.0	0	11
12	0	11.0	3.0	20 0	0	12.0	0	0	0	10.0	35.0	0	12
13	0	7.0	0	10.0	0	6 0	0	0	0	15.0	10.0	0	13
14	0	4.0	4.0	8.0	0	0	0	0	0	23.0	20.0	18.0	14
15	0	0	2 0	0	0	0	0	0	0	13.0	0	0	15
16	0	0	0	20 0	10.0	0	0	0	0	0	0	30.0	16
17	3 0	0	3.0	2.0	45.0	0	0	5.0	0	0	0	5.0	17
18	4.0	0	0	0	2.0	0	0	7.0	0	0	0	0	18
19	7 0	6 0	2.0	3.0	15.0	0	0	17.0	0	0	0	5.0	19
20	4.0	0	5 0	10 0	3.0	0	0	4.0	0	0	15.0	13.0	20
21	0	0	11.0	0	0	0	0	0	0	0	0	0	21
22	0	0	10 0	0	0	0	0	0	0	0	0	11.0	22
23	0	11.0	15 0	0	0	0	0	0	0	5.0	0	17.0	23
24	0	0	15 0	0	0	0	0	0	10.0	21.0	0	15.0	24
25	0	19 0	2.0	0	0	0	0	0	10.0	18.0	0	5.0	25
26	7 0	0	0	10.0	0	0	0	0	22.0	23.0	0	2.0	26
27	8.0	22.0	14 0	0	3.0	0	0	0	9.0	15.0	0	16.0	27
28	3 0	0	23.0	0	30.0	2.0	0	0	0	5.0	15 0	0	28
29	30.0	0	14.0	0	0	0	0	0	5.0	0	35 0	0	29
30	0		3.0	0	10 0	0	0	0	0	20.0	10.0	0	30
31	0		9 0		0		0	0		0		0	31
Sum	90 0	149 0	201 0	177.0	148 0	41.0	3.0	33.0	61.0	212.0	254.0	161.0	

Annual Total (1,530 0)

Precipitation STATION EL TAMBO

TIMBIO RIVER IN THE BASIN OF PATIA ELEVATION 1,700 UNIT mm YEAR 1977

DATE	Jan	Feb	Mar.	Apr	May	Jun	Jul.	Aug	Sep	Oct.	Nov.	Dec	DATE
1	0	15.0	0	15 0	0	10 0	0	0	0	6 0	10.0	10.0	1
2	0	0	0	20.0	0	24 0	6 0	0	0	12.0	25 0	18.0	2
3	7 0	0	0	0	0	0	0	15.0	0	65 0	6.0	0	3
4	0	0	0	0	18 0	10 0	0	0	0	25.0	9.0	10.0	4
5	0	0	0	0	21.0	8.0	20.0	0	0	0	5.0	6.0	5
6	0	0	0	7.0	8.0	3 0	0	0	0	23.0	35.0	0	6
7	0	3 0	0	0	0	25.0	4.0	0	0	0	0	0	7
8	0	0	0	0	0	0	3.0	6.0	0	35.0	5.0	0	8
9	7 0	0	0	0	0	0	4.0	3.0	0	0	8.0	0	9
10	0	0	0	0	0	33.0	0	0	0	6.0	0	10.0	10
11	0	0	0	0	0	20.0	0	0	0	5.0	8.0	11.0	11
12	0	0	0	0	0	0	0	30.0	6.0	0	18.0	4.0	12
13	0	0	0	10 0	0	0	0	11.0	8.0	0	8.0	0	13
14	0	0	0	0	20.0	0	10 0	8.0	5.0	4.0	6.0	7.0	14
15	0	0	7 0	0	19.0	0	9.0	0	4.0	3.0	9.0	15.0	15
16	0	5 0	0	0	20 0	0	0	0	0	0	7.0	0	16
17	0	30 0	0	0	0	0	0	0	0	7.0	25.0	0	17
18	5 0	0	6.0	0	0	0	0	0	6.0	0	7.0	0	18
19	2.0	25 0	0	0	0	0	0	0	40.0	0	16.0	2.0	19
20	0	11.0	0	0	0	11.0	0	15.0	57.0	0	20.0	0	20
21	0	7 0	25 0	14.0	0	11.0	0	0	14.0	0	22.0	0	21
22	0	0	15.0	22 0	0	0	0	0	0	0	28.0	0	22
23	15 0	0	40 0	0	5 0	0	0	0	0	10.0	40.0	0	23
24	2.0	13 0	7 0	14.0	9.0	0	0	0	10.0	20.0	5.0	0	24
25	0	0	0	18.0	0	0	0	0	43.0	12.0	3.0	13.0	25
26	0	8.0	0	0	0	5.0	25 0	0	28.0	35.0	0	0	26
27	0	0	0	15.0	0	0	0	0	30.0	33.0	0	56.0	27
28	10 0	0	35.0	0	0	0	0	0	68.0	5.0	0	11.0	28
29	9.0		35.0	0	0	26 0	0	0	10.0	4.0	0	0	29
30	0		40.0	0	0	9.0	0	0	20.0	20.0	0	8.0	30
31	2.0		5.0		0		0	0		24.0		38.0	31
Sum	59 0	117.0	215.0	135 0	120.0	195.0	81.0	88.0	349.0	354.0	323.0	219.0	

Annual Total (2,255.0)

Precipitation STATION EL TAMBO

TIMBIO RIVER, IN THE BASIN OF PATIA ELEVATION 1,700 UNIT mm YEAR 1978

DATE	Jan.	Feb	Mar.	Apr	May	Jun	Jul.	Aug	Sep	Oct	Nov	Dec	DATE
1	7 0	1.0	25.0	75.0	0	3 0							1
2	30.0	0	0	0	7 0	0							2
3	0	0	0	0	6.0	3 0							3
4	5 0	0	0	7.0	6.0	0							4
5	0	3.0	0	2.0	16 0	0							5
6	15 0	1 0	1 0	15.0	53.0	0							6
7	6.0	3.0	5.0	5.0	0	0							7
8	26 0	5 0	23.0	7.0	1.0	0							8
9	13.0	0	0	2.0	24.0	0							9
10	19.0	1.0	0	0	0	1.0							10
11	14.0	0	0	14.0	0	2.0							11
12	0	3 0	0	0	0	3.0							12
13	0	0	8.0	5.0	1.0	0							13
14	0	0	0	16.0	0	0							14
15	0	0	0	2.0	0	3.0							15
16	19.0	0	0	6.0	0	2.0							16
17	0	0	0	4.0	1.0	0							17
18	5.0	0	0	0	0	7.0							18
19	0	0	0	0	1.0	0							19
20	0	0	0	30 0	0	4.0							20
21	0	0	0	9.0	3.0	2.0							21
22	0	0	0	10.0	2.0	0							22
23	0	5.0	5.0	10.0	1.0	0							23
24	0	0	0	0	55.0	3.0							24
25	0	1.0	0	0	9.0	0							25
26	0	0	13.0	3.0	38.0	0							26
27	0	0	0	4.0	6.0	0							27
28	0	0	41.0	0	0	0							28
29	0		0	0	2.0	0							29
30	0		5.0	0	1 0	0							30
31	0		0		0								31
Sum	159.0	23.0	126.0	230.0	233.0	33.0							

Annual Total ( )

V-7 DAILY TEMPERATURE

	Meteorological	Elevation (m)	Recording Period
(1)	Popayan (Machangara)	1,730	Jan. 1962 - Nov. 1977

Temperature (At 13 O'clock) STATION Popayan

RIVER IN THE BASIN OF ELEVATION 1,730m UNIT °C YEAR 1962

DATE	Jan.	Feb.	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	DATE
1	22.5	22.5	22.5	21.5	21.5	25.5	24.0	25.0	25.0	22.0	23.1	21.0	1
2	22.0	22.0	23.0	20.0	20.3	23.0	23.0	24.0	28.5	22.5	23.0	24.0	2
3	23.0	23.0	23.5	21.0	22.0	22.8	22.5	22.5	28.0	24.8	17.5	23.3	3
4	21.0	22.5	22.5	21.5	22.5	22.0	22.0	24.0	23.5	23.7	23.0	26.0	4
5	24.0	23.0	18.0	22.0	23.0	20.5	23.5	24.5	24.5	23.0	22.0	24.0	5
6	23.0	22.0	20.0	21.5	22.4	19.5	25.0	20.5	22.0	24.0	21.0	22.0	6
7	22.0	20.0	17.0	22.0	23.0	23.5	25.5	22.0	27.3	20.0	20.0	22.0	7
8	22.0	21.0	21.5	20.0	21.0	20.5	24.0	22.0	24.0	24.0	22.5	23.0	8
9	22.0	21.5	21.0	22.0	22.0	22.0	27.0	21.0	19.5	22.0	23.0	22.3	9
10	20.5	22.0	22.0	22.5	17.5	20.5	23.5	21.0	26.0	20.0	22.0	22.0	10
11	22.0	19.0	21.5	22.0	22.0	20.0	25.5	22.0	23.5	21.5	23.0	21.0	11
12	19.0	20.0	23.0	23.5	20.0	21.5	24.0	21.5	26.0	22.4	22.0	21.5	12
13	22.0	22.0	20.0	23.0	24.8	20.0	22.5	23.0	24.5	23.0	23.0	22.5	13
14	21.0	23.0	21.0	22.0	21.0	21.5	23.0	19.5	23.5	16.0	21.0	19.0	14
15	21.5	19.0	19.5	24.5	22.5	21.5	19.0	25.0	23.8	17.8	20.0	22.5	15
16	20.5	21.0	22.0	21.5	21.5	19.0	24.5	23.0	23.0	18.5	21.0	21.5	16
17	22.0	20.5	22.0	23.5	20.0	21.5	25.0	22.5	21.0	22.2	18.5	19.5	17
18	21.0	21.0	22.5	24.5	20.5	23.0	24.5	22.0	23.5	21.5	22.5	21.0	18
19	23.0	23.5	20.0	20.0	19.5	24.5	20.5	24.5	24.0	20.3	22.0	16.0	19
20	23.0	22.5	21.5	21.0	19.0	22.0	24.0	24.5	26.0	24.0	24.0	21.5	20
21	22.0	22.5	19.0	20.3	24.0	20.0	25.5	26.0	16.0	25.0	18.0	22.5	21
22	24.0	24.0	22.0	19.0	26.5	23.5	22.5	25.5	22.5	22.5	22.0	21.5	22
23	23.0	24.0	19.0	21.0	22.0	27.4	24.0	23.0	25.0	24.0	22.5	22.0	23
24	22.0	23.0	16.2	21.5	21.5	21.0	21.0	24.5	27.0	25.5	21.5	23.5	24
25	21.0	23.5	20.0	20.0	19.0	21.0	19.3	23.5	26.7	24.0	21.0	22.0	25
26	22.0	24.0	20.5	21.0	17.5	18.5	22.0	23.0	26.0	25.6	17.5	23.0	26
27	22.0	23.0	22.5	22.5	21.5	19.0	23.0	24.0	22.6	23.5	22.0	23.0	27
28	21.0	20.0	22.5	20.5	22.0	20.0	22.0	21.6	24.0	24.5	23.0	25.0	28
29	20.0	22.5	22.0	24.0	24.0	23.0	21.5	23.0	21.5	21.0	23.0	22.5	29
30	21.5		22.5	22.5	24.5	20.0	24.0	22.5	22.0	23.5	21.0	24.0	30
31	23.0		21.5		24.5		26.5	22.0		20.5			31
Average	21.0	22.9	21.0	21.7	21.7	21.5	23.4	23.0	24.0	22.4	21.6	22.1	

Annual Total ( )

Temperature (At 13 O'clock) STATION Popayan

RIVER. IN THE BASIN OF ELEVATION 1,730m UNIT °C YEAR 1963

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov	Dec	DATE
1	23.1	21.0	22.5	22.0	24.0	24.5	25.5	19.0	20.0	23.5	23.0	22.5	1
2	24.0	20.0	23.0	23.5	21.5	22.0	22.0	20.0	27.0	24.0	22.5	22.5	2
3	22.0	18.0	22.0	23.0	24.0	24.0	26.3	23.0	28.0	25.5	21.0	22.0	3
4	21.5	20.0	20.0	19.5	24.0	22.5	27.0	25.0	27.0	26.0	21.0	19.0	4
5	21.5	19.0	23.5	22.0	24.0	25.5	24.5	21.5	25.5	25.5	21.0	23.0	5
6	23.5	21.0	22.5	20.0	19.0	27.0	24.0	24.0	24.0	28.0	18.0	23.0	6
7	21.0	21.5	24.0	21.0	19.0	26.5	24.0	20.0	24.0	21.1	21.0	22.0	7
8	22.5	21.0	20.0	23.0	22.0	25.0	22.0	20.5	21.5	22.0	23.0	23.0	8
9	20.0	22.0	21.0	21.0	22.5	22.0	22.0	24.0	22.5	24.5	23.0	21.0	9
10	18.0	20.0	22.0	25.0	18.5	20.0	18.0	21.5	24.0	24.0	24.0	27.5	10
11	20.0	18.0	22.5	20.0	23.0	19.5	21.0	25.0	26.0	26.0	21.0	25.0	11
12	22.5	22.0	18.0	22.8	23.5	20.0	21.0	26.0	24.0	-23.0	22.0	24.0	12
13	22.0	24.5	21.0	23.0	20.0	19.5	22.0	30.0	26.0	23.0	20.0	23.0	13
14	22.5	23.5	22.0	23.0	22.0	20.0	23.0	25.0	26.0	25.0	21.0	22.8	14
15	21.0	24.5	24.0	23.5	20.5	22.0	22.5	21.0	22.0	19.0	21.5	22.9	15
16	20.8	23.5	21.0	23.5	23.0	21.0	18.0	24.1	29.0	19.0	22.0	21.0	16
17	21.0	22.5	23.0	22.5	20.0	25.0	25.0	21.5	23.3	20.0	25.0	22.0	17
18	18.0	20.0	20.0	21.0	25.5	24.0	25.0	25.0	23.0	23.0	23.5	22.5	18
19	20.0	17.5	22.5	24.0	24.0	24.5	25.2	22.0	23.0	26.0	22.0	22.5	19
20	23.0	20.0	21.0	21.0	21.5	25.0	26.0	22.5	23.0	24.0	21.0	21.5	20
21	21.5	21.0	21.0	21.5	24.5	24.5	23.0	25.0	24.0	25.5	23.0	24.0	21
22	22.5	19.0	21.5	23.5	26.5	25.5	21.5	21.5	21.0	26.0	20.7	22.0	22
23	23.0	20.5	22.8	26.0	24.5	24.0	20.5	22.0	23.5	25.2	22.0	21.0	23
24	23.5	21.0	17.0	20.5	24.5	24.0	21.5	24.5	23.0	23.0	21.8	21.5	24
25	21.0	21.5	22.5	23.0	23.0	25.5	23.0	27.5	24.0	24.5	23.0	20.0	25
26	22.0	19.0	22.0	25.5	25.0	21.0	21.0	28.0	24.0	22.0	21.5	21.5	26
27	21.7	21.5	23.0	22.0	23.0	23.5	23.5	25.0	25.5	23.0	21.0	22.0	27
28	20.5	21.0	21.5	21.0	21.0	22.0	23.0	25.0	26.5	21.0	22.0	23.5	28
29	22.5		23.5	20.0	25.0	23.5	24.5	30.0	21.0	24.5	24.0	21.0	29
30	21.0		23.0	22.0	26.0	23.0	24.0	29.5	25.0	22.0	23.5	20.8	30
31	21.1		24.0		21.0		21.5	26.5		19.0		22.0	31
Average	21.0	20.9	21.8	22.4	22.9	23.3	23.1	24.3	24.5	23.5	22.0	22.4	

Annual Total ( )

Temperature (At 13 O'clock) STATION Popayan
RIVER, IN THE BASIN OF ELEVATION 1,730m UNIT °C YEAR 1964

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	DATE
1	20.0	23 0	24.5	21.5	23 5	22.0	20 0	24.5	22.0	23.0	21.0	23.5	1
2	23.0	24 0	22.5	25.0	24.0	19.5	20.5	25.0	19.5	21.3	19.0	22.6	2
3	23.0	23 0	22.8	19 5	22.5	22.5	22.5	23.5	22 0	25.0	17.5	24.0	3
4	23.0	23.7	26.0	23.0	24.5	23.0	24.5	25.0	21.0	27 0	19.0	20.0	4
5	23.4	23.0	23.5	22.0	23.0	23.0	24.0	25.0	21 0	26.0	18.5	22.0	5
6	22.8	23 5	23.5	20.0	21.0	17.0	22.5	24.0	20.0	19.0	21 0	22.0	6
7	23.5	23.0	24 0	17 5	21.0	21.0	23.5	23.5	23.0	21.0	21.5	22.0	7
8	25.0	23 5	22.0	21.0	23.0	19.5	21 0	23.0	23.0	22.5	19.0	23.0	8
9	22.5	24 0	23.0	18.5	19.5	21.0	23.0	23.5	21.0	22.0	24.5	22.0	9
10	23 0	23.0	25.0	21.0	22.0	22.0	23.5	23.0	21.0	21 5	24.0	18.0	10
11	23.5	21.0	23 0	23 3	22.0	19 0	22.0	23 5	22.0	19.0	22.5	19 5	11
12	24.0	21.0	22.0	21.0	24.0	22.0	22.5	22.0	23.0	21.0	22.0	21.0	12
13	23.5	21.0	22.0	19.5	25.1	20.0	23.0	22.0	27 0	21.0	22.0	20.5	13
14	23.4	21.0	24.5	23 0	23.0	19.0	20.0	21 0	23.5	21.3	21.0	21.0	14
15	23 0	22.0	22.5	22.3	25.0	21.0		22.0	23.0	19.0	22 0	21.5	15
16	24.0	21.0	19.5	18.0	28.0	21.7	22.0	20.0	22.0	23.0	17.8	21.0	16
17	22.5	22 0	23.0	20.5	22.5	22.0	16 0	20.0	23.0	21.0	18.5	23.5	17
18	23.5	23.0	21 0	20.0	23.0	23.0	20.0	22.0	22.5	22.0	21 6	22 0	18
19	25.0	22.0	23.0	22.8	23.5	21 0	21.0	22.5	23 4	20.0	22 0	21 0	19
20	24.0	19 0	22.0	21.0	22.0	20.0	21.0	21.5	24.0	21 0	25.4	21.0	20
21	22.5	21 5	23.0	23.5	21.0	21.0	21 0	19.5	26.0	22.0	23.0	20.0	21
22	23 0	22.8	23.0	23.5	20 0	17 0	18.0	21.5	26 5	22.0	22 8	17.0	22
23	25.0		23.0	22 0	22.5	22.0	20.0	20.0	23.0	20.0	21.5	21.0	23
24	23 0	24.0	23.0	22.0	19.0	22.2	23.5	21.0	23.5	21 0	21.6	20.5	24
25	23 0	24.5	23.0	20.0	23.5	22.0	22.0	20.5	20 0	24.0	22 0	18.0	25
26	22.0	22.5	24.5	19.0	22.0	24.7	25.0	19.0	20.5	22.5	23.6	21.0	26
27	21.8	24.3	20.0	24.0	20.0	17.5	23.0	21.3	21 0	21.0	21.5	21.0	27
28	23.0	22.5	23.0	24.0	22.0	25.0	20.5	23.0	23.0	20.0	22.4	20.0	28
29	22.5	23.5	23.0	22.0	22.5	22.0	24.0	23.5	23.5	17.0	22.2	22.5	29
30	24.0		20.0	22.5	21.0	19.0	21.5	19.0	16.0	23.5	23.0	22.0	30
31	23 5		20.0		19.0		22 5	23.0		22 0		22 5	31
Average	23.2	22.6	22.7	21.4	22.4	21.0	21.8	22.2	22.3	21.6	21.4	21.2	

Annual Total ( )

Temperature (At 13 O'clock) STATION Popayan
RIVER, IN THE BASIN OF ELEVATION 1,730m UNIT °C YEAR 1965

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	NO	Dec.	DATE
1	20.5	22.0	24.0	20 0	23.0	24.0	24.5	23.5	24.5	19.0	25.0	23 5	1
2	21.0	22.0	24.4	21.5	22.5	24.5	22.0	28.0	25.5	23 0	23.0	23.5	2
3	20.5	22.5	23.5	18.0	23.5	24.5	21.0	26.0	22.5	22.5	22.0	23.0	3
4	22.0	22.0	22.0	21.5	24.5	24.0	23.5	24.0	18.0	22.5	23 5	23.3	4
5	22.0	22.5	23.0	22.5	26.5	24.0	21.0	25.0	22.5	26.0	22 0	22.0	5
6	22.0	23.5	22.0	20.0	23 0	26.5	20.0	25.5	24.5	25.5	21.0	23.5	6
7	22.0	22.5	20.5	23.0	21.5	24.5	25 0	18.5	24.5	24.0	19 5	18.0	7
8	21.5	22.0	23.5	22.0	21.5	23.0	27 0	24.5	24.0	24.5	17.5	22.0	8
9	21.5	24.0	23.5	17.0	22.0	21.0	25 0	24.5	27 5	22.0	20.0	22.0	9
10	21.0	23.0	22.0	22.5	21.5	22.5	25.5	23.5	21.0	23.0	24.5	22 0	10
11	21.2	22.5	23.5	20.5	22.0	21.5	23.5	24.5	22.0	18 0	26.0	23.5	11
12	22.0	23.0	22 5	19.5	16 0	23 0	26.0	22.5	28.0	22.0	23 5	22 5	12
13	18.0	22.0	20.0	21.5	22.0	26.4	29.0	24.5	26 5	25.5	22 0	22.0	13
14	22.0	23.0	22.5	21.0	23.0	24 5	22.0	24.5	22 0	19.0	23.0	24.0	14
15	20.5	22.0	23.5	18.0	24.0	21.5	24.0	24.5	22.5	25.0	21.0	22.0	15
16	20 0	29.0	22.0	20.8	20.5	24 0	24.0	24.2	26.0	21.5	20 5	24.5	16
17	19.0	23.0	22.0	21.0	24.0	25.5	27.0	21.0	23.0	21.5	24.0	22.0	17
18	21.1	24 5	22.0	23.0	24.7	25.0	29 0	19 0	25.5	23 0	23.0	23.0	18
19	21.0	20.0	21.0	21.5	25.0	26.0	26 5	19.0	27.0	23.5	19.5	23.0	19
20	22.5	23.5	21.0	19.5	18 0	26 5	26 0	22.6	25 5	23.0	20.0	23.5	20
21	21.5	22.5	20.0	21.0	23.0	23.5	23.5	24.5	26.0	22.8	22.5	24.0	21
22	21.5	23 0	23.0	21.5	22.5	23 5	24.0	25.0	24 0	24 0	22.5	27.0	22
23	22.0	23 5	25.0	23.0	22 0	26.0	23.5	26 0	24.5	22.5	22.0	23.5	23
24	22.0	25.5	21.0	19.5	25.0	23.5	27.0	26.0	24.0	24.5	23.5	22.5	24
25	20.5	24.5	24.5	17.0	24.5	24.5	25.5	24.5	23.5	22.5	20.5	22.0	25
26	21.5	25.0	23 5	22.0	23.0	24.0	25 0	26 5	21.0	20 0	21.0	23.0	26
27	21.5	24.5	23.0	22.0	21.5	23.5	29 5	25 5	19.0	21.5	23 0	22.0	27
28	21.5	25.0	20.0	18.5	21.5	22.0	22.5	26.0	20.5	22.0	21.0	22 0	28
29	22.5		22.5	20.5	20.0	22.7	23 0	23 5	24.0	23.5	22 5	19.5	29
30	21.3		24.5	20.5	20.5	22.5	25.5	23.5	22.0	24.5	21 5	20 0	30
31	19.0		28.5		22.0		21.0	22.0		14.5		22.0	31
Average	21.2	23.3	22.6	20.7	22.3	23.9	24.6	24.1	23.7	22.5	22.0	22.6	

Annual Total ( )

Temperature (At 13 O'clock) STATION Popayan

RIVER, IN THE BASIN OF ELEVATION 1,730m UNIT °C YEAR 1966

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.	Oct.	Nov.	Dec	DATE
1	21.5	25.0	22.5	24.0		21 0	25.0	24.5	21.0	20 0	22 5	23 0	1
2	23.5	25.5	22.5	22.0	22.0	22.7	24 5	27 5	25 0	19.5	19 0	22 0	2
3	22.0	23.0	22.0	22.5	23.0	23 5	24.0	24.0	19.5	18.0	24 5	21 5	3
4	22.5	22.0	24 5	24.3	24.5	24.5	24 0	22.5	25 0	24.0	23 5	19 0	4
5	24.0	22.5	24.0	23.5	24.5	24.5	27.5	25.5	28 0	18 0	22 0	21 5	5
6	22.5	22.5	20.0	24.5	25.0	23.5	23.0	22 5	26.0	24 5	23 0	20 0	6
7	22.0	24.0	22 0	24.0	23.0	25.7	23 5	25.2	23 0	24.0	21 5	21 5	7
8	22.5	23.0	24.7	22.0	25.0	24.0	23.5	25 0	19.0	23 5	23 0	22 0	8
9	22.5	25.0	22 5	19.0	22.5	22 5	21 0	23 5	20.0	22 5	21 0	21 5	9
10	23.5	24.0	18.0	25.0	18.0	24 5	22.5	25.0	24.5	18 5	23 5	21 0	10
11	23.0	21.0	21.0	24.5	23.0	22.0	18 0	24.5	22.5	21.0	21 0	18.5	11
12	25.0	24.0	23.5	24.0	24.5	21.5	22 5	24.0	22 5	22 0	20 5	18 0	12
13	24.0	24.0	22.5	23.0	22.0	22.5	23.0	22 5	24 5	17.5	17 0	18 0	13
14	21.0	25.0	21.0	21.0	24.5	23.8	25 0	20.0	21.5	20 5	20 5	18 5	14
15	22.5	22.0	22.5	21.5	20 0	22.0	21 7	24 0	21 0	21 0	17 5	22 0	15
16	21.5	23.0	24.5	21.0	22.5	23.5	23.0	23 0	24 5	22 0	22 0	22 0	16
17	22.0	23.5	25.0	21.5	22.5	21.5	23 0	25 5	22 0	17 5	19 0	21 5	17
18	22.0	24.5	22.0	20.0	21 5	21 0	26 0	23 0	23 0	21.5	19 0	20 0	18
19	26.0	26.0	23.0	23.0	23.0	21.0	22.0	24.5	23.0	23 0	22 5	20.5	19
20	26.0	25.7		22.0	24.5	18.0	24 0	26 5	24 0	25.5	19.0	21.0	20
21	26.0	24.0	22.5	21.5	23.5	22.0	22 0	24 0	24 0	22 5	22 0	21 5	21
22	26.0	27.5	22.5	20.0	23.5	23.5	23 5	21.0	23.0	24 0	21 5	18 0	22
23	25.5	24.0	27.0	22.5	23.0	24.5	24 5	20.0	23 5	24.0	22 5	23 5	23
24	24.0	25.0	24.0	23.0	23.0	17 0	19.5	23.5	23.5	24.0	20 5	22 0	24
25	27.0	23.5	21.0	21.5	20.0	21.0	24 5	21.5	25 5	23 0	22 0	19 0	25
26	23.0	22.5	21.0	24.0	22.5	23.5	26 0	19 5	26 0	24.0	22 0	23.0	26
27	21.0	28.2	22.5	25.5	22.5	24.0	23.0	26.0	26.0	22.0	22 5	22.0	27
28	23.0	25.5	27.5	26.0	22.5	22.5	24 5	22.0	24.0	23.0	18 0	21 0	28
29	25.0		27.0	28.5	20.0	22.5	21 0	24.0	23.0	22.0	21 5	20 5	29
30	25.5		26 0	22.5	22.0	25.0	23.0	23.5	22.5	25.0	23 0	23 5	30
31	25.5		22.0		23.0		21.5	21.5		24 0		21.5	31
Average	23.6	24.1	23.0	22.9	22.7	22.5	23 2	23 5	23 5	22.0	21.2	20 9	
									Annual Total ( )				

Temperature (At 13 O'clock) STATION Popayan

RIVER, IN THE BASIN OF ELEVATION 1,730m UNIT °C YEAR 1967

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept	Oct	Nov	Dec.	DATE
1	21.0	23.2	21.0	20.0	22.0	21 5	24 5	25.0		22.2	17.5	26.0	1
2	22.0	22.5	23.0	21.0	19.0	20.0	27.0	24.0			22.5	24.0	2
3	21.0	22.5	22.5	23.0	23.0	22 0	23 5	24.0		26 2	23 0	23.0	3
4	21.0	20.0	22.0	23.5	24.5	17.5	24 0	23 0		24 0	23 0	26 0	4
5	22.5	21.0	24.0	23.0	24.0	19.0	22.0	22.5		24.0	23 0	25 5	5
6	23.0	18.0	24.0	24.0	21.0	23.5	22 0	28 0		25 0	25 0	23.0	6
7	21.0	17.2	22.0	26.5	17.5	16 0	25 0	24 0		25.7	24 0	25.0	7
8	24.5	22.0	21.5	24 5	23.0	21.5	26.0	23 5		22 0	20 0	25 2	8
9	21.5	17.8	20.0	22.5	25.0	24.0	22 0	25 5		18.5	24 0	24 0	9
10	21.0	22.5	23.0	23.5	21.0	21.5	20.5	23.0		23.5	20 5	22 5	10
11	20.5	20.6	22.0	25.0	22.5	21.0	19.5	24 0		24 0	23.5	24 0	11
12	19.0	22.5	23.0	25.0	22.5	23.5	23 0	26 5		17.5	23 5	21.5	12
13	20.5	23.4	24.5	21.5	22.0	22.0	22.5	25 0		22 0	23 0	23 0	13
14	22.5	21.0	22.5	16.5	20.0	23.0	20.0	26 2		24 0	23 0	23 0	14
15	21.5	21.5	19.0	23.5	24.0	21.0	18.5	25.0		24 3	22.0	20 5	15
16	20.5	21.5	21.0	24.0	22.0	20.0	22 5	25.7		25.0	21 5	23 0	16
17	23.4	20.5	17.6	24.5	22.5	20.5	25.0	22.0		25 5	24 0	23 5	17
18	23.0	23.0	22.5	23.0	18.2	21.0	22.5	24.5	24 4	24 0	19 5	20 5	18
19	22.5	22.0	23.5	23.0	24.0	22.0	21.5	23 5	25.5	23.0	20 0	23 0	19
20	19.5	21.0	23.5	22.5	23.0	24.0	23.0	22.5	24.4	24.0	21.5	23 2	20
21	22.5	21.0	23.5	25.0	24.5	23 0	21.0	22 5	25 0	22 7	18 5	22 0	21
22	21.5	20.0	23.5	24.0	23.0	25.0	21.0	21 5	23 4	23 0	22 5	23 0	22
23	21.0	18.0	22.0	22.0	23.0	22 5	20.0	23 0	25 5	23 0	23 0	23 0	23
24	19.5	23.0		24.0	25.0	24.0	20.0	24 0	26 5	21 5	22 7	23 0	24
25	22.0	22.0	22.5	22.0	21.5	19.0	23.5		26 7	22.5	20 0	22 0	25
26	20.5	19.0	24.0	22.0	24.5	21 5	24.5		26 5	24 5		20 0	26
27	21.0	21.0	19.5	20.5	23.0	22.5	24 0		22.0	24 0	22 0	23 5	27
28	20.5	20.0	20.5	21.5	22.0	23.0	25 0		20.5	23.0	21.5	19 5	28
29	20.0		18.5	22.0	22.5	23.0	23 5		20.5	22 0	21 0	22 0	29
30	21.5		22.0	23.5	20.5	23 0	24 0		21 0	20.5	23 5	22 0	30
31	22.0		22.5		18.0		22.5			17.5		23.0	31
Average	21.4	21.0	22.0	22.9	22.3	21.7	22.7	24.0		23.0	22 0	23 0	
									Annual Total ( )				

Temperature (At 13 O'clock) STATION Popayan

RIVER, IN THE BASIN OF ELEVATION 1,730 m UNIT °C YEAR 1968

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	DATE
1	22.0	22.0	22.5	23.0	26.0	21.5	22.5	23.0	17.0	24.5	25 4	20.0	1
2	23.0	19.5	21.0	24.0	25.5	20.0	22.0	23.5	18.0	24.0	24.5	21.0	2
3	24.0	19.0	21 0	23.5	25.0	23.5	23.0	22.0	17.0	23.0	25.4	21.0	3
4	21.5	18.5	21.5	23.5	26.0	23.5	20 0	22.5	17.0	22.0	23.0	23.0	4
5	22.5	20.0	24.5	23.0	24.0	21.0	23.5	22.0	20.0	21.0	24.0	23.5	5
6	21.0	24.5	23.0	22.5	24.0	18.0	21.0	21.0	18.0	23.0	25.0	23.0	6
7	22.0	22.5	21.5	23 0	20.0	24.0	22.5	24.0	18.0	22.0	24.0	24.0	7
8	23.0	23.0	21.5	21.5	22.5	22 5	26.0	24.5	17.0	21.0	25.4	22.5	8
9	21.5	23.0	18.5	21.0	21.5	24.5	25.0	26.0	18.0	24.0	20.0	24.5	9
10	24.5	21.5	20.0	22.0	22.0	22.5	22.0	26.5	17.0	24.0	21.5	22.0	10
11	24.5	22.0	21.5	20.0	23.0	24.5	23.0	25.0	19.0	24.0	24 0	24.0	11
12	23.0	23.5	23.5		25.5	18.5	23.0	24.5	19.0	23.0	20.0	22.0	12
13	22.5	23.0	22.5	21.5	26.0	23.5	23.5	26.0	18.0	19.5	22.0	25.0	13
14	22.0	24.0	22.0	20.0	24.0	23.0	22.0	26.0	19.0	25.0	20.5	23.0	14
15	23.0	24.0	18.0	22.0	24.5	22.5	20.6	28.0	18.0	23.0	23.0	24.5	15
16	24.0	23.0	22.0	22.0	23.5	23.0	21.0	26.5	17.0	20.3	21.0	24.0	16
17	22 5	22.5	21.0	24.0	17.0	22.5	21.0	25.0	18.0	24.5	24.2	24.5	17
18	22.5	22.0	21.0	21.0	24.0	22.0	22.0	24.0	18.0	24.0	24.0	24.0	18
19	25.5	24.0	23.2	22.0	23.0	23.0	22.0	25.0	19.0	23.0	26.4	24.0	19
20	24.0	22.0	21.0	23.0	23.5	23.0	22.0	26.5	15.5	23.5	23.0	20.5	20
21	22.5	22.0	22.0	23.0	23.5	19.5	23.0	25.5	17.0	24.0	26.0	25.0	21
22	23.0	22.5	25.5	23.0	22.0	21.0	25.0	25.0	18.0	23.5	20.0	23.0	22
23	21.0	22.0	21.5	22.5	24.0	22.5	23.0	26.0	18.5	24.0	25.3	23.0	23
24	24.0	22 5	21.0	23.5	24.5	23.0	25.0	23.0	18.0	23.5	24.0	21.0	24
25	19.0	23.0	23.0	21.0	25.0	23.0	23.0	24.0	24.0	23.0	26.0	23.5	25
26	23.0	23.2	21.5	24.5	21.5	22.5	25.0	24.0	17.0	19.2	24.0	23.0	26
27	22.5	20.0	22.5	24.0	23.5	24.5	23.0	17.5	16.0	21.5	24.0	24.0	27
28	24.0	23.5	24.0	23.0	25.5	24.0	23.0	22.0	17.0	25.4	20.0	20.0	28
29	23.0	20.0	22.5	24.0	25.0	22.5	23.0	24.0	14.0	22.0	23.0	24.0	29
30	21.5		22.5	22.5	17.5	23.0	26.0	20.5	17.0	24.2	17.0	24.0	30
31	20.5		26.0		19.0		23.0	24.0		23.0		23.5	31
Average	22.7	22.1	22.0	22.5	23.3	22.4	22.9	24.1	17.8	23.0	23.2	23.0	

Annual Total ( )

Temperature (At 13 O'ckock) STATION Popayan

RIVER, IN THE BASIN OF ELEVATION 1,730m UNIT °C YEAR 1969

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	DATE
1	19.0	23.5	24.4	21.0	24.0	24.2	23.0	24.0	25.0	18.0	23.0	23.5	1
2	24.0	26.0	20.0	24.2	22.2	24.5	26.0	25.0	28.0	23.0	26.0	22.5	2
3	26.0	26.0	22.1	23.5	25.0	17.0	24.0	28.0	26.5	20.0	25.0	23.0	3
4	25.5	22.0	22.0	24.1	22.0	23.0	22.0	25.1	28.0	17.5	23.0	21.5	4
5	23.0	23.0	23.0	24.0	26.0	21.5	24.0	26.0	25.2	22.0	22.5	22.5	5
6	21.5	24.5	26.0	21.3	26.5	26.0	24.5	26.2	27.0	23.0	23.5	23.0	6
7	24.0	25.0	25.0	21.0	24.5	22.0	24.5	23.0	25.5	21.0	23.0	23.5	7
8	25.5	21.0	25.0	24.0	25.0	23.5	24.0	22.5	25.0	23.0	22.0	23.0	8
9	25.0	23.5	24.2	21.0	22.0	23.5	25.0	24.0	27.0	22.0	24.0	22.0	9
10	25.5	22.0	26.0	24.1	23.5	24.0	22.0	22.0	26.0	26.0	22.5	24.0	10
11	21.5	24.5	24.1	25.0	26.0	22.0	25.0	24.0	26.0	23.5	22.0	23.5	11
12	20.0	22.0	24.0	25.0	24.2	24.0	25.0	22.0	27.0	25.5	23.5	22.0	12
13	23.0	24.5	25.4	22.0	20.0	24.5	25.2	26.0	26.0	25.0	24.0	22.5	13
14	20.0	23.0	23.0	24.1	23.0	25.0	25.0	22.0	28.0	25.0	24.0	23.0	14
15	18.0	22.0	25.5	18.0	25.0	24.0	22.0	20.0	26.0	22.0	22.5	23.5	15
16	24.0	21.0	26.0	22.5	23.0	25.0	22.5	22.5	25.0	20.5	22.0	23.0	16
17	23.0	20.0	25.2	22.0	21.0	25.5	26.2	24.0	24.0	19.0	24.0	21.0	17
18	22.0	22.5	25.0	20.4	24.0	23.0	27.0	21.5	25.0	24.0	21.5	22.0	18
19	19.0	23 1	24.8	25.0	26.0	18.0	26.0	24.0	19.0	22.0	23.0	21.0	19
20	23.0	22.0	23.5	24.1	23.0	25.0	27.5	28.0	22.0	25.0	24.0	22.5	20
21	21.0	22.2	21.1	25.0	25.0	25.0	27.0	24.0	22.0	21.0	21.0	22.5	21
22	20.5	24.5	25.0	18.2	22.8	26.0	24.0	24.0	21.0	22.5	24.0	17.0	22
23	22.5	22.4	23.2	24.0	25.0	24.0	21.0	22.0	24.0	24.0	25.0	25.0	23
24	22.0	23.0	24.0	22.0	27.0	26.0	23.0	24.0	21.0	23.0	21.0	21.0	24
25	22.0	23.1	23.4	21.0	29.0	24.0	26.5	23.5	24.0	24.0	18.0	-	25
26	23.5	23.5	24.0	25.1	22.0	22.0	23.0	24.0	21.5	25.0	23.0	25.0	26
27	23.0	24.2	22.0	26.0	25.0	22.0	25.5	23.0	19.0	20.0	23.5	24.0	27
28	23.0	25.5	24.0	24.1	23.0	23.0	28.0	25.5	24.0	25.0	23.0	25.0	28
29	24.0		25.2	24.0	25.0	24.0	25.0	23.0	22.0	23.0	20.0	24.0	29
30	24.5		24.0	24.4	23.0	24.5	23.0	25.0	25.0	18.0	23.0	26.0	30
31	24.0		24.1		23.0		24.0	25.0		25.0		26.0	31
Average	22.6	23.2	24.0	23.0	24.0	23.5	24.7	24.0	24.5	22.6	22.9	23.0	

Annual Total ( )

Temperature (At 13 O'clock) STATION Popayan

RIVER, IN THE BASIN OF ELEVATION 1,730m UNIT °C YEAR 1970

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct	Nov	Dec	DATE
1		23.0	23.0	26.0	20.0	26.0	23.0	23.0	23.0	23.0	25.0	23.0	1
2	22.0	22.0	19.0	26.0	23.0	26.0	23.5	22.0	21.1	23.2	24.5	22.0	2
3	22.0	23.0	24.0	24.0	21.0	22.2	26.0	22.2	20.0	25.0	23.0	22.0	3
4	25.0	20.0	22.0	26.3	22.0	24.2	24.0	24.0	20.0	23.0	20.0	21.0	4
5	26.0	23.0	25.5	25.0	23.0	21.1	24.6	22.9	25.5	23.0	21.2	22.0	5
6	25.0	23.0	24.0	26.8	19.0	20.0	22.6	22.0	21.1	23.0	21.0	22.0	6
7	21.5	20.0	24.0	24.0	24.2	20.0	20.5	22.0	24.0	24.0	23.5	22.0	7
8	25.0	24.0	21.0	21.0	22.0	24.0	22.0	24.0	20.0	22.0	23.0	24.0	8
9	27.0	24.0	22.0	24.2	26.0	21.0	24.0	22.0	25.0	20.5	22.0	22.0	9
10	23.0	24.0	23.5	23.0	23.0	20.0	23.0	24.0	23.0	19.0	23.0	24.0	10
11	21.0	26.0	21.0	23.0	23.0	25.0	23.0	21.0	25.0	23.2	22.0	24.0	11
12	18.0	24.0	22.0	18.0	23.0	21.5	23.5	24.0	23.1	21.0	22.0	23.0	12
13	24.0	25.0	22.0	26.5	23.0	22.0	23.2	23.0	23.0	21.0	21.6	22.1	13
14	19.0	26.0	21.0	20.0	24.0	21.0	22.5	24.0	23.0	23.0	22.0	22.0	14
15	21.0	25.0	24.0	24.2	22.0	23.0	24.0	20.3	22.5	23.0	21.4	23.0	15
16	22.5	25.0	23.8	23.0	20.0	20.0	23.4	25.0	18.5	23.0	23.0	23.0	16
17	20.5	20.5	25.5	24.2	21.0	25.0	25.0	22.4	21.0	26.0	24.0	24.0	17
18	22.5	21.5	25.0	23.2	25.0	25.2	23.0	24.0	22.0	23.0	23.0	25.0	18
19	20.0	24.0	25.0	25.0	19.0	26.0	21.0	22.0	25.0	27.0	22.0	22.1	19
20	21.5	20.5	22.5	24.0	21.0	22.0	22.5	24.0	23.0	23.0	24.0	18.0	20
21	22.0	22.0	28.0	24.0	24.0	24.0	24.5	24.0	21.0	21.5	22.4	22.8	21
22	24.0	24.5	26.0	21.0	23.0	22.0	24.5	27.0	20.1	23.0	22.0	19.0	22
23	24.0	24.0	23.0	25.0	22.0	23.0	22.3	21.0	17.0	20.0	22.0	21.5	23
24	23.0	19.5	22.0	26.0	25.0	20.0	23.2	23.0	22.0	25.0	25.0	22.0	24
25	23.0	20.0	23.0	22.0	22.2	23.0	22.0	22.2	23.0	19.5	22.0	22.0	25
26	22.0		23.0	23.0	22.0	23.2	22.4	23.0	20.5	23.0	22.0	20.0	26
27	22.0	26.0	25.0	21.3	21.0	21.0	22.1	22.7	23.0	22.0	22.0	23.0	27
28	24.0	23.5	21.0	23.0	20.0	25.3	21.6	23.0	20.0	22.0	23.0	23.0	28
29	25.0		25.0	20.0	23.2	25.0	21.5	21.0	20.0	24.0	19.0	23.0	29
30	25.0		26.0	26.0	24.0	22.9	20.4	18.0	23.1	26.0	20.0	23.0	30
31	21.5		24.0		24.0		23.0	23.0		24.0		23.0	31
Average	22.7	23.1	23.5	23.6	22.4	23.1	23.0	22.7	22.0	22.9	22.4	22.3	

Annual Total ( )

Temperature (At 13. o'clock) STATION Popayan (MACHANGARA)

CAUCA RIVER IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT °C YEAR 1971

DATE	Jan	Feb.	Mar	Apr.	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1	24.0	22.0	23.2	20.0	19.0	21.0	21.5	24.0	23.0	22.0	22.0	21.0	1
2	21.4	22.0	23.0	22.0	21.0	24.0	22.0	19.0	24.0	21.0	20.0	21.2	2
3	24.0	22.4	21.0	18.0	23.0	24.0	21.0	23.0	22.0	23.0	21.0	23.0	3
4	20.0	22.0	22.5	24.0	22.0	25.0	20.0	21.0	21.0	20.0	22.0	21.0	4
5	20.0	20.0	25.0	23.0	23.0	21.0	25.0	22.0	22.4	20.0	21.0	21.0	5
6	22.0	23.0	26.0	23.0	20.0	23.0	24.0	22.5		23.0	22.0	23.0	6
7	20.0	23.0	22.5	24.0	24.0	22.0	20.5	22.0		22.0	22.0	24.0	7
8	24.0	24.0	22.0	24.0	21.0	26.0	26.0	21.2		24.0	23.5	26.0	8
9	21.0	18.0	22.0	22.0	23.0	22.0	26.5	24.0		24.0	19.0	23.0	9
10	22.0	20.0	25.0	22.4	20.0	21.0	21.0	22.0		20.0	21.0	23.0	10
11	23.0	17.5	22.0	23.0	19.0	24.0	23.0	22.0		23.0	21.0	24.0	11
12	22.3	21.0	22.0	24.0	22.0	20.0	25.0	22.0		21.0	23.0	24.0	12
13	20.0	21.0	24.0	22.0	24.0	19.5	20.5	23.0		23.0	23.0	24.0	13
14	21.2	19.0	22.0	16.5	21.0	23.0	22.0	21.0		24.0	20.0	25.0	14
15	22.5	19.2	21.0	21.5	22.0	23.0	23.0	21.0	22.0	24.0	23.0	24.0	15
16	23.0	20.4	21.0	25.0	19.0	22.0	23.0	22.0	20.0	22.0	22.1	24.0	16
17	22.0	22.0	22.0	23.5	20.0	22.0	24.0	20.0	20.2	18.0	20.0	25.0	17
18	20.3	19.0	17.0	22.5	24.0	21.0	24.0	23.0	22.0	19.0	21.0	21.2	18
19	20.0	22.0	20.0	20.4	23.0	21.5	24.0	22.0	23.0	21.5	19.0	24.0	19
20	21.0	21.0	18.0	18.0	21.5	22.0	28.0	21.0	22.0	24.0	19.0	22.0	20
21	22.0	21.0	21.5	20.0	23.0	18.5	25.0	22.0	20.0	19.0	21.0	20.0	21
22	23.1	20.0	22.0	21.5	20.0	22.0	26.0	21.5	24.0	22.0	17.0	19.5	22
23	23.0	21.5	22.5	20.0	22.0	24.0	24.0	25.0	22.0	24.0	22.0	22.0	23
24	24.0	22.0	21.0	24.0	25.0	22.0	23.0	22.0	24.0	22.0	24.0	22.0	24
25	22.0	23.0	20.0	25.0	18.0	24.0	23.4	24.0	22.0	20.2	23.0	18.0	25
26	22.0	25.0	23.0	26.0	19.5	22.0	24.0	20.0	24.0	23.0	21.0	22.0	26
27	22.0	22.0	23.0	26.0	24.0	22.0	20.0	22.0	24.2	21.0	23.0	20.0	27
28	23.0	25.0	21.0	24.0	19.0	21.0	22.0	23.0	24.0	23.0	21.0	21.0	28
29	22.0		22.1	25.0	23.0	24.0	23.0	23.0	22.2	20.0	22.0	20.0	29
30	23.0		23.0	23.0	21.0	24.0	23.0	23.5	18.0	22.0	21.0	23.0	30
31	23.0		20.0		24.0		22.0	26.0		20.0		25.0	31
Average	22.0	21.4	21.9	22.4	21.6	22.4	23.2	22.2	22.2	21.8	21.3	22.4	

Annual Total ( )

Temperature (At 13 o'clock) STATION Popayan (MACHANGARA)
CAUCA RIVER IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT °C YEAR 1972

DATE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug.	Sep	Oct.	Nov.	Dec.	DATE
1		20 0	24 0	25 0	25.0		21 0	27.0	21 5	22.8	22.5	23.4	1
2	25 0	20 0	24 0	26 0	19 0		23.0	24 0	25.0	27.0	22 1	24.0	2
3	22 0	24 0	24 0	25.0	26 0		27 0	26.0	26.0	21.0	23 0	22.0	3
4	22 0	20 0	24 0	23 0	27.0		25.0	24.0	24.8	23.5	21.7	23.0	4
5	22 0	25 0	23.0	26.0	26.0		27.0	25.0	24.5	26.0	27 4	24.3	5
6	23 0	23 5	24 0	23 0	24.0		25.0	25.0*	22.0	22.2	26.0	23.0	6
7	23.0	23 0	24 0	28 0	26.0		24.0	27.0	24.0	24.1	20.2	25.2	7
8	22 0	21.0	23 0	25.0	25 2		25.0	25.0	23.5	24.0	22.0	21.5	8
9	23 0	23 0	24.0	18.0	22.0		24.0	25 0	25.0	24.0	23.0	23.5	9
10	24 0	20 0	24.0	22 0	23 0		24.0	22.0	20.5	24.0	20 0	20.0	10
11	23 0	22 0	24 0	25 0	25.0		24.0	25.0	24.5	21.0	22 5	23.6	11
12	17 0	24.0	25 0	24.0	23.0		24.0	24.0	26.0	22.5	25 2	24.0	12
13	21.0	25 0	24.0	18.0	23.0		26.0	20 0	27.0	19.8	20.0	24.2	13
14	23 0	25 0	23 0	23 0	22 0		25.0	22.5	28.0	22.3	20 5	22.5	14
15	20 0	23 0	22 0	26 0	25 0		24.0	25.0	24.0	26.5	24.3	26.5	15
16	21 0	21 0	25 0	23 0	23.0		24.0	22.4	20.5	27.2	20 0	23.0	16
17	20 0	18 0	22 0	23 0	22.0		24.0	25.0	24.5	25.0	24.0	24.0	17
18	24 0	23 0	23.0	18.5	21.4		24.0	17 5	23.0	22.0	24.0	21.5	18
19	24 0	23 0	19 0	24.0	24 0		24 0	23.0	26 5	24.0	24.0	21.0	19
20	22.0	24.0	21 0	26.0	19 8		23.0	19.0	20.2	27.2	20 0	24.0	20
21	18 5	22 0	20 0	25 0	20 0		22.0	23.0	21.8	24 0	22.4	23.2	21
22	22 0	23 0	18 0	18 0	22 0		26 0	22.0	23.5	22.5	22.0	22.0	22
23	20 0	24 0	19.0	23.0	22 0		25 0	25 0	23.5	19.0	23.0	26.0	23
24	22 0	21 0	24 0	24 0	23 0		26 0	23.2	23.4	24.2	22.5	25 7	24
25	24 0	22.0	20.0	22.0	23 0		25.0	25.0	22.0	28.5	23 0		25
26	22 0	23.0	18 0	26 0	22 0		26 0	20.2		24.4	25.8	24.0	26
27	22 0	24 0	19 0	22 0	22 0		23 0	22 8		26 2	24 4	25.4	27
28	21 0	21 0	19 0	23 0	22 0		28.0	22 5	26.0	22.8	22 0	23.0	28
29	22 0	22 0	22 0	23 0	23 0		25 0	25.0	22 4	24 5	25 4	24.8	29
30	23 0		22 0	21.0	24 0		27.0	24 0	26.2	25.0	25 0	24.2	30
31	21 0		21 0		24.0		25 0	19.5		22.5		22.0	31
Average	22 0	22 4	22 2	23 3	23 2		24 5	23 4	23.9	23 9	22 8	23 5	

Annual Total ( )

Temperature (At 13 o'clock) STATION Popayan (MACHANGARA)
CAUCA RIVER IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT °C YEAR 1973

DATE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep.	Oct	Nov	Dec	DATE
1		25 0	23 0	25 0	20 6	22 1	23.0	20 3	22 1	24.5	27.4	24.0	1
2	24 0	25 0	25 0	24 4	22.0	24.0	25.0	20 0	24.0	18.0	23 4	19.6	2
3	24.0	27 0	24 0	24 0	21 4	23 0	24 5	23.4	24.5	21.0	23.0	23.5	3
4	24 0	25 0	24.0	20 0	25 5	23 4	25 3	23.1	24 0	23.4	23.0	19.5	4
5	27 0	26 2	25 4	22 4	24 0	24.5	24.0	24.0	22.4	22.5	19.0	23.2	5
6	24.0	20 5	25 5	25 0	21.0	21 3	25.8	22.8	22.8	22.5	23.0	21.5	6
7	24 5	25 0	21 0	22 5	22.8	21.4	25 3	23.0	24.5	20.5	22.0	20 0	7
8	21 5	24 0	21 4	21.0	22.0	23 6	25.5	23.0	22.2	24.0	20.0	17.7	8
9	26 0	22 0	24.5	19.0	24.2	25 0	25.0	23 2	24.5	25 0	19.0	22.2	9
10	26 0	26.0	24 5	21.6	24 0	20.0	21.2	24.0	23.6	24.5	23.5	17.5	10
11	24 5	26 0	22 0	19 4	25.0	21.6	23 0	24.0	22.0	24.5	23.2	20 5	11
12	25.5	26 5	23 0	18 5	24.2	22 0	24 2	22 4	22.0	21.0	22.5	24.0	12
13	25 5	23 4	24 5	24 5	23 6	24 5	26 0	22.0	23.0	23.0	24.5	20.0	13
14	25 5	20 5	24 0	24 0	20 0	22 5	27.0	22.6	20 2	23.6	24.5	21.0	14
15	24 4	20 5	23 5	23.0	24.2	19 5	26.0	22.0	22.6	22.0	23.1	20 2	15
16	22 2	24.5	25 4	23 0	22 0	23 5	27.0	22.4	24.0	20.0	22.4	23.0	16
17	24 0	26 2	21 5	23 2	23.6	22.1	22 5	22.7	19.4	22.0	23.8	18.0	17
18	26 0	27 5	24.0	21 4	21.4	20 5	24.4	22.0	20.0	24.2	22.1	22.2	18
19	22 0	26 5	22 0	23 0	23.2	21.0	22 0	24.0	20.0	21.0	19.8	24.5	19
20	23 4	25 6	27.0	22 2	23.0	20 0	19 4	21.5	19.5	20.0	23.6	22.5	20
21	23 2	25.2	28.0	23 6	25.0	19 5	21.8	23 0	21.1	24.0	24.0	22.7	21
22	23 6	25.3	25 6	19 0	23 0	19 8	24.0	23.0	23 0	21.2	23.0	20.5	22
23	23 6	27.6	26 0	24.0	23.1	19.5	23.3	23.6	24.5	23.3	24.5	21.6	23
24	22 9	26 2	22 2	24 0	21.6	21 0	22.5	23.0	21.3		22 0	22.0	24
25	22.0	26.5	24.2	24.4	24.3	20.2	22.4	22.7	23.0	20.5	20.0		25
26	24.5	25.6	26 0	21.5	21.8	22.4	22.4	22.0	23.2	21.4	22.5	22.4	26
27	21 5	26.0	22 0	25 2	23.6	21.1	20.5	19.1	21 5	24.0	23.0	22.6	27
28	21 2	23.5	23.0	20.5	22.0	22 5	19 2	22.0	20.4	24.0	18.5	20.5	28
29	22.2		20 2	25.8	20 0	23.5	20 5	21.4	25.0	24.0	20.0	19.4	29
30	22.0		24.6	23.1	18.4	21.5	22.0	23.3	25.3	23.2	24.0	22.0	30
31	25 4		20.0		24.0		20.2	20.6		23.6		20.7	31
Average	23.9	24 9	23 8	22.6	22 7	21.9	23.4	22.5	22.5	22.5	22.3	21.3	

Annual Total ( )

Temperature (At 13, o'clock) STATION Popayan (MACHANGARA)
CAUCA RIVER, IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT °C YEAR 1974

DATE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1		21 5	24 0	17 0	24 2	17 0	23 2	20 3	22 4	18 0	25 0	17 2	1
2	21 6	22 0	21 5	19 0	21 2	22 0	23 2	23 6	22 6	21 0	25 0	23 0	2
3	22 0	21 6	25 0	21.6	18 0	23 0	23 2	25 0	22 4	18 6	23 8	23 0	3
4	22 7	22 6	24 2	25 5	20 5	24 2	23 2	24 0	24 0	21 0	22 0	23 8	4
5	22 6	21.2	24 0	23.5	22 5	22 6	24 8	23 8	23 8	23 8	21 8	22 8	5
6	21 4	22 0	24 0	21.6	24 2	24.0	23 4	21 8	24 0	19 2	23 4	22 0	6
7	21 4	22 5	23.6	22 4	22.0	24 5	23 0	22.1	25 0	20 0	20 0	21 3	7
8	24 0	21.2	23 5	22.4	23.5	22.0	22 1	23 2	25 2	21 3	22 8	23 0	8
9	23.5	20 0	21.0	22 0	24 5	24.7	24 0	21 0	22 4	22 8	20 0	23 0	9
10	23.6	18.5	23.5	21.4	24.0	22 0	22 0	25 0	25 0	21 4	23 0	22.4	10
11	23 0	22.2	23.6	24.0	25.5	18 2	23 0	22 2	25 0	24 0	22 3	22.0	11
12	23 0	22 4	22.5		22.0	20 0	22 0	21.7	21 6	22 3	20 9	22 4	12
13	21 0	23.5	23.0	22.4	27.0	22.2	22 6	20 2	20.0	24 2	22 6	22.8	13
14	20.3	20 1	23.0	23.4	22.0	25 5	21 2	25.4	21 0	21.4	21 4	22 8	14
15	20 0	24.0	13.2	23 0	23.2	25 6	21.4	27.5	22 6	18 8	20 4	20 2	15
16	21 4	20 0	19.0	21 5	21.2	24 5	23 1	25.3	21 6	23 4	20 2	22 0	16
17	23 9	20 1	24.6	24.4	22 5	21.2	23 2	27 0	22 8	20 4	20 2	22 5	17
18	19 7	21.2	24.6	25.0	24.6	20 5	21.2	24.4	19 8	23.2	22 2	20 8	18
19	17.0	22 0	20.0	28 0	24 0	22 5	18.8	25.0	21.4	22 0	22 2	22 8	19
20	25 0	22.0	24.5	26.5	23.0	22 0	21.0	26.0	21.2	25 6	23 8	20.8	20
21	22 4	23 2	21.0	25.5	21.4	20 0	21 2	24.0	23.6	22.4	24 0	24 2	21
22	20.0	23 8	19 0	25.0	21 0	20 2	22 3	24.4	22.6	21 6	19 0	22.0	22
23	21 0	23.7	23 1	24 0	19.5	21 5	25 0	25.0	22.0	21.0	20 3	24 6	23
24	23 4	24 2	18.0	25.4	21.0	23 0	24.0	25 0	20.4	20 2	21 0	25 4	24
25	20 4	25.0	23.3	21.1	21.0	21 0	22.0	24 5	19 2	23 4	18 4	23 4	25
26	20 0	25 0	23.6	23.4	24.0	21 8	23 3	22.3	20 9	22 6	22 2	24 4	26
27	22 0	21 6	24.2	22 5	25.5	23 6	23 8	22.3	20.4	18 2	23 0	23 2	27
28	23 0	23 4	24 0	23.2	27.5	23 0	23 0	21.2	18.0	22.0	20.0	22 4	28
29	23.0		24.8	24 0	22 5	23.0	23 0	23.0	22.8	20 0	22 2	19 0	29
30	21.1		23.5	21.6	24 0	22 4	25 0	19 6	22.0	23 0	20 4	17 0	30
31	22.0		24.7		24.5		23 4	21.0		23.0		20 0	31
Average	21 8	22.2	23 0	23 1	23.0	22.3	22 8	23 5	22 2	21.6	21.8	22.1	

Annual Total ( )

Temperature (At 13 o'clock) STATION Popayan (MACHANGARA)
CAUCA RIVER, IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT °C YEAR 1975

DATE	Jan	Feb	Mar.	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	DATE
1		22 4	20 8	22 0	24 2	18 2	19 4	22 4	21 6	21 8	21 8	22 4	1
2	20 2	22 6	18 4	20 2	19 4	23 0	20 2	23 6	21 0	24 0	19 1	21 4	2
3	21 0	21 6	23 0	24 8	22 3	21.0	21 3	24.0	23 0	22 4	21 5	20 8	3
4	21 2	22 7	18.0	21 0	22 0	21 0	20 8	24.0	23 8	20 5	22.5	19 7	4
5	22 0	23 8	23 0	24 7	20 4	19 6	20 4	22.3	23 1	21 8	20 5	18 5	5
6	23 0	20 4	22.8	23.2	23 0	21 2	20 4	22 0	23 0	20 8	19 8	19 1	6
7	22.4	20.2	23 0	25.6	17.5	21.4	16 4	24.6	22 8	22 9	20 0	22 7	7
8	21 0	20 0	23 7	23 0	22 1	22.7	20 2	24 0	21 2	20 6	18 2	20 2	8
9	23 0	23.0	21.2	21 4	21.4	23 2	21.0	23.0	22.6	22.4	19.1	18 4	9
10	22.4	23.2	24.0	24.4	23.0	26 4	23 4	25 0	22 0	20 6	22 6	20 7	10
11	23 8	19.8	24.0	23.6	24.2	24.3	22.2	23 2	22.3	20.8	21 7	19 7	11
12	23 2	23.2	23.2	23.0	20.4	24 0	21 4	23.8	20.0	20 4	19 4	23 3	12
13	22.0	24.6	22.3	23.6	20.6	23 6	21.0	21.2	21.0	19 9	21 9	23 2	13
14	20.6	23.8	20.4	23.0	21 0	24 2	19 4	24 0	23.0	19 0	21.6	23 0	14
15	20.4	22.8	21.4	23.6	18.6	23.0	19 8	23.6	21.8	20.4	22 3	21 2	15
16	20.2	23.8	21.8	23.6	22 0	22 2	21 1	23 2	21.5	18 7	20 8	21 3	16
17	23.2	21.8	20.0	23.2	20 0	22 2	22 0	22.2	23.9	22.4	20 2	21 9	17
18	22.0	17 6	22.0	22.0	22.0	22 6	18.7	22.0	21 5	23.8	20 8	20 7	18
19	23.7	21.4	23.2	20 8	22.0	22.6	23 0		22.4	23 6	20 1	19 7	19
20	22 0	21.6	21.0	23.8	23.0	20 4	22.4		19 5	21.3	22 1	21 8	20
21	22.0	18.0	25.2	23.4	24.4	22.3	24 0		18.4	22 1	20 5	15 7	21
22	22.4	21.6	23.2	23.4	18.6	21 8	24 0		21.5	22 6	20 0	21.3	22
23	21.0	21.0	24.0	26.0	21.8	22.4	20 2	20 4	18.2	23.7	21 8	20 0	23
24	20.4	21.2	23.4	21.0	19.4	23 0	21.6	22.4	22.4	21 6	22 6	20 6	24
25	22 4	21.0	21.8	23.2	22.2	22.6	18 6	20.8	20 6	23.2	22.3	20 0	25
26	20.0	20.2	23.2	20 2		24.8	23.4	19 8	22 4	22.4	22.1	18 1	26
27	23.8	20.2	24.0	23.4	23 2	20.2	22.0	20 8	22 4	17 8	21.6	17.3	27
28	25.2	20.2		20.4	21.4	19.6	23.0	21.2	25 0	23.4	20 6	22 3	28
29	24.8		24.0		21.0	21 0	25.0	22.8	23.2	19 5	20 8	21 3	29
30	19.6		24.3	23.0	21.0	20.0	24.2	19.6	23 6	23.4	18.8	22 6	30
31	24.0		21.0		19.4		21 5	21 0		22 2		27 6	31
Average	22.1	21.6	22.4	22.9	21.4	22.2	21 4	22.5	22.0	21.6	20 9	20 7	

Annual Total ( )

Temperature (At 13 o'clock) STATION Popayan (MACHANGARA)
CAUCA RIVER, IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT °C YEAR 1976

DATE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug.	Sep.	Oct	Nov.	Dec	DATE
1		23 3	22 8	23 8	18 7	24 0	21 6	24 5	24.8	26 0	23 8		1
2	22 1	21 3	25 1	22.6	17 1	24 6	24.9	23 0	25.8	23.3	25.3		2
3	20 9	22 0	20 8	24.6	20 6	23 0	24 6	24 6	26.8	22 6	19.6		3
4	22 0	22 1	23 6	24.2	21 9	23 5	22 9	25 5	25.5	23 9	23.2		4
5	21 6	22 6	25 0	25.6	21.1	24.2	22.6	26.9	23.2	21.1	20.0		5
6	21 2	20 3	22 9	24.3	21.9	24 3	22 9	24 4	24.0	19.9	20.1		6
7	22 0	22 0	21 3	21.4	19.4	22.4	25.2	23.9	27 7	22.0	23.9		7
8	21 9	21 3	22 8	24.3	23.6	22 1	22 1	26.6	26.1	21.9	23.8		8
9	21 7	22 6	23 8	21.6	23.3	21.6	24.8	24 9	26.8	23.5	22.0		9
10	22 3	23 5	23 2	22.9	24.9	22.3	24.0	25.0	27.9	24.7	23.1		10
11	23 6	21 8	21 8	20.4	24.0	20.4	21.8	24 3	28.7	21.9	20.4		11
12	22 6	23 1	22 1	23.3	24 9	23.3	23.7	24 8	28.1	24.1	23.0		12
13	22 8	22 6	22 4	22.8	23.7	19.5	23.6	26.4	25.9	24.0	22.8		13
14	23 6	20 4	20 8	19.3	21.1	20 2	25 3	24.6	24.9	21.6	23.2		14
15	21.1	22 6	23 2	20.4	23 6	23.5	25 6	23.5	27.2	24.2	23.2		15
16	20 8	20 0	21.6		25 3	23 5	26.0	26.7	26.6	24.0	18.8		16
17	21.1	21.4	21 9	21.0	20 4	23.6	25.1	23.2	27.1	21.7	23.1		17
18	22 9	22.6	20.8	21.1	21.3	24.3	24.3	25.3	28.4	25 0	23.5		18
19	20.5	20 6	20.6	23.6	20 8	21.8	24.3	24.0	24.3	23.7	24.3		19
20	23 1	18.0	23.8	22.3	21 7	24.4	20.8	22.0	25.6	23.6	23.8		20
21	20.3	19 8	23.8	22.5	22.0	25.1	23 5	24.2	24.3	26.2	20.7		21
22	20 4	18 8	20.6	24.8	25.6	24.9	24.4	24.9	24.6	22.4	23.1		22
23	21 9	19 7	20.2	21.4	22.2	23.5	24.9	23.9	23.5	23 5	26.7		23
24	24.0	21 1	22.3	21.6	23.3	19.6	26.6	23.7	23.4	23.4	24.8		24
25	25 5	22 3	20 0	23.0	20.2	23.1	24.4	23.5	21.1	21.4	24.6		25
26	23 7	22.8	22.8	22.6	24.7	24.6	23.3	22.3	23.1	23.6	22.8		26
27	22 1	22 0	19.0	18.8	22.3	22.8	26.1	22.8	21.3	22.6	23.9		27
28	21 2	22.1	22 6	24.5	23.5	21.8	24.2	23.1	22.5	23.4	22 5		28
29	21 9	24 2	21 0	19.9	22.2	22.3	26.2	25.2	25 1	21.8	18.1		29
30	17.2		23 7	20.0	21.4	26.2	27.6	26.3	26.3	23.8	22.0		30
31	22 5		21 6		23.0		25.0	26.8		21.3			31
Average	21 9	21.6	22 2	22.4	22.2	23.0	24.3	24.5	25.4	23.1	22.7		

Annual Total ( )

Tempe ature (At 13 o'clock) STATION Popayan (MACHANGARA)
CAUCA RIVER, IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT °C YEAR 1977

DATE	Jan	Feb	Mar.	Apr	May	Jun	Jul	Aug.	Sep.	Oct.	Nov.	Dec.	DATE
1				23.2							23 1		1
2				24 6							24.7		2
3				22.5							23 4		3
4				21.3							18 7		4
5				23.1							22.1		5
6				23.9							23.3		6
7				24.6							22.6		7
8				21.5							24 4		8
9				23.3							24 9		9
10				23.1							19.5		10
11				23.0							23.8		11
12				24.9							21.3		12
13				23.4							22.0		13
14				23.3							23.5		14
15				24 8							23.6		15
16				23 5							23 4		16
17				24 3							21.8		17
18				23.4							22.8		18
19				25 7							24.0		19
20				27 2							23.7		20
21				20 3							23.7		21
22				22 7							24.0		22
23				17 5							22.0		23
24				22.7							23.1		24
25				24.2							20.9		25
26				22 4							21.3		26
27				23.0							22.7		27
28				22.3							23.6		28
29				23.1							24.1		29
30				22.2							23.6		30
31													31
Average				23.2							22.9		

Annual Total ( )

V-8 DAILY RELATIVE HUMIDITY

	Meteorogical	Elevation (m)	Recording Period
(1)	Popayan (Machangara)	1,730	Jan. 1962 - Nov. 1977

Humidity (At 13 O'clock) STATION Popayan

RIVER, IN THE BASIN OF ELEVATION 1,730m UNIT % YEAR 1962

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept	Oct	Nov	Dec	DATE
1	62	67	55	73	62	61	70	38	58	62	69	68	1
2	65	65	57	75	72	63	50	46	33	62	63	64	2
3	66	84	66	66	62	65	59	42	48	58	86	69	3
4	68	74	70	71	67	68	56	51	66	74	63	42	4
5	49	63	91	62	59	71	53	54	57	57	69	56	5
6	66	62	75	80	66	72	42	71	49	57	63	66	6
7	69	81	91	64	63	64	53	62	53	71	75	62	7
8	66	70	69	74	76	77	58	63	48	70	63	59	8
9	65	80	68	62	76	69	53	68	72	81	63	64	9
10	65	56	64	80	91	73	36	61	47	75	69	65	10
11	62	67	69	62	66	79	45	56	60	66	63	69	11
12	80	75	58	51	86	62	45	55	38	63	66	68	12
13	58	68	75	61	69	83	59	57	55	57	66	78	13
14	70	61	72	76	76	65	49	78	56	100	73	64	14
15	69	100	79	67	63	65	75	51	60	90	75	83	15
16	73	68	62	72	74	88	48	70	68	85	61	72	16
17	69	82	65	66	68	46	47	59	73	67	83	72	17
18	68	68	71	58	76	50	52	62	51	69	70	75	18
19	63	62	65	72	80	55	76	61	57	67	69	72	19
20	61	63	83	70	75	60	42	55	57	64	51	95	20
21	62	65	65	73	64	75	50	42	95	58	82	100	21
22	64	66	75	74	56	43	65	42	63	50	56	63	22
23	59	58	91	79	62	53	5[illegible]	42	47	49	65	65	23
24	77	61	68	73	80	59	68	61	39	45	69	65	24
25	53	58	73	74	83	68	80	47	36	48	61	51	25
26	62	50	74	76	87	80	62	53	50	57	79	69	26
27	58	63	65	70	73	78	57	62	68	57	69	66	27
28	67	79	73	65	60	74	62	64	55	55	57	57	28
29	75	55	63	57	57	54	65	57	62	68	77	58	29
30	68		72	72	64	75	39	65	62	73	68	56	30
31	61		–		62		51	65		76		51	31
Average	65	55	70	69	70	66	56	57	55	65	68	66	

Annual Total ( )

Humidity (At 13 O'clock) STATION Popayan

RIVER, IN THE BASIN OF ELEVATION 1,730m UNIT % YEAR 1963

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov	Dec.	DATE
1	56	68	65	69	58	48	44	83	32	53	65	59	1
2	50	75	50	66	65	67	49	75	33	58	56	65	2
3	66	82	56	63	58	58	39	57	34	55	66	61	3
4	72	72	64	100	58	48	39	37	33	42	50	83	4
5	65	100	61	62	58	47	38	39	44	44	58	53	5
6	66	68	63	74	100	44	40	46	40	39	84	47	6
7	68	65	57	68	85	45	40	61	51	54	58	50	7
8	65	54	74	57	65	47	56	71	65	53	44	51	8
9	68	69	68	57	63	58	65	40	59	54	50	50	9
10	91	75	69	58	91	68	82	42	51	46	43	42	10
11	75	77	59	68	63	83	64	41	53	42	58	51	11
12	61	62	82	63	57	75	61	42	46	50	46	51	12
13	65	62	68	63	75	80	69	33	37	44	61	48	13
14	63	51	62	63	69	68	63	47	37	54	50	60	14
15	67	61	64	57	68	62	59	54	43	83	51	56	15
16	71	55	68	60	65	61	82	48	36	83	44	57	16
17	63	63	57	63	68	52	52	47	62	75	42	61	17
18	86	68	75	76	55	51	41	41	44	53	56	65	18
19	75	79	63	53	58	48	57	49	49	48	50	55	19
20	50	70	61	68	68	37	42	56	48	58	61	65	20
21	61	68	68	41	46	32	38	41	58	38	57	48	21
22	57	81	62	53	45	18	45	60	68	42	81	50	22
23	54	71	59	48	48	46	50	49	58	51	61	58	23
24	60	68	92	71	54	43	39	48	46	55	69	62	24
25	61	65	59	63	57	40	50	42	58	48	65	75	25
26	58	75	69	55	47	44	48	44	58	69	72	65	26
27	66	65	70	69	57	51	43	41	50	44	67	58	27
28	71	61	62	61	57	56	57	25	39	67	69	58	28
29	50		60	75	41	61	48	28	56	54	58	68	29
30	65		57	62	42	57	40	34	41	65	60	73	30
31	64		58		54		65	38		78		58	31
Average	65	69	65	64	61	54	52	47	48	55	58	58	

Annual Total ( )

Humidity (At 13 O'clock) STATION Popayan

RIVER IN THE BASIN OF ELEVATION 1,730m UNIT % YEAR 1964

DATE	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	DATE
1										58	77	61	1
2										68	76	61	2
3										43	96	58	3
4										35	91	70	4
5									61	42	80	70	5
6									42	76	70	62	6
7									55	67	67	70	7
8									58	61	80	55	8
9									62	66	50	70	9
10									70	67	53	80	10
11									48	70	64	80	11
12									46	62	66	65	12
13									37	67	64	73	13
14									50	60	67	65	14
15									46	70	70	77	15
16									62	64	86	70	16
17									55	61	88	68	17
18									61	64	71	57	18
19									40	66	64	70	19
20									53	70	63	62	20
21									44	64	64	69	21
22									42	64	59	79	22
23									55	66	67	70	23
24									56	79	66	38	24
25									72	49	70	83	25
26									66	67	61	57	26
27									58	62	74	70	27
28									58	69	61	75	28
29									54	90	63	61	29
30									92	68	58	71	30
31										70		61	31
Average									56	64	70	67	

Annual Total ( )

Humidity (At 13 O'clock) STATION Popayan

RIVER, IN THE BASIN OF ELEVATION 1,730m UNIT % YEAR 1965

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	DATE
1	66	54	52	76	58	52	56	46	50	83	56	58	1
2	54	70	48	67	67	53	66	50	37	59	71	62	2
3	73	61	55	95	58	53	69	40	61	61	67	61	3
4	57	62	63	70	45	52	58	52	78	61	68	63	4
5	70	61	64	61	42	52	69	37	61	54	66	69	5
6	55	52	63	69	58	39	69	35	47	54	69	62	6
7	63	69	73	55	72	50	53	72	56	58	80	96	7
8	60	63	64	63	67	35	47	47	52	53	91	70	8
9	74	52	58	91	71	72	48	34	45	70	76	67	9
10	58	45	63	67	74	56	43	55	77	67	56	73	10
11	68	61	55	76	63	60	55	36	63	91	60	55	11
12	58	61	57	80	94	53	38	54	29	70	62	67	12
13	83	62	76	65	66	42	37	48	42	60	63	63	13
14	73	63	63	69	58	49	44	45	44	83	64	71	14
15	71	66	55	83	55	60	47	50	61	53	69	67	15
16	76	37	61	66	73	56	41	60	38	64	81	62	16
17	80	58	66	53	44	51	34	69	34	67	61	62	17
18	71	55	63	64	55	37	32	75	43	55	71	64	18
19	69	69	69	56	53	38	42	80	39	62	95	58	19
20	67	55	69	76	91	42	38	61	45	59	72	62	20
21	63	67	76	64	65	46	49	45	49	65	63	58	21
22	74	58	69	67	61	46	38	42	52	58	67	44	22
23	63	55	53	58	61	38	49	41	56	62	63	52	23
24	63	45	65	80	48	52	34	39	54	49	67	74	24
25	78	50	50	88	53	50	41	41	55	61	72	63	25
26	74	43	58	66	69	39	32	29	62	76	69	64	26
27	64	59	64	67	67	49	35	37	83	67	60	67	27
28	74	56	84	91	67	63	52	39	69	73	100	70	28
29	57		67	66	73	52	51	55	52	62	61	76	29
30	67		53	73	73	54	37	49	61	59	62	76	30
31	75		39		66		62	33		96		67	31
Average	68	57	62	71	63	50	47	48	53	65	69	65	

Annual Total ( )

Humidity (At 13 O'clock) STATION Popayan

RIVER, IN THE BASIN OF ELEVATION 1,730m UNIT % YEAR 1966

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.	Oct	Nov	Dec	DATE
1	73	50	47	33		70	48	56	68	72	67	64	1
2	61	51	67	70	63	54	50	37	48	80	73	65	2
3	70	66	61	60	64	35	39	47	79	75	56	66	3
4	70	64	52	54	59	45	53	58	53	58	63	79	4
5	58	61	53	61	55	48	34	40	31	72	66	66	5
6	68	67	76	53	54	50	46	54	38	56	62	73	6
7	70	56	70	58	64	56	46	52	55	58	67	73	7
8	64	71	54	67	53	53	56	43	68	61	58	61	8
9	66	58	61	83	66	61	70	50	50	64	70	66	9
10	61	53	83	47	90	56	61	48	50	80	61	72	10
11	64	77	52	49	64	61	80	45	58	67	70	86	11
12	53	56	61	54	56	68	61	47	61	64	69	93	12
13	58	53	38	64	70	64	64	61	48	86	92	88	13
14	72	40	79	72	61	60	53	72	67	73	73	83	14
15	66	52	52	66	84	64	66	53	65	56	92	70	15
16	73	53	56	66	65	61	58	53	56	57	64	73	16
17	70	48	49	73	66	70	52	46	64	92	84	70	17
18	66	54	70	76	63	70	49	58	52	70	86	73	18
19	54	41	60	58	64	69	45	56	58	53	67	72	19
20	37	52		67	43	92	47	37	58	56	89	65	20
21	43	58	63	66	59	57	64	53	58	60	66	66	21
22	43	42	67	84	58	61	56	62	64	47	67	86	22
23	50	58	37	66	58	54	54	78	52	53	67	56	23
24	47	55	58	64	55	85	80	44	44	58	67	63	24
25	34	56	77	66	84	74	48	63	43	55	77	83	25
26	55	71	70	61	61	61	38	73	49	58	70	64	26
27	77	38	71	50	66	50	40	54	49	64	61	70	27
28	67	56	48	45	66	54	56	64	53	58	67	71	28
29	53		35	38	84	65	70	60	58	70	86	72	29
30	50		20	61	69	53	64	56	67	53	67	64	30
31	54		70		64		69	63		49	60	73	31
Average	60	54	59	61	64	61	55	54	55	64	70	72	

Annual Total ( )

Humidity (At 13 O'clock) STATION Popayan

RIVER, IN THE BASIN OF ELEVATION 1,730m UNIT % YEAR 1967

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct	Nov	Dec	DATE
1	77	63	73	73	63	67	50	39		82	83	38	1
2	63	69	60	77	83	76	39	47		-	57	65	2
3	69	74	61	64	60	70	49	51		42	61	64	3
4	77	49	66	55	56	83	41	40		52	64	38	4
5	61	73	58	58	56	83	57	39		41	58	46	5
6	58	80	61	58	77	52	66	40		35	53	58	6
7	68	89	70	47	76	91	53	43		45	56	57	7
8	56	62	70	54	64	56	38	44		60	76	58	8
9	63	89	76	68	59	58	58	33		83	56	56	9
10	69	60	66	62	77	58	62	51		53	80	67	10
11	76	74	63	53	66	69	72	41		52	58	62	11
12	83	54	61	53	67	66	58	42		91	55	74	12
13	72	62	56	74	66	63	61	48		63	66	58	13
14	57	66	64	91	76	56	72	42		58	64	61	14
15	70	70	83	56	57	69	87	48		51	63	76	15
16	72	66	69	58	70	76	56	45		51	74	58	16
17	64	51	95	56	39	73	48	59		57	52	55	17
18	61	67	54	64	86	60	51	45	50	58	88	76	18
19	64	67	62	51	61	63	67	52	41	58	76	55	19
20	76	69	58	54	64	52	58	48	54	52	67	54	20
21	57	65	49	42	68	58	69	61	51	62	83	63	21
22	67	75	52	58	58	44	66	67	55	58	-	61	22
23	71	83	61	59	64	41	74	53	41	61	55	64	23
24	76	65		58	48	47	69	49	47	67	60	58	24
25	67	63	66	66	70	83	62		36	67	65	63	25
26	73	79	58	63	56	67	42		58	50	67	84	26
27	68	69	80	73	61	61	47		70	47	67	59	27
28	72	70	76	70	63	44	42		80	58	73	88	28
29	69		79	63	57	55	49		69	63	55	63	29
30	67		63	49	73	58	47		73	69		63	30
31	66		66		95		41			91		58	31
Average	68	69	66	61	66	64	57	47		59	65	61	

Annual Total ( )

Humidity (At 13 O'clock) STATION Popayan

RIVER. IN THE BASIN OF ELEVATION 1,730m UNIT % YEAR 1968

DATE	Jan.	Feb	Mar.	Apr.	May.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	DATE
1	60	64	61	64	44	66	60	46	62	56	41	69	1
2	55	73	70	58	38	76	64	43	65	65	45	77	2
3	41	76	70	65	45	54	58	57	52	58	65	62	3
4	60	80	63	61	41	58	80	51	57	57	58	71	4
5	61	70	50	64	50	70	94	57	50	70	67	46	5
6	70	56	58	60	47	71	70	79	90	58	48	64	6
7	64	64	67	64	76	47	60	53	50	64	71	53	7
8	64	61	67	73	60	64	44	45	62	77	61	64	8
9	70	61	88	77	66	50	43	34	56	53	70	56	9
10	50	67	76	64	70	61	50	30	50	58	66	67	10
11	56	64	67	76	61	50	46	37	53	53	56	53	11
12	61	58	56		46	83	52	39	58	64	84	67	12
13	61	58	61	66	44	62	50	34	41	80	70	45	13
14	57	58	70	72	53	58	57	34	52	59	69	64	14
15	58	58	83	70	48	61	66	31	46	58	71	50	15
16	56	58	64	57	58	52	70	37	46	70	80	58	16
17	68	61	77	58	78	61	70	43	56	50	68	50	17
18	65	64	62	62	47	64	57	53	62	71	65	58	18
19	56	58	63	64	61	58	64	43	62	58	57	65	19
20	58	64	70	64	61	58	64	32	40	75	71	72	20
21	61	70	66	61	58	80	58	43	68	53	58	53	21
22	64	61	40	58	57	73	43	37	75	68	76	71	22
23	70	64	67	67	58	61	58	44	50	53	60	52	23
24	53	67	70	55	56	58	43	52	50	74	65	70	24
25	84	64	64	70	53	55	46	47	45	64	62	94	25
26	61	63	67	56	70	58	43	56	50	84	53	64	26
27	61	76	61	58	58	40	52	83	52	60	65	58	27
28	58	56	62	64	51	53	46	64	68	65	80	69	28
29	55	76	64	56	53	61	46	56	56	67	78	53	29
30	71		64	60	96	58	41	73	86	72	95	53	30
31	85		44		85		52	58		58		94	31
Average	62	64	65	64	58	61	56	48	57	64	67	63	
										Annual Total ( )			

Humidity (At 13 O'clock) STATION Popayan

RIVER. IN THE BASIN OF ELEVATION 1,730m UNIT % YEAR 1969

DATE	Jan.	Feb	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	DATE
1	84	94									64	54	1
2	47	44									60	66	2
3	48	44									53	64	3
4	46	64									71	77	4
5	58	68									64	66	5
6	73	56									64	60	6
7	56	63									58	62	7
8	46	70									70	77	8
9	43	71									58	70	9
10	51	70									64	71	10
11	70	65									70	58	11
12	84	70									61	70	12
13	64	56									58	66	13
14	76	58									62	64	14
15	92	64									70	54	15
16	65	70								73	70	64	16
17	67	85								97	52	62	17
18	70	64								58	73	66	18
19	84									70	64	58	19
20	64									65	55	66	20
21	70									71	77	64	21
22	66									64	67	96	22
23	67									62	59	53	23
24	64									58	77	73	24
25	70									58	95	-	25
26	61									53	64	65	26
27	64									85	61	58	27
28	71									59	71	65	28
29	53									74	76	52	29
30	56									83	68	60	30
31	58									65		49	31
Average	64	65								68	66	64	
										Annual Total ( )			

Humidity (At 13 O'clock) STATION Popayan

RIVER, IN THE BASIN OF ELEVATION 1,730m UNIT % YEAR 1970

DATE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov	Dec	DATE
1		71	71	54	92	49	58	64	64	63	52	70	1
2	62	77	88	54	74	49	55	70	84	62	61	69	2
3	73	71	58	58	84	78	43	57	84	61	66	73	3
4	58	76	55	52	66	57	47	58	92	70	83	72	4
5	53	71	50	53	71	78	65	72	62	70	77	76	5
6	47	71	65	58	91	85	68	70	84	74	76	69	6
7	76	76	58	80	73	92	79	57	58	64	67	76	7
8	52	61	77	84	77	71	70	58	84	73	63	64	8
9	43	52	70	61	60	77	65	57	59	83	66	76	9
10	63	61	54	68	64	92	69	58	67	79	63	70	10
11	76	72	77	77	71	53	61	77	65	62	76	64	11
12	82	61	66	95	64	81	68	53	75	83	76	71	12
13	67	61	66	45	71	64	65	72	64	83	75	79	13
14	79	60	69	92	71	45	61	71	73	70	81	76	14
15	72	53	52	59	80	58	58	74	66	70	73	57	15
16	66	59	62	77	76	85	68	53	91	60	70	63	16
17	87	68	50	66	80	48	53	76	69	59	65	70	17
18	60	73	48	73	53	41	60	58	78	60	70	52	18
19	83	52	53	72	75	44	66	70	53	54	73	83	19
20	62	80	64	65	69	64	68	53	64	71	70	91	20
21	76	77	45	71	66	53	49	74	69	73	73	73	21
22	51	61	38	84	58	78	49	40	88	70	70	83	22
23	51	58	39	65	70	58	71	77	83	83	69	73	23
24	63	71	70	49	65	85	64	58	70	52	52	62	24
25	70	76	58	66	84	64	66	81	64	79	69	66	25
26	69	-	58	64	70	72	72	64	84	70	69	75	26
27	76	49	53	82	69	50	80	75	58	69	97	70	27
28	57	57	84	58	69	60	73	67	92	62	63	63	28
29	58		59	84	69	37	84	85	84	64	91	77	29
30	52		66	49	58	72	84	90	74	69	75	63	30
31	76		52		65		72	78		51		71	31
Average	65	66	60	67	71	66	65	66	73	69	71	71	

Annual Total ( )

Humidity (At 13. o'clock) STATION Popayan (MACHANGARA)

CAUCA RIVER, IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT % YEAR 1971

DATE	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep	Oct.	Nov.	Dec.	DATE
1	64	77	73	79	87	69	66	70	71	74	69	76	1
2	75	70	70	64	80	58	69	83	51	76	87	78	2
3	64	71	80	78	63	68	83	84	80	63	76	77	3
4	89	70	56	64	80	72	83	68	68	83	69	74	4
5	83	72	85	74	70	80	58	69	72	83	83	76	5
6	80	58	65	71	75	71	64	66		70	69	70	6
7	72	64	77	70	51	73	65	69		69	69	64	7
8	67	70	76	51	76	54	59	77		64	67		8
9	68	91	67	66	63	77	63	57		64	91	66	9
10	69	84	65	67	72	77	83	78		75	83	66	10
11	63	81	80	74	83	56	57	69		70	76	57	11
12	77	77	62	67	70	84	58	69		76	73	61	12
13	83	69	64	84	70	88	83	63		63	57	67	13
14	78	83	76	95	83	64	66	76		70	83	52	14
15	73	90	72	80	69	60	63	68	71	77	70	64	15
16	73	81	76	52	83	70	51	67	75	69	80	64	16
17	76	63	73	88	83	77	52	83	82	91	83	58	17
18	85	83	100	50	64	69	51	70	62	91	68	67	18
19	75	63	91	76	63	70	57	69	71	88	91	64	19
20	68	69	91	91	76	70	44	89	69	64	83	73	20
21	69	79	73	83	57	87	61	69	87	100	76	83	21
22	73	92	69	84	87	70	48	76	57	69	91	87	22
23	63	74	70	83	69	71	70	58	71	77	69	69	23
24	65	63	83	67	58	63	57	73	57	69	70	69	24
25	69	73	83	58	91	68	71	57	62	82	63	91	25
26	78	53	70	48	87	70	51	73	57	63	83	69	26
27	69	77	70	53	57	77	75	69	66	86	63	83	27
28	73	53	76	64	91	77	69	71	64	63	87	72	28
29	69		75	52	57	58	70	63	74	87	69	83	29
30	72		63	73	83	58	57	68	82	69	83		30
31	63		75		57		72	53		83		65	31
Average	72	73	74	70	73	70	64	70	69	75	76	70	

Annual Total ( )

Humidity (At 13 o'clock) STATION Popayan (MACHANGARA)

CAUCA RIVER IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT % YEAR 1972

DATE	Jan	Feb	Mar	Apr.	May	Jun	Jul	Aug	Sep	Oct.	Nov.	Dec.	DATE
1		75	66	65	65		68	49	74	88	72	64	1
2	71	83	65	66	97		63	57	65	61	73	66	2
3	76	64	58	65	60		43	48	57	77	64	78	3
4	76	87	71	58	61		58	57	68	71	72	74	4
5	61	71	58	66	66		73	52	53	69	67	69	5
6	70	85	71	58	70		58	52	70	65	60	78	6
7	67	63	68	56	63		57	38	58	70	78	60	7
8	76	76	64	48	68		65	52	65	60	74	85	8
9	67	70	58	100	70		64	47	57	68	67	71	9
10	70	91	71	70	66		57	66	84	58	88	80	10
11	71	76	65	65	65		64	52	58	77	68	72	11
12	91	67	65	53	74		64	57	50	71	60	68	12
13	76	58	65	83	64		53	73	44	86	89	73	13
14	63	61	78	58	78		65	60	41	65	81	68	14
15	83	63	84	60	65		57	47	65	54	63	58	15
16	68	76	65	71	64		57	67	92	56	80	64	16
17	75	91	64	64	70		57	52	78	63	58	69	17
18	57	70	64	92	74		57	91	66	78	65	71	18
19	70	63	84	65	71		51	70	53	58	58	80	19
20	69	64	84	54	86		57	83	92	50	92	68	20
21	91	69	85	65	92		76	63		65	69	62	21
22	69	70	83	92	78		53	69	59	72	71	70	22
23	86	57	84	64	78		52	52	61	92	68	66	23
24	76	76	58	58	72		53	69	65	65	67	54	24
25	70	69	85	78	71		65	58	70	56	69		25
26	69	63	96	57	70		43	86		61	64	58	26
27	69	57	92	70	70		63	64		51	63	57	27
28	76	83	84	74	70		44	63	46	63	81	68	28
29	69	69	70	64	71		52	54	72	68	55	54	29
30	57		64	70	65		43	67	58	67	63	67	30
31	76		77		65		65	83		71		70	31
Average	72	71	72	67	71		58	61	64	67	70	68	

Annual Total ( )

Humidity (At 13 o'clock) STATION Popayan (MACHANGARA)

CAUCA RIVER, IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT % YEAR 1973

DATE	Jan	Feb	Mar	Apr.	May	Jun	Jul	Aug	Sep	Oct	Nov.	Dec	DATE
1		64	68	63	89	80	61	72	68	66	76	62	1
2	71	57	65	60	70	74	50	89	58	77	57	75	2
3	62	55	65	62	83	74	60	60	50	77	74	68	3
4	58	56	65	85	62	69	52	70	54	70	60	79	4
5	61	53	59	76	68	62	65	59	61	71	84	61	5
6	65	84	60	67	77	70	42	65	60	78	74	74	6
7	68	57	73	75	68	74	45	65	50	81	80	76	7
8	77	62	74	84	70	68	44	64	77	54	92	86	8
9	63	81	62	99	69	68	48	63	64	65	89	65	9
10	66	46	66	77	63	88	69	58	62	64	68	91	10
11	60	57	67	94	55	71	60	43	70	68	59	74	11
12	54	51	66	96	66	84	54	67	71	70	67	62	12
13	56	69	66	69	68	62	44	70	64	44	62	72	13
14	60	73	66	58	89	71	42	66	78	63	66	70	14
15	63	81	65	64	60	89	60	66	57	74	72	83	15
16	63	66	62	64	70	61	47	67	64	77	69	64	16
17	65	57	74	65	62	70	64	62	81	68	73	84	17
18	50	52	65	74	74	81	63	70	80	60	69	65	18
19	74	39	73	74	71	88	66	86	85	70	86	62	19
20	69	54	52	70	74	76	78	70	97	78	61	67	20
21	77	58	53	68	55	92	51	69	83	72	60	74	21
22	67	59	58	92	74	84	58	74	87	74	74	81	22
23	67	40	63	65	67	92	58	50	60	66	58	83	23
24	70	61	84	69	69	70	56	64	76		78	64	24
25	78	60	59	63	61		67	69	71	73	70		25
26	58	61	54	81	77	80	64	67	67	74	75	70	26
27	74	59	78	55	62	83	73	85	70	60	58	72	27
28	72	63	71	81	78	62	84	71	74	60	88	81	28
29	69		79	62	78	61	81	76	54	59	82	81	29
30	70		59	70	94	72	71	62	71	71	60	64	30
31	55		85		60		79	89		64		81	31
Average	65	60	66	73	70	75	60	68	69	69	71	73	

Annual Total ( )

Humidity (At 13.o'clock) STATION Popayan (MACHANGARA)

CAUCA RIVER, IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT % YEAR 1971

DATE	Jan.	Feb	Mar.	Apr	May	Jun	Jul	Aug	Sep	Oct.	Nov	Dec	DATE
1		63	60	96	58	92	61	77	64	92	59		1
2	70	72	70	80	73	70	51	60	57	77	59	66	2
3	70	73	64	62	92	70	52	48	55	83	44	66	3
4	69	63	58	55	77	61	59	58	47	62	61	55	4
5	70	73	72	56	67	60	47	60	52	49	66	68	5
6	62	70	62	64	57	65	50	72	47	68	51	62	6
7	76	71	61	66	70	54	57	70	43	76	76	72	7
8	67	69	65	65	69	78	50	65	52	63	61	63	8
9	64	85	77	71	66	54	47	77	16	55	76	71	9
10	56	88	61	74	58	70	52	53	43	74	67	71	10
11	66	65	60	62	60	90	55	61	43	41	62	73	11
12	64	69	67		64	81	64	63	61	55	66	67	12
13	73	63	67	69	44	65	65	75	86	53	60	67	13
14	80	84	58	71	64	56	69	49	70	71	74	68	14
15	77	65	65	63	63	50	62	38	60	77	78	81	15
16	62	76	89	74	73	66	65	41		61	78	62	16
17	66	78	52	55	67	69	57	44	62	78	79	75	17
18	80	73	55		45	73	64	41	70	65	68	71	18
19	87	70	80	31	58	61	77	33	68	64	69	68	19
20	61	72	52	44	59	74	72	38	73	51	67	69	20
21	71	65	70	60	75	85	66	47	58	59	53	52	21
22	76	57	80	53	73	83	68	47	59	59	84	67	22
23	66	63	65	71	80	67	53	47		70	74	53	23
24	60	59	79	57	80	68	48	39		63	72	40	24
25	70	53	55	83	80	68	49	46		56	91	56	25
26	70	61	55	69	62	53	39	62		50	69	56	26
27	70	67	46	67	60	60	41	62		76	71	63	27
28	60	53	39	64	39	71	52	64	77		76	67	28
29	61		39	58	67	63	53	66	59	63	75	80	29
30	68		56	66	63	61	44	69	64	52	84	96	30
31	70		51		56		43	64		58		76	31
Average	69	69	62	64	65	68	56	56	53	64	69	67	

Annual Total ( )

Humidity (At 13.o'clock) STATION Popayan (MACHANGARA)

CAUCA RIVER, IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT % YEAR 1975

DATE	Jan.	Feb.	Mar.	Apr.	May	Jun	Jul	Aug	Sep.	Oct.	Nov	Dec	DATE
1		68	65	67	61	92	76	54	59	55	65	68	1
2	75		74	76	87	64		51	67	44	83	66	2
3	65	70	71	59	58	65	74	43	49	57	66	61	3
4	76	57	84	70	64	77	68	53	45	71	61	61	4
5	70	55	58	55	72	76	72	54	53	68	73	81	5
6	59	66	59	70	64	69	72	66	59	71	79	79	6
7	68	73	67	51	94	66	95	49	64	59	79	65	7
8	75	69	60	68	70	62	69	54	71	73	83	76	8
9	64	65	66	68	74	63	75	47	66	65	81	88	9
10	73	57	60	52	70	42	64	51	62	70	59	63	10
11	60	81	58	64	55	42	72		71	73	59	53	11
12	63	56	57	64	80	50	66	60	67	64	79	64	12
13	67	57	68	56	72	42	70	73	70	78	65	54	13
14	72	55	74	64	70	39	85	54	59	73	77	68	14
15	82	64	68	61	83	52	67	53	65	72	64	69	15
16	75	60	67	62	78	56	64	44	70	79	71	71	16
17	59	69	88	61	82	56	64	49	57	67	74	71	17
18	64	79	64	71	70	52	79	46	64	56	78	70	18
19	57	73	63	80	69	56	52		55	55	81	71	19
20	64	59	70	61	68	74	48		77	65	70	60	20
21	67	91	55	57	59	59	35		78	69	74	92	21
22	71	65	58	60	89	68	40		62	63	72	58	22
23	70	68	62	49	68	61	54	64	85	58	59	69	23
24	74	72	64	72	78	58	60	62	60	66	57	60	24
25	52	66	65	65	68	60	79	63	86	57	61	68	25
26	70	74	63	83		52	43		62	61	66	85	26
27	60	73	58	61	65	75	70	78	59	78	66	87	27
28	45	75		69	71	78	57	69	49	55	63	58	28
29	52		66		78	70	43	58	58	67	71	63	29
30	73		58	64	81	76	47	78	52	50	78	59	30
31	58		70		81		61	68		61		68	31
Average	66	67	65	64	73	62	64	58	63	65	70	69	

Annual Total ( )

Humidity (At 13 o'clock) STATION Popayan (MACHANGARA)

CAUCA RIVER IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT % YEAR 1976

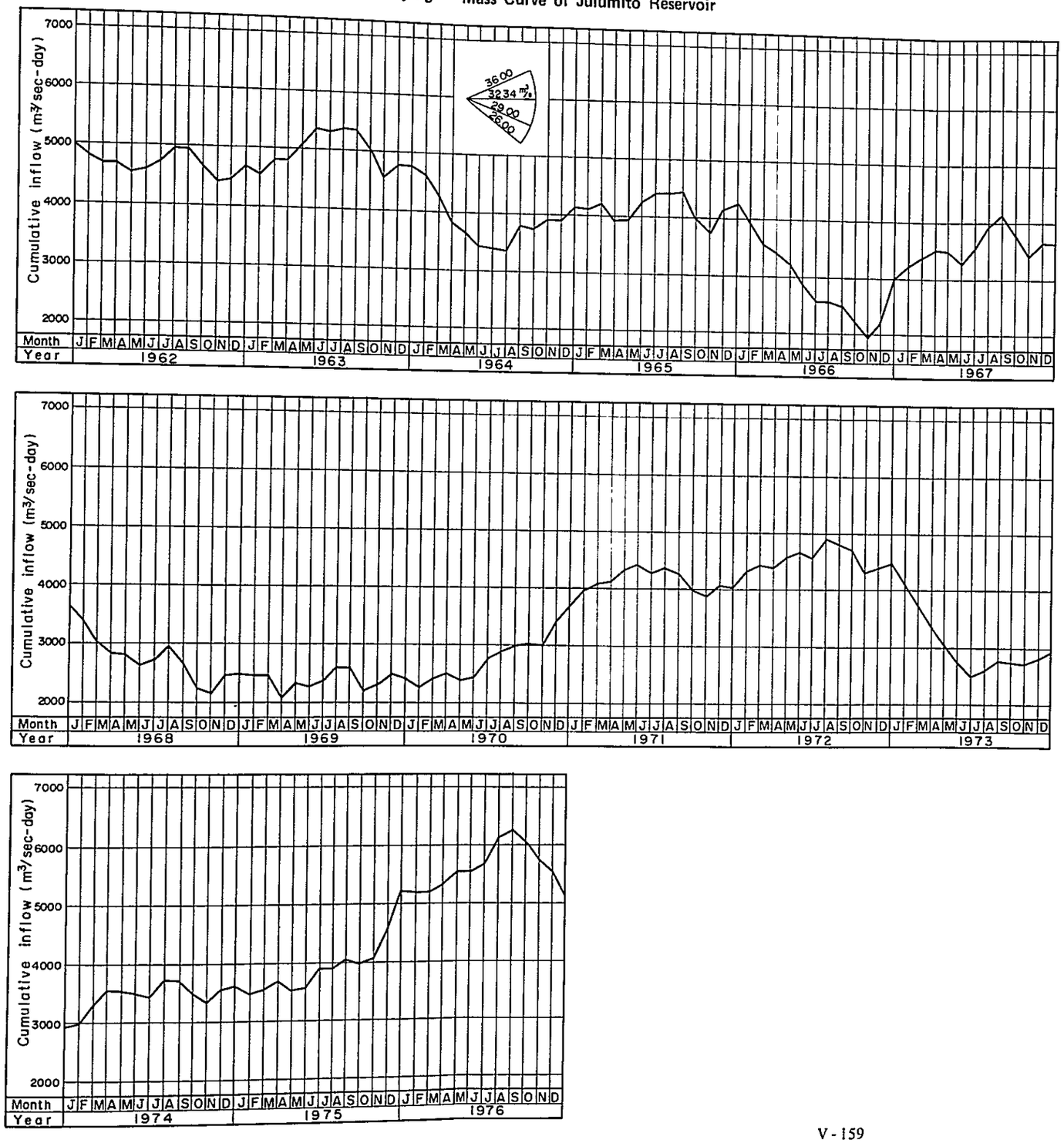
DATE	Jan	Feb	Mar	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	DATE
1		48	67	59	76	57	48	46	41	39	61		1
2	60	58	57	66	89	66	38	62	29	55	61		2
3	66	61	65	55	70	69	35	35	31	56	81		3
4	64	60	58	57	65	61	46	35	37	52	68		4
5	60	56	53	56	74	49	48	31	57	60	80		5
6	67	72	69	61	72	49	54	36	46	78	74		6
7	63	64	65	75	86	62	28	46	41	64	68		7
8	63	66	56	60	58	65	49	39	36	63	69		8
9	63	60	55	71	64	70	42	44	33	46	74		9
10	62	61	63	58	52	55	52	40	30	39	69		10
11	55	66	68	79	51	66	67	41	31	60	74		11
12	61	53	69	70	44	60	38	39	30	58	66		12
13	60	60	69	73	57	81	47	41	34	59	60		13
14	61	61	77	82	66	69	36	36	37	67	59		14
15	67	48	57	78	60	51	38	43	34	58	65		15
16	71	66	66		57	41	42	25	31	64	86		16
17	73	52	71	77	74	48	38	48	31	66	69		17
18	60	57	77	76	72	47	41	43	29	50	61		18
19	69	66	77	62	75	66	41	52	41	55	57		19
20	63	83	60	67	64	54	47	63	38	66	63		20
21	72	72	62	64	72	42	40	31	40	48	75		21
22	72	74	63	58	46	36	41	34	44	69	61		22
23	67	76	74	66	68	52	39	37	46	61	40		23
24	63	64	64	70	59	82	32	38	46	56	52		24
25	49	62	79	64	73	57	37	44	69	66	66		25
26	53	63	67	65	52	50	38	49	61	60	67		26
27	56	64	84	87	64	59	30	51	63	62	60		27
28	64	66	63	58	58	65	39	50	56	65	73		28
29	60	55	78	87	67	72	31	35	46	72	82		29
30	83		62	65	70	39	30	35	38	53	62		30
31	54		64		64		43	36		65			31
Average	63	63	66	68	65	58	41	41	41	59	67		
										Annual Total ( )			

Humidity (At 13 o'clock) STATION Popayan (MACHANGARA)

CAUCA RIVER IN THE BASIN OF CAUCA ELEVATION 1,730 UNIT % YEAR 1977

DATE	Jan	Feb	Mar.	Apr	May	Jun	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	DATE
1				59							63		1
2				54							53		2
3				66							56		3
4				62							78		4
5				66							60		5
6				51						6	62		6
7				62							63		7
8				65							45		8
9				60							56		9
10				65							81		10
11				70							53		11
12				56							73		12
13				64							62		13
14				64							50		14
15				53							54		15
16				54							67		16
17				65							67		17
18				67							58		18
19				57							56		19
20											59		20
21				78							57		21
22				66							55		22
23				89							70		23
24				62							64		24
25				63							71		25
26				64							68		26
27				63							66		27
28				63							61		28
29				55							60		29
30				59							44		30
31													31
Average				63							61		
										Annual Total ( )			

V - 9 Mass Curve of Julumito Reservoir



APPENDIX－Ⅵ

タンクモデル方式による水文解析

Ⅵ.1 水文解析 …… Ⅳ－1
Ⅵ.2 雨量観測所 …… Ⅳ－1
Ⅵ.3 解析の方法 …… Ⅳ－1
Ⅵ.4 タンクモデル法 …… Ⅳ－2
Ⅵ.5 計算結果 …… Ⅳ－3

FIGURE LIST

Fig. VI - 1 Location Map of Run-off and Meteorological Gauging Station

Fig. VI - 2 Comparison Between Actual Run-off and Estimated Run-off

TABLE LIST

Table VI - 1 Coefficient of Correlation of Precipitation Station

Table VI - 2 Comparison Between Actual Run-off and Estimated Run-off

タンクモデル方式による水文解析

Ⅵ.1 水文解析

Julumito 水力発電計画の検討に使用するRio Cauca に設置されているJulumito測水所流量資資料を補完するため，タンクモデル法を用いて水文解析を行った。

Ⅵ.2 雨量観測所

計画地域の雨量，および流量観測所の位置はFig.Ⅵ－1 に示す。本検討を行なうためにRio Cauca流域を代表する雨量観測所として，流域内の他の諸観測所とも相互の雨量の相関性の高いCoconuco 雨量観測所を採ることゝする。

Table 5-8 Coefficient of Correlation of Precipitation Stations

Precipitation Station	Precipitation Station	Coefficient of Correlation
Coconuco	Popayan (Universidad)	0.720
	Popayan (Electraguas)	0.728
	Popayan (Machangara)	0.745
	Purace	0.800
Popayan (Universidad)	Popayan (Electraguas)	0.907
	Florida	0.871
Popayan (Electraguas)	Florida	0.885
Florida	Purace	0.768

(注) 相関係数は次式による。

$$r = \frac{\Sigma \cdot x \cdot y - \bar{x} \cdot \Sigma \cdot y}{\sqrt{(\Sigma \cdot x^2 - \bar{x} \cdot \Sigma \cdot x)(\Sigma \cdot y^2 - \bar{y} \cdot \Sigma \cdot y)}}$$

ここに，r ；相関係数

x・y ；対象２観測所間の同時期の雨量（mm）

Ⅵ.3 解析の方法

低水流出計算方法として，貯留関数法およびタンクモデル法等がある。本解析では低水流出計算に一般的に用いられている，タンクモデル法によって行なうことゝする。

Julumito 測水所の流量資料の補足期間は，1962 年１月から 1964 年４月の２年４ヶ月と，それ以降 1976 年 12 月までの間の流量記録欠測日についてである。

タンクモデル法によるJulumito 測水所流量の補完を行なうために，Julumito 測水所お

よびCoconuco 雨量観測所における 1964年4月～1976年12月の日観測記録を用いて，同法の解析の検証を行なう。

この検証により解析の妥当性を確認した上で，流量の補足を行なうべき期間について流量解析を行って，補足を行なうことゝする。

Ⅵ.4 タンクモデル法

タンクモデル法は，雨量と流出量の関係を等値換算した低面積を有する数個の容量（タンク）に置換えて表わす流出計算方法であり，その基本的考え方をFig.Ⅵ－2 に示す単純モデルで説明すると次のようになる。

水をタンクに注ぐと，タンク内の水位は逐次上昇する。しかし，タンクの低面に孔をあけてあるので貯留水は逐次流出する。この関係は，自然界の降雨と流出の関係とよく似ている。この関係を利用したのがタンクモデル法である。

タンクモデル法では，一般にタンクからの流出量(q)はタンクの孔より上の貯留高（水深h）に比例すると仮定している。

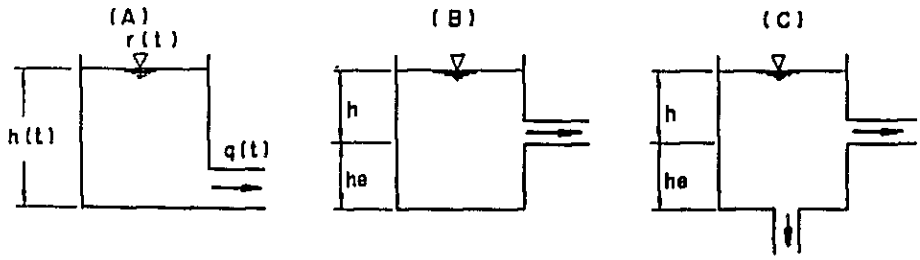
すなわち，両者の関係は次式で表わされる。

$$q(t)=\alpha\cdot h(t)$$

ここに，　h：タンクの貯留高（水深）

　　α：孔の流出係数

しかし，(A)では損失雨量および流出遅れを表現することが出来ない。損失雨量を表わすには側面の流出孔を底から he の高さにつけた(B)のモデルを考える。

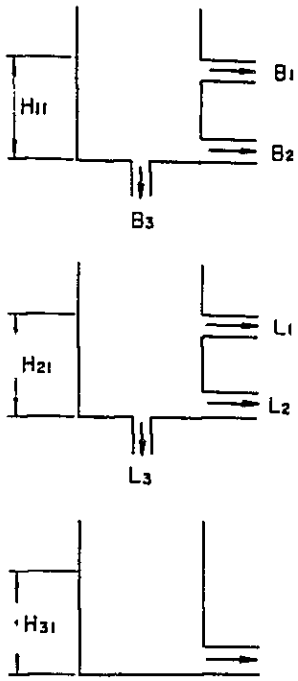


これによれば，しばらく雨量がなく容量（タンク）が空になっている he 以下の雨が降っても容量内の水面は流出孔に達しないので流出が起らない。これが損失雨量である。he は損失雨量の限界を示す。しかし，このモデルは1回目の雨は良いが，2回目以降の雨の損失雨量を表現することが出来ないので，底部に孔（浸透孔）をあけた(C)に示すモデルを考える必要がある。この浸透孔からの流出は底水流出計算に重要な地下水浸透量に相当する。また，このようなタンクを直列に連結すれば時間遅れを表現できる。

一般的にタンクモデル法で流出計算を行なう時は，複数個の流出孔と，1個の浸透孔を持つ

タンクを何段か直列に並べる場合が多い。本解析では繰返し計算の結果，最終的には(D)に示す直列3段式タンクモデルで検討した。

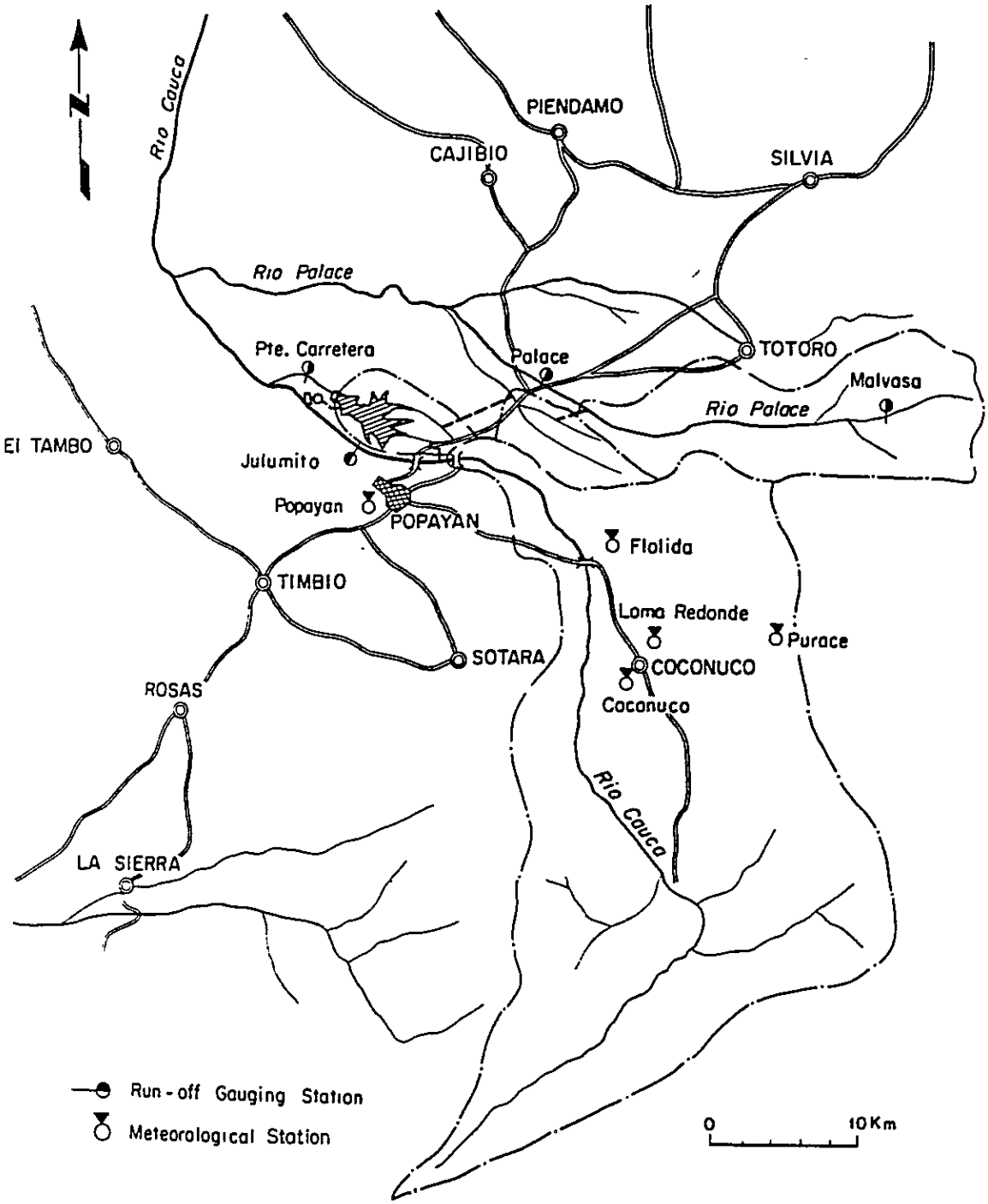
(D)



Ⅵ.5 計算結果

初期値をもとに各タンクの乗数，孔の高さ，初期貯留高を改め，数多くの試算を繰返した。計算結果は Table Ⅵ－2 ，および Fig.Ⅵ－2 に示す通りである。

Fig. VI-1 Location Map of Run-off and Meteorological Gauging Station



Month / Year	Jan		Jun.				Jul.			
	Actual	Estimated	Actual	Estimated	Deduction	Ratio	Actual	Estimated	Deduction	Ratio
1962	701.6	427.2	871.7	534.9	336.8	0.61	879.3	450.2	429.1	0.51
63	716.6	672.0	713.5	533.3	180.2	0.74	943.1	543.4	399.7	0.58
64	743.8	366.7	673.1	430.5	242.6	0.64	705.9	536.8	160.1	0.76
65	734.7	308.9	859.8	280.6	579.2	0.33	778.9	437.2	341.7	0.56
66	549.7	316.4	583.0	355.4	227.6	0.61	764.7	451.9	312.3	0.59
67	997.9	1,013.2	993.2	617.8	375.4	0.62	1,211.2	610.2	601.0	0.50
68	616.9	778.5	739.3	783.2	-43.9	1.16	1,018.1	803.3	214.8	0.78
69	825.8	682.2	844.6	746.6	98.0	0.88	991.3	684.6	306.7	0.69
70	724.5	614.8	1,287.8	637.4	650.4	0.50	1,006.5	694.3	312.2	0.69
71	1,229.3	962.5	693.8	742.6	-48.8	1.07	1,119.5	791.1	328.4	0.71
72	1,091.4	818.3	869.3	831.7	37.6	0.96	1,430.6	789.5	641.1	0.55
73	554.4	639.9	580.9	730.8	-149.9	1.26	915.5	851.7	63.8	0.93
74	911.2	943.0	678.9	737.6	-58.7	1.09	1,343.1	785.6	557.5	0.58
75	726.0	752.2	1,097.6	750.9	346.7	0.68	825.6	958.5	-132.9	1.16
76	803.7	868.4	1,009.0	788.2	220.8	0.78	1,794.0	769.3	1,024.7	0.43
Total	11,927.5	10,164.2	2,495.5	9,501.5		0.76	15,726.8	10,157.6		0.65
Average	795.2	677.6	833.0	633.4			1,048.5	677.2		

Month / Year	Aug		Total			
	Actual	Estimated	Actual	Estimated	Deduction	Ratio
1962	744.2	514.7	8,989.4	5,579.8	3,409.6	0.62
63	825.7	513.3	9,791.0	6,547.4	3,243.6	0.67
64	1,241.6	516.5	8,895.3	4,689.8	4,205.5	0.53
65	871.4	496.0	9,537.0	4,314.6	5,222.4	0.45
66	634.1	385.0	8,583.0	7,148.0	1,435.0	0.83
67	922.8	592.7	10,756.2	9,122.0	1,034.2	0.90
68	496.3	737.1	8,436.7	9,480.8	-1,044.1	1.12
69	819.6	763.7	9,799.7	8,970.4	829.3	0.92
70	930.7	641.7	11,574.0	8,346.7	3,227.3	0.72
71	700.4	782.7	10,266.6	10,163.9	102.7	0.99
72	766.6	735.8	10,769.2	9,794.3	974.9	0.91
73	927.2	897.3	8,228.3	9,568.8	-1,340.5	1.16
74	782.7	755.1	10,877.3	10,696.8	180.5	0.92
75	951.4	887.2	11,904.0	10,207.1	1,696.9	0.86
76	915.7	728.6	10,465.1	9,761.1	704.0	0.93
Total	12,479.9	9,947.4	118,172.8	124,291.5		0.84
Average	832.0	663.2	9,878.2	8,286.0		

Table VI-2 Comparison between Actual Run-off and Estimated Run-off

Year \ Month	Jan.				Feb.				Mar.				Apr.				May				Jun.				Jul.			
	Actual	Estimated	Deduction	Ratio	Actual	Estimated	Deduction	Ratio	Actual	Estimated	Deduction	Ratio	Actual	Estimated	Deduction	Ratio	Actual	Estimated	Deduction	Ratio	Actual	Estimated	Deduction	Ratio	Actual	Estimated	Deduction	Ratio
1962	701.6	427.2	274.4	0.61	675.1	328.7	346.4	0.49	810.9	482.7	328.2	0.60	639.9	314.3	325.6	0.49	820.5	470.3	350.2	0.57	871.7	534.9	336.8	0.61	879.3	450.2	429.1	0.51
63	716.6	672.0	44.6	0.94	972.3	594.2	378.1	0.61	840.0	736.5	103.5	0.89	1,074.5	605.9	468.6	0.57	1,167.9	595.5	572.4	0.51	713.5	533.3	180.2	0.74	943.1	543.4	399.7	0.58
64	743.8	366.7	377.1	0.49	546.0	323.9	222.1	0.59	483.0	350.6	132.4	0.73	615.5	412.2	203.3	0.67	594.7	347.9	246.8	0.59	673.1	430.5	242.6	0.64	705.9	536.8	160.1	0.76
65	734.7	308.9	425.8	0.42	876.4	256.6	619.8	0.29	562.0	286.6	275.4	0.51	803.9	286.6	517.3	0.36	1,091.7	377.2	714.5	0.35	859.8	280.6	579.2	0.33	778.9	437.2	341.7	0.56
66	549.7	316.4	233.3	0.58	435.1	263.6	171.5	0.61	742.5	487.6	254.9	0.66	667.7	343.9	323.8	0.52	554.3	359.3	195.5	0.65	583.0	355.4	227.6	0.61	764.7	451.9	312.3	0.59
67	997.9	1,013.2	-15.3	1.02	915.1	744.6	170.5	0.81	965.9	627.0	338.9	0.65	710.9	824.1	-113.2	1.16	621.5	678.9	-57.4	1.09	993.2	617.8	375.4	0.62	1,211.2	610.2	601.0	0.50
68	616.9	778.5	-161.6	1.26	442.7	913.2	-470.5	2.06	656.3	861.3	-205.0	1.31	700.4	712.1	-11.7	1.02	552.1	912.3	-360.2	1.65	739.3	783.2	-43.9	1.16	1,018.1	803.3	214.8	0.78
69	825.8	682.2	143.6	0.83	780.8	562.4	218.4	0.72	535.1	562.7	-27.6	1.05	1,209.8	1,035.3	174.5	0.86	727.0	829.0	-102.0	1.14	844.6	746.6	98.0	0.88	991.3	684.6	306.7	0.69
70	724.5	614.8	109.7	0.85	955.3	723.0	232.3	0.76	1,027.3	754.7	272.6	0.73	615.7	590.1	25.1	0.96	914.9	650.0	264.9	0.71	1,287.8	637.4	650.4	0.50	1,006.5	694.3	312.2	0.69
71	1,229.3	962.5	266.8	0.78	890.3	899.9	-9.6	1.01	827.7	1,017.7	-190.0	1.23	1,102.6	978.9	123.7	0.81	896.5	888.3	8.2	0.99	693.8	742.6	-48.8	1.07	1,119.5	791.1	328.4	0.71
72	1,091.4	818.3	273.1	0.75	833.6	1,063.7	-230.1	1.28	801.2	845.7	-44.5	1.06	1,061.5	972.9	88.6	0.92	877.5	893.6	-16.1	1.02	869.3	831.7	37.6	0.96	1,430.6	789.5	641.1	0.55
73	554.4	639.9	-85.5	1.15	436.9	616.3	-179.4	1.41	491.4	616.7	-125.3	1.25	489.7	685.9	-196.2	1.40	581.7	757.7	-176.0	1.30	580.9	730.8	-149.9	1.26	915.5	851.7	63.8	0.93
74	911.2	943.0	-31.8	1.03	1,159.1	1,016.4	142.7	0.88	1,282.5	1,276.6	5.9	1.00	724.1	964.9	-240.8	1.33	850.9	916.8	-65.9	1.08	678.9	737.6	-58.7	1.09	1,343.1	785.6	557.5	0.58
75	726.0	752.2	-26.2	1.04	834.3	892.8	-58.5	1.07	962.9	892.9	70.0	0.93	647.2	722.5	-25.3	1.12	827.9	790.2	37.7	0.95	1,097.6	750.9	346.7	0.68	825.6	958.5	-132.9	1.16
76	803.7	868.4	-64.7	1.08	794.6	846.4	-51.8	1.07	1,112.8	909.7	203.1	0.82	1,120.0	947.3	172.7	0.85	917.2	922.5	-5.3	0.99	1,009.0	788.2	220.8	0.78	1,794.0	769.3	1,024.7	0.43
Total	11,927.5	10,164.2		0.85	11,547.6	10,045.7		0.87	12,101.5	10,709.0		0.88	12,182.9	10,396.9		0.85	11,996.0	10,389.5		0.87	12,495.5	9,501.5		0.76	15,726.8	10,157.6		0.65
Average	795.2	677.6			769.8	669.7			806.8	713.9			812.2	693.1			799.8	692.6			833.0	633.4			1,048.5	677.2		

Year \ Month	Aug.				Sep.				Oct.				Nov.				Dec.				Total			
	Actual	Estimated	Deduction	Ratio	Actual	Estimated	Deduction	Ratio	Actual	Estimated	Deduction		Actual	Estimated	Deduction	Ratio	Actual	Estimated	Deduction	Ratio	Actual	Estimated	Deduction	Ratio
1962	744.2	514.7	229.5	0.69	516.7	390.1	126.1	0.76	580.1	429.5	150.6	0.74	741.2	499.6	241.6	0.67	1,008.7	737.6	271.1	0.73	8,989.4	5,579.8	3,409.6	0.62
63	825.7	513.3	311.9	0.62	479.6	406.2	73.4	0.85	413.3	457.9	-44.6	1.11	881.1	509.3	371.8	0.58	763.9	379.9	384.0	0.49	9,791.0	6,547.4	3,243.6	0.67
64	1,241.6	516.5	725.1	0.42	694.4	402.7	291.7	0.58	963.7	369.0	594.7	0.38	661.1	325.1	336.0	0.49	999.5	307.9	691.6	0.31	8,895.3	4,689.8	4,205.5	0.53
65	871.4	496.0	325.4	0.60	504.2	406.1	98.1	0.81	574.3	388.4	185.9	0.68	1,131.2	377.9	753.3	0.33	798.5	412.5	386.0	0 52	9,537.0	4,314.6	5,222.4	0.45
66	634.1	385.0	249.1	0.60	577.1	389.6	132.5	0.75	596.9	427.0	169.9	0.72	942.9	710.2	232.7	0.75	1,590.0	2,658.1	-1,068.1	1.67	8,583.0	7,148.0	1,435.0	0.83
67	922.8	592.7	330.1	0.64	487.8	507.3	-19.5	1.04	495.6	529.0	-33.4	1.07	940.0	1,289.4	349.4	1.37	794.3	987.8	-193.5	1.24	10,756.2	9,122.0	1,034.2	0.90
68	496.3	737.1	-240.8	1.49	459.0	775.2	-316.2	1.69	833.3	714.1	119.2	0.86	1,173.7	832.8	340.4	0.71	749.1	657.7	91.4	0.89	8,436.7	9,480.8	-1,044.1	1.12
69	819.6	763.7	55.9	0.93	442.6	779.7	-337.1	1.76	874.2	899.2	-25.0	1.03	949.0	783.8	165.2	0.83	799.9	641.2	158.7	0.80	9,799.7	8,970.4	829.3	0.92
70	930.7	641.7	289.0	0.69	762.2	642.1	120.1	0.84	900.7	775.5	125.2	0.26	1,381.4	830 9	550.5	0.60	1,067.5	792.2	275.3	0.74	11,574.0	8,346.7	3,227.3	0.72
71	700.4	782.7	-82.3	1.12	498.4	701.9	-203.5	1.41	686.7	885.7	-199.0	1.29	838.1	808.3	29.8	0.96	783.3	704.3	79.0	0.90	10,266.6	10,163.9	102.7	0.99
72	766.6	735.8	30.8	0.96	754.8	728.2	26.6	0.96	475.8	678.6	-202.8	1.43	860.6	733.2	127.4	0.85	946.3	703.1	243.2	0.74	10,769.2	9,794.3	974.9	0.91
73	927.2	897.3	29.9	0.97	688.0	944.4	-256.4	1.37	802.2	1,007.2	-205.0	1.26	857.9	896.4	-38.5	1.14	902.5	924.5	-22.0	1.02	8,228.3	9,568.8	-1,340.5	1.16
74	782.7	755.1	27.1	0.96	590.6	793.3	-202.7	1.34	684.1	879.8	-195.7	1.29	993.6	864.9	128.7	0.87	876.5	762.8	113.7	0.80	10,877.3	10,696.8	180.5	0.92
75	951.4	887.2	64.2	0.93	713.5	818.1	-104.6	1.14	839.5	862.4	-22.9	0.97	1,478.7	820.2	658.5	0.55	1,999.4	1,059.2	940.2	0.53	11,904.0	10,207.1	1,696.9	0.86
76	915.7	728.6	187.1	0.80	601.5	716.4	114.9	1.19	539.3	847.5	-308.2	1.57	494.9	704.0	-209.1	1.42	362.4	712.8	-350.4	1.97	10,465.1	9,761.1	704.0	0.93
Total	12,479.9	9,947.4		0.80	8,714.9	9,401.3		1.08	10,859.1	10,150.3		0.99	14,324.9	10,986.0		0.77	14,441.8	12,441.6		0.86	148,172.8	124,291.5		0.84
Average	832.0	663.2			581.0	626.8			684.0	676.7			955.0	732.4			962.8	829.4			9,878.2	8,286.0		

Fig. VI - 2 (1) Comparison between Actual Run-off and Estimated Run-off

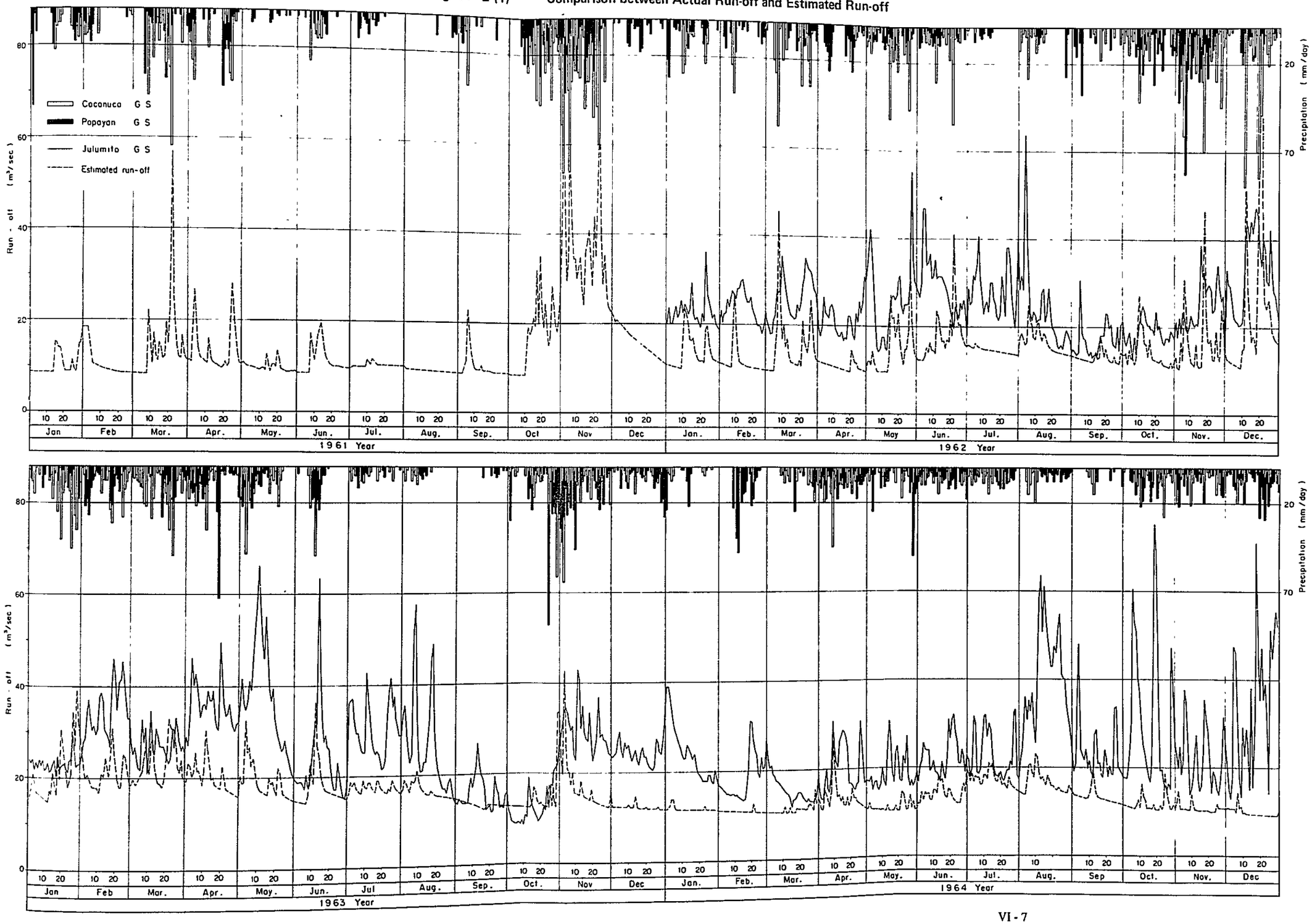
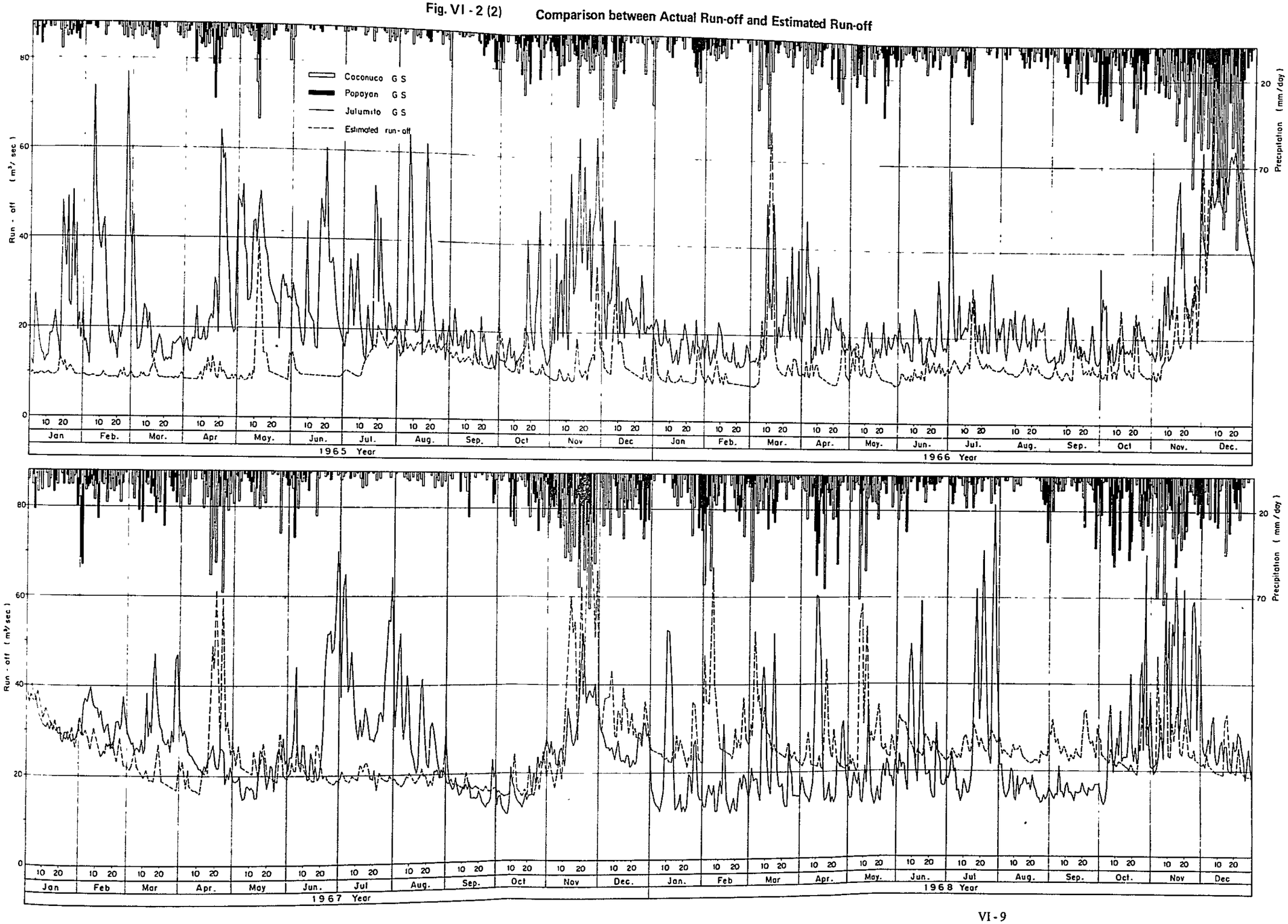


Fig. VI - 2 (2) Comparison between Actual Run-off and Estimated Run-off



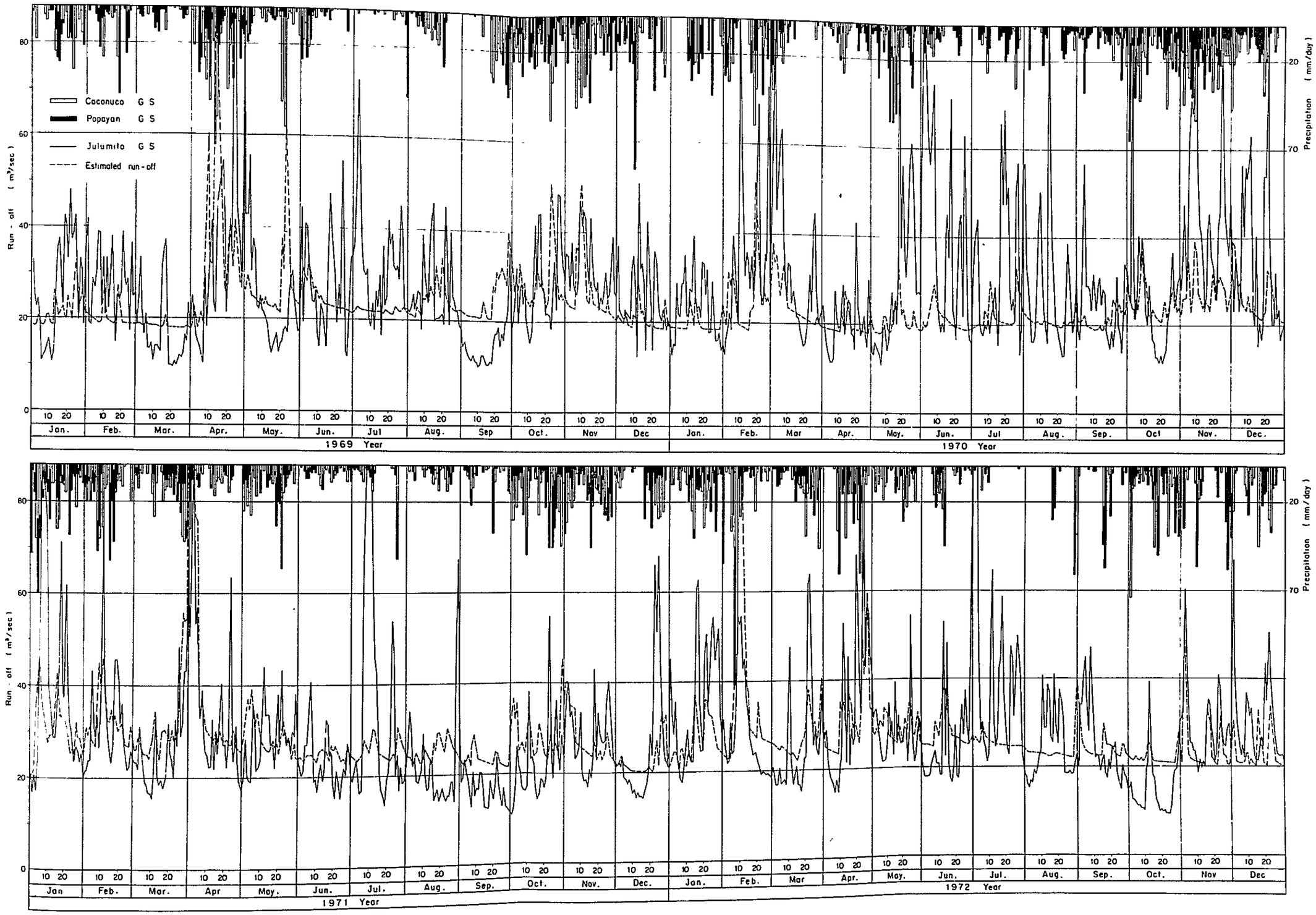

Coconuco G S
Popayan G S
Julumito G S
Estimated run-off
Run - off (m³/sec)
Precipitation (mm/day)
0
20
40
60
80
70
10 20
Jan.
Feb.
Mar.
Apr.
May.
Jun.
Jul
Aug.
Sep
Oct.
Nov
Dec
1969 Year
1970 Year
1971 Year
1972 Year

Fig. VI - 2 (3) Comparison between Actual Run-off and Estimated Run-off

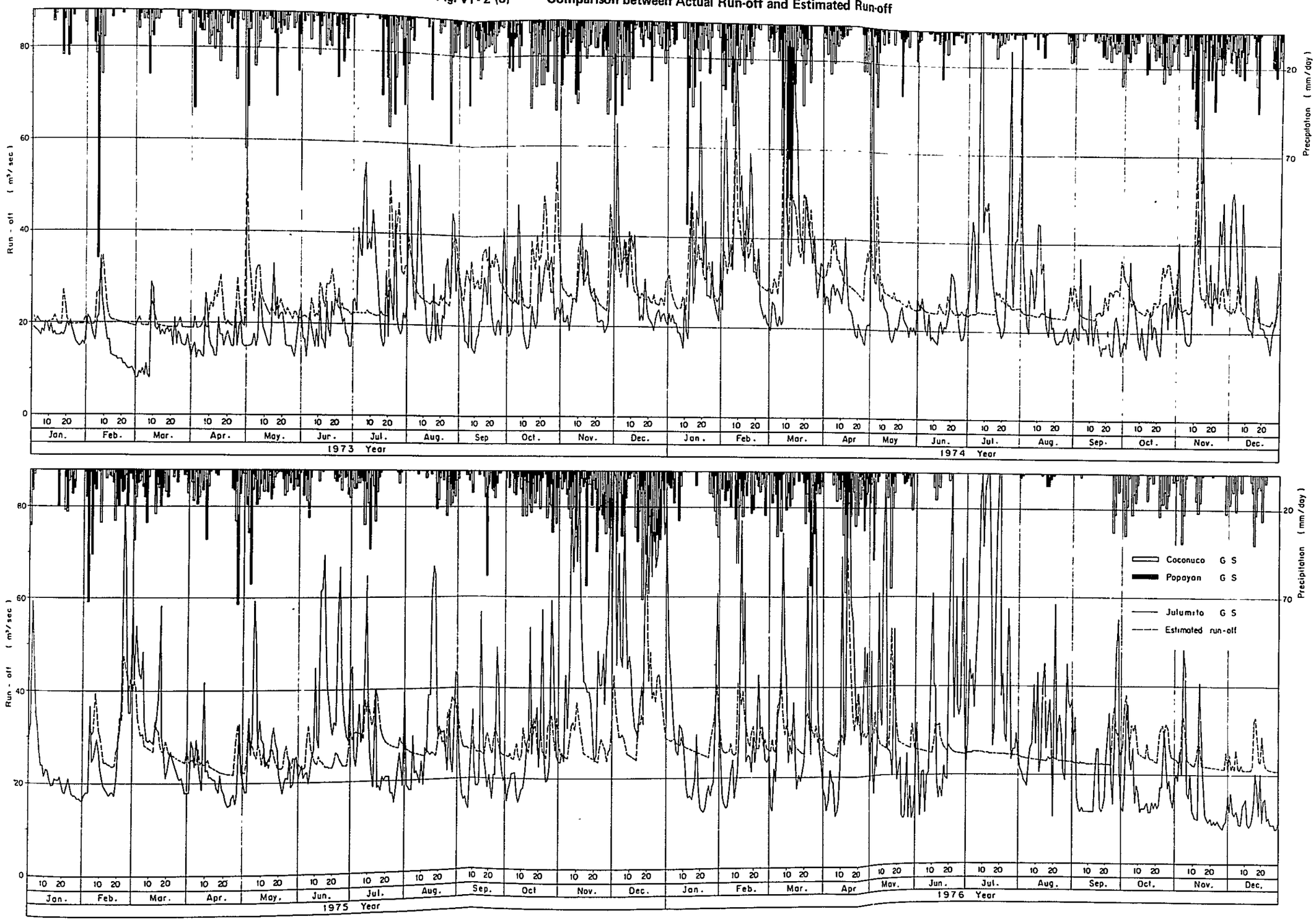
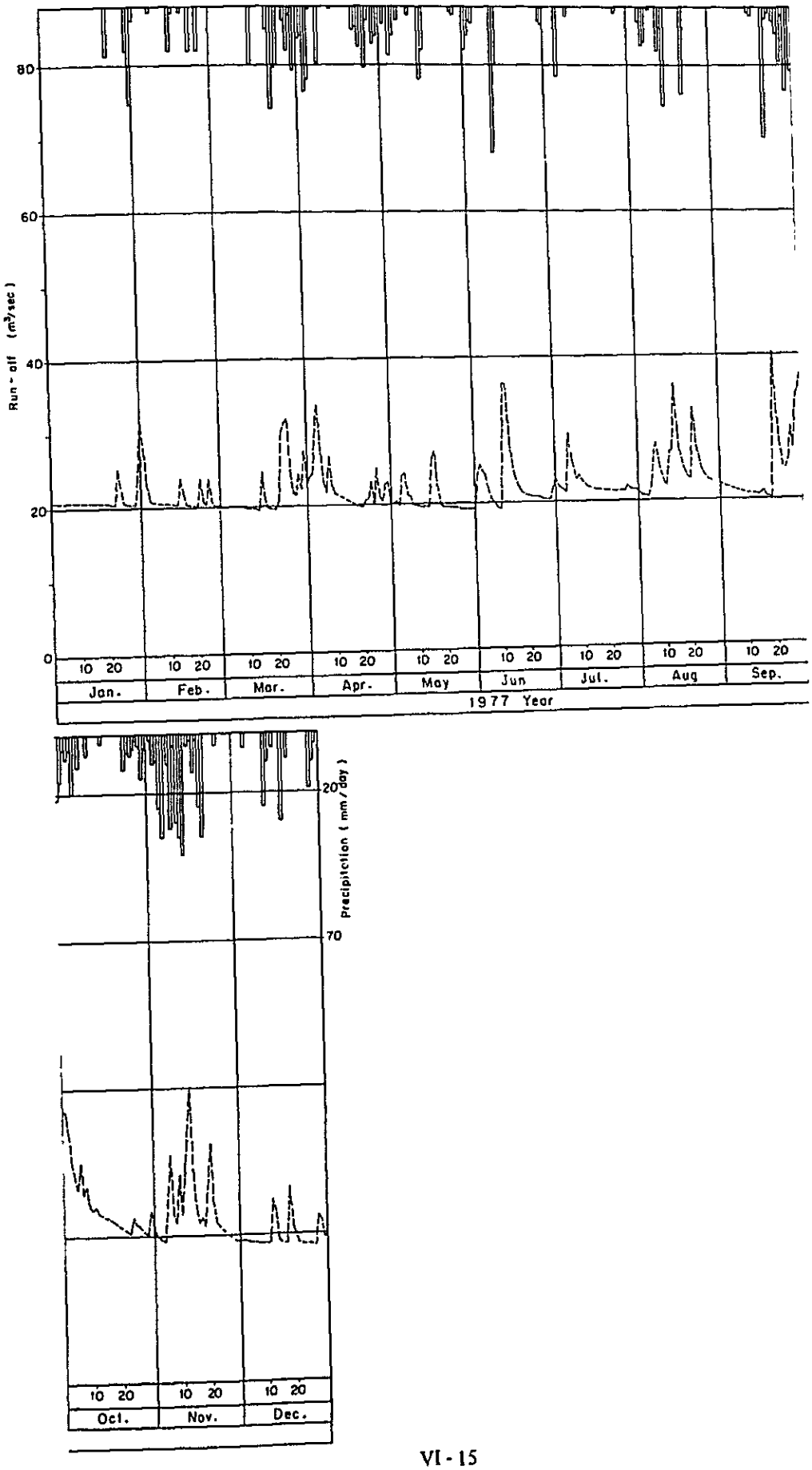


Fig. VI-2 (4) Comparison between Actual Run-off and Estimated Run-off



APPENDIX—Ⅶ

地 質 調 査 工 事 結 果

VII - 1 GEOLOGIC LOG OF DRILL HOLE

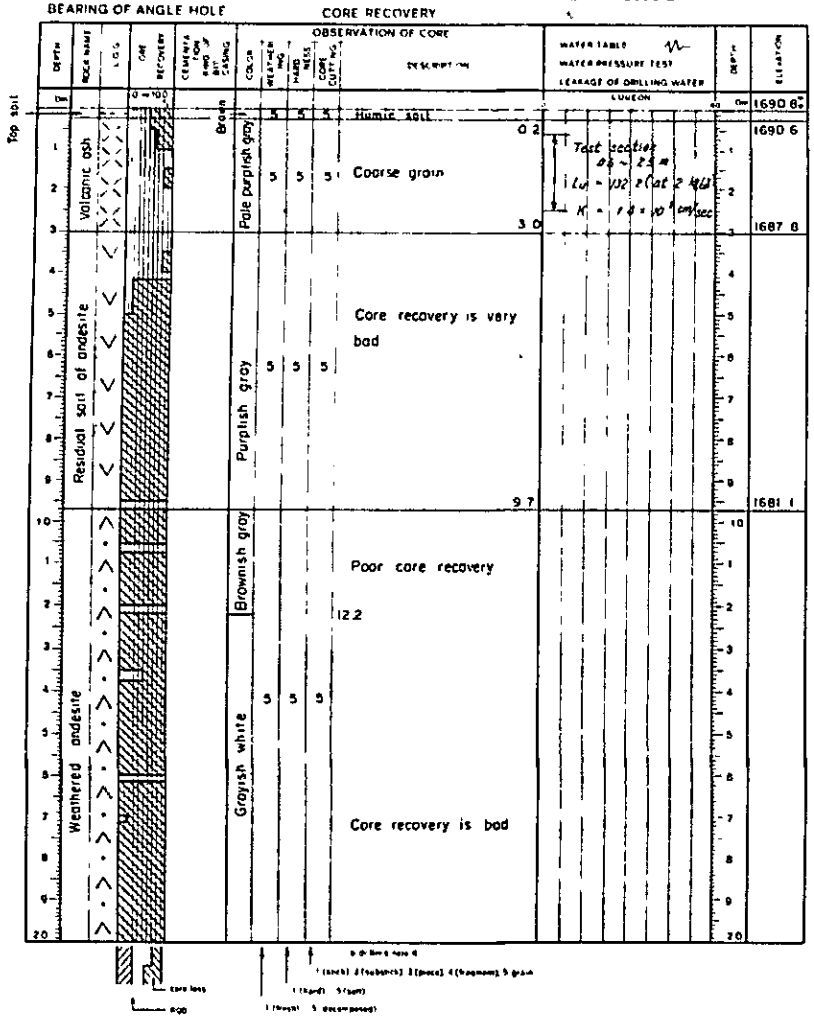
LIST OF DRILL HOLE

Location	Hole name	Length(m)	Elevation	Coordinates		Final size of hole	Permeability test
				X	Y		
Dam	DH-206	40m	1690764	1046,595330	767,991770	N X	○
	DH-207	40m	1718.145	1046,501.832	767,970031	N X	○
	DH-208	30m	1679 247	1046,698.464	768,068340	N X	○
	DH-209	40m	1724.202	1046,746.121	768,137284	N X	○
	DH-210	20m	1647 552	1046,666.218	768,004564	N X	○
	DH-211	20m				N X	○
	DH-212	20m	1647.249	1046,694303	767,986028	N X	○
	DH-213	20m	1646.584	1046,616.730	768,051461	N X	○
	DH-214	50m				N X	○
	Sub. T	280m					
Dike	DDH-101	25m	1715.173			N X	—
	DDH-201	25m	1714.995			N X	—
	DDH-202	25m	1712.161			N X	—
	Sub T	75m					
Intake	DH- 8	50m	1698.674	1046,666876	767,750214	N X	—
	Sub. T	50m					
Surgetank	DH- 9	70m	1718.399			N X	—
	Sub. T	70m					
Cauca Diversion Dam	CDH- 1	30m	1764.286			N X	—
	CDH- 2	30m	1763.787			N X	—
	CDH- 3	10m	1756253			N X	—
	CDH- 4	30m	1756.817			N X	—
	CDH- 5	30m	1755880			N X	—
	Sub. T	130m					
Borrow Area	BDH- 1	40m	1738.059	1046,099641	767,350251	N X	—
	Sub. T	40m					
Qwarry Site	QDH- 1	100m	1730.197			B X	—
	Sub. T	100m					
Total		745m	21 holes				

GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-206 (SHEET 1 OF 2)

LOCATION	Dam site left bank	DEPTH OF HOLE	40.0 m	COMMENCED	14 Jul '79
ELEVATION	1690.764 m	DEPTH OF OVERBURDEN	9.7 m	COMPLETED	3 Aug '79
COORDINATE		LENGTH OF ROCK DRILLING	30.3 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		



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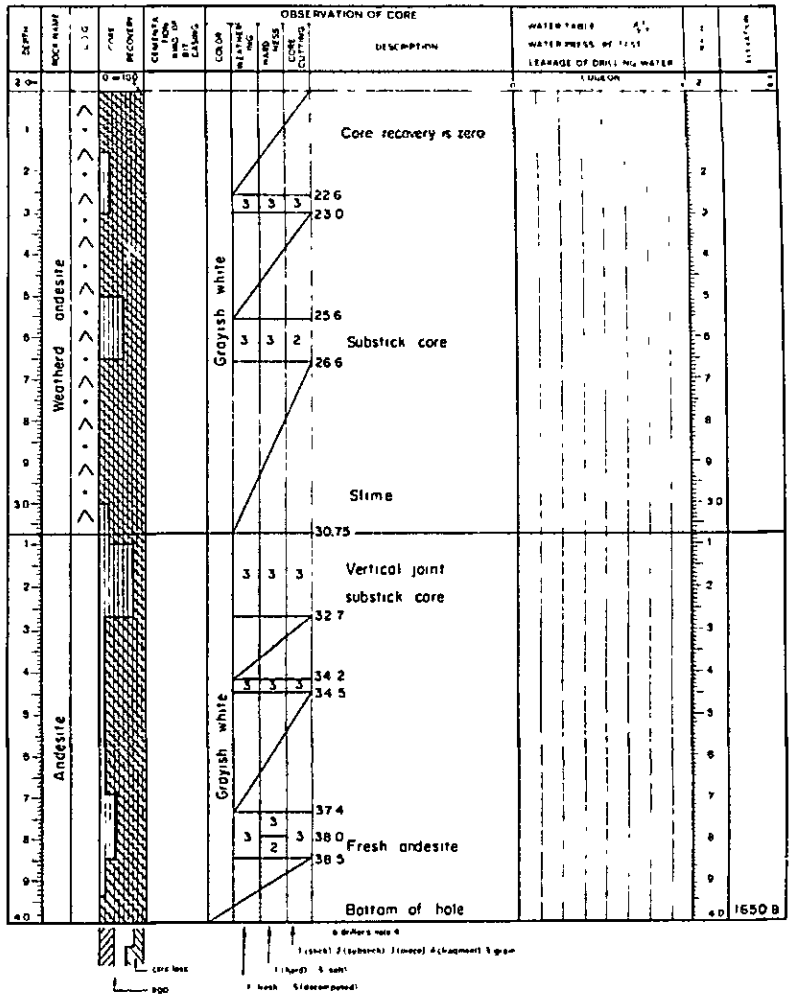
TOKYO JAPAN

GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-206 (SHEET 2 OF 2)

LOCATION	Dam site left bank	DEPTH OF HOLE	40.0 m	COMMENCED	14 Jul '79
ELEVATION	1690.764 m	DEPTH OF OVERBURDEN	9.7 m	COMPLETED	3 Aug '79
COORDINATE		LENGTH OF ROCK DRILLING	30.3 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		



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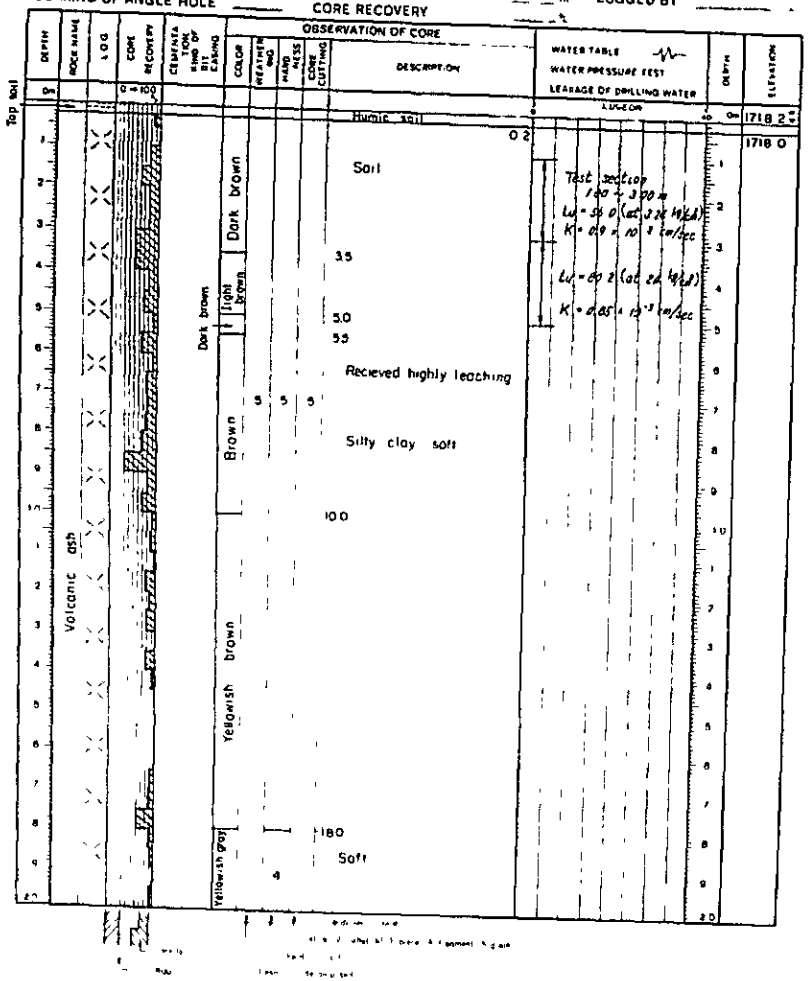
GEOLOGIC LOG OF DRILL HOLE

Page 3

Julumito PROJECT

HOLE No DH-207 SHEET 1 OF 2

LOCATION	Dam site left bank	DEPTH OF HOLE	40.0 m	COMMENCED	14 Jul - '79
ELEVATION	1718.145 m	DEPTH OF OVERBURDEN	27.0 m	COMPLETED	25 Jul - '79
COORDINATE		LENGTH OF ROCK DRILLING	13.0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		



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GEOLOGIC LOG OF DRILL HOLE

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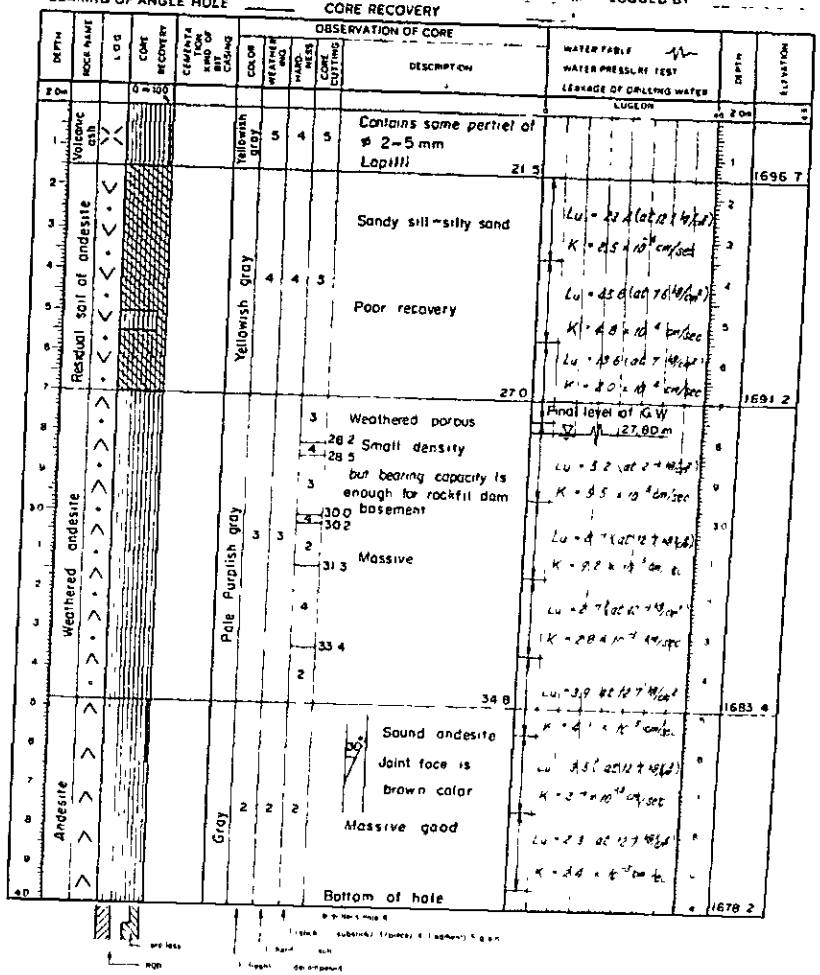
Julumito PROJECT

HOLE No DH-207 SHEET 2 OF 2

LOCATION	Dam site left bank	DEPTH OF HOLE	40.0 m	COMMENCED	14 Jul - '79
ELEVATION	1718.145 m	DEPTH OF OVERBURDEN	27.0 m	COMPLETED	25 Jul - '79
COORDINATE		LENGTH OF ROCK DRILLING	13.0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		



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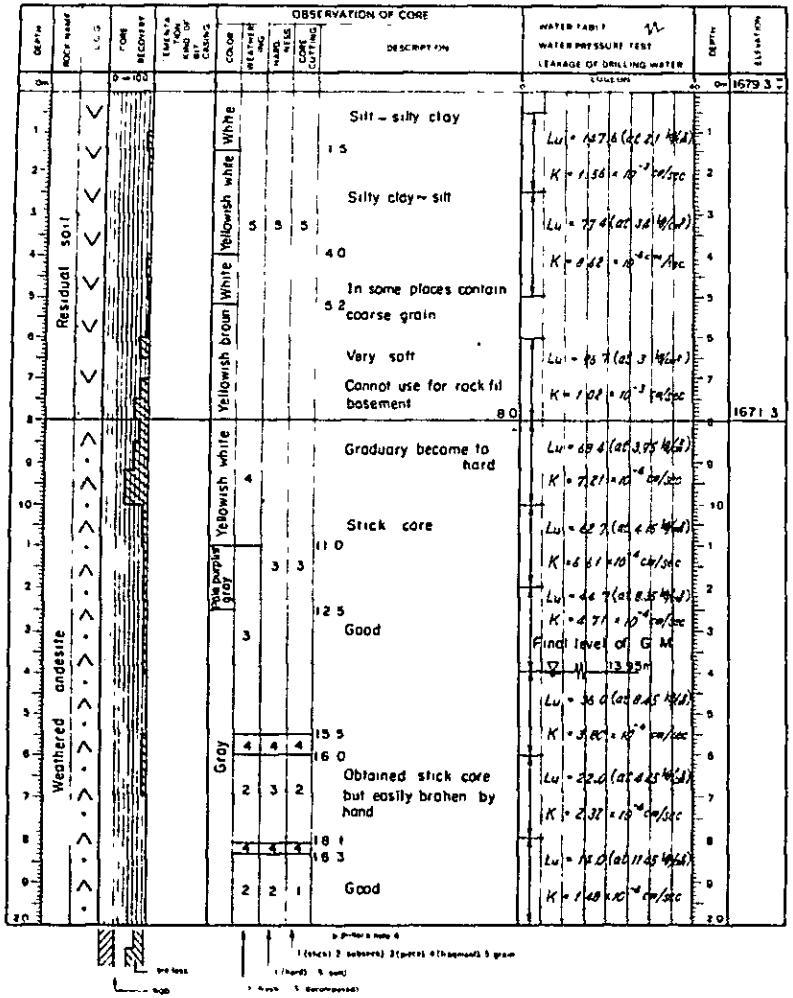
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-208 (SHEET 1 OF 2)

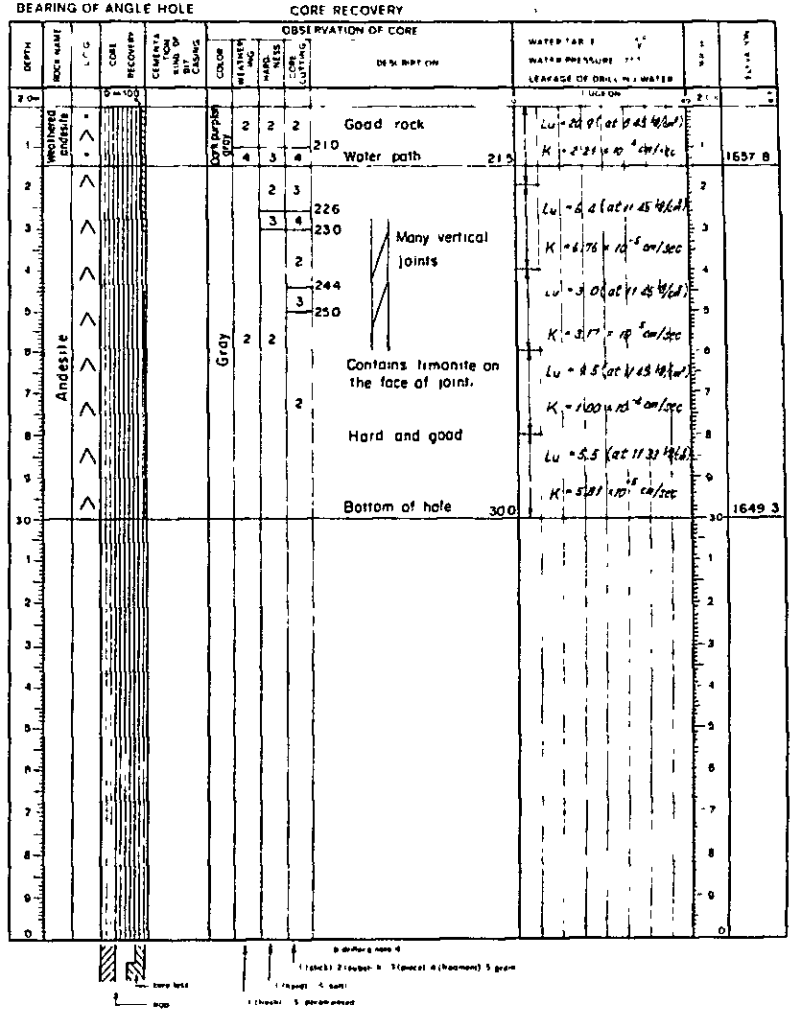
LOCATION	Dam site left bank	DEPTH OF HOLE	30.0 m	COMMENCED	19 Jul '79
ELEVATION	1679.247 m	DEPTH OF OVERBURDEN	8.0 m	COMPLETED	31 Jul '79
COORDINATE		LENGTH OF ROCK DRILLING	22.0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY			



GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-208 (SHEET 2 OF 2)

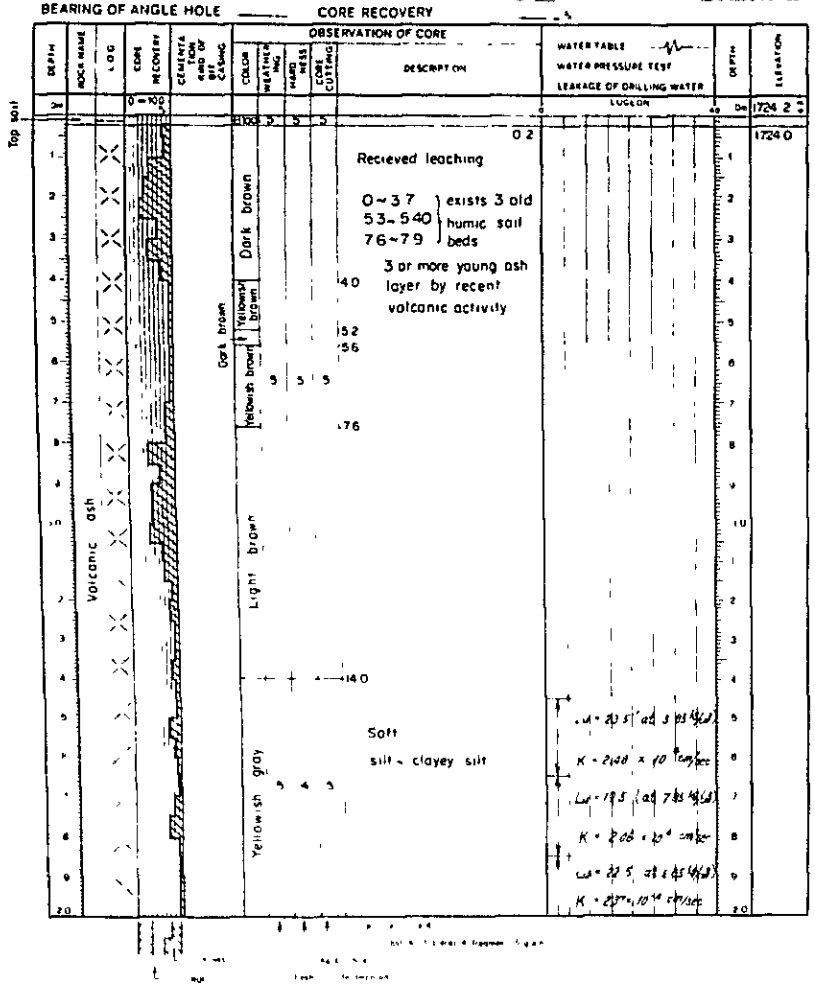
LOCATION	Dam site left bank	DEPTH OF HOLE	30.0 m	COMMENCED	19 Jul '79
ELEVATION	1679.247 m	DEPTH OF OVERBURDEN	8.0 m	COMPLETED	31 Jul '79
COORDINATE		LENGTH OF ROCK DRILLING	22.0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY			



GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH 209 SHEET 1 OF 2

LOCATION	Dam site right bank	DEPTH OF HOLE	40.0 m	COMMENCED	25-Jun-'79
ELEVATION	1724.202 m	DEPTH OF OVERBURDEN	— m	COMPLETED	13-Jul-'79
COORDINATE		LENGTH OF ROCK DRILLING	— m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	— m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	— %		

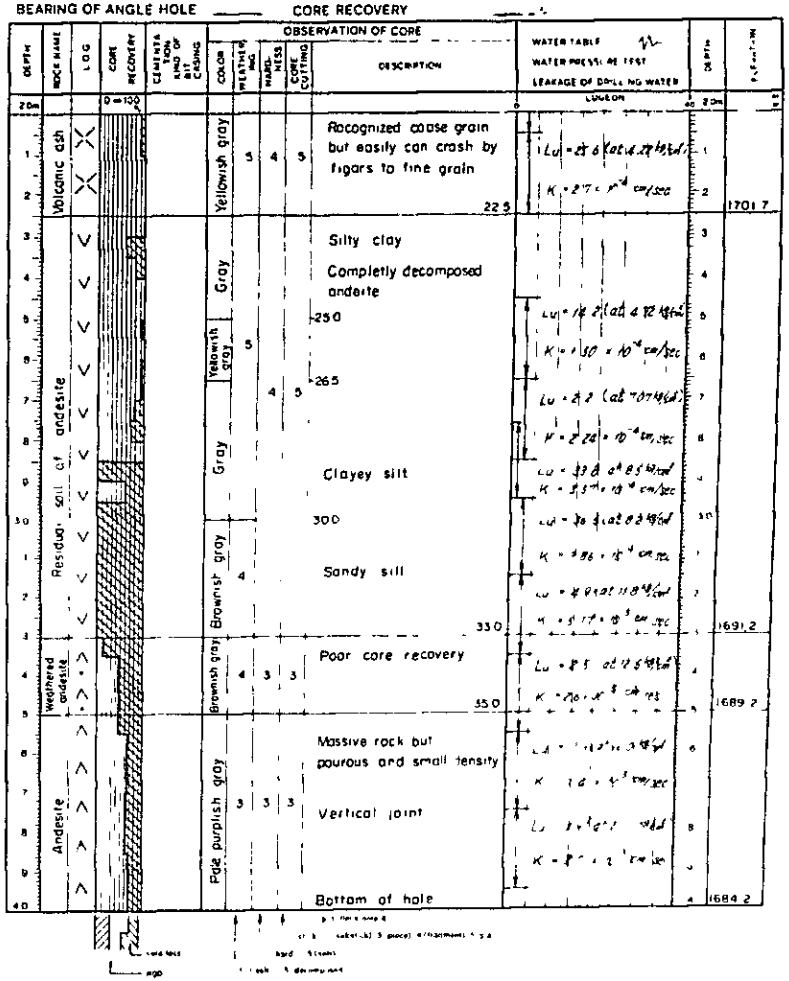


ELECTRIC POWER DEVELOPMENT CO. LTD
TOKYO JAPAN

GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-209 SHEET 2 OF 2

LOCATION	Dam site right bank	DEPTH OF HOLE	40.0 m	COMMENCED	25-Jun-'79
ELEVATION	1724.202 m	DEPTH OF OVERBURDEN	35.0 m	COMPLETED	13-Jul-'79
COORDINATE		LENGTH OF ROCK DRILLING	5.0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	— m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	— %		



ELECTRIC POWER DEVELOPMENT CO. LTD

GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-210 SHEET 1 OF 1

LOCATION: Dam site river bed
ELEVATION: 1647.552 m
COORDINATE:
ANGLE FROM HORIZONTAL: 90°
BEARING OF ANGLE HOLE:

DEPTH OF HOLE: 20.0 m
DEPTH OF OVERBURDEN: 0.5 m
LENGTH OF ROCK DRILLING: 19.5 m
TOTAL LENGTH OF CORE: m
CORE RECOVERY:

COMMENCED: 11-Jul-'79
COMPLETED: 19-Jul-'79
DRILLED BY:
LOGGED BY:

OBSERVATION OF CORE

Depth (m)	Rock name	Log	Core recovery	Cementation and end of casing	Color	Weathering	Hardness	Core cutting	Description	Water table / Water pressure test / Leakage of drilling water (Lu/K)	Depth (m)	Elevation (m)
			0–100									1647.6
Top soil					Black	5	5	5	Humic soil 0.5			1647.1
1	Weathered andesite			Casing 0.5	Yellowish white	4	4	4	Hardly decomposed	Final level of ground water 1.6m; Lu = 66.0 (at 2.2 kg/cm²); K = 4.85 × 10⁻⁴ cm/sec	1	
2											2	
3							3		Crack interval 5 ~ 10 cm	Lu = 31.9 (at 3.2 kg/cm²); K = 3.37 × 10⁻⁴ cm/sec	3	
4									4.0		4	
5					Whitish gray	3		3			5	
6							2		Good	Lu = 42.7 (at 3.2 kg/cm²); K = 5.25 × 10⁻⁴ cm/sec	6	
6.5												1641.1
7	Andesite					3	2	3			7	
8						3	3	4	8.0 / 8.4	Lu = 29.7 (at 5.2 kg/cm²); K = 3.03 × 10⁻⁴ cm/sec	8	
9						2	2	2	9.0		9	
9.5						3	3	4	Vertical joint; Good	Lu = 0; K = 0		
10											10	
11									Vertical joint	Lu = 0; K = 0	11	
12											12	
13									Obtained good stick core	Lu = 1.8 (at 10.2 kg/cm²); K = 1.90 × 10⁻⁵ cm/sec	13	
14					Gray	2	2	1	Good core recovery	Lu = 8.5 (at 10.2 kg/cm²); K = 2.66 × 10⁻⁵ cm/sec	14	
15									Good	Lu = 2.5 (at 10.2 kg/cm²); K = 2.6 × 10⁻⁵ cm/sec	15	
16									Vertical joint		16	
17											17	
18											18	
19											19	
20				NX					Bottom of hole		20	1627.6

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GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-211 SHEET 1 OF 1

LOCATION: Dam site
ELEVATION: m
COORDINATE:
ANGLE FROM HORIZONTAL:
BEARING OF ANGLE HOLE:

DEPTH OF HOLE: 20.0 m
DEPTH OF OVERBURDEN: 1.7 m
LENGTH OF ROCK DRILLING: 18.3 m
TOTAL LENGTH OF CORE: m
CORE RECOVERY:

COMMENCED:
COMPLETED:
DRILLED BY:
LOGGED BY:

OBSERVATION OF CORE

Depth (m)	Rock name	Log	Core recovery	Cementation and end of casing	Color	Weathering	Hardness	Core cutting	Description	Water table / Water pressure test / Leakage of drilling water (Lu/K)	Depth (m)	Elevation (m)
Humus soil			0–100									
Top soil					Brownish gray	5	5	5	Colluvial soil 0.5			
1	Residual soil				Black	5	5	5	Old ground surface 0.6		1	
					Whitish gray	5	5	5	Silt 1.7			
2	Andesite										2	
3						3	3	4	Cracky	Lu = 176.4 (at 3.2 kg/cm²); K = 1.33 × 10⁻³ cm/sec	3	
4									4.0		4	
5								2	Good fresh andesite 5.0	Lu = 8.5 (at 3.2 kg/cm²); K = 6.9 × 10⁻⁴ cm/sec	5	
6								1	Vertical joint 6.0m, 8.1m, 8.4 ~ 8.7m	Lu = 6.7 (at 5.2 kg/cm²); K = 7.07 × 10⁻⁴ cm/sec	6	
7									7.0		7	
8								2		Lu = 0; K = 0 cm/sec	8	
9									9.0 Good		9	
10											10	
11					Gray	2	2	1	Vertical joint; Joint face is blackish brown	Lu = 6.9 (at 5.2 kg/cm²); K = 6.95 × 10⁻⁷	11	
12										Lu = 37.4 (at 10.4 kg/cm²); K = 3.95 × 10⁻⁴ cm/sec	12	
13											13	
14									14.0	Lu = 36.1 (at 10.4 kg/cm²); K = 3.81 × 10⁻⁴ cm/sec	14	
15								2			15	
16									16.0 Massive rock	Lu = 34.2 (at 10.4 kg/cm²); K = 3.61 × 10⁻⁴ cm/sec	16	
17								1	Good		17	
18										Lu = 31.4 (at 10.4 kg/cm²); K = 3.53 × 10⁻⁴ cm/sec	18	
19											19	
20									Bottom of hole		20	

ELECTRIC POWER DEVELOPMENT CO. LTD
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GEOLOGIC LOG OF DRILL HOLE

Jutumito PROJECT — HOLE No OH-212 (SHEET 1 OF 1)

LOCATION	Dam site	DEPTH OF HOLE	20.0 m	COMMENCED	17-Aug-'79
ELEVATION	1647.249 m	DEPTH OF OVERBURDEN	14.8 m	COMPLETED	31-Aug-'79
COORDINATE		LENGTH OF ROCK DRILLING	5.2 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		

OBSERVATION OF CORE

Depth (m)	Rock name	Color	Weathering	Hardness	Core cutting	Description
0	Top soil	Black	5	5	5	Humic soil
0.2		Brownish gray	5	5	5	Colluvial soil
2.9	River bed gravel					Core recovery is poor
						Slightly obtained andesite gravel
			5	4	5	Gravel size 10~20 cm
						Poor recovery
14.8	Andesite	Pale purplish gray	3	3	4	
15.0						No core
16.0			3	3	3	Slightly weathered rock crackface is brown
						Good rock
20						Bottom of hole

WATER TABLE / WATER PRESSURE TEST / LEAKAGE OF DRILLING WATER — LUGEON

Final level of G.W. 1.30 m

Lu = 2.9 (at 10.2 kg/cm²)
K = 1.2 × 10⁻⁵ cm/sec

Lu = 2.6 (at 10.15 kg/cm²)
K = 1.69 × 10⁻⁵ cm/sec

Elevation: 1647.3 m; 1644.4; 1632.5; 1627.3

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GEOLOGIC LOG OF DRILL HOLE

Jutumito PROJECT — HOLE No DH 213 (SHEET 1 OF 1)

LOCATION	Dam site, river bed	DEPTH OF HOLE	20 m	COMMENCED	
ELEVATION	1646.584 m	DEPTH OF OVERBURDEN	11.9 m	COMPLETED	
COORDINATE		LENGTH OF ROCK DRILLING	8.1 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		

OBSERVATION OF CORE

Depth (m)	Rock name	Color	Weathering	Hardness	Core cutting	Description
0	Top soil	b br	5	5	5	Humic soil
0.4		Dark brown				Sandy silt
			3	5	5	Contained organic material
2.7	River deposit					
			5	5	5	Pebble and sand
						Core recovery is poor
4.8						Non recovery
6.0		Dark gray	5	4	4	φ 20cm andesite bolder
6.3						
6.5			5	5	5	
7.2						
7.8			5	5	5	
8.0			2	2	3	Bolder
8.5						
			5	5	5	
						Non recovery
10.4			2	2	3	Bolder
11.0						
11.9			5	5	5	Sand and gravel
	Weathered andesite	Pupish gray	4	4	3	Core recovery is poor decomposed
15.0						
	Andesite	Dark purplish gray	3	3	3	Obtained stick core
						Core recovery is about 80%
						Cracked horizontally
						Cannot be seen vertical joints
20						Bottom of hole

WATER TABLE / WATER PRESSURE TEST / LEAKAGE OF DRILLING WATER — LUGEON

Final level of G.W. 1.6 m

Lu = 2.9 (at 3.25 kg/cm²)
K₁ = 2.64 × 10⁻⁵ cm/sec

Lu = 1.01 (at 10.26 kg/cm²)

K = 1.06 × 10⁻⁵ cm/sec

Lu = 1.3 (at 10.26 kg/cm²)

K = 1.37 × 10⁻⁵ cm/sec

Lu = 0.9 (at 10.26 kg/cm²)

K₁ = 0.85 × 10⁻⁵ cm/sec

Elevation: 1646.6 m; 1643.9; 1634.7; 1631.6; 1626.6

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GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT HOLE No DH-214 SHEET 1 OF 3

LOCATION Dam site left bank
ELEVATION — m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 50 m
DEPTH OF OVERBURDEN m
LENGTH OF ROCK DRILLING m
TOTAL LENGTH OF CORE m
CORE RECOVERY

COMMENCED
COMPLETED
DRILLED BY
LOGGED BY

OBSERVATION OF CORE

DEPTH	ROCK NAME	LOG	CORE RECOVERY	COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION
	Top soil			Black	5	5	5	Humic soil
	Volcanic ash							Silty clay
								Soft
								Weathered volcanic ash
								recieved leaching
								Soft fine grain
				Yellowish brown	5	5	5	
								Silt
								Silty clay
								Brown
				Brown				

WATER TABLE
WATER PRESSURE TEST
LEAKAGE OF DRILLING WATER
LUGEON

ELECTRIC POWER DEVELOPMENT CO. LTD.
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GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT HOLE No DH-214 SHEET 2 OF 3

LOCATION Dam site left bank
ELEVATION — m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 50 m
DEPTH OF OVERBURDEN m
LENGTH OF ROCK DRILLING m
TOTAL LENGTH OF CORE m
CORE RECOVERY

COMMENCED
COMPLETED
DRILLED BY
LOGGED BY

OBSERVATION OF CORE

DEPTH	ROCK NAME	LOG	CORE RECOVERY	COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION
	Volcanic ash			Brown	5	4	5	Sandy silt
								23.0
	Residual soil			Yellowish gray	4	4	5	Weathered dacitic andesite recogniged fine mica fragment
								26.0
	Weathered andesite							Decomposed andesite Yellowish reddish gray poor core recovery
				Yellowish gray	4	4	5	
								34.5
	Andesite			Gray	3	3	3	Poor core recovery

WATER TABLE
WATER PRESSURE TEST
LEAKAGE OF DRILLING WATER
LUGEON

Final level of G.W. 28.8m

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GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-214 (SHEET 3 OF 3)

LOCATION	Dam site left bank	DEPTH OF HOLE	50 m	COMMENCED	
ELEVATION	m	DEPTH OF OVERBURDEN	m	COMPLETED	
COORDINATE		LENGTH OF ROCK DRILLING	m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		

OBSERVATION OF CORE

DEPTH | ROCK NAME | LOG | CORE RECOVERY | CEMENTATION TO FORM END OF BIT CASING | COLOR | WEATHERING | HARDNESS | CORE CUTTING | DESCRIPTION | WATER TABLE / WATER PRESSURE TEST / LEAKAGE OF DRILLING WATER | DEPTH | ELEVATION

DEPTH	ROCK NAME	COLOR	HARDNESS	CORE CUTTING	DESCRIPTION
0.0m	Andesite	Gray	3	3	Poor core recovery
50.0m					Bottom of hole

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GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-8 (SHEET 1 OF 3)

LOCATION	Intake	DEPTH OF HOLE	50.0 m	COMMENCED	3 Jul. '79
ELEVATION	1698.674 m	DEPTH OF OVERBURDEN	7.5 m	COMPLETED	13 Jul. '79
COORDINATE		LENGTH OF ROCK DRILLING	42.5 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		

OBSERVATION OF CORE

DEPTH | ROCK NAME | LOG | CORE RECOVERY | CEMENTATION TO FORM END OF BIT CASING | COLOR | WEATHERING | HARDNESS | CORE CUTTING | DESCRIPTION | WATER TABLE / WATER PRESSURE TEST / LEAKAGE OF DRILLING WATER | DEPTH | ELEVATION

DEPTH	ROCK NAME	COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION
0m						
1	Humus soil	Black	5	5	5	Organic origin
2.0						
3	Volcanic ash	Light brown	5	5	5	Redrived deposits soft fine grain
3.9						
4	Humus soil	Black	5	5	5	Old top soil
4.7						
6	Volcanic ash	Yellowish white	5	5	5	
7.5						
8.6	Andesite lava flow	Dark gray			3	Hard and massive good rock
9.0					2	
9.6						
10.5 ~ 12.8 m					3	vertical joint
13.0			2	2	2	
14.2					3	Many cracks
15.0					2	
15.8					3	Many cracks
					4	Crack face is brown exist water path
19.6					3	

DEPTH	ELEVATION
0m	1698.7
2	1696.7
3.9	1694.8
4.7	1694.0
7.5	1691.2

WATER TABLE: First level of GW 1.50m

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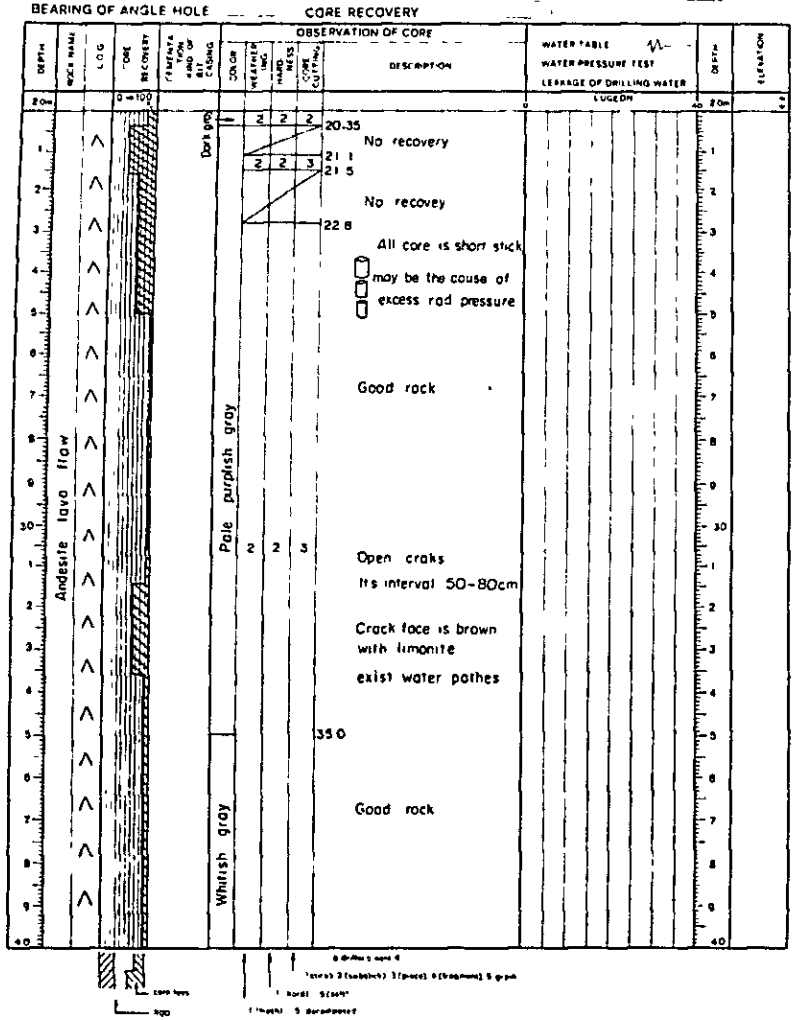
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-8 (SHEET 2 OF 3)

LOCATION	Intake	DEPTH OF HOLE	50.0 m	COMMENCED	3 Jul '79
ELEVATION	1698.674 m	DEPTH OF OVERBURDEN	7.5 m	COMPLETED	13 Jul '79
COORDINATE		LENGTH OF ROCK DRILLING	42.5 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY			



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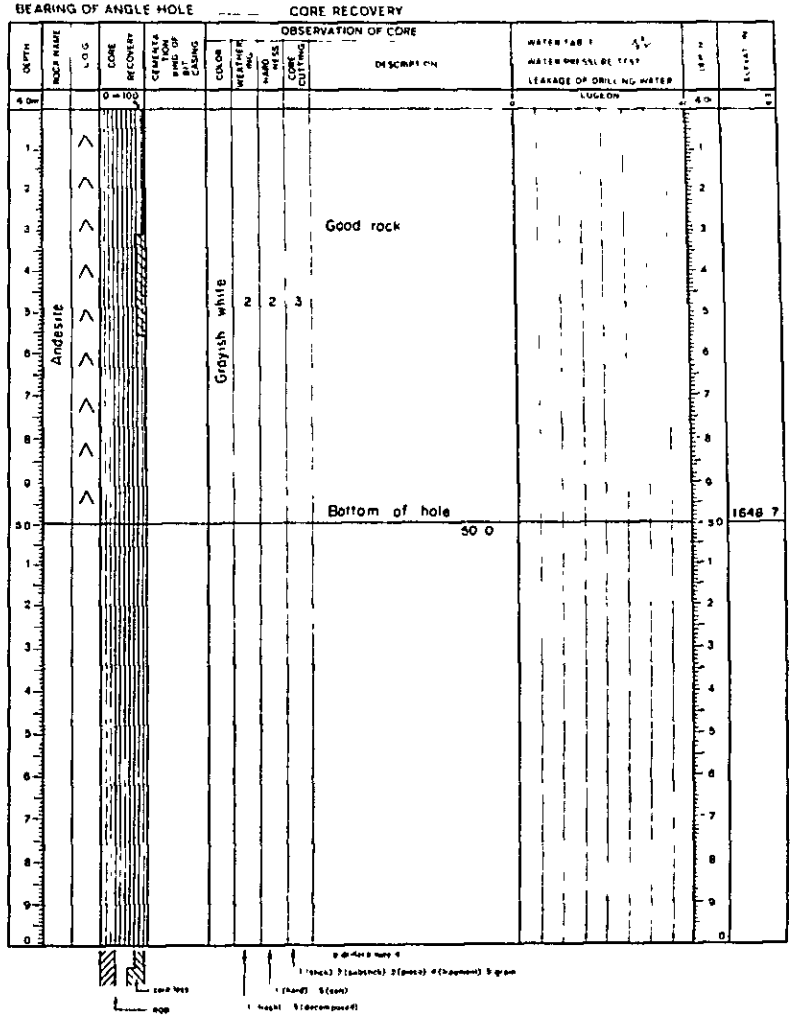
TOKYO JAPAN

GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-8 (SHEET 3 OF 3)

LOCATION	Intake	DEPTH OF HOLE	50.0 m	COMMENCED	3 Jul '79
ELEVATION	1698.674 m	DEPTH OF OVERBURDEN	7.5 m	COMPLETED	13 Jul '79
COORDINATE		LENGTH OF ROCK DRILLING	42.5 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY			



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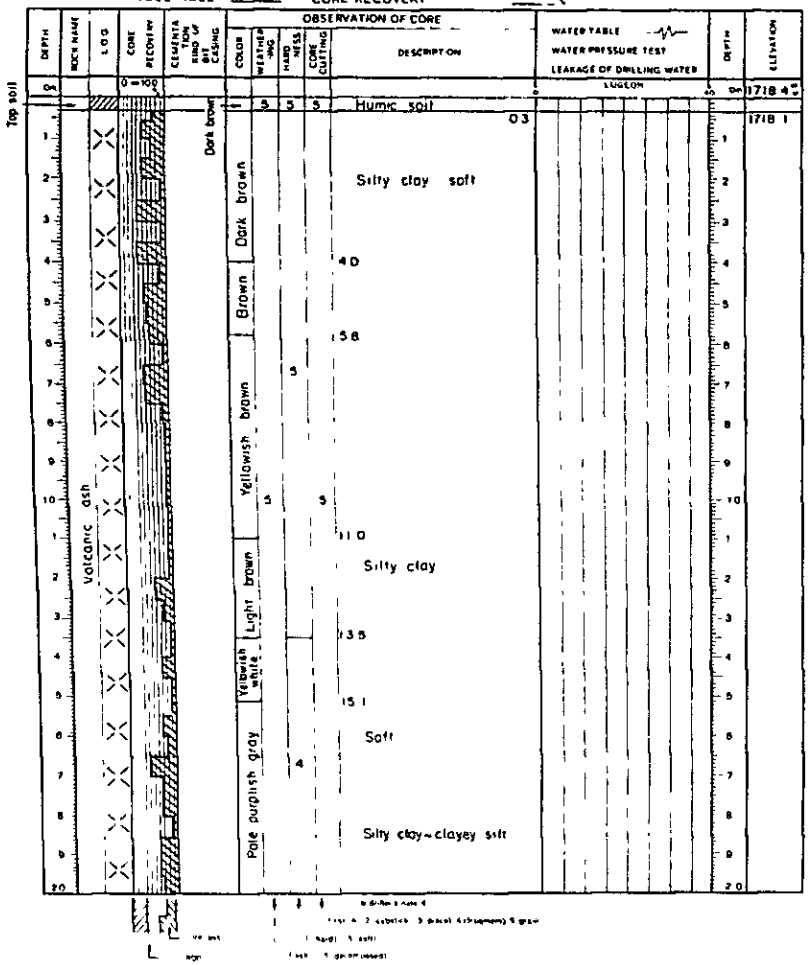
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-9 (SHEET 1 OF 4)

LOCATION	Surge-tank	DEPTH OF HOLE	70.0 m	COMMENCED	5-Jun-'79
ELEVATION	1718.399 m	DEPTH OF OVERBURDEN	32.7 m	COMPLETED	25-Jun-'79
COORDINATE		LENGTH OF ROCK DRILLING	37.3 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		



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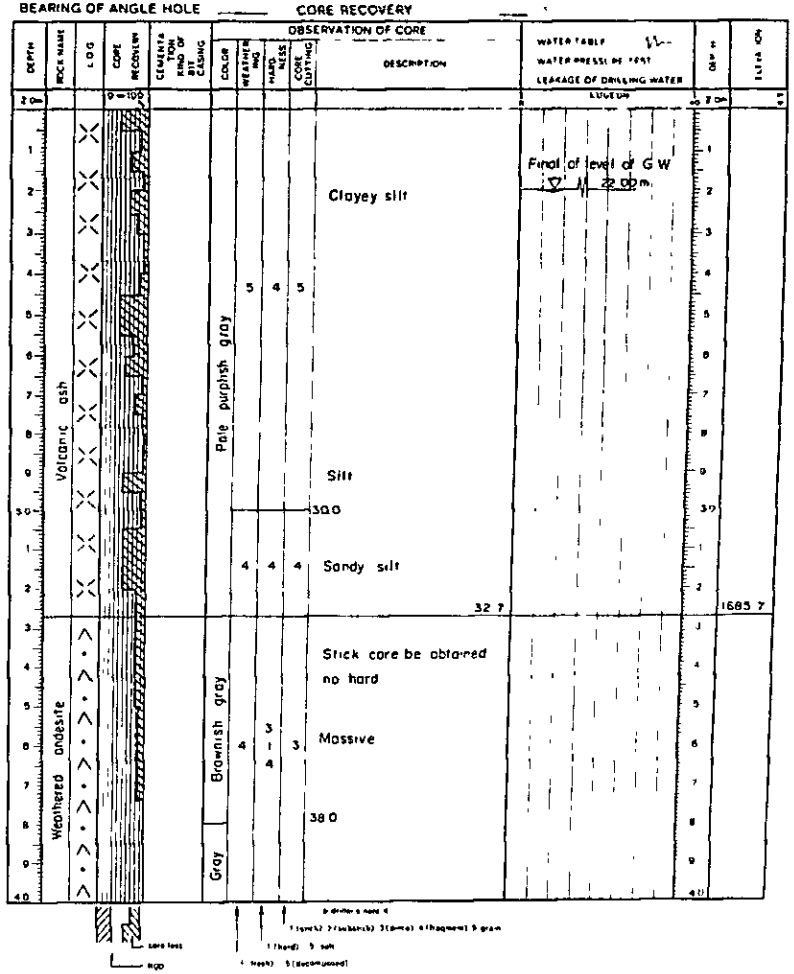
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-9 (SHEET 2 OF 4)

LOCATION	Surge-tank	DEPTH OF HOLE	70.0 m	COMMENCED	5-Jun-'79
ELEVATION	1718.399 m	DEPTH OF OVERBURDEN	32.7 m	COMPLETED	25-Jun-'79
COORDINATE		LENGTH OF ROCK DRILLING	37.3 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		



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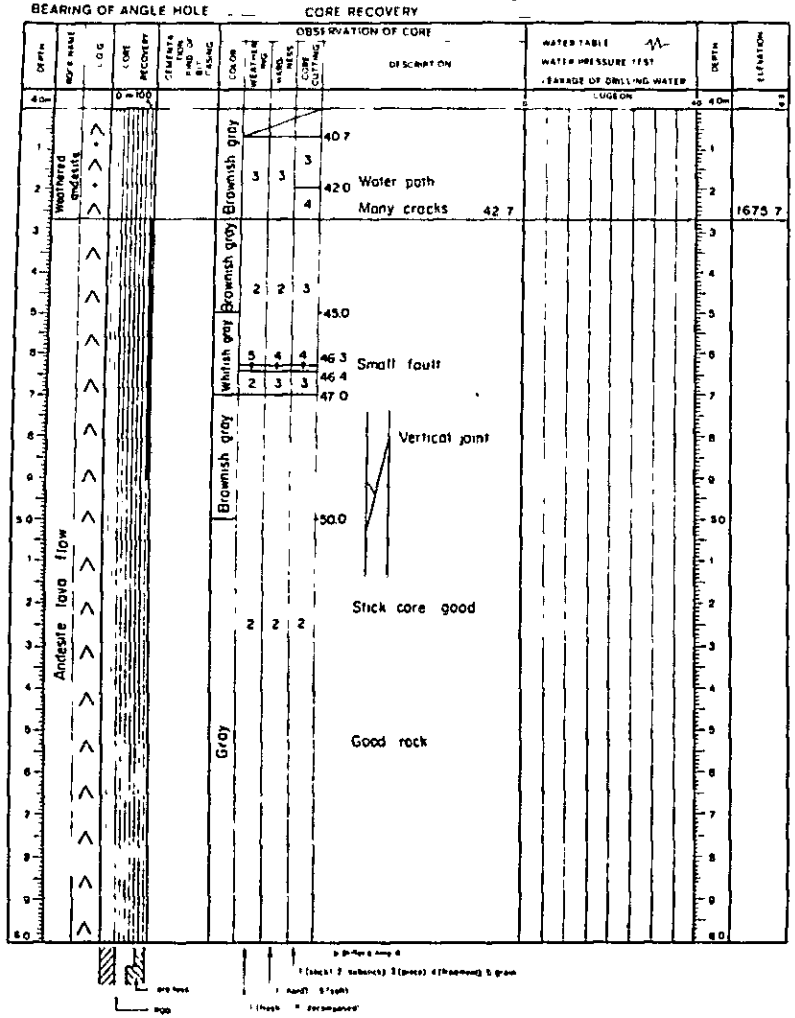
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-9 (SHEET 3 OF 4)

LOCATION	Surge-tank	DEPTH OF HOLE	70.0 m	COMMENCED	5 Jun '79
ELEVATION	1718.399 m	DEPTH OF OVERBURDEN	32.7 m	COMPLETED	25 Jun '79
COORDINATE		LENGTH OF ROCK DRILLING	37.3 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY			



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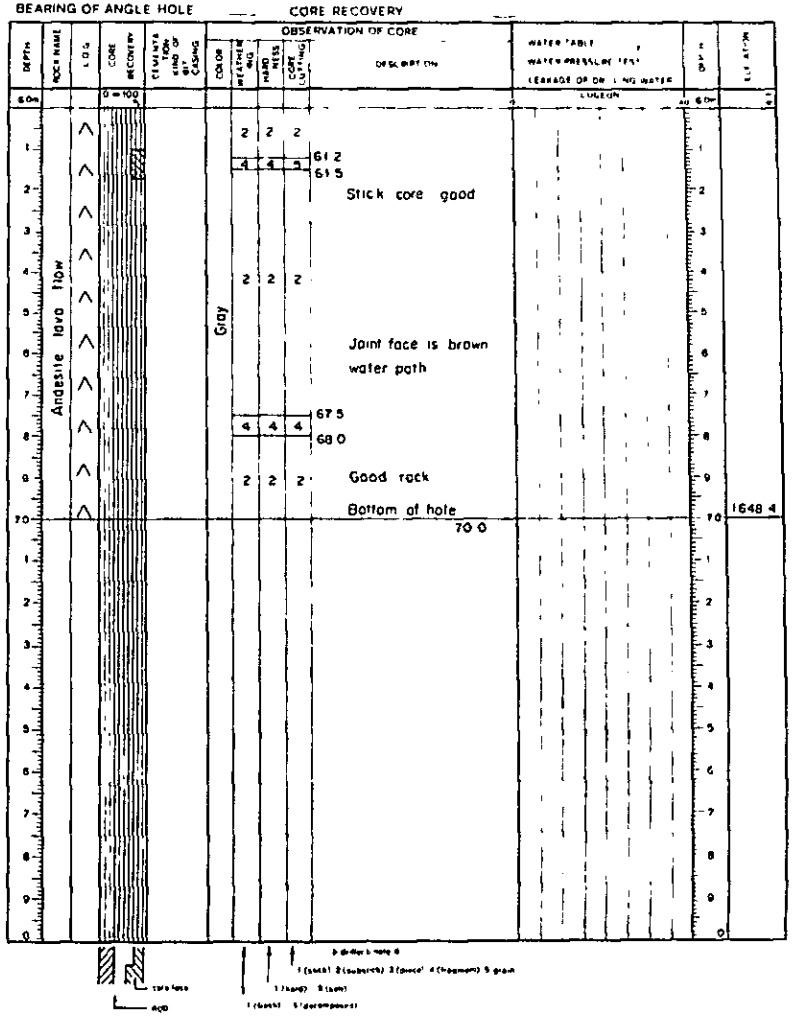
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No DH-9 (SHEET 4 OF 4)

LOCATION	Surge-tank	DEPTH OF HOLE	70.0 m	COMMENCED	5 Jun '79
ELEVATION	1718.399 m	DEPTH OF OVERBURDEN	32.7 m	COMPLETED	25 Jun '79
COORDINATE		LENGTH OF ROCK DRILLING	37.3 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY			



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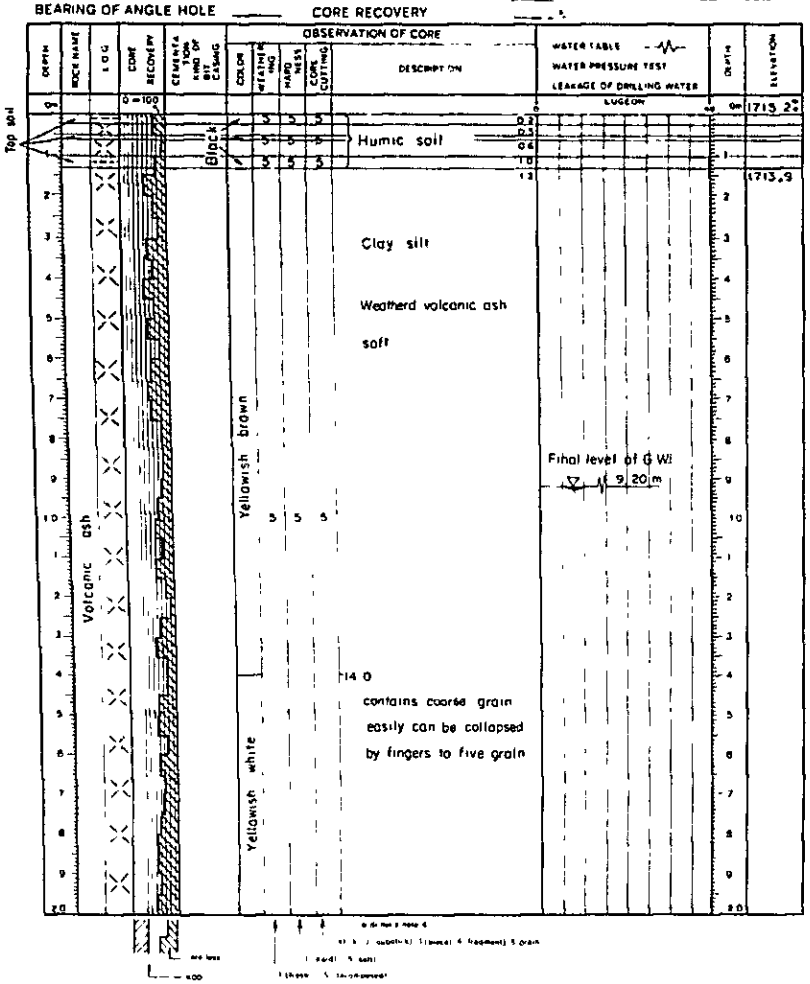
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No ODH-101 (sheet 1 of 2)

LOCATION	Dike	DEPTH OF HOLE	25.0 m	COMMENCED	17-May-'79
ELEVATION	1715.173 m	DEPTH OF OVERBURDEN	25.0 m	COMPLETED	22-May-'79
COORDINATE		LENGTH OF ROCK DRILLING	0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		



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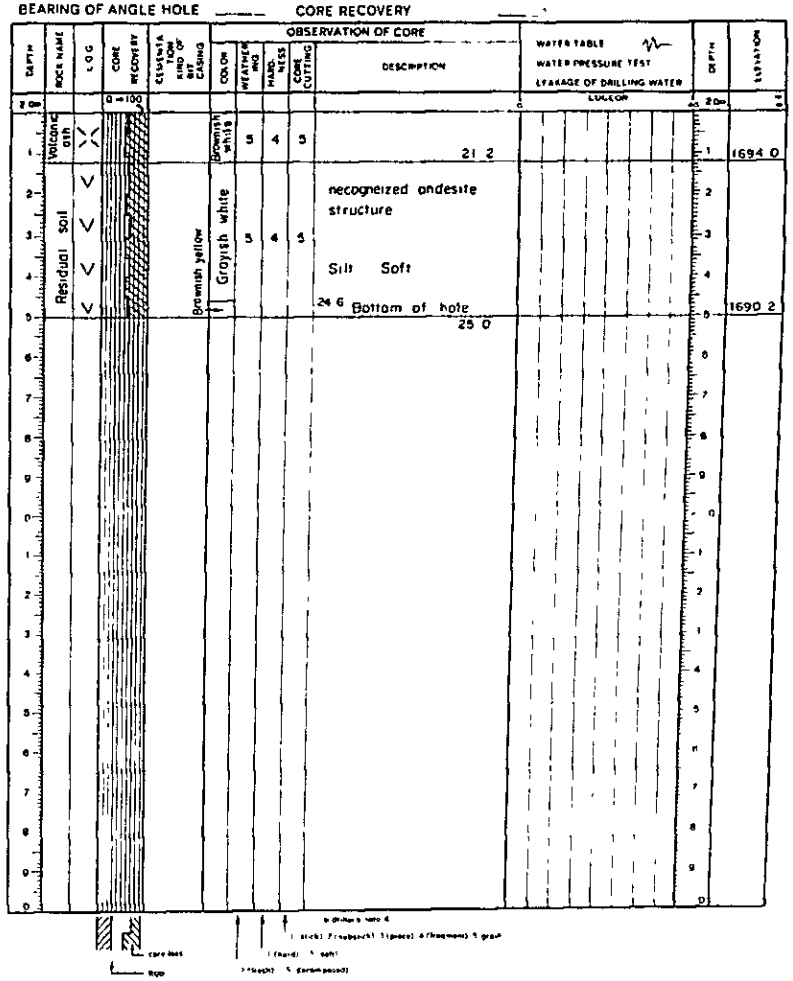
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No ODH-101 (sheet 2 of 2)

LOCATION	Dike	DEPTH OF HOLE	25.0 m	COMMENCED	17-May-'79
ELEVATION	1715.173 m	DEPTH OF OVERBURDEN	25.0 m	COMPLETED	22-May-'79
COORDINATE		LENGTH OF ROCK DRILLING	0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		



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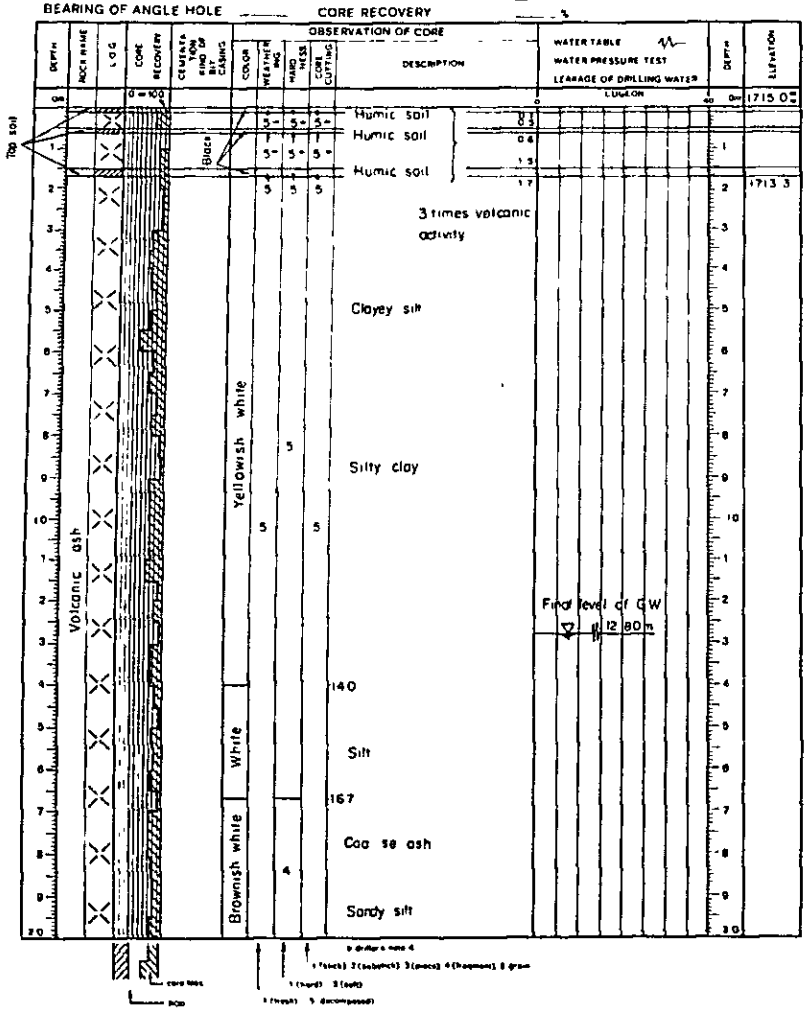
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No. 00H-102 SHEET 1 OF 2

LOCATION	Dike	DEPTH OF HOLE	25.0 m
ELEVATION	1714.995 m	DEPTH OF OVERBURDEN	25.0 m
COORDINATE		LENGTH OF ROCK DRILLING	0 m
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m
BEARING OF ANGLE HOLE		CORE RECOVERY	%

COMMENCED 24 May '79
COMPLETED 29 May '79
DRILLED BY
LOGGED BY



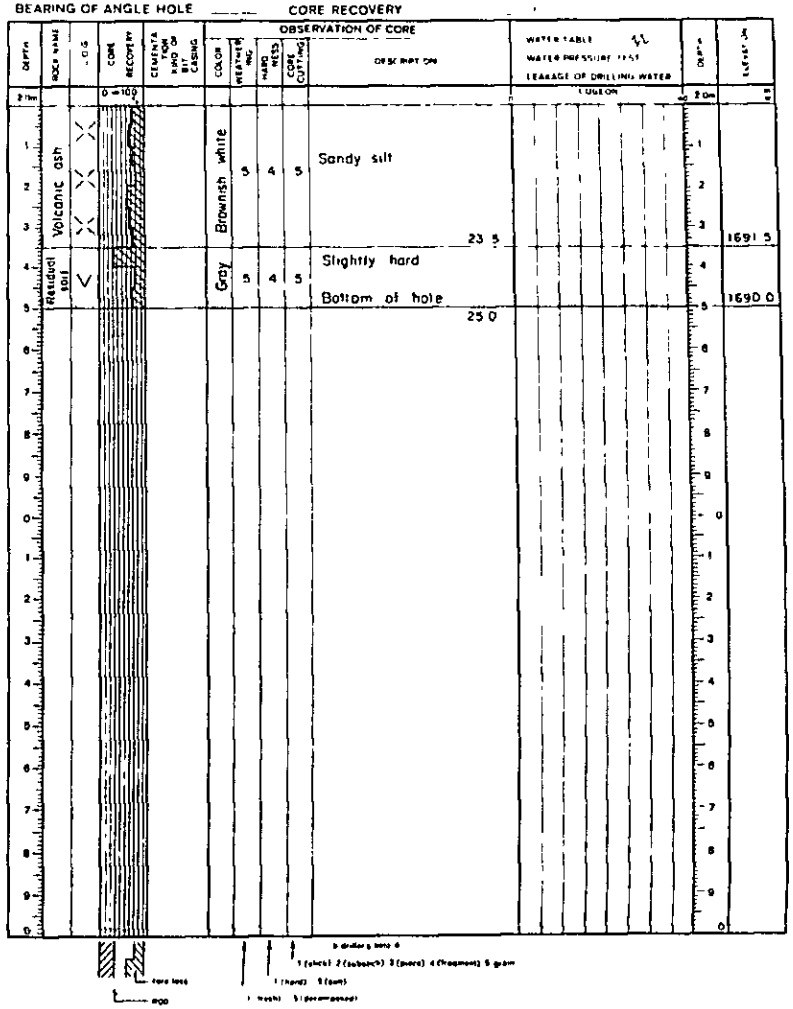
ELECTRIC POWER DEVELOPMENT CO. LTD.
TOKYO JAPAN

GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No. 00H-102 SHEET 2 OF 2

LOCATION	Dike	DEPTH OF HOLE	25.0 m
ELEVATION	1714.992 m	DEPTH OF OVERBURDEN	25.0 m
COORDINATE		LENGTH OF ROCK DRILLING	0 m
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m
BEARING OF ANGLE HOLE		CORE RECOVERY	

COMMENCED 24 May '79
COMPLETED 29 May '79
DRILLED BY
LOGGED BY



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GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No CDH-1 (SHEET 2 OF 2)

LOCATION	Cauca Diversion Dam	DEPTH OF HOLE	30.0 m	COMMENCED	20-Jul-'79
ELEVATION	1764.286 m	DEPTH OF OVERBURDEN	30.0 m	COMPLETED	4-Aug-'79
COORDINATE		LENGTH OF ROCK DRILLING	0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		

OBSERVATION OF CORE

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF SLIP CASING	COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION	WATER TABLE / WATER PRESSURE TEST / LEAKAGE OF DRILLING WATER (LUGEON)	DEPTH	ELEVATION
20m			0-100							0	20m	
1	Residual soil of andesite				Grayish white	5	4	5	Highly decomposed andesite		1	
2									Coarse sand ~ breccia		2	
3											3	
4											4	
5											5	
6									Some place contents fresh andesite breccia		6	
7											7	
8									Bearing capacity for dam basement is enough		8	
9											9	
30									Bottom of hole 30.0		30	1734.3
1											1	
2											2	
3											3	
4											4	
5											5	
6											6	
7											7	
8											8	
9											9	
0											0	

core loss — 100

1 (hard) 2 (subhard) 3 (poor) 4 (fragment) 5 (grav)

hard 4 soft

1 fresh 5 decomposed

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GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No CDH-1 (SHEET 1 OF 2)

LOCATION	Cauca Diversion Dam	DEPTH OF HOLE	30.0 m	COMMENCED	20-Jul-'79
ELEVATION	1764.286 m	DEPTH OF OVERBURDEN	30.0 m	COMPLETED	4-Aug-'79
COORDINATE		LENGTH OF ROCK DRILLING	0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		

OBSERVATION OF CORE

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF SLIP CASING	COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION	WATER TABLE / WATER PRESSURE TEST / LEAKAGE OF DRILLING WATER (LUGEON)	DEPTH	ELEVATION
0m			0-100							0	0m	1764.3
1	Sandy silt				Yellowish brown	5	5	3	Flood plane deposits		1	
2											2	
3									3.4	Final level of G.W. 1.65 m	3	1760.9
4	River bed gravel				Gray	5	4	5	Core recovery is poor		4	
5									Sand and gravel		5	
6											6	
7											7	
8									Andesite bolder ø 10~30cm		8	
9									cobble ~ bolder gravel		9	
10											10	
1											1	
2											2	
3									13.5		3	1750.8
4	Volcanic ash				Brownish gray		5		Weathered volcanic ash silty clay		4	
5											5	
6											6	
7						5		5			7	
8									18.0		8	
9	Residual soil				Yellowish gray	5	4	5	Residual soil of andesite		9	
10											10	

core loss — 100

1 (hard) 2 (subhard) 3 (poor) 4 (fragment) 5 grav

1 (hard) 5 (soft)

1 (fresh) 5 (decomposed)

ELECTRIC POWER DEVELOPMENT CO. LTD.
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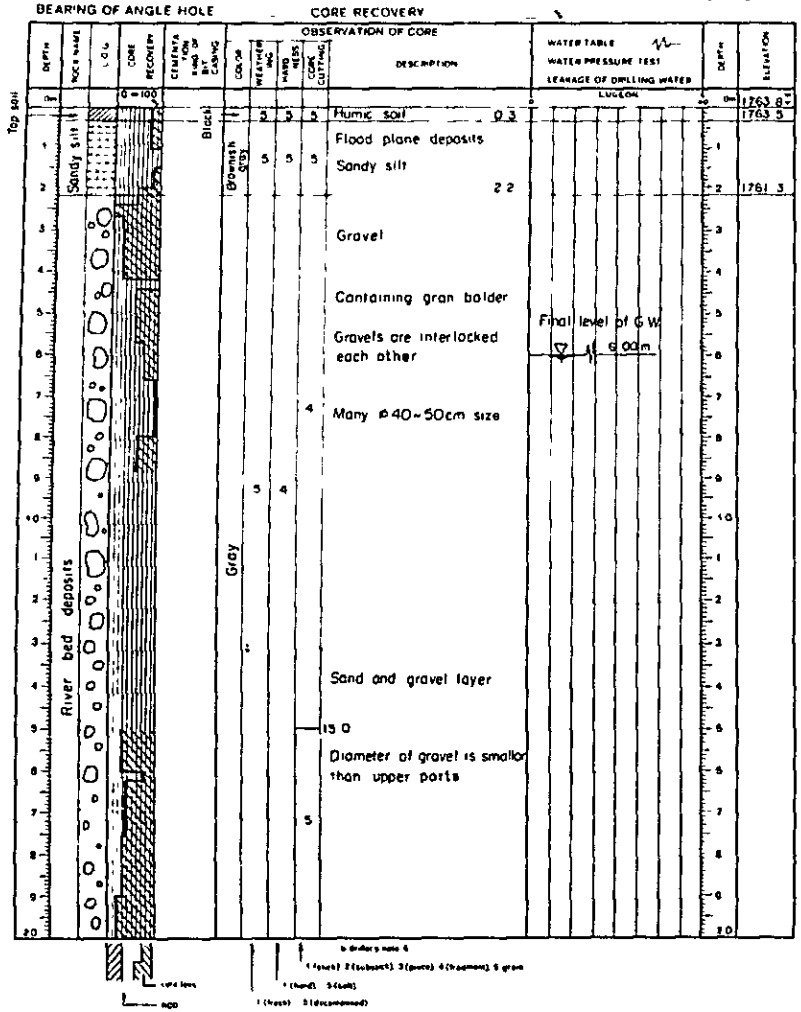
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No CDH 2 SHEET 1 OF 2

LOCATION	Cauca Diversion Dam	DEPTH OF HOLE	30.0 m	COMMENCED	13 Jun '79
ELEVATION	1763.787 m	DEPTH OF OVERBURDEN	30.0 m	COMPLETED	6 Jul '79
COORDINATE		LENGTH OF ROCK DRILLING	0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY			



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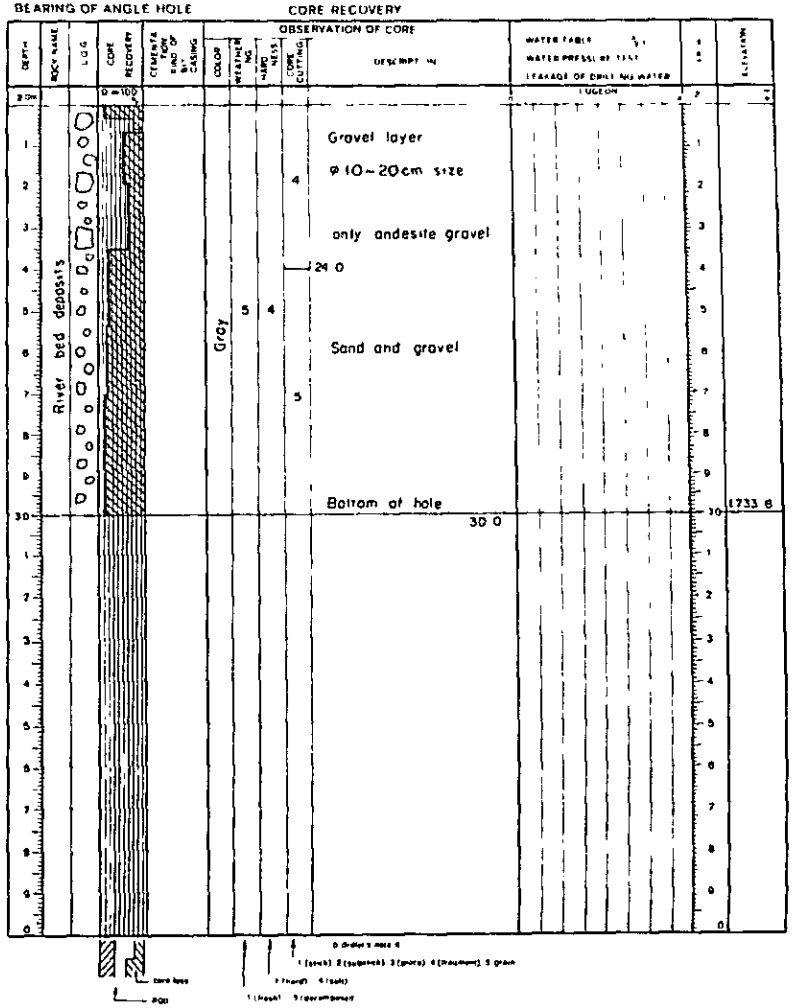
TOKYO JAPAN

GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No CDH 2 SHEET 2 OF 2

LOCATION	Cauca Diversion Dam	DEPTH OF HOLE	30.0 m	COMMENCED	13 Jun '79
ELEVATION	1763.787 m	DEPTH OF OVERBURDEN	30.0 m	COMPLETED	6 Jul '79
COORDINATE		LENGTH OF ROCK DRILLING	0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY			



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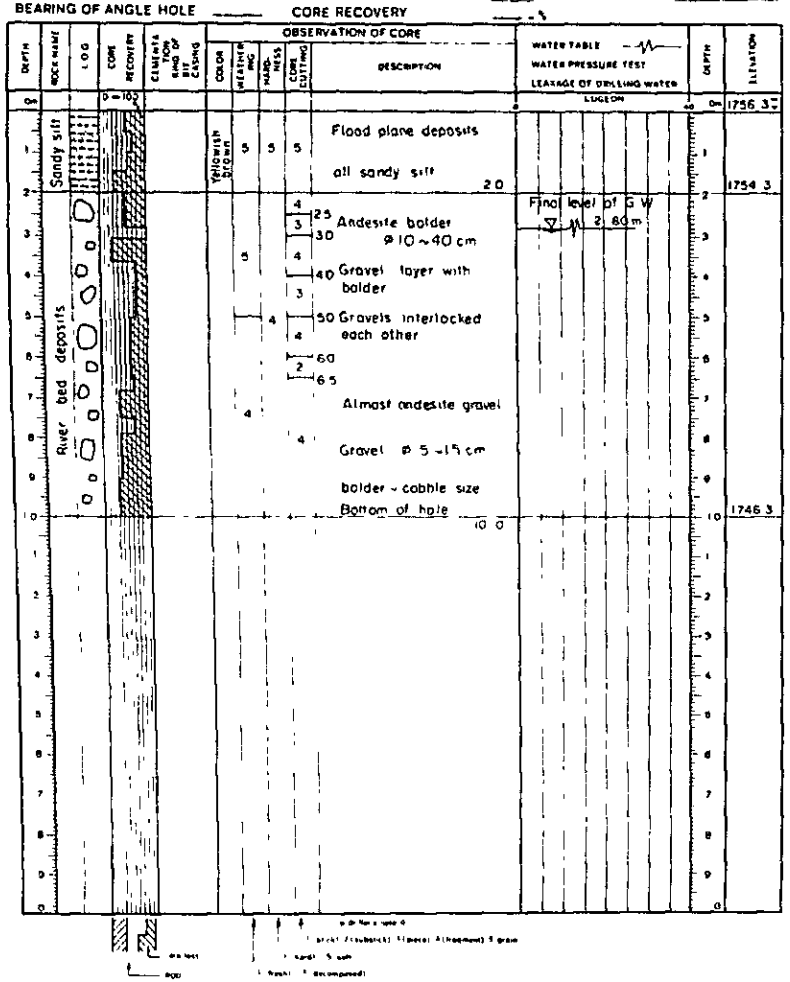
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No CDH - 3 SHEET 1 OF 1

LOCATION	Cauca Diversion Dam	DEPTH OF HOLE	10.0 m	COMMENCED	6-Aug-'79
ELEVATION	1756.253 m	DEPTH OF OVERBURDEN	10.0 m	COMPLETED	17-Aug-'79
COORDINATE		LENGTH OF ROCK DRILLING	0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		



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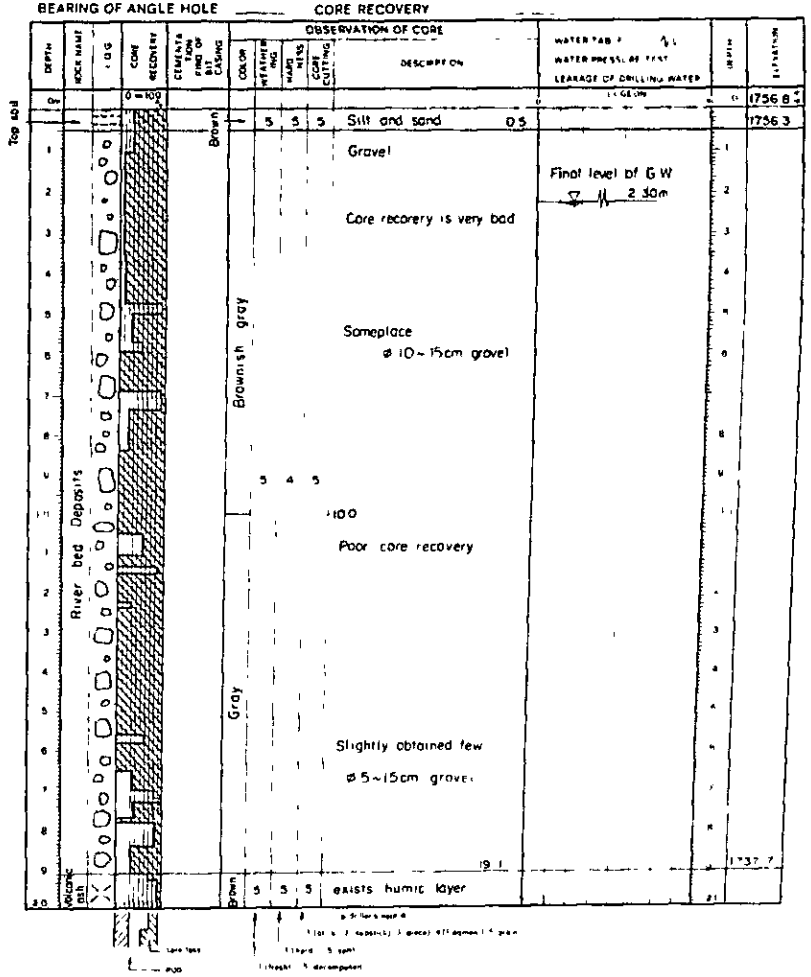
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No CDH - 4 SHEET 1 OF 2

LOCATION	Cauca Diversion Dam	DEPTH OF HOLE	30.0 m	COMMENCED	23-May-'79
ELEVATION	1756.817 m	DEPTH OF OVERBURDEN	30.0 m	COMPLETED	30-Jun-'79
COORDINATE		LENGTH OF ROCK DRILLING	0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY			



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GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT

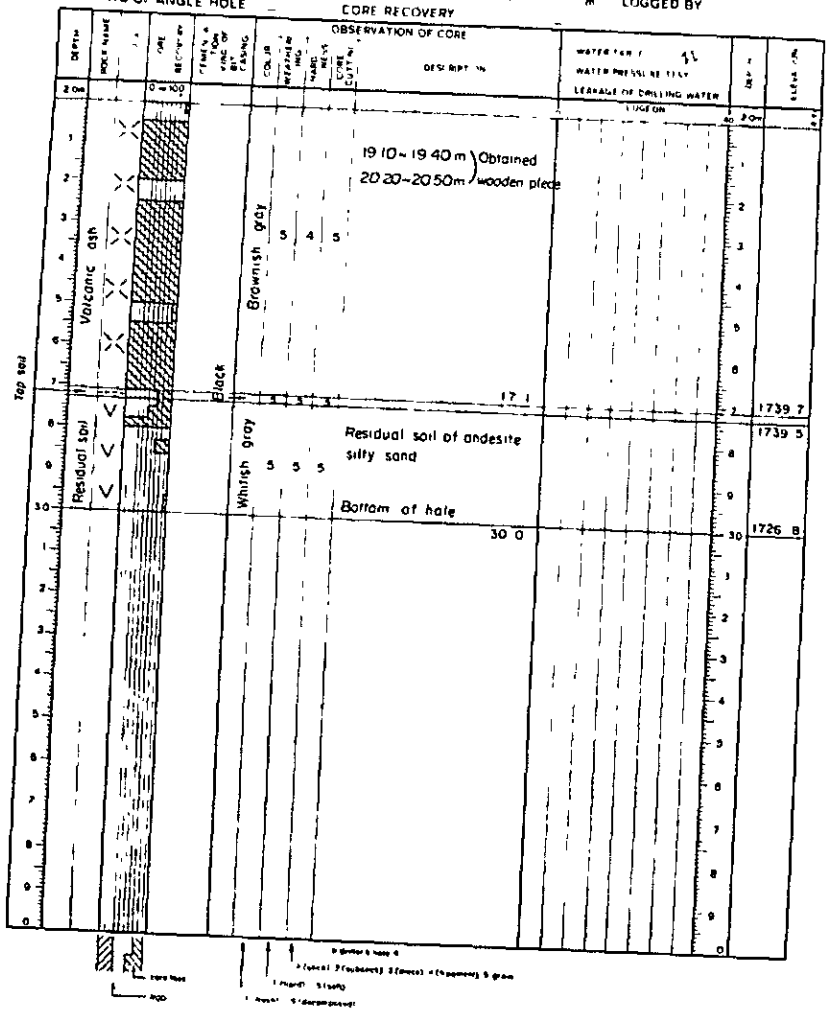
HOLE No CDH - 4 SHEET 2 of 2

LOCATION Cauca Diversion Dam
ELEVATION 1756 817 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 30 0 m
DEPTH OF OVERBURDEN 30 0 m
LENGTH OF ROCK DRILLING 0 m
TOTAL LENGTH OF CORE m
CORE RECOVERY

COMMENCED 23 May '79
COMPLETED 30 Jun '79
DRILLED BY
LOGGED BY

OBSERVATION OF CORE



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GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT

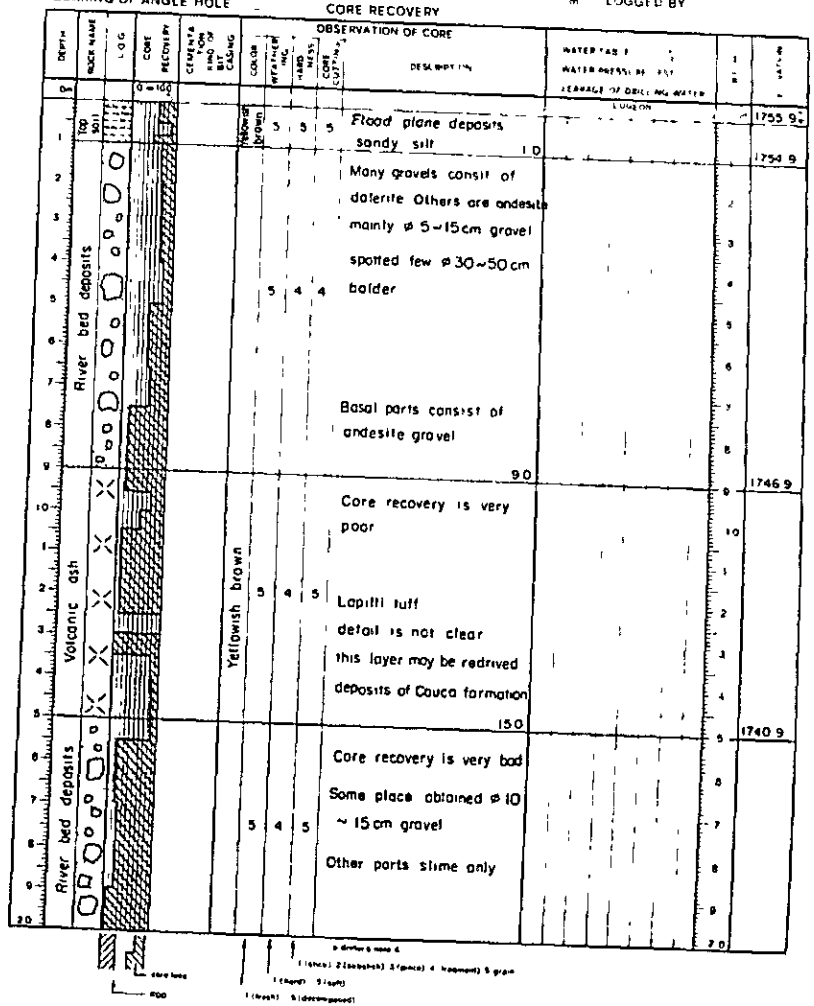
HOLE No CDH- 5 SHEET 1 of 2

LOCATION Cauca Diversion Dam
ELEVATION 1755 880 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 30 0 m
DEPTH OF OVERBURDEN 30 0 m
LENGTH OF ROCK DRILLING 0 m
TOTAL LENGTH OF CORE m
CORE RECOVERY

COMMENCED 3 Aug '79
COMPLETED 21 Aug '79
DRILLED BY
LOGGED BY

OBSERVATION OF CORE



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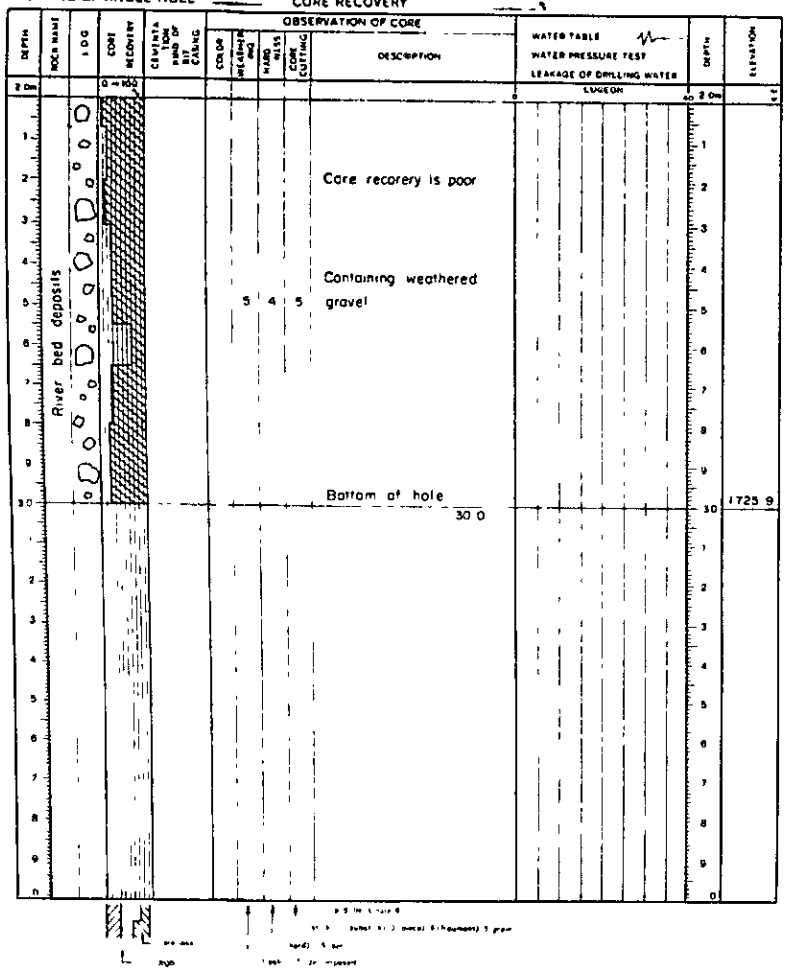
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No CDH - 5 (SHEET 2 OF 2)

LOCATION	Couca Diversion Dam	DEPTH OF HOLE	30.0 m	COMMENCED	3 -Aug- '79
ELEVATION	1755.880 m	DEPTH OF OVERBURDEN	30.0 m	COMPLETED	12 -Aug- '79
COORDINATE		LENGTH OF ROCK DRILLING	0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY	%		



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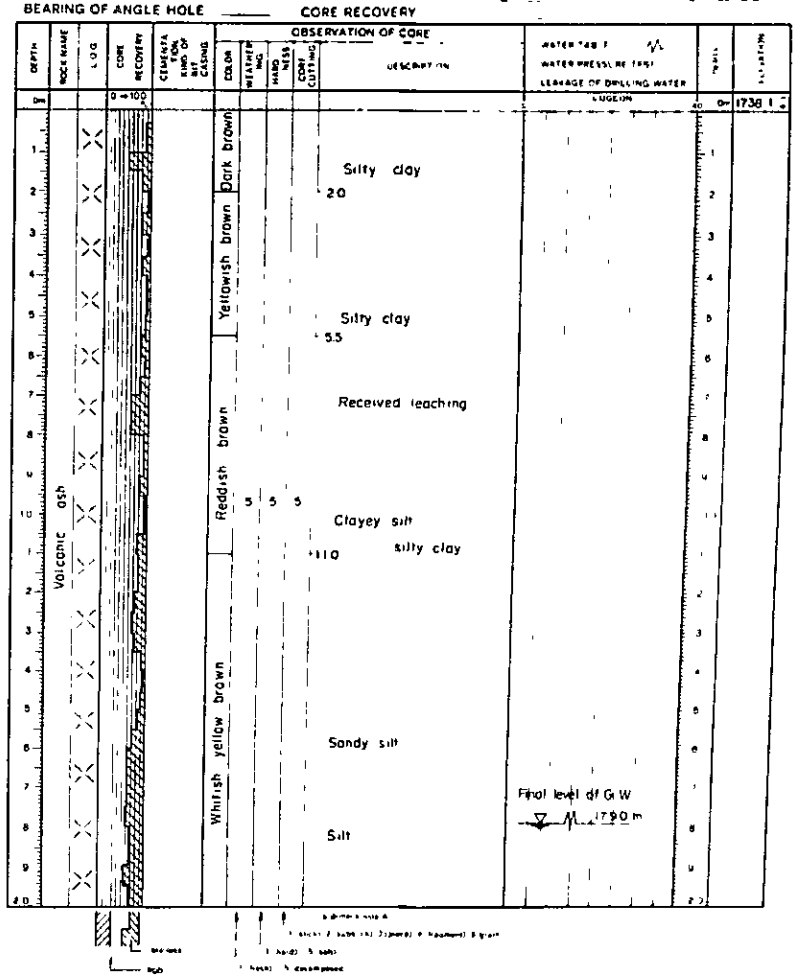
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No BDH - 1 (SHEET 1 OF 2)

LOCATION	Borrow area	DEPTH OF HOLE	40.0 m	COMMENCED	31 -May- '79
ELEVATION	1738.059 m	DEPTH OF OVERBURDEN	34.0 m	COMPLETED	12 -Jun- '79
COORDINATE		LENGTH OF ROCK DRILLING	6.0 m	DRILLED BY	
ANGLE FROM HORIZONTAL	90°	TOTAL LENGTH OF CORE	m	LOGGED BY	
BEARING OF ANGLE HOLE		CORE RECOVERY			



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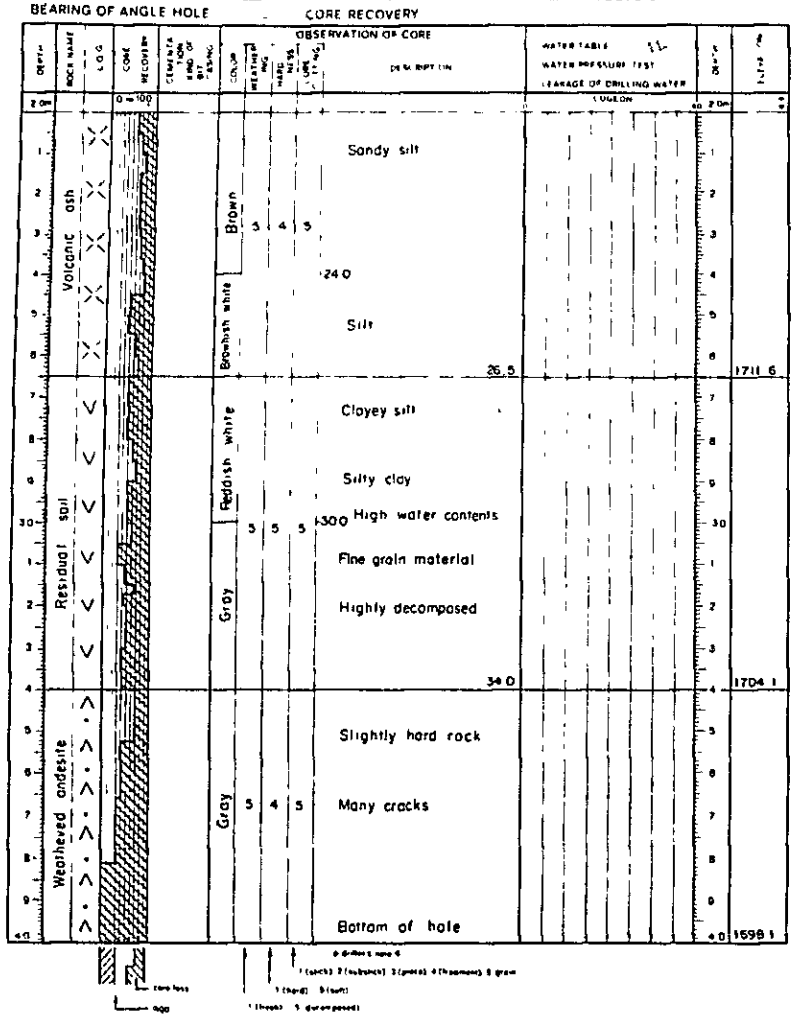
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No BDH-1 SHEET 2 OF 2

LOCATION Borrow area
ELEVATION 1738.059 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 40.0 m
DEPTH OF OVERBURDEN 34.0 m
LENGTH OF ROCK DRILLING 6.0 m
TOTAL LENGTH OF CORE m
CORE RECOVERY

COMMENCED 31 May '79
COMPLETED 12 Jun '79
DRILLED BY
LOGGED BY



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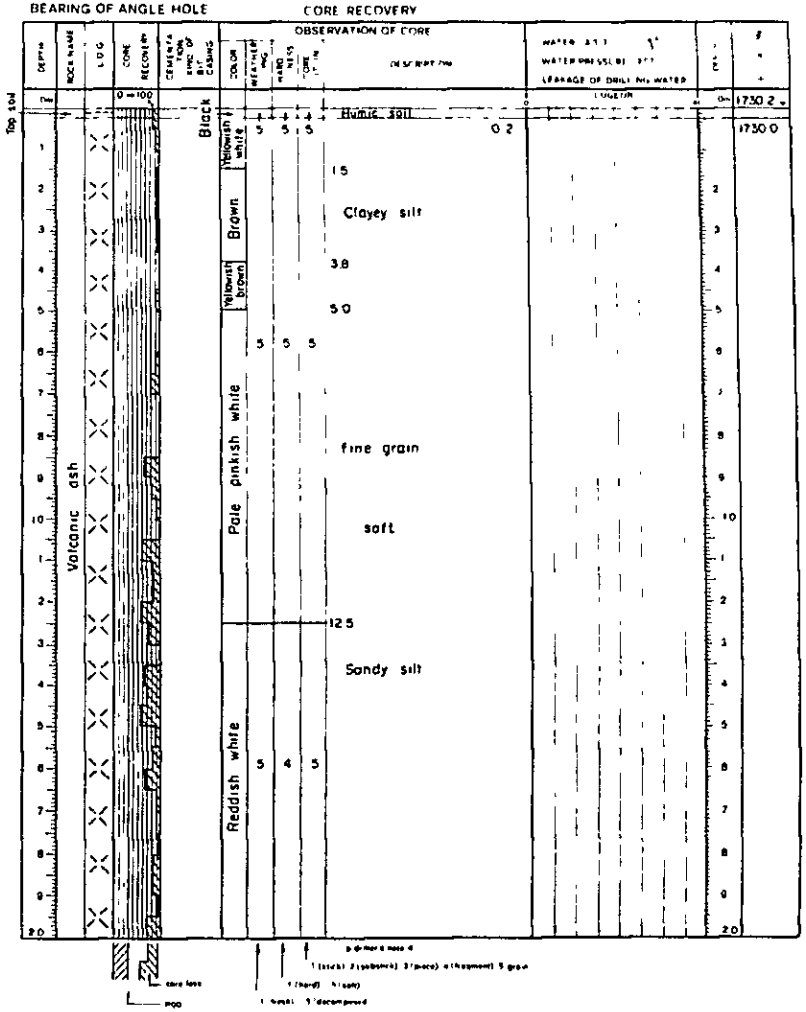
GEOLOGIC LOG OF DRILL HOLE

Julumito PROJECT — HOLE No QDH-1 SHEET 1 OF 5

LOCATION Quarry site
ELEVATION 1730.197 m
COORDINATE
ANGLE FROM HORIZONTAL 90°
BEARING OF ANGLE HOLE

DEPTH OF HOLE 100.0 m
DEPTH OF OVERBURDEN 26.0 m
LENGTH OF ROCK DRILLING 74.0 m
TOTAL LENGTH OF CORE m
CORE RECOVERY

COMMENCED 26 Jul '79
COMPLETED 31 Aug '79
DRILLED BY
LOGGED BY



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