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SULTANATE OF OMAN

Ministry of Agriculture, Fisheries, Petroleum & Minerals
Directorate of Agriculture
Water Resources Department

CLIMATE OF JEBEL AKHDAR (SAIQ).

Water Resources OMA 77/001

Field Document No. 2

FOOD AND AGRICULTURE ORGANIZATION
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CLIMATE OF JEBEL AKHDAR (SAIQ)

P.M. Horn F.A.O.

J.B. Nielsen F.A.O.

A. Manthri Issa Water Resources Dept.

Salim Salaam Water Resources Dept.

This paper was produced as a part of the work of the Water Resources Department of the Directorate General of Agriculture, Ministry of Agriculture, Fisheries, Petroleum and Minerals, Sultanate of Oman.

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INTRODUCTION

This paper summarizes the available climatic data for Saiq in the Jebel Akhdar.

Saiq lies on a high plateau near the summit of the Jebel: it is to the south, and somewhat below, the actual crest line of the divide. The highest peaks are actually some three to four hundred meters above Saiq, but for practical purposes the station may be regarded as typical of the highest part of the Jebel. North of the divide, rainfall is probably lower; and there will be less influence of the summer rainfall season of the interior: rainfall is also lower in the Hajar Ash Sharqiyah mountains to the south east.

The installation is at present a small, simple climate station, depending upon once daily readings of most instruments. This does not allow detailed appraisal of the diurnal fluctuations of many parameters, especially wind speeds, and direction: and the humidity values must be regarded as indicative rather than concise. This imposes some limits on the use of the data for interpretive meteorology. However the record gives a good summary of the general local climate of the region, to the extent that it is needed for water resource appraisals and local development: the rainfall record is of particular value because it is the sole good sample for the Jebel, and rainfall is the ultimate source of all the water resources of the country.

Good record over a long period is only obtained because somebody undertakes the tedium of the daily observations. This record has been maintained solely through the voluntary services of Major G. Vivienne and his assistant Mr. Salim and it is appropriate to acknowledge, with thanks, this contribution: without which this valuable record would not be available.

STATION PARTICULARS AND AVAILABLE RECORD

Station name. SAIQ Grid ref. 5658 - 5514

Lat: 23°04' Long: 57°39' Alt: 2,000 m.a.s.l.

Date installed:- December 1973 (Raingauge July 1973).

Location:- Fairly open location on the outskirts of Saiq Battle Camp, about quarter kilometer south of the airstrip.

Equipment. (as of Dec. 1976).

- (a) Small instrument screen with max, min, dry and wet bulb thermometers reading to one half degree centigrade.
- (b) B.M.O. standard 5 inch copper raingauge.
- (c) Dynes tilting syphon autographic raingauge, daily scale.
- (d) Kipp & Zonen solarimeter with Lintropic counter.
- (e) Cassela sunshine recorder - Campbell - Stokes type.
- (f) Totalizing anemometer exposed at 10 meters.
- (g) Class A Evaporation pan, standard exposure; measurement by refill to fixed pointer.

Instruments are read once daily at 09.00 hours local time.

The station was installed by Sir Alexander Gibb and Partners as a part of their water resource survey of Northern Oman. Data was analysed by them, from installation through Sept. 1975 inclusive, using the standard computer program of the Institute of Hydrology. Daily values have been published in Vol II of their final report (Appendix A - Rainfall and Meteorology).

From October 1975 inclusive, data has been reduced by the Water Resources Department, and staff of F.A.O. project OMA/009/73. Daily values are available on file in the Department.

Subject to limitations of the instrumentation (i.e. absence of autographic instruments to supplement daily readings), record is of the highest quality throughout the period. Breaks in the record for insolation are due to malfunctioning of the instrument, or counter, which has recorded impossibly high values.

DESCRIPTION OF CLIMATE

General

The climate year can be divided into two distinct periods: the winter months of approximately November through April with a predominant airflow from the north, and the summer months of June to August with a monsoon airflow from the southwest.

Winter conditions are determined by the mid Asian high, and a general low pressure area over the Indian Ocean. The predominant airflow is not itself rain-bearing, and brings dry conditions. However at various times modified troughs or frontal systems from the northwest (basically Mediterranean) migrate south eastwards into the area and can produce some days of very good rainfall. Such rainfalls are normally widespread over much of northern Oman: available record suggests that during this type of synoptic situation, orographic influences are less important in stimulating rainfall, than the mixing of airmasses produced by such synoptic conditions.

During summer the I.T.C.Z. (inter tropical convergence zone) moves northward, to approximately the lower middle part of the Arabian peninsula. Behind the I.T.C.Z. are the south westerly monsoons: and while this area lies outside the influence of the true monsoon zone, the unsettled conditions associated with the I.T.C.Z. allows good summer rainfall of a basically S.W. component on the southern (interior) side of the mountains including Saiq.

In some years the I.T.C.Z. moves less far north than usual, and in this case the summer rainfall fails, (as can be seen in the record for 1974).

This is a similar situation to that seen in the Saheel of sub-Saharan Africa, and North Yemen and the southern Saudi Tihama: and it may be hypothesized that during the late sixties and early seventies when those areas experienced severe drought, the summer rainfall of the north Oman interior would also have been below average.

The I.T.C.Z. retreats toward early September, and is followed in mid September and October by dry continental air: this is normally one of the driest times of the year and both radiation and evaporation rates tend to rise (relatively) at this time in response to the lower humidity and cloud.

Local climate

(See following page)

Temperature

Because of the altitude, temperatures are some ten to twelve degrees lower than in the plains, giving a very pleasant and bracing climate.

During mid summer (late May through early August) maxima are almost always 28°C to 32°C , exceeding the latter value only some dozen times each year. Dawn minima at this season are usually below 20°C .

In mid winter (late November through late February) freezing temperatures can be expected several times: on average there may be three or four zero or subzero temperatures, and near zero screen temperatures which can also produce ground frost can be expected some dozen times. Mid day temperatures are usually between 14°C and 18°C at this time.

The extreme temperatures recorded during 1974 - 1976 are as follows:-

<u>Maxima.</u>	<u>Minima</u>
34.5° on 10/7/76	-3.5 on 15/1/76
34° on 3/7/74	-3.0 on 3/1/76
7/9/74	4/1/76
33.5° on 2/7/74	-2.0 on 5/1/76
	19/12/76
1/7/75	-1.5 on 19/2/76
33.0 11 times.	29/12/75
	30/12/75

Other zero or subzero 8 times.

The main temperature statistics are summarized in tables S1 & S2.

Humidity

As previously noted, humidity records are based on a single reading at 09.00 local time to the nearest half degree and must be regarded as indicative rather than concise: they show general conditions but the detailed picture is less clear.

It appears that winters (November through early March) may either be dry, with average humidities around four millibars, or relatively moist with values of six to seven millibars: probably depending upon the relative predominance of northern continental air. Values below four millibars are quite frequent; and very dry air below two millibars is recorded about twenty times annually. ("Dry" winters may still have heavy rainfall from temporary synoptic situations as in February 1975).

Late March through early May are transitional. In summer, moisture rises to a fairly consistent level interrupted by a few short periods of low humidity. Mostly values range between nine and fourteen millibars - the latter is exceeded some twenty times a year: a very few values exceeding twenty, have been recorded.

Around mid September these airmasses give way to dry continental air, and this is the least likely rainfall season.

Relative humidities are always low - usually between 20% and 40%. Values below 10% occur relatively often: and in excess of 50% are infrequent. (Daily maxima and minima would of course be higher and lower, respectively).

Record is summarized in table S3.

Sunshine and Insolation

Radiation record is broken because of periodic instrument failure (batteries run down and there is a tendency toward impossibly high values).

High insolation values are consistent with the altitude, and sunhours. As described elsewhere, the greater part of the winter rainfall is during the hours of darkness. Summer rainfall is typically associated with clouds developing in the late forenoon to give heavy falls during the afternoon.

Record is summarized in table S3.

Wind

Daily windrun is measured by a totalizing anemometer at ten meters: it is rather high throughout the year.

There is no data on direction, or maximum speed of gusts; but the following are the highest daily wind runs recorded:-

<u>Date</u>	<u>Wind run (km/day)</u>
13/1/76	935
7/6/74	903
8/6/74	864
12/2/75	801
25/1/74	717
15/2/76	702

Values exceeding 600 km/day have been recorded 12 times during the 3 years.

Evaporation

Good quality class 'A' Pan record (adjusted for rainfall) covers the whole period. Penman calculations have been made for Jan 1974 through Sept 1975, using the standard computer programme of the Institute of Hydrology.

To complete two years of records, Penman values for the three remaining months have been calculated from the Class 'A' record. These, (and two adjusted values for the pan) are shown in brackets in the tables.

Coefficients between pan and 'Penman' show the expected variation with evaporation opportunity, with some discrepancies. They are rather higher than would be expected for these dry conditions. Experience elsewhere in the Arabian peninsula suggests that a single spot humidity reading, and use of sun hours instead of direct radiation measurement, both tend to cause slight over estimates. Actual evaporation is certainly not higher, and probably slightly lower, than the values calculated.

RAINFALL

The average annual rainfall is probably about 300 m.m. As may be observed on the Jebel, this is insufficient for dry farming: All agriculture requires supplementary irrigation from small springs.

There are two distinct rainfall seasons, (of apparently about equal importance from the record available): the winter season mid November through March, and the summer season mid June through mid September. Spring is transitional: the random heavy falls which occur seem to be of the summer type. Autumn is dry. (1) The two main seasons have quite different rainfall characteristics.

In winter the prevailing airflow is from the northerly quadrant and is not in itself rainbearing. It is however from time to time interrupted by temporary synoptic situations of cyclonic or frontal type, which can bring several days of widespread good rainfall. The seasonal total depends upon the frequency, and effectiveness, of such systems.

The summer rainfall is associated with airflows from the south west: these may be less effective in some years (e.g. 1974). Typically, cloud begins to develop during the late forenoon, giving heavy convective rain in the afternoons.

Heavy rainfalls in summer are notably more intense than in winter, whereas the latter continue over longer durations. In summer (including spring) 95% of the total rainfall volume falls between 13.00 and 20.00 hours: mostly between 14.00 and 18.00. Whereas in winter, 70% of the total is during the night and only 10% in the Afternoon. (2) While the total rainfall of Saiq is greater, maximum short period intensities are lower than on the plains, consistent with lower vapour pressure. The most intense storms probably occur on the lower flanks of the Jebel.

Table S5 summarizes monthly and annual rainfall: Tables S6 (a - d) the daily rainfall record: and table S7 summarizes data for short period intensities.

(1) Note that while the present record shows November and December dry, winter type rains can occur in these months.

(2) Period July 1973 - July 1976 inclusive.

SAIQ TABLE S:1

Temperature °C
1974 - 1976

	J	F	M	A	M	J	J	A	S	O	N	D
<u>Absolute Maximum 1974 - 1976</u>												
	21.0	23.5	24.5	27.5	31.5	33.0	34.5	33.0	34.0	28.0	26.5	22.0
<u>Mean Maximum</u>												
1974	17.2	16.1	20.6	23.8	27.2	30.0	31.1	30.6	28.1	22.3	20.2	16.6
1975	15.8	15.5	19.3	22.9	27.9	30.6	30.1	28.0	26.4	22.8	21.0	17.5
1976	15.0	15.0	17.8	20.5	27.3	30.0	30.6	28.0	26.5	23.6	18.5	16.7
<u>Mean Average 1974 - 1976</u>												
	9.7	10.2	14.0	16.8	21.6	24.4	24.9	23.8	21.8	16.6	13.2	11.1
<u>Mean Minimum</u>												
1974	3.5	4.9	9.3	11.1	15.9	18.2	19.1	19.2	16.2	9.8	6.0	5.4
1975	3.8	6.5	7.5	11.2	16.1	19.1	19.0	19.4	17.0	9.2	7.5	6.0
1976	3.0	6.5	9.5	11.0	15.0	18.3	19.2	17.4	16.4	12.0	6.1	4.1
<u>Absolute Minimum 1974 - 1976</u>												
	-3.5	-1.5	0.5	4.0	9.0	13.0	12.5	12.5	12.0	4.5	0.5	-2.0

Temperature Frequencies

1974 - 1976. (1)

	Days maxima above					Days minima below					
	24	26	28	30	32	-2	0	2	4	6	
Jan	-	-	-	-	-	1	2	8	20	24	Jan
Feb	-	-	-	-	-	-	1	2	11	14	Feb
Mar	-	-	-	-	-	-	-	-	1	2	Mar
Apr	9	2	-	-	-	-	-	-	-	1	Apr
May	30	21	12	3	-	-	-	-	-	-	May
June	30	30	26	16	3	-	-	-	-	-	June
July	31	30	28	20	4	-	-	-	-	-	July
Aug.	30	27	18	9	1	-	-	-	-	-	Aug.
Sept.	29	24	6	1	-	-	-	-	-	-	Sept.
Oct.	6	1	-	-	-	-	-	-	3	7	Oct.
Nov.	1	-	-	-	-	-	-	1	6	11	Nov.
Dec.	-	-	-	-	-	-	1	3	10	17	Dec.
Total 1974	168	145	106	62	13	-	2	10	65	62	
Total 1975	169	124	83	53	10	-	2	13	33	71	
Total 1976	159	135	83	30	3	3	7	19	45	71	

(1) Mean 1974 - 1976, rounded to nearest whole number.

1974 - 1976

	J	F	M	A	M	J	J	A	S	O	N	D
	<u>Mean Relative Humidity (at 09.00 hours) %</u>											
1974	45	45	41	22	33	29	29	26	24	20	20	27
1975	33	23	22	34	33	22	25	38	20	19	32	51
1976	50	63	65	62	48	33	35	38	34	48	48	41
	<u>Mean Vapour Pressure (09.00 hours) Millibars</u>											
1974	6.8	5.9	7.8	5.2	9.7	10.0	10.2	9.2	6.9	4.7	3.7	4.1
1975	4.4	3.2	3.9	7.5	10.0	8.1	9.0	11.7	5.6	4.4	5.6	7.9
1976	6.5	8.8	10.4	12.4	12.8	10.9	11.7	12.5	9.7	11.0	8.1	6.0
	<u>Mean Insolation (cal/cm²/day).</u>											
1974	447	522	x	641	642	666	591	565	x	524	474	(403)
1975	416	(456)	x	x	x	x	(525)	528	x	x	x	441
1976	444	395	525	(601)	x	x	x	x	596	521	454	353
	<u>Mean Sun hours</u>											
1974	9.7	9.6	8.4	10.6	10.8	11.3	9.3	9.0	9.0	9.5	10.4	9.7
1975	8.6	8.3	9.7	9.4	10.4	8.7	7.1	7.4	9.0	10.1	9.6	9.6
1976	9.4	8.5	6.9	9.8	x	x	x	7.3	9.0	9.0	x	(8.2)

Wind and Evaporation

1974 - 1976

	J	F	M	A	M	J	J	A	S	O	N	D	
1974	(294)	(a)	(293)	321	346	362	316	317	315	286	222	221	
1975	290	341	332	299	316	329	291	323	365	324	326	242	
1976	251	319	362	287	306	378	282	294	329	235	208	209	
<u>Evaporation, Class A Pan (mm/month).</u>													
1974	(130)	125	214	274	344	367	357	352	278	214	156	109	2,920
1975	138	140	(220)	227	320	347	260	250	277	236	208	122	2,745
1976	131	136	188	226	335	396	353	264	293	224	143	115	2,804
<u>Evaporation, Penman. (mn/month)</u>													
1974	(131)	(132)	183	230	261	274	269	254	229	185	135	106	2,389
1975	122	131	189	202	254	262	254	235	252	(200)	(150)	(104)	2,355
<u>Co-efficient, Pan/Penman</u>													
1974	(1.00)	(1.06)	0.86	0.84	0.76	0.75	0.75	0.72	0.82	0.86	0.86	0.97	0.82
1975	0.88	0.93	0.86	0.89	0.79	0.76	0.98	0.94	0.91	x	x	x	0.86

First table is windrun at 10 meters (km/day)

SAIQ TABLE S:5

MONTHLY RAINFALL
(Millimeters)

	J	F	M	A	M	J	J	A	S	O	N	D	Year
1973	x	Installed	19.7	7.3		x	(77.2)	27.6	18.9	-	-	-	a
1974	8.8	6.2	11.3	17.9	31.8	13.0	14.2	8.8	9.6	4.4	-	T	122.0
1975	8.4	86.9	T	12.7	37.0	14.8	70.6	86.1	30.6	T	T	2.2	349.3
1976	12.5	67.4	88.2	56.5	1.5	30.5	53.2	116.1	3.4	23.4	4.2	18.5	475.3

SAIQ - 1973

DAILY RAINFALL (mm)

Table S 6 a

	J	F	M	A	M	J	J	A	S	O	N	D
1							x	15.0	0.3	-	-	-
2							x	1.2	T	-	-	-
3							x	-	-	-	-	-
4							x	-	F	-	-	-
5							x	-	12.2	-	-	-
6							x	-	-	-	-	-
7							x	T	-	-	-	-
8							x	-	-	-	-	-
9							x	-	T	-	-	-
10							x	-	-	-	-	-
11							x	-	-	-	-	-
12	Installed 12.00 hours 19.7.73						x	-	-	-	-	-
13							x	T	-	-	-	-
14							x	0.5	-	-	-	-
15							x	0.1	-	-	-	-
16							x	T	-	-	-	-
17							x	0.3	-	T	-	-
18							x	10.0	0.4	T	-	-
19							16.8	0.5	-	-	-	-
20							17.5	T	T	-	-	-
21							8.4	T	T	-	-	-
22							1.9	T	T	-	-	-
23							T	-	T	-	-	-
24							-	-	-	-	-	-
25							T	-	-	-	-	-
26							13.1	-	-	-	-	-
27							5.6	-	T	-	-	-
28							T	T	6.0	-	-	-
29							13.9	-	-	-	-	-
30							T	T	-	-	-	-
31							T	T	-	-	-	-
	x	x	x	x	x	x	(77.2)	27.6	18.9	-	-	-

SAIQ - 1974

DAILY RAINFALL (mm)

Table S:6 - b

	J	F	M	A	M	J	J	A	S	O	N	D
1	-	-	-	1.1	0.2	-	-	T	-	T	-	-
2	-	-	-	-	-	-	-	T	-	0.9	-	-
3	-	-	-	-	-	-	-	-	-	0.5	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	T	-	T	-	-
6	-	-	-	0.3	-	-	-	-	-	-	-	-
7	-	-	1.6	0.9	0.8	-	0.2	-	-	3.0	-	-
8	-	-	-	-	-	-	-	-	-	T	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	0.6	-	-	-
13	-	-	0.3	-	-	-	1.8	-	6.0	-	-	-
14	-	-	2.5	-	-	-	-	-	-	-	-	-
15	-	0.4	4.5	-	-	-	-	-	-	-	-	-
16	-	-	1.5	-	-	-	-	-	-	-	-	T
17	-	-	-	-	-	-	-	-	-	-	-	-
18	3.5	2.6	-	-	-	-	-	-	-	-	-	-
19	-	3.2	-	-	-	1.2	-	-	-	-	-	-
20	-	-	-	-	-	-	-	8.8	-	-	-	-
21	-	-	-	-	28.4	-	-	-	3.0	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	0.7	-	-	-	-	-	-	-	-	-
24	4.6	-	-	0.6	2.0	-	-	-	-	-	-	-
25	-	-	-	T	-	-	-	-	-	-	-	-
26	-	-	-	15.0	-	-	-	-	-	-	-	-
27	-	-	-	-	-	11.8	1.3	-	-	-	-	-
28	-	-	-	-	-	-	6.9	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	T	-	-	-
31	0.7	-	-	-	-	-	-	-	-	-	-	-
	8.8	6.2	11.3	17.9	31.4	13.0	10.2	8.8	9.6	4.4	-	T

SAIQ - 1975

Table S:6 c

DAILY RAINFALL (mm)

	J	F	M	A	M	J	J	A	S	O	N	D
1	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	1.6	-	-	-	-	-	-	-	-
3	-	0.3	-	-	-	-	2.5	-	-	-	-	-
4	-	0.1	-	-	-	T	0.4	0.4	-	T	-	-
5	-	T	-	-	T	T	T	1.4	-	T	-	-
6	-	1.0	-	T	4.1	2.1	16.8	T	-	T	-	-
7	-	19.0	-	-	3.4	-	T	T	T	T	-	-
8	-	18.0	-	-	3.6	-	T	1.0	T	T	-	-
9	-	4.1	-	-	2.5	-	T	T	2.0	-	-	-
10	-	5.0	-	-	0.4	-	1.8	-	T	-	-	-
11	-	39.4	-	T	5.0	4.3	6.0	-	T	-	-	-
12	-	-	-	-	T	3.5	T	-	-	-	-	-
13	-	-	-	-	18.0	-	T	T	-	-	-	-
14	-	-	T	-	T	-	2.2	0.2	-	-	-	-
15	-	-	-	-	-	-	1.5	0.1	T	-	-	-
16	-	-	-	-	-	-	1.9	38.5	28.5	-	-	-
17	-	-	-	0.8	-	-	3.5	0.1	T	-	-	-
18	-	-	-	T	-	-	0.2	39.5	-	-	-	-
19	-	-	T	-	-	-	2.0	0.2	-	-	-	-
20	-	-	T	-	-	-	0.5	T	-	-	-	-
21	-	-	-	9.5	-	2.1	18.1	T	-	-	-	-
22	-	-	-	-	-	2.8	T	-	-	-	-	-
23	-	-	-	-	-	-	T	T	-	-	-	-
24	-	-	-	0.8	-	-	-	3.3	-	-	-	-
25	1.3	-	-	-	-	T	-	1.4	-	-	-	-
26	5.9	-	-	-	-	-	T	T	-	-	T	-
27	1.2	-	-	-	-	-	T	T	-	-	-	-
28	-	-	-	-	-	-	-	T	-	-	-	-
29	-	-	-	-	-	-	T	T	0.1	-	-	-
30	-	-	-	-	-	-	2.5	-	-	-	-	-
31	-	-	-	-	-	-	10.7	-	-	-	-	2.2
	8.4	86.9	T	12.7	37.0	14.8	70.6	86.1	30.6	T	T	2.2

Year: 349.3

SAIQ 1976

DAILY RAINFALL (mm)

Table S6 - d

	J	F	M	A	M	J	J	A	S	O	N	D
1	1.0	-	-	T	-	-	T	9.4	-	1.5	T	-
2	-	21.0	T	-	-	-	T	50.0	-	T	T	-
3	-	T	T	-	-	-	-	-	-	-	T	-
4	-	T	-	T	-	-	-	T	T	-	T	-
5	-	0.5	T	T	-	T	-	5.5	T	-	-	-
6	-	20.5	-	17.3	-	-	-	17.0	-	T	4.2	-
7	-	T	-	T	-	-	-	T	-	0.3	T	-
8	-	T	-	36.2	-	-	T	5.0	-	4.8	-	-
9	-	-	T	T	-	-	T	2.5	T	4.8	-	-
10	-	-	9.5	-	-	-	T	T	T	3.5	-	-
11	-	-	12.7	-	-	-	0.5	T	2.5	T	-	-
12	-	-	T	-	-	-	-	T	-	8.5	-	-
13	-	-	T	-	-	-	-	T	T	-	-	-
14	-	T	T	-	-	-	-	T	T	-	-	-
15	-	-	3.4	-	-	-	-	1.7	0.9	-	-	-
16	-	-	0.5	-	-	-	-	13.0	T	-	-	-
17	-	7.5	T	-	-	-	-	5.5	T	-	-	-
18	-	T	2.5	-	-	3.5	-	-	T	-	-	-
19	-	-	17.6	-	-	T	0.4	-	-	-	-	T
20	-	4.2	1.5	-	-	27.0	-	-	-	T	T	-
21	-	13.5	T	-	T	T	-	-	-	T	T	-
22	-	T	T	3.0	T	T	-	T	-	T	-	T
23	-	T	5.3	-	T	T	0.4	2.5	-	-	-	18.5
24	-	T	9.8	-	1.5	-	-	T	-	-	-	T
25	-	T	2.4	-	-	-	-	T	-	-	-	T
26	-	T	T	-	-	-	-	T	-	-	-	-
27	T	-	-	-	-	T	28.0	0.5	-	-	-	-
28	11.5	T	-	-	-	-	17.8	T	-	-	-	-
29	T	T	-	-	-	-	5.1	-	-	-	-	-
30	T	-	23.0	-	-	T	T	3.5	T	-	-	-
31	-	-	T	-	-	-	1.0	-	-	-	-	T
	12.5	67.2	88.2	56.5	1.5	30.5	53.2	116.1	3.4	23.4	4.2	18.5

Table 57

SAIG - RAINFALL INTENSITY

Part 1973 - 1976 Inclusive

Date	Highest fall (millimeters) within:-								
	15 m	30 m	1 h	3 h	6 h	12 h	24 h		
19.7.73	x	x	8.5	12.0	17.7	17.7	17.7	1973	
20.7.73	x	x	16.3	16.8	16.8	16.8	16.8		
5.9.73	x	x	10.6	10.6	10.6	10.6	10.6		
21.5.74	No details		x	x	x	x	28.4	1974 From daily	
7.2.75	x	x	8.3	12.2	14.3	16.4	18.3	1975	
8.2.75	x	x	7.2	14.3	14.3	15.4	15.4		
11.2.75	x	x	15.0	18.3	29.5	35.7	35.9		
13.5.75	x	x	8.1	11.2	11.2	11.2	20.0		
6.7.75	x	x	13.9	14.4	16.3	16.3	16.3		
21.7.75	x	x	9.0	17.4	17.4	17.4	17.4		
16.8.75	x	x	17.4	32.8	36.0	36.0	36.0		
18.8.75	x	13.0	20.0	33.0	38.0	41.6	41.6		
16.9.75	x	(16.0)	25.2	26.3	26.3	26.3	26.3		
2.2.76	11.0	13.0	14.5	17.7	20.2	20.2	21.0	1976	
6.2.76	x	5.0	8.0	13.0	17.5	19.0	20.5		
19.3.76	12.0	13.0	13.6	17.2	17.6	17.6	17.6		
30.3.76	x	x	9.5	18.0	20.5	20.5	23.0		
8.4.76	No details		x	x	x	36.2	36.2		Malfunction
20.6.76	(17.0)	22.0	27.0	27.0	27.0	27.0	27.0		
27.7.76	No details		x	x	x	x	28.0		Pen failed
28.7.76	x	x	7.0	12.0	17.8	17.8	17.8		
2.8.76	x	12.0	19.0	x	50.0	50.0	50.0		Partial failure
6.8.76	x	x	(15.0)	(17.0)	17.0	17.0	17.0		Partial failure
16.8.76	x	x	x	x	x	x	(13.0)	No chart	
23.12.76	9.1	11.0	11.6	11.7	11.8	16.9	19.7		

Table shows actual fall NOT rate of fall

Only events exceeding 15mm (or lesser events with one hour totals exceeding 10 mm) are listed.

Recorder totals sometimes differ slightly from daily gauge.