11-2 Flood Hydrograph

Fig. 11-2 shows the time-stage curve and rainfall distribution at Tangkulap, Ulu Kuamat and Barik Manis during the flood of February 1971. The water level shown in this figure represents the gauge reading, not the elevation above MSL. The water level correlation between the three stations cannot be made clear from Fig. 11-2 alone because of the malfunction of the water level gauge at Barik Manis, influences of tide, and shortage in the number of rainfall stations.

Other hydrographs currently available are shown in the following annexes.

11-3 Flood forecasting

According to the "Progress Report - Kinabatangan and Labuk Flood Forecasting Systems, 20 May 1977 (Annex 14)" prepared for DID Sabah Hydrology Section by a German expert, Dr. Rudolf Chlemutz, the time lag of peak flood level (i.e., travel time of medium-scale floods recorded in the period from 1969 to 1976) is as follows.

Tangkulap - Barik Manis: 9 - 87 hours (32 hours on the average)

Ulu Kuamut - Barik Manis: 23 - 72 hours (42 hours on the average)

While the Kinabatangan basin covers an area of 17,000 km^2, there are only 5 rainfall stations in the whole basin, so that the average area to be covered by each station is as wide as 3,400 km^2. Furthermore, hardly any rainfall correlation can be observed between Kuamut and Ulu Kuamut located only about 10 km apart from each other. Hence, discharge calculation based on rainfall involves extreme difficulty, and it is more expedient to forecast the water level at downstream points from that at upstream stations. For some years to come, therefore, it is advisable to apply the H-H correlation method for flood forecasting. If profile and cross-sectional levelling of the river is conducted in future, it will become possible to study the application of a method incorporating flood routing.

Table 11-1 (1) Flood Data (1971 Feb.)

DAILY RAINFALL FOR THE PERIOD
01-02-1971 - 15-02-1971 (KINABATANGAN BASIN)

Date	Kuamut 5274201	Ulu Kuamut 5074001	Tangkulap 5372001	Telupid 5671201	Sook 5163002	Sandakan Airport 588020
	inch	inch	inch	inch	inch	inch
01.02.71	4.41	0.29	1.46	0.77	-	0.25
02.02.71	0.03	-	-	0.05	1.25	-
03.02.71	0.11	-	-	-	-	0.12
04.02.71	0.30	-	-	0.01	0.10	2.00
05.02.71	0.12	-	-	0.01	1.25	0.61
06.02.71	5.70	0.40	-	3.41	0.62	1.90
07.02.71	4.65	0.39	-	4.94	0.77	1.30
08.02.71	No	0.32	-	3.01	0.22	0.03
09.02.71		0.24	-	0.65	0.17	3.08
10.02.71	Re	0.25	-	N.R.	0.53	2.95
11.02.71	co	-	N.R.	N.R.	0.14	1.61
12.02.71	rd	-	N.R.	0.03	0.16	-
13.02.71		0.07	-	0.03	2.09	0.03
14.02.71	1.50	0.22	-	0.29	0.79	0.22
15.02.71	0.03	-	-	0.04	0.08	-

Table 11-1 (2) Flood Data (1971 Feb.)

SG. KUAMUT AT ULU KUAMUT (5074401)

Date	Time	Water Level (ft.)	Water Level (m)	Discharge (m^3/s)
4- 2-71	0000hr.	6.5	1.98	72.5
5- 2-71	0000hr.	6.0	1.83	57.0
	0600hr.	6.0	1.83	57.0
	1200hr.	6.0	1.83	57.0
	1800hr.	6.0	1.83	57.0
	2200hr.	10.0	3.05	255.0
6- 2-71	0000hr.	20.0	6.10	1690
	0600hr.	25.5	7.77	2740
	1200hr.	29.8	9.09	3570
	1600hr.	32.0	9.76	3993
	2000hr.	30.0	9.15	3609
7- 2-71	0000hr.	28.0	8.54	3230
	0200hr.	26.8	8.17	2995
	0600hr.	29.4	8.96	3515
	1000hr.	36.0	10.98	4759
	1100hr.	40.0	12.20	5526
	1200hr.	45.0	13.72	6481
	1600hr.	43.4	13.23	6174
	1800hr.	42.4	12.93	5985
	2200hr.	40.0	12.20	5526
8- 2-71	0000hr.	38.8	11.83	5294
	0600hr.	30.0	9.15	3609
	1200hr.	21.4	6.52	1955
	1400hr.	24.0	7.32	2455
	1500hr.	24.5	7.47	2555
	1700hr.	23.7	7.23	2400
	1900hr.	25.8	7.87	2805
	2200hr.	28.8	8.78	3375
9- 2-71	0000hr.	29.8	9.09	3570
	0600hr.	35.4	10.79	4640
	1000hr.	42.0	12.8	5903
	1200hr.	40.6	12.38	5639
	1800hr.	33.6	10.24	4294
10- 2-71	0000hr.	26.4	8.05	2120
	0600hr.	20.0	6.10	1148
	1200hr.	17.0	5.18	755
	1800hr.	14.6	4.45	537
11- 2-71	0000hr.	12.6	3.84	390
	0600hr.	10.6	3.23	257.5
	1200hr.	9.4	2.87	190

Table 11-1 (3) Flood Data (1971 Feb.)

SG. MILIAN AT TANGKULAP (5373401)

Date	Time	Water Level (ft.)	Water Level (m)	Discharge (m^3/s)
4- 2-71	0000hr.	16.4	5	328
	0600hr.	14.6	4.45	280
	1200hr.	13.1	3.99	240
	1800hr.	11.7	3.57	204
	2300hr.	11.0	3.35	184
5- 2-71	0000hr.	11.2	3.41	192
	0600hr.	13.4	4.09	248
	1200hr.	18.5	5.64	384
6- 2-71	0000hr.	32.7	9.97	822
7- 2-71	0000hr.	44.8	13.66	1258
8- 2-71	0000hr.	53.3	16.25	1580
9- 2-71	0000hr.	58.1	17.71	1770
	0600hr.	58.9	17.96	1804
	1200hr.	59.7	18.20	1836
	1800hr.	60.5	18.45	1868
10- 2-71	0000hr.	61.0	18.60	1888
	0600hr.	61.6	18.78	1910
	1200hr.	62.0	18.90	1926
	1800hr.	61.8	18.84	1918
11- 2-71	0000hr.	61.3	18.69	1898
	0600hr.	60.6	18.48	1870
	1200hr.	60.0	18.29	1850
	1800hr.	59.3	18.08	1820
12- 2-71	0000hr.	58.6	17.87	1798
13- 2-71	0000hr.	55.4	16.89	1666
14- 2-71	0000hr.	52.7	16.07	1558
15- 2-71	0000hr.	50.0	15.24	1450

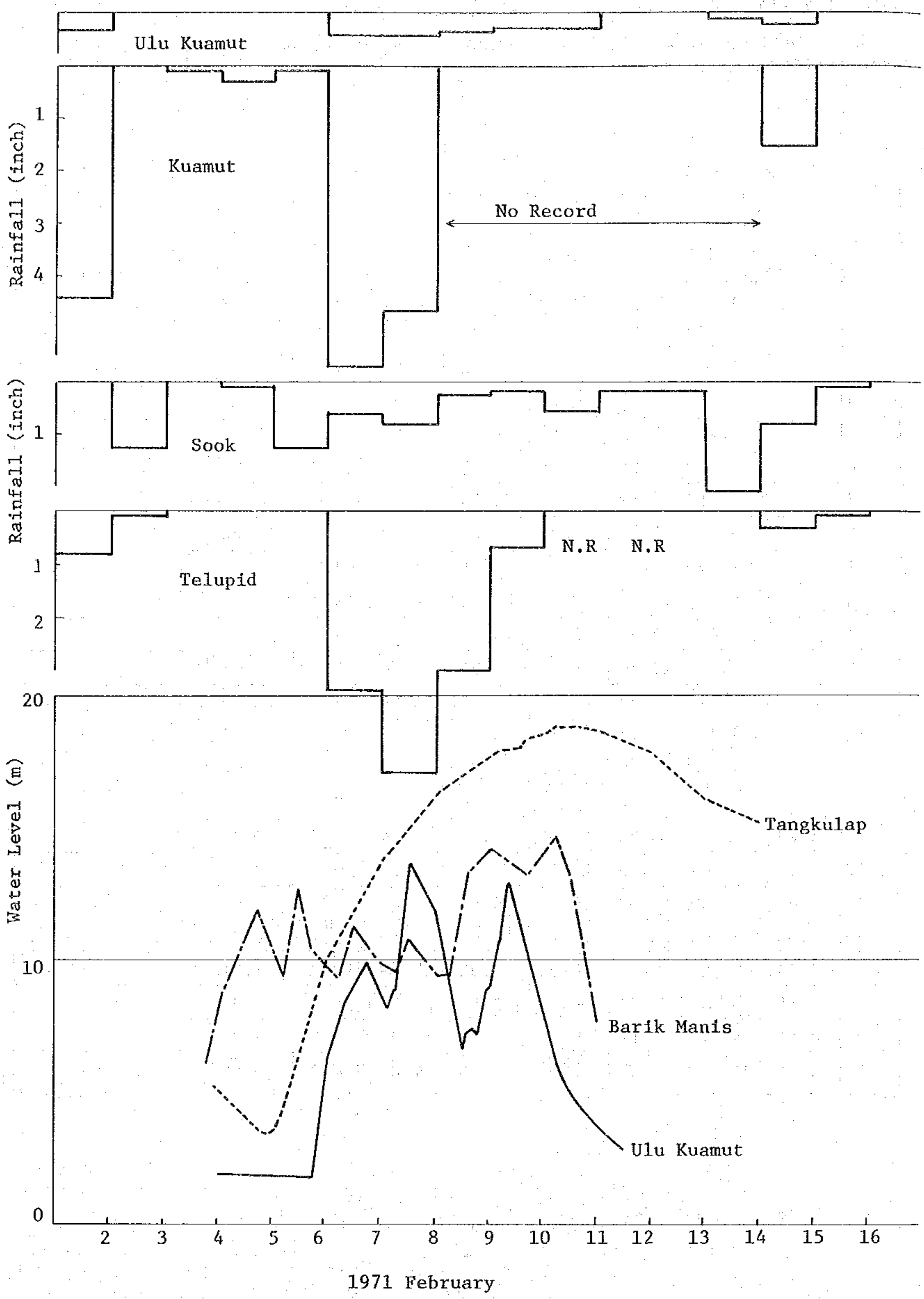
Table 11-1 (4) Flood Data (1971 Feb.)

Daily Summary of Hourly Gauge Height (m) at Different Stations

River System: February 1971

	3	4	5	6	7	8	9	10			
Time			Barik Manis								
1		8.82	9.83	9.78	9.97	9.68	14.11	14.08			
2		8.98	9.62	9.75	9.98	9.65	14.13	14.07			
3		9.04	9.42	9.72	9.98	9.63	14.10	14.14			
4		9.24	9.27	9.66	9.89	9.63	14.07	14.37			
5		9.42	9.19	9.45	9.74	9.56	13.99	14.57			
6		9.53	9.24	9.25	9.66	9.46	13.87	14.60			
7		9.78	9.59	9.17	9.74	9.57	13.64	14.51			
8		10.41	10.24	9.53	10.01	9.89	13.26	14.42			
9		11.41	11.02	10.03	10.35	10.67	13.46	14.34			
10		11.81	11.81	10.58	10.62	11.70	14.13	14.10			
11		11.43	12.41	11.17	10.82	12.42	14.13	13.66			
12		11.13	12.70	11.22	10.93	12.66	13.52	13.05			
13		11.11	12.76	11.25	11.00	12.56	12.90	12.09			
14		11.19	12.41	11.22	10.97	12.80	12.77	10.96			
15		11.34	11.89	11.09	10.82	12.00	12.89	9.92			
16		11.45	11.28	10.94	10.64	13.14	12.90	9.49			
17	6.29	11.55	10.82	10.73	10.49	13.24	13.01	9.49			
18	6.16	11.80	10.53	10.52	10.15	13.35	13.26	9.33			
19	6.40	11.98	10.32	10.35	10.07	13.47	13.53	8.93			
20	6.96	11.66	10.18	10.12	10.01	13.59	13.75	8.50			
21	7.47	11.03	10.07	9.92	9.92	13.69	13.90	8.17			
22	7.89	7.50	9.97	9.86	9.85	13.78	14.02	7.96			
23	8.23	10.26	9.89	9.86	9.78	13.90	14.11	7.80			
24	8.55	10.06	9.85	9.92	9.48	14.02	14.11	7.68			

Fig. 11-2 Water Level and Rainfall: 1971 February Flood



Chapter 12. Flood Forecasting and Warning System

12-1 Necesity of Flood Forecasting System

Although the Kinabatangan basin is still at a very early stage of development and consequently has not much property to be protected against flood damage, nevertheless all towns and villages in the basin are located along the Kinabatangan river channel, so that even medium-scale floods occurring about once in every five years incur great damage, washing away many houses and causing a serious loss of crops, livestock and household assets as well as heavy casualties.

The basin is covered by the The Sabah State Third Malaysia Plan for agricultural development and is blessed with an abundance of land and water resources which promises a high development potential.

One of the main targets of the Third Malaysia Plan is the rectification of the income disparity between races and different social strata. The levels of the people's income and social infrastructure in the basin are far lower than those in other parts of Sabah State, so that high priority is given to the basin in the appropriation of the State development expenditure and in the planned improvement of the State social infrastructure.

The effect of establishing a flood forecasting and warning system in the basin is not very large if considered only in terms of economic aspects. However, there certainly is great necessity for the system as it will undoubtedly produce an immense incentive effect on the basin's overall administrative and socio-economic development with the future increase of its development potentials and mitigation of social disparity through the improvement of social infrastructure.

12-2 Target Areas and Points for Flood Warning

For the Kinabatangan basin flood forecasting and warning system, the team selected Kuamut, Balat, Pintasan, Lamag, Bilit and other major Kampongs as target areas for flood warning, but these are subject to change after a further detailed survey. The team also selected Balat, Bukit Garam, and Kuamut as forecasting points.

12-3 Network of Telemetering Observation Stations

The planned telemetering network will have the following observation stations.

Tongod station (Rainfall and water level)

Tangkulap station (Rainfall and water level)

Ulu Kuamut station (Rainfall and water level)

Balat station (Rainfall and water level)

Bukit Garam station (Rainfall and water level)

Bilit station (Water level)

Changes may be effected to the above plan according to the findings of a detailed field survey to be conducted at a future date.

12-4 Telemetering System

In addition to the cautions given in Section 6-3, the following points must be taken into account in planning the Kinabatangan basin telemetering system.

- The basin is located far from Kota Kinabalu, so that careful studies must be made in planning the transmission of telemetered data to Kota Kinabalu or Sandakan.
- The basin is covered by thick forests. Hence, care must be exerted in selecting the locations of observation stations, with adequate levelling of station site or clearing of forest land conducted for their construction.
- The system calls for the operation of relay stations. The locations of these stations must be determined with care, and their establishment will call for the availability of a construction road and levelling work including clearing of forest land.

These problems will have to be studied carefully in the next survey.

For smooth functioning of the system, a total of 8 stations comprising 2 water level stations, 1 rainfall station, and 5 water level and rainfall stations will be operated in the basin, with the master control station established at DID Kota Kinabalu and the monitoring station at DID Branch Office at Sandakan.

As for relay stations indispensable for the network operation, the following two alternative plans are proposed.

Plan A: New construction of relay station No. 1 on the summit of a mountain near Balat and relay station No. 2 at the foot of Mt. Kinabalu to link Kota Kinabalu and relay station No. 1.

Plan B: Construction of relay station No. 1 in the same place as proposed in Plan A and the utilization of the existing relay station of Telecom. Department at Trig Hill as relay station No. 2.

A detailed explanation is given below on each aspect of the telemetering network which is illustrated in Fig. 12-1.

(1) Water level station

The selected water level stations are located at Bilit and Tangkulap. At Tangkulap, the water level station house is located at some distance from rainfall station house.

Both Bilit and Tangkulap stations call for the selection of a suitable water level gauge and levelling of station site.

(2) Rainfall station

Tangkulap rainfall station will be used for the network operation. It is located favorably at the verge of Tangkulap.

(3) Water level-cum-rainfall station

The five stations at Tongod, Ulu Kuamut, Kuamut, Balat, and Bukit Garam will be used for the network operation. At each of these stations, a cable must be laid to connect the rain gauge house and the water level gauge house.

Fig. 12-1 Telemetering Network In The Kinabatangan River Basin

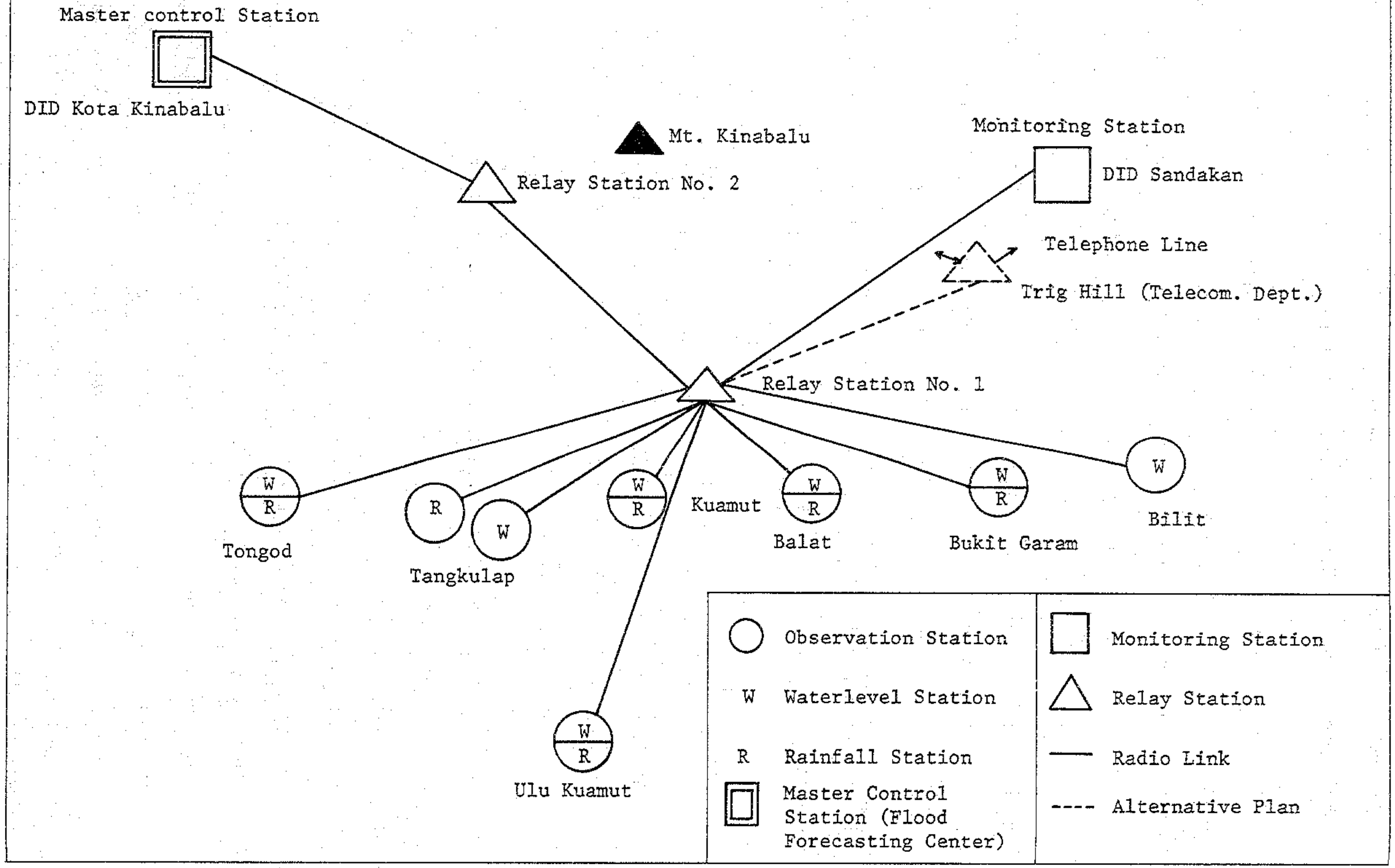
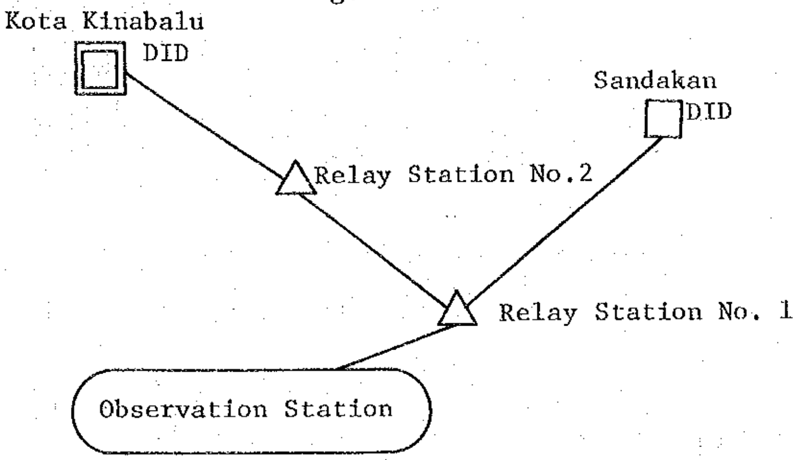
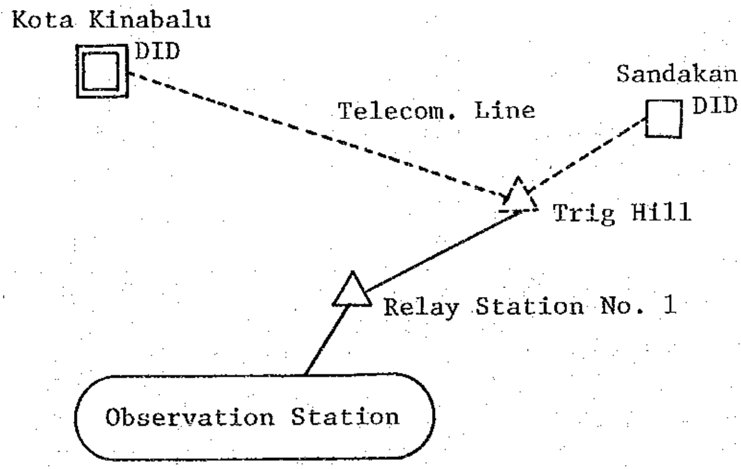


Fig. 12-2

Plan A



Plan B-1



Plan B-2

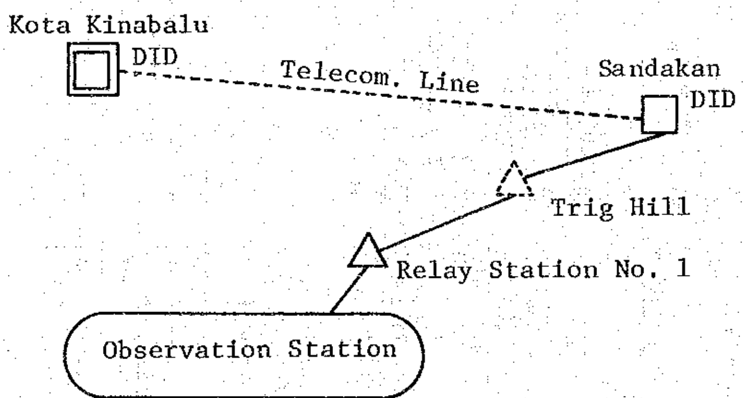


Table 12-1 Circuit Design (Kinabatangan River Basin)

Item \ Name of station	Unit	Rept.-Bilit (72.9 km)		Rept.-Garam (33.5 km)		Rept.-Balat (11.8 km)		Rept.-Kuamut (21.3 km)		Rept.-Ulu Kuamut (37.6 km)		Rept.-Tangkulap (27.7 km)		Rept.-Tongot (66.1 km)		Rept.-Trig Hill (77 km)	
Transmitting Power	dBm	40	10W	40	10W	40	10W	40	10W	40	10W	40	10W	40	10W	40	10W
Free Space Loss	dB	-106.6		-99.8		-90.7		-95.9		-100.8		-98.2		-105.7		-107	
Additional Loss	"	-12.0	7.8+4.2	-4.3		-33.5	10.5+23	-6		-16.5		-14.0		-26			
Feeder Loss	"	-3.2	10D-2V 0.04/m 40+40	-3.2		-3.2		-3.2		-3.2		-3.2		-3.2		-3.2	
Antenna Gain(T)	"	8	3el Yagi	8	3el Yagi	8		8		8		8		8		10	5el Yagi
" (R)	"	8	3el Yagi	8	3el Yagi	2	(62°-6dB)	4	(48°-4dB)	4	(48°-4dB)	8		8	(11°-0dB)	10	5el Yagi
Receiving Power	dBm	-65.8		-51.3		-77.4		-53.1		-68.5		-59.4		-78.9		-50.2	
Received Noise Power	"	-115		-115		-115		-115		-115		-115		-115		-115	
Radio Frequency S/N (C/N)	dB	49.2		63.7		37.6		61.9		46.5		55.6		36.1		64.8	
S/N Improvement Factor	"	12		12		12		12		12		12		12		12	
Standard S/N	"	61.2		75.7		49.6		73.9		58.5		67.6		48.1		76.8	
Fading Loss	"	-7.3	0.1dB/km	-3.4		-1.2		-2.1		-3.8		-2.8		-6.6		-7.7	
S/N at Fading	"	53.9		72.3		48.4		71.8		54.7		64.8		41.5		69.1	
Threshold Level	dBm	-106		-106		-106		-106		-106		-106		-106		-106	
Threshold Margin	dB	40.2		54.7		28.6		52.9		37.5		46.6		27.1		55.8	
Threshold Margin at Fading	"	32.9		51.3		27.4		50.8		33.7		43.8		20.5		48.1	

Since many of water level stations are installed on the slope of river bank, it will be necessary to select a suitable station site and clear the forest land in order to remove all obstacles to radio wave propagation.

(4) Relay station

The proposed telemetering network presupposes the operation of 2 relay stations. Relay station No. 1 is to be established on the summit of a mountain near Balat, but its exact location will have to be determined by a field survey to be conducted prior to radio propagation test because the availability of access road and the summit condition of the mountains near Balat were not investigated during the preliminary survey. Aerial survey using a helicopter is recommended for this field survey.

Regarding the location of relay station No. 2, which is also required for data transmission to Kota Kinabalu, the team proposes the following two alternative plans.

Plan A, intended for construction of a new station at the foot of Mt. Kinabalu, calls for a field survey to check the availability of access road and determine the site of station house. If this plan is adopted, an exclusive circuit connecting the master control station and each terminal station can be established.

Plan B is intended to use the existing Trig Hill relay station near Sandakan which belongs to Telecom.Department. In this case, Trig Hill will be connected by the network's exclusive VHF link and the telephone channel of Telcom.Department will be used for transmission from Trig Hill to Kota Kinabalu or Sandakan. This plan is advantageous in terms of cost and maintenance service because it envisages the use of an existing station, but it will make it inevitable for the circuit reliability to be influenced by the public telephone channel to be used.

In another plan conceivable besides these two alternative plans, VHF relay equipment will be installed at the existing Trig Hill relay station for transmission to DID Sandakan where monitoring equipment will be installed for data transmission to Kota Kinabalu by means of the public telephone channel of Telecom.Department. In this plan, the network's exclusive circuit can be extended at least to Sandakan.

Selection between the above three plans should be made on the basis of circuit design, radio propagation test and a future field survey as well as the relationship with Telecom.Department.

If the telephone line of Telecom.Department is to be used, the data transmission system (transmission speed, modulation method, etc.) must also be examined carefully.

3 (or 2) frequencies in 70 MHZ band will be required as shown in Fig. 12-3, and the difference between $f_1 - f_2 - f_3$ should be larger than 2 MHz.

(5) Circuit design

Circuit design of each span is shown in Table 12-1 which indicates that an S/N (Signal to Noise Ratio) ratio of more than 30 dB can be assured for each span on the basis of calculation. It is possible, however, that propagation loss will be influenced largely by the actual location of each telemetering station, so that the threshold margin to offset the influence must be checked by radio propagation test.

(6) Equipment configuration and estimated construction cost Equipment configuration at each station is shown in Fig. 12-4, and breakdown of approximate construction cost by equipment, housing and antenna pole is shown in Table 12-2.

It is to be noted that Table 12-2 shows only very rough figures which must be checked and corrected after a detailed survey.

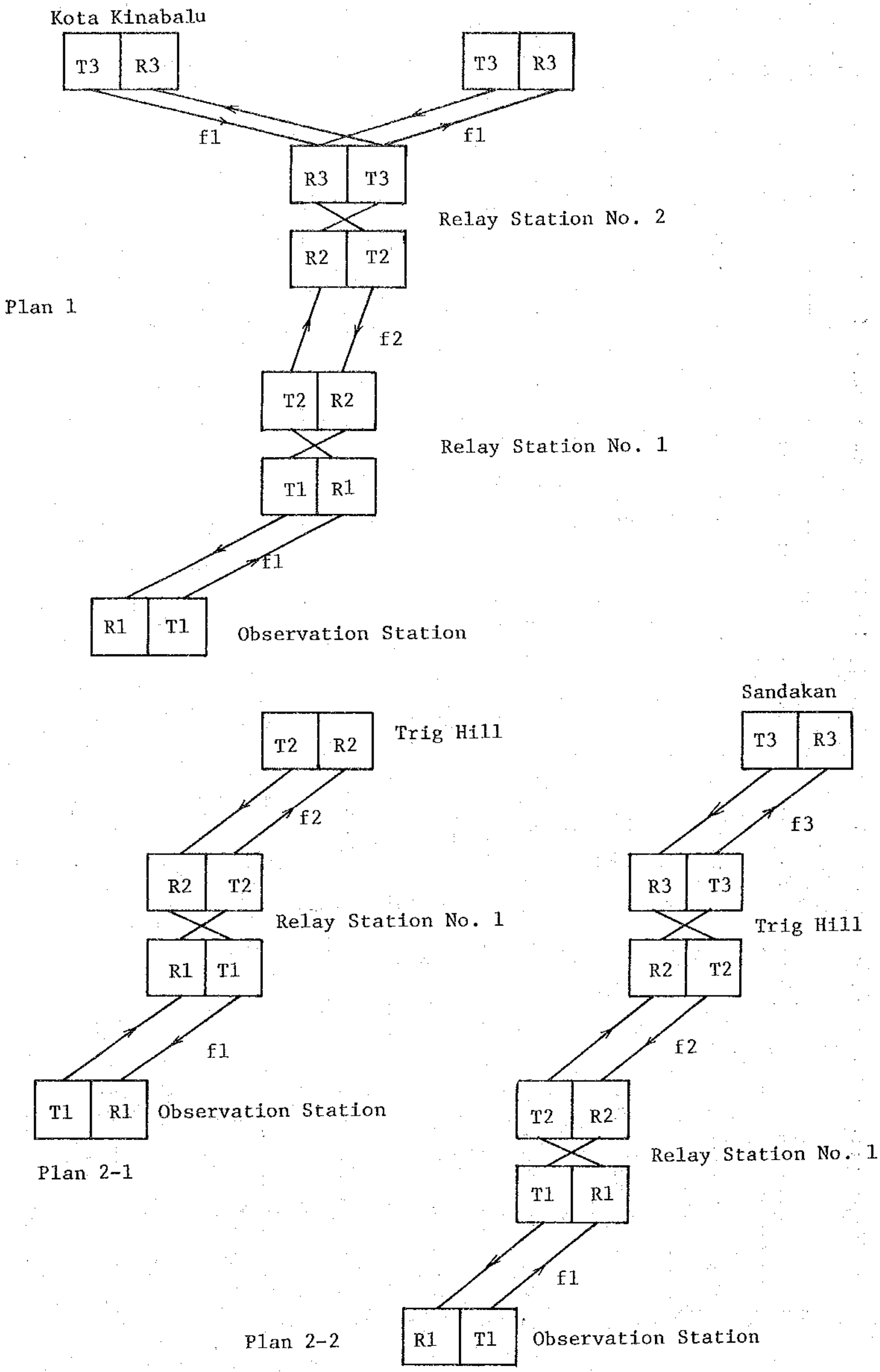
Table 12－2

Approximate Construction Cost of Telemetering Facilities(Kinabntangan River Basin)

US $

Station	Number	Equipment	Housing	Antenna Pole	Total	Remarks
Master Control Station	1	260,000	10,000	5,000	275,000	DID in Kota Kinabalu
Monitoring Station	1	162,000	5,000	5,000	172,000	DID Branch Office in Sandakan
Repeater Station	2	152,000	30,000	8,000	190,000	
Water Level Station	2	66,000	14,000	8,000	88,000	
Rainfall Station	1	25,000	5,000	4,000	34,000	
Water Level and Rainfall Station	5	200,000	35,000	20,000	255,000	
Total		865,000	99,000	50,000	1,014,000	

Fig. 12-3


Kota Kinabalu
T3
R3
T3
R3
f1
f1
R3
T3
Relay Station No. 2
R2
T2
Plan 1
f2
T2
R2
Relay Station No. 1
T1
R1
f1
R1
T1
Observation Station
Sandakan
T2
R2
Trig Hill
T3
R3
f2
f3
R2
T2
R3
T3
Relay Station No. 1
Trig Hill
R1
T1
R2
T2
f1
f2
T1
R1
Observation Station
T2
R2
Plan 2-1
Relay Station No. 1
T1
R1
f1
Plan 2-2
R1
T1
Observation Station

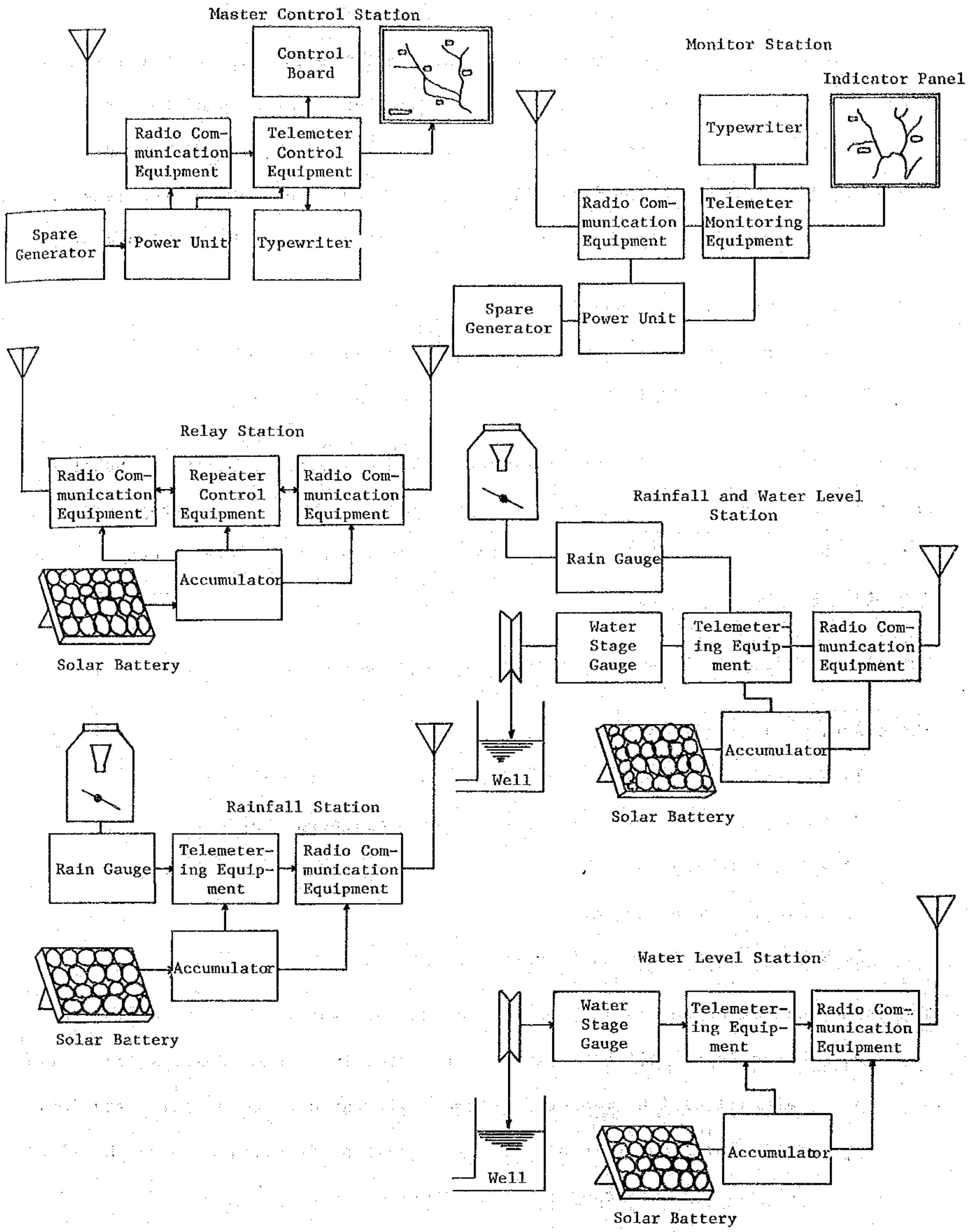


Fig.12-4 Equipment Configuration

12-5 Actual Operation of Flood Forecasting System

Flood forecast will be made by the stage-correlation method in which the water level at downstream stations (Kuamut, Balat, and Bukit Garam) will be estimated from that observed at upstream stations (Tongod, Tangkulap, and Ulu Kuamut). Run-off calculation based on rainfall is not applicable because of the lack of uniformity in rainfall distribution and the small number of observation stations.

Travel time of the post floods is as shown below.

Tangkulap - Bukit Garam : 32 hrs on the average

Ulu Kuamat - Bukit Garam : 43 hrs on the average

Therefore it will be possible to estimate the water level at Balat and Bukit Garam 24 hours in advance. As for the water level at Kuamat, the stage correlation with Ulu Kuamut station is to be used for estimation with a taget leeway of 6 hours.

Actual operation of the system will be as described below.

The system will consist of:-

1) Water level observation stations distributed in the basin.
2) Rainfall observation stations distributed in the basin.
3) A telemetering network.
4) A flood forecasting centre.
5) Warning facilities in flood-prone areas.

The system operation during a flood will be as follows:-

a. Water level will be measured automatically at each observation station.
b. Rainfall will be measured automatically at each observation station.
c. Water level and rainfall data will be sent automatically to the flood forecasting centre by the telemetering network.
d. Water level at each major place (each selected flood forecasting point) in the downstream area will be calculated 6 - 24 hours in advance on the b the basis of the water level and rainfall data sent to the flood

forecasting centre.

e. Forecast values of water level will be reported to the administrative organization(s) concerned.

f. Flood warning will be issued to the inhabitants in the flood-prone area by direction of the administrative organization(s) concerned.

g. Evacuation and relief activities will be started.

12-6 Required Future Studies

The following studies must be made in future for the establishment and operation of the proposed flood forecasting and warning system.

1) Consolidation and analysis of existing hydrological observation data.
2) Profile and cross-sectional levelling (to be conducted for each stage and discharge observation station and for determination of zero elevation of water level gauge).
3) Determination of location and design of each observation station.
4) Studies on the method of observation.
5) Studies on the method of data transmission, collection and analysis.
6) Studies on the method of giving flood warnings.
7) Studies on the method of system management and maintenance.
8) Estimation of the construction cost.

12-7 Effects of Flood Forecasting System

Operation of the proposed flood forecasting and warning system in the Kinabatangan basin will yield the following effects.

1) Alleviation of flood disasters inflicted upon the inhabitants in the basin, e.g., washing away of hours, damage to properties including crops and livestock, and casualties.
2) Improvement of social infrastructure which is behind the level attained in other states, and consequent contribution towards rectification of income disparity between races and between different social strata

under the Third Malaysia Plan.

3) Augmentation of the potential of the basin's development envisaged by the Third Malaysia Plan.

Chapter 13. Administration, Management and Maintenance

13-1 DID Organization

Fig. 13-1 is the present organizational chart of DID Sabah which is expected to undertake the construction and management of the Kinabatangan basin flood forecasting and warning system.

Even after automatic collection of hydrological data becomes a reality by the completion of the system, it will be necessary to maintain the present number of personnel for the purpose of equipment maintenance and inspection and discharge data analysis. In addition, a number of hydrologist/engineers will have be newly recruited for hydrological analysis in order to assure that the system will be operated smoothly for highly accurate forecasting service.

Annual budget of DID Sabah is as shown below.

Table 13-1 Budget of DID Sabah (M$ million)

Year	Develepment Expenditure	Operating Expenditure	Total
1976	4.59	4.39	8.99
1977	3.15	4.91	8.06
1978	5.90	6.07	11.97

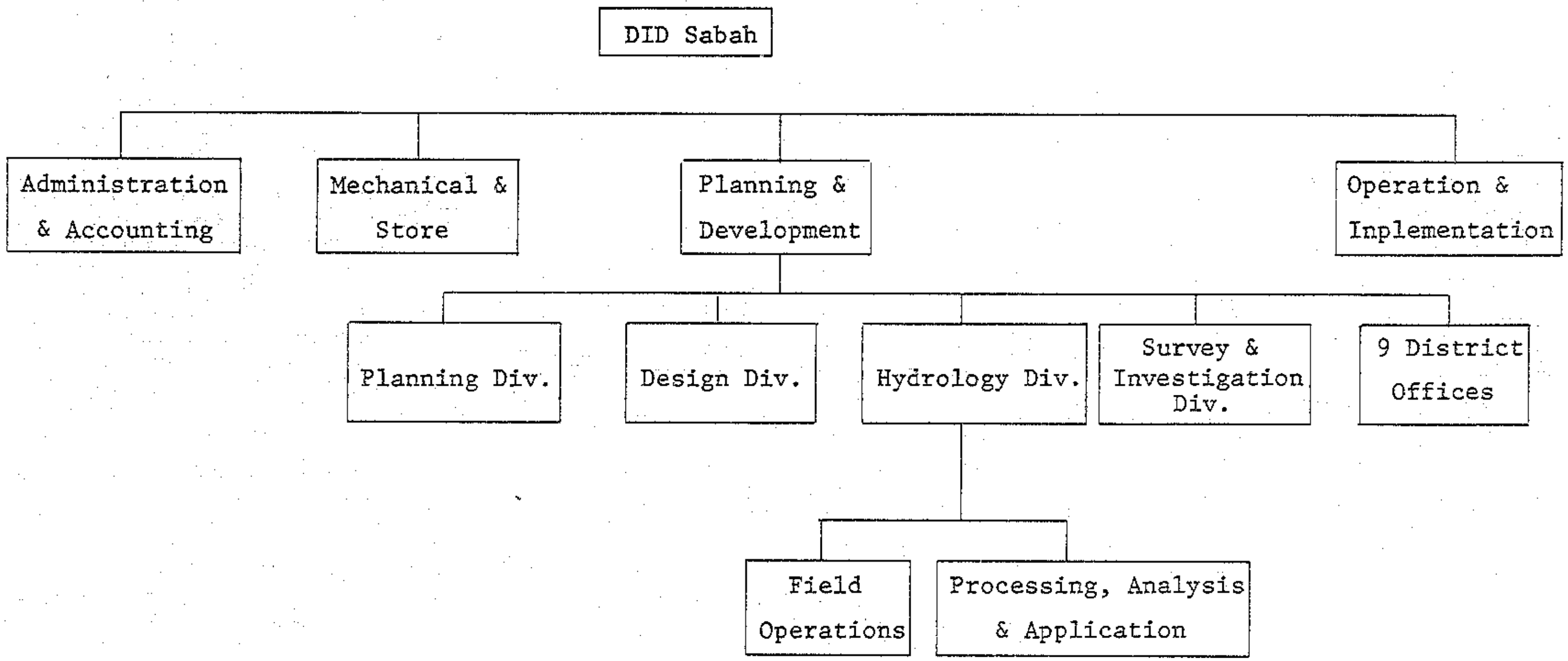
13-2 Management and Maintenance

It is advisable that DID Sabah undertake the management and maintenance of all system facilities excluding telemetering facilities which should preferably be left to Telecom.Department for satisfactory maintenance service.

When the water level is forecast, the flood forecasting centre at DID will notify the relevant administrative organization of it, which will be followed by the procedure for warning varying by the degree of danger, i.e., alert level, warning level, and danger level. It may as well be recommended to plan the warning system by referring to the flood warning procedure actually in operation in the Perak river basin, Peninsular Malaysia. (See Fig. 13-2)

The system maintenance and inspection calls for the services of knowledgeable and experienced engineers. Hence, it is necessary to recruit additional engineers and provide all engineers with technical training in the system operation, management and maintenance.

Fig. 13-1 DID Sabah Organization Chart



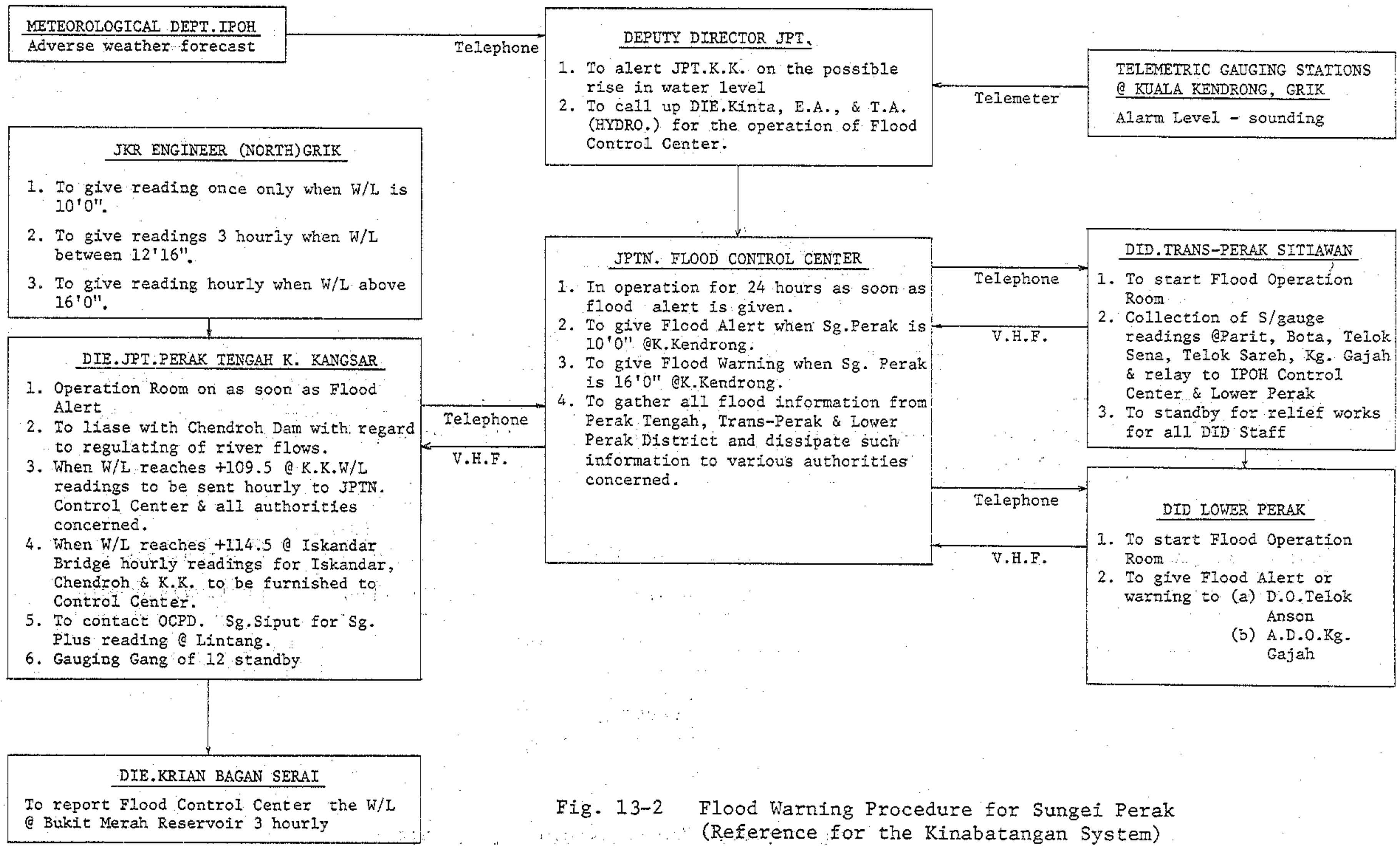


Fig. 13-2 Flood Warning Procedure for Sungei Perak (Reference for the Kinabatangan System)

Chapter 14. Recommendation and Conclusion

Considering the severity of flood disasters so far sustained by the inhabitants in the Kinabatangan basin and the basin's high development potentials, it is certain that the establishment of a flood forecasting and warning system will yield immense promotional effects including the livelihood stabilization and improvement for the people in the basin. It is therefore recommended that a further detailed survey be conducted for early establishment of the system.

The system should be planned to be an appropriate one designed in consideration of various aspects including cost-benefit ratio, easy of operation, etc.

The team noted that hydrological observation stations, including those located in distant places, are given satisfactory maintenance and inspection service by DID personnel. However, the past observation data include missing records assignable to the failure/malfunction of automatic gauges. Maintenance and inspection service should therefore be performed with greater care than in the past especially in the January - February period.

It is advisable to conduct a profile and cross-sectional levelling of the Kinabatangan for the purpose of efficient flood analysis. Data of such levelling are indispensable not only for flood analysis but also for the river basin study and the basin development study.

ANNEX 1 TANGKULAP 5373401

Daily Mean Stage (1969-1975)

STATION NO. 5373401.

YEAR 1969

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
2	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
3	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
4	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
6	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
7	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
8	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
9	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
10	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
11	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
12	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
13	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
14	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	15. 39	
16	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	14. 91	
17	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	14. 56	
18	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	14. 36	
19	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	15. 40	
20	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	14. 71	
21	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	14. 90	
22	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	14. 59	
23	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	16. 46	
24	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	17. 24	
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	17. 66	
26	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	17. 53	
27	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	16. 94	
28	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	16. 08	
29	*****		*****	*****	*****	*****	*****	*****	*****	*****	*****	16. 17	
30	*****		*****	*****	*****	*****	*****	*****	*****	*****	*****	16. 22	
31	*****		*****		*****		*****	*****		*****		17. 16	
MIN.	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	14. 28	14. 28
MEAN	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	15. 90	15. 90
MAX.	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	17. 88	17. 88

N. B. MIN. AND MAX. ARE INSTANTANOUS VALUES

HYDROLOGY BRANCH D. I. D. MALAYSIA

STATION NO. 5373401.

YEAR 1970

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	16.92	*****	13.15	15.50	15.48	*****	*****	15.25	*****	14.69	*****	*****	
2	16.59	*****	13.14	*****	16.51	*****	*****	16.24	*****	15.12	*****	*****	
3	15.72	*****	13.13	*****	16.25	*****	*****	15.41	*****	15.35	*****	*****	
4	15.38	*****	13.11	*****	15.38	*****	*****	14.98	*****	15.08	*****	*****	
5	15.61	*****	13.14	*****	14.50	*****	*****	14.51	*****	15.24	*****	*****	
6	15.74	*****	13.34	*****	15.52	*****	*****	14.63	15.28	15.22	*****	*****	
7	15.32	*****	13.26	*****	15.95	*****	15.55	*****	14.60	14.67	*****	*****	
8	*****	*****	13.26	*****	14.65	*****	15.22	*****	14.51	15.33	*****	*****	
9	*****	*****	13.08	14.29	14.95	*****	14.95	*****	14.27	16.57	*****	*****	
10	*****	*****	13.00	14.29	15.88	*****	15.08	16.33	14.19	18.44	*****	*****	
11	*****	*****	12.98	14.10	14.76	*****	14.78	16.31	14.04	20.37	*****	*****	
12	16.78	*****	12.97	13.96	14.25	*****	14.41	16.70	13.90	19.43	*****	*****	
13	15.76	*****	12.93	13.79	14.80	*****	14.21	16.08	13.84	17.23	*****	*****	
14	15.98	*****	12.90	13.56	14.96	*****	14.08	15.33	13.83	15.14	*****	*****	
15	14.98	*****	*****	13.51	14.83	*****	13.95	16.26	13.79	14.48	*****	*****	
16	14.45	*****	13.44	13.66	15.42	*****	13.91	17.73	13.74	14.22	*****	*****	
17	14.23	*****	13.35	13.73	15.53	*****	14.04	17.59	13.72	14.03	*****	*****	
18	14.65	*****	13.38	13.51	16.05	*****	14.83	17.49	14.11	14.50	*****	*****	
19	17.65	*****	13.25	13.61	*****	*****	15.30	17.91	14.21	14.27	*****	*****	
20	17.68	*****	13.16	13.49	*****	*****	14.98	17.63	14.65	15.09	*****	*****	
21	16.52	*****	13.90	13.95	*****	*****	14.75	16.22	18.52	17.47	*****	*****	
22	*****	*****	13.94	15.12	*****	*****	14.57	15.50	19.16	*****	*****	*****	
23	*****	13.38	13.64	13.97	*****	*****	14.10	15.07	17.17	*****	*****	*****	
24	*****	13.31	13.46	13.54	*****	*****	15.58	16.64	16.60	*****	*****	*****	
25	*****	13.30	13.25	13.57	*****	*****	15.49	15.80	19.38	*****	*****	*****	
26	*****	13.27	13.53	14.49	*****	*****	15.37	*****	18.60	*****	*****	*****	
27	*****	13.22	13.84	14.82	*****	*****	14.57	15.78	18.65	*****	*****	*****	
28	*****	13.18	14.00	14.39	*****	*****	14.36	15.75	19.73	*****	*****	*****	
29	*****		14.20	15.23	*****	*****	15.10	15.10	18.07	*****	*****	*****	
30	*****		13.80	14.88	*****	*****	15.34	15.91	15.66	*****	*****	*****	
31	*****		13.46		*****		14.70	*****		*****		*****	
MIN.	14.14	13.16	12.88	13.39	14.16	*****	13.86	14.41	13.71	13.96	*****	*****	12.88
MEAN	15.88	13.28	13.37	14.13	15.31	*****	14.77	16.08	15.77	15.81	*****	*****	15.00
MAX.	17.95	13.41	14.46	17.35	16.81	*****	16.05	18.25	19.94	20.54	*****	*****	20.54

N. B. MIN. AND MAX. ARE INSTANTANOUS VALUES

STATION NO. 5373401.

YEAR 1971

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	*****	20.77	*****	*****	14.23	*****	17.40	13.84	16.14	13.93	17.49	16.37	
2	*****	21.76	*****	*****	14.16	15.87	18.15	14.34	16.69	13.83	16.57	16.36	
3	*****	19.82	*****	*****	14.11	16.05	19.69	14.19	16.00	13.75	16.12	17.73	
4	*****	16.91	*****	*****	15.12	17.01	19.79	13.82	15.24	13.67	15.29	16.68	
5	*****	15.94	*****	*****	15.14	16.88	17.69	16.44	14.64	13.60	14.90	15.62	
6	*****	21.93	*****	*****	14.49	16.39	15.94	18.90	14.33	13.53	15.90	15.23	
7	*****	26.04	15.16	*****	15.28	16.51	16.41	17.55	14.29	13.47	16.67	15.47	
8	*****	28.69	15.07	*****	14.52	17.91	17.64	17.09	14.65	13.42	16.35	15.92	
9	*****	30.19	14.84	*****	14.74	18.70	15.87	16.68	14.32	13.36	15.43	15.82	
10	*****	31.07	15.58	*****	16.24	17.62	14.85	16.36	14.23	13.31	14.95	16.01	
11	*****	30.99	16.15	*****	15.28	16.62	14.41	16.58	15.38	13.26	14.92	20.90	
12	*****	30.00	15.02	*****	14.25	15.53	15.53	16.44	16.62	13.22	16.27	21.65	
13	14.99	28.72	14.63	*****	13.92	14.66	16.59	16.80	15.77	13.21	16.29	20.81	
14	14.85	27.63	14.40	*****	13.89	14.27	16.98	15.67	16.32	13.29	17.70	20.34	
15	14.92	27.06	14.78	*****	14.09	14.10	16.64	14.94	16.78	13.33	20.30	17.81	
16	14.58	26.41	16.74	*****	14.21	14.08	15.10	14.80	16.35	13.30	20.65	16.24	
17	14.25	25.68	16.42	13.58	14.57	14.05	14.40	16.07	15.71	14.92	18.83	16.48	
18	*****	25.01	17.81	13.72	14.47	13.90	14.86	16.33	15.62	15.56	19.76	16.75	
19	13.94	24.12	19.10	14.92	14.11	13.87	14.55	16.59	15.48	14.97	20.18	16.30	
20	14.04	23.20	17.96	17.01	14.00	13.77	14.29	16.41	14.89	15.51	17.67	16.15	
21	14.51	21.91	16.33	16.43	13.83	13.96	14.07	15.94	15.76	15.61	16.89	17.14	
22	14.53	19.88	15.73	16.17	14.41	16.49	13.79	16.87	15.57	15.18	17.64	17.36	
23	18.25	17.87	15.26	15.66	14.68	15.86	13.68	16.46	15.13	14.96	17.21	16.81	
24	21.84	16.81	14.78	16.01	15.57	17.21	14.12	16.42	15.73	14.31	16.91	18.07	
25	21.20	16.41	14.53	15.47	15.31	17.95	13.70	15.84	16.97	14.46	19.36	19.57	
26	20.68	17.30	14.36	14.46	15.00	16.25	13.65	17.89	16.66	16.17	17.67	20.10	
27	20.43	*****	15.76	13.94	14.28	15.21	13.76	20.91	15.25	17.16	15.85	18.92	
28	19.87	*****	16.63	13.76	14.18	14.74	13.65	20.34	14.48	16.92	17.36	17.18	
29	17.94		14.95	13.69	14.96	16.77	14.09	17.54	14.20	16.30	16.72	17.06	
30	16.49		15.03	13.70	14.60	16.87	14.13	16.75	14.04	15.42	16.78	17.30	
31	16.99		15.28		14.08		13.84	16.21		16.87		19.53	
MIN.	13.92	15.72	14.31	13.54	13.78	13.74	13.62	13.70	13.98	13.20	14.82	15.12	13.20
MEAN	16.91	23.54	15.69	14.89	14.57	15.83	15.46	16.48	15.44	14.51	17.15	17.54	16.48
MAX.	21.96	31.24	19.45	17.31	16.56	18.97	20.21	21.18	17.32	17.87	20.91	21.91	31.24

N. B. MIN. AND MAX. ARE INSTANTANOUS VALUES

HYDROLOGY BRANCH D. I. D. MALAYSIA

STATION NO. 5373401.

YEAR 1972

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	21. 63	15. 59	14. 74	21. 02	*****	19. 08	13. 81	13. 19	19. 94	18. 89	19. 58	14. 27	
2	22. 19	14. 87	15. 01	19. 54	*****	16. 59	13. 66	13. 26	20. 72	19. 10	17. 25	15. 59	
3	20. 39	14. 73	15. 07	17. 02	*****	15. 60	13. 77	13. 62	21. 56	20. 17	15. 88	14. 70	
4	17. 84	15. 12	14. 38	16. 23	*****	16. 12	13. 62	14. 44	21. 11	21. 46	16. 18	14. 45	
5	16. 54	15. 00	14. 14	16. 11	*****	15. 61	13. 46	14. 49	20. 36	21. 71	15. 12	14. 35	
6	16. 88	14. 79	14. 21	15. 23	*****	15. 26	13. 38	15. 64	18. 29	21. 00	15. 24	14. 19	
7	15. 56	14. 37	14. 58	14. 68	*****	14. 68	13. 32	14. 85	17. 45	20. 28	16. 02	13. 97	
8	15. 71	14. 10	16. 21	14. 40	14. 72	15. 51	13. 37	14. 19	19. 09	20. 95	15. 98	14. 10	
9	16. 34	13. 96	14. 83	14. 55	15. 67	16. 23	13. 31	13. 81	18. 64	21. 12	14. 96	15. 30	
10	15. 21	13. 89	14. 15	15. 80	15. 85	14. 81	13. 24	15. 00	16. 27	20. 55	15. 36	15. 44	
11	14. 77	13. 91	13. 99	15. 42	14. 85	14. 67	13. 21	15. 60	16. 93	20. 75	16. 54	16. 27	
12	14. 52	13. 90	13. 95	14. 72	14. 77	14. 69	13. 20	15. 93	17. 08	20. 42	17. 71	14. 92	
13	14. 36	13. 77	13. 91	14. 22	14. 59	14. 79	13. 18	15. 84	17. 15	18. 76	16. 48	14. 36	
14	14. 21	13. 64	13. 77	13. 99	14. 51	14. 59	13. 14	14. 70	17. 47	19. 74	15. 57	14. 15	
15	14. 37	13. 56	13. 67	13. 84	17. 72	14. 45	13. 14	16. 87	17. 74	21. 71	15. 31	14. 30	
16	15. 63	13. 71	13. 64	13. 79	16. 90	14. 24	13. 52	16. 71	17. 19	22. 23	15. 51	14. 18	
17	17. 72	19. 66	13. 82	13. 82	15. 35	14. 30	13. 85	15. 69	16. 72	20. 65	15. 61	13. 96	
18	20. 27	22. 25	14. 18	13. 76	15. 13	14. 23	13. 89	17. 24	18. 39	17. 75	*****	13. 90	
19	21. 64	21. 21	14. 78	13. 87	16. 38	14. 10	14. 39	17. 81	19. 17	16. 19	15. 44	13. 96	
20	21. 20	17. 45	14. 90	13. 92	19. 84	14. 08	14. 39	16. 47	19. 74	16. 23	14. 99	14. 11	
21	18. 82	15. 03	15. 27	14. 06	20. 69	14. 35	14. 12	17. 58	20. 78	15. 42	15. 10	14. 41	
22	16. 54	16. 08	15. 22	14. 03	21. 06	14. 40	13. 78	17. 44	21. 94	15. 16	15. 91	14. 48	
23	16. 48	17. 44	14. 40	13. 96	20. 91	14. 35	14. 61	16. 26	23. 08	15. 52	16. 38	14. 14	
24	16. 96	17. 21	15. 37	13. 84	20. 45	14. 13	13. 68	16. 41	22. 96	15. 59	16. 50	14. 10	
25	15. 87	17. 71	15. 29	15. 11	18. 89	13. 90	13. 47	18. 13	22. 60	15. 09	16. 14	14. 35	
26	15. 59	17. 11	14. 45	16. 47	18. 24	13. 84	13. 57	20. 28	22. 48	14. 87	15. 39	16. 69	
27	15. 25	15. 95	14. 04	15. 75	16. 76	14. 23	13. 45	19. 93	21. 97	15. 43	15. 07	18. 55	
28	15. 47	15. 04	13. 78	*****	15. 87	14. 22	14. 02	20. 00	21. 35	16. 28	14. 68	15. 87	
29	15. 21	14. 75	13. 65	*****	15. 88	14. 62	13. 57	19. 14	20. 48	18. 19	14. 39	14. 32	
30	15. 14		14. 63	*****	17. 82	14. 19	13. 30	19. 37	19. 90	19. 42	14. 23	13. 97	
31	16. 14		19. 52		19. 82		13. 22	18. 99		19. 98		14. 02	
MIN.	14. 11	13. 55	13. 63	13. 73	14. 16	13. 77	13. 12	13. 16	15. 73	14. 84	14. 20	13. 84	13. 12
MEAN	16. 92	15. 72	14. 63	15. 15	17. 19	14. 86	13. 60	16. 42	19. 62	18. 73	15. 81	14. 69	16. 10
MAX.	22. 41	22. 48	20. 77	21. 21	21. 12	19. 92	15. 02	20. 47	23. 29	22. 42	20. 04	18. 89	23. 29

N. B. MIN. AND MAX. ARE INSTANTANOUS VALUES

STATION NO. 5373401.

YEAR 1973

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	14.33	13.05	12.82	12.85	15.85	*****	15.79	15.79	13.27	23.07	18.09	18.45	
2	14.38	13.05	12.77	12.88	14.52	*****	15.82	15.08	13.28	*****	20.75	18.79	
3	14.49	13.04	12.78	12.87	13.93	*****	17.90	14.82	13.46	20.48	21.98	16.62	
4	14.45	13.04	12.75	12.91	13.73	*****	17.54	15.74	14.38	17.46	22.79	15.71	
5	14.58	13.03	12.72	12.84	14.03	*****	15.06	15.49	14.26	16.03	22.48	15.73	
6	14.17	13.03	12.71	12.77	13.87	*****	14.13	14.88	14.47	16.32	21.47	17.13	
7	13.99	13.02	12.73	12.72	13.57	*****	13.98	15.04	14.59	16.99	20.07	16.17	
8	14.01	13.02	12.71	12.74	13.79	13.54	15.51	15.00	14.40	16.80	18.35	15.73	
9	13.83	13.01	12.74	12.70	13.79	13.34	15.08	14.32	14.34	17.71	16.70	15.42	
10	13.67	13.01	12.81	12.65	13.64	13.36	14.20	14.36	16.49	18.13	16.10	14.67	
11	13.60	13.01	12.78	12.69	13.66	13.52	13.79	14.61	17.07	16.58	15.57	14.33	
12	13.54	13.00	12.80	12.72	14.04	14.49	13.63	16.04	17.66	16.74	15.76	14.36	
13	13.42	13.00	12.77	12.67	13.86	13.97	13.46	15.39	16.95	15.76	15.55	14.07	
14	13.38	12.99	12.84	12.64	13.70	13.63	13.35	15.99	15.90	17.65	15.42	13.95	
15	13.55	12.99	12.77	12.65	13.50	13.64	13.28	16.70	16.19	17.97	14.79	14.18	
16	14.32	12.98	12.74	12.67	13.49	13.33	13.23	16.23	19.00	17.31	14.46	14.78	
17	13.98	12.98	12.74	12.72	13.38	13.21	14.11	16.03	20.05	16.74	15.33	16.67	
18	13.59	12.97	13.43	13.12	13.22	14.82	13.71	15.18	19.89	15.70	17.38	17.66	
19	13.43	12.97	13.15	13.31	*****	14.94	13.48	14.41	18.14	15.03	16.91	17.28	
20	13.34	12.97	13.02	13.60	*****	14.98	13.25	14.01	17.38	15.00	15.68	15.11	
21	13.28	12.96	13.00	13.61	*****	14.25	13.11	13.79	17.67	14.86	14.83	14.55	
22	13.24	12.96	12.97	13.35	*****	13.93	14.40	13.62	16.16	14.57	14.43	14.64	
23	13.20	12.95	13.31	13.40	*****	14.14	16.41	13.49	16.38	14.72	14.23	15.33	
24	13.15	12.95	13.38	15.87	*****	15.69	16.64	13.62	19.92	15.35	14.09	14.32	
25	13.14	12.94	13.10	15.76	*****	15.29	17.05	13.51	21.62	16.38	14.83	13.99	
26	13.11	12.94	12.98	14.23	*****	14.28	18.80	13.46	22.72	15.22	14.80	14.58	
27	13.07	12.92	12.86	13.81	*****	13.87	16.03	13.33	23.46	14.53	15.36	14.44	
28	13.06	12.87	12.80	15.66	*****	14.16	14.71	13.26	23.51	16.15	15.30	15.21	
29	13.06		12.78	17.75	*****	14.41	14.68	13.18	23.41	16.97	14.60	16.55	
30	13.06		12.77	16.76	*****	16.12	15.27	13.16	23.25	17.17	15.16	15.84	
31	13.05		12.82		*****		16.20	13.19		16.73		16.87	
MIN	13.05	12.85	12.70	12.63	13.17	13.19	13.06	13.15	13.23	14.40	14.00	13.85	12.63
MEAN	13.63	12.99	12.88	13.56	13.86	14.21	14.95	14.60	17.64	16.67	16.78	15.59	14.83
MAX.	14.80	13.05	13.89	18.51	16.18	16.60	19.38	17.40	23.58	23.12	22.98	19.42	23.58

N.B. MIN. AND MAX. ARE INSTANTANOUS VALUES

HYDROLOGY BRANCH D. I. D. MALAYSIA

STATION NO. 5373401.

YEAR 1974

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	16.50	14.37	17.33	14.16	16.11	16.22	*****	19.13	14.61	14.78	13.47	14.48	
2	18.09	16.18	17.59	15.15	16.45	15.91	*****	17.97	14.23	14.35	13.42	14.71	
3	18.17	15.55	18.51	15.33	15.21	15.45	*****	16.06	14.03	15.11	13.35	14.52	
4	17.93	14.77	19.57	16.17	15.81	15.24	*****	14.47	13.91	16.21	13.27	15.85	
5	15.88	15.32	17.90	15.15	17.02	14.92	*****	14.57	13.84	*****	13.28	15.55	
6	15.40	16.21	16.51	15.66	15.65	14.56	*****	15.18	13.76	*****	13.25	14.27	
7	15.67	15.58	16.43	16.49	14.97	14.43	*****	16.83	13.68	*****	13.17	14.40	
8	16.84	14.76	15.79	16.35	14.43	14.25	*****	16.87	13.97	*****	13.14	14.40	
9	17.32	14.56	15.22	16.03	14.25	14.07	*****	15.47	14.06	*****	13.11	15.85	
10	18.09	15.38	14.75	16.45	14.47	13.99	*****	14.97	14.04	*****	13.07	18.95	
11	17.21	16.06	16.68	15.85	14.60	13.94	*****	14.84	13.84	*****	13.06	18.82	
12	15.59	*****	17.42	15.23	15.51	13.93	17.26	14.46	13.72	*****	13.14	17.39	
13	14.83	*****	18.09	15.21	15.87	13.97	19.51	14.29	13.87	*****	13.38	15.77	
14	14.49	*****	17.79	15.74	14.99	14.92	18.98	14.13	13.89	*****	13.94	15.31	
15	14.28	*****	16.86	15.09	15.86	14.43	17.24	14.00	14.16	*****	13.70	15.10	
16	14.18	*****	15.43	15.15	18.68	14.59	16.29	13.90	15.22	*****	15.13	14.73	
17	14.02	*****	14.83	17.61	19.84	14.46	15.63	13.86	16.15	*****	16.33	14.19	
18	13.95	*****	14.50	18.14	20.79	14.36	16.35	13.77	14.78	*****	14.25	13.91	
19	13.93	*****	14.28	17.77	22.12	14.31	16.94	13.72	14.89	*****	13.67	16.68	
20	13.86	*****	14.12	19.11	22.67	14.49	16.99	13.78	15.36	*****	13.67	16.82	
21	13.88	16.44	14.04	18.78	22.58	14.58	17.08	13.86	15.36	*****	13.60	15.81	
22	15.73	17.06	13.99	17.02	22.89	14.74	15.83	14.49	16.26	*****	14.10	15.23	
23	15.04	17.13	13.83	18.77	23.12	14.82	15.24	14.52	15.74	13.95	17.02	14.37	
24	14.30	18.30	13.66	20.04	23.27	15.50	15.32	14.86	14.87	13.81	18.50	15.18	
25	13.93	17.27	13.91	18.44	22.31	17.35	15.77	14.63	14.33	13.75	16.08	16.19	
26	13.82	16.80	13.78	15.87	21.06	21.06	15.69	14.05	15.12	13.79	14.77	17.68	
27	15.42	16.95	14.00	15.19	20.88	20.42	15.74	14.08	15.24	13.66	14.23	17.11	
28	15.06	16.96	13.97	14.60	20.06	*****	15.27	15.10	14.48	13.53	14.01	17.71	
29	14.16		13.92	14.80	20.03	*****	16.12	16.19	14.30	13.44	13.71	16.80	
30	13.98		13.90	16.55	17.66	*****	17.46	16.51	14.66	13.39	13.64	15.65	
31	13.96		13.99		16.00		18.61	14.95		13.56		14.98	
MIN.	13.76	14.14	13.61	13.90	14.18	13.92	14.00	13.69	13.62	13.38	13.05	13.79	13.05
MEAN	15.34	16.09	15.57	16.40	18.23	15.22	16.67	15.02	14.55	14.10	14.08	15.76	15.62
MAX.	18.72	18.47	19.76	20.29	23.40	21.33	19.96	19.45	16.91	16.30	19.04	19.13	23.40

N. B. MIN. AND MAX. ARE INSTANTANOUS VALUES

STATION NO. 5373401.

YEAR 1975

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	14. 56	14. 71	16. 30	10. 99	14. 49	*****	*****	14. 09	17. 39	20. 89	15. 54	18. 94	
2	15. 81	14. 94	20. 87	11. 02	*****	*****	*****	14. 00	16. 94	19. 66	15. 35	16. 90	
3	16. 17	14. 48	22. 26	12. 08	*****	*****	*****	13. 91	16. 55	17. 04	15. 67	15. 99	
4	15. 50	14. 03	21. 57	14. 36	*****	*****	*****	13. 81	15. 97	15. 65	16. 77	20. 71	
5	15. 47	13. 91	19. 60	14. 27	*****	*****	*****	13. 73	16. 11	15. 17	16. 26	19. 82	
6	18. 85	13. 78	17. 15	14. 92	*****	*****	*****	14. 07	16. 73	15. 52	17. 20	18. 28	
7	20. 90	13. 65	15. 73	14. 57	*****	*****	*****	13. 83	15. 94	15. 66	17. 74	18. 14	
8	20. 61	13. 90	15. 04	14. 09	*****	*****	*****	13. 70	16. 57	19. 25	18. 46	17. 69	
9	20. 55	13. 80	14. 59	13. 84	*****	*****	*****	13. 63	17. 13	20. 55	19. 74	14. 51	
10	20. 83	13. 62	14. 30	13. 63	*****	*****	15. 94	14. 36	16. 42	19. 98	17. 84	14. 32	
11	19. 81	13. 46	14. 16	13. 52	*****	*****	16. 56	15. 71	16. 21	18. 64	16. 63	14. 29	
12	20. 23	13. 39	14. 08	13. 46	*****	*****	15. 94	15. 26	16. 88	17. 34	15. 49	14. 45	
13	18. 43	13. 34	14. 00	13. 45	*****	*****	14. 40	13. 99	17. 68	16. 07	15. 04	15. 17	
14	16. 36	13. 29	13. 84	13. 72	*****	*****	15. 36	13. 64	17. 55	16. 98	15. 47	15. 11	
15	15. 62	13. 43	13. 94	13. 66	*****	*****	15. 63	13. 54	16. 13	16. 22	15. 98	16. 60	
16	17. 12	13. 63	13. 89	13. 64	*****	*****	15. 66	13. 54	15. 42	17. 69	*****	16. 35	
17	16. 85	13. 51	13. 85	13. 66	*****	*****	15. 58	13. 63	15. 91	18. 97	*****	18. 29	
18	15. 32	13. 38	14. 70	13. 58	*****	*****	16. 97	14. 17	18. 26	18. 85	*****	17. 43	
19	14. 71	13. 30	15. 45	13. 57	*****	*****	16. 17	14. 55	19. 94	18. 31	*****	16. 36	
20	14. 82	14. 08	14. 79	13. 47	*****	*****	15. 41	14. 73	19. 54	17. 66	*****	17. 44	
21	16. 46	18. 53	16. 51	13. 42	*****	*****	15. 10	15. 17	18. 71	17. 86	*****	18. 38	
22	15. 94	19. 29	18. 40	14. 39	*****	*****	15. 01	17. 06	17. 73	17. 72	*****	18. 73	
23	15. 31	19. 04	17. 27	14. 16	*****	*****	14. 92	18. 20	19. 03	18. 29	*****	16. 78	
24	14. 58	18. 90	15. 32	14. 23	*****	*****	14. 83	18. 96	19. 39	16. 47	*****	15. 55	
25	14. 22	22. 39	15. 92	13. 65	*****	*****	14. 73	18. 54	18. 71	14. 83	*****	17. 79	
26	14. 03	22. 93	14. 78	13. 41	*****	*****	14. 64	16. 17	17. 64	14. 39	15. 20	16. 46	
27	14. 22	20. 97	12. 02	13. 31	*****	*****	14. 55	15. 18	16. 37	14. 21	14. 99	15. 09	
28	14. 30	17. 83	11. 42	13. 31	*****	*****	14. 46	15. 08	16. 37	14. 23	15. 09	14. 60	
29	14. 10		11. 11	13. 37	*****	*****	14. 37	15. 69	19. 27	14. 85	16. 68	14. 30	
30	14. 04		10. 98	15. 21	*****	*****	14. 27	17. 62	20. 98	15. 42	19. 88	14. 28	
31	13. 92		10. 88		*****		14. 18	17. 36		16. 30		*****	
MIN.	13. 88	13. 28	10. 85	10. 92	13. 95	*****	14. 11	13. 44	15. 32	14. 16	14. 51	14. 21	10. 85
MEAN	16. 44	15. 55	15. 31	13. 60	14. 49	*****	15. 21	15. 06	17. 45	17. 12	16. 55	16. 63	15. 89
MAX.	21. 08	23. 15	22. 41	16. 02	15. 47	*****	17. 29	19. 82	21. 10	21. 09	20. 18	21. 20	23. 15

N. B. MIN. AND MAX. ARE INSTANTANOUS VALUES

ANNEX 2 ULU KUAMUT 5074401

Daily mean Stage (1969-1975)

STATION NO. 5074401.

YEAR 1969

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	*****	*****	*****	*****	*****	*****	13.92	*****	14.03	*****	14.07	14.50	
2	*****	*****	*****	*****	*****	*****	14.04	*****	13.77	*****	11.96	14.40	
3	*****	*****	*****	*****	*****	*****	14.26	*****	13.57	*****	11.82	14.55	
4	*****	*****	*****	*****	*****	*****	14.82	*****	13.67	*****	11.93	14.29	
5	*****	*****	*****	*****	*****	*****	14.16	*****	13.44	*****	12.11	13.61	
6	*****	*****	*****	*****	*****	*****	13.93	*****	13.77	*****	12.13	13.46	
7	*****	*****	*****	*****	*****	*****	13.64	*****	13.62	*****	12.41	13.42	
8	*****	*****	*****	*****	*****	*****	13.76	*****	14.03	*****	13.37	14.77	
9	*****	*****	*****	*****	*****	*****	15.22	*****	13.64	*****	14.09	14.25	
10	*****	*****	*****	*****	*****	*****	14.30	*****	13.34	*****	*****	14.17	
11	*****	*****	*****	*****	*****	*****	14.27	*****	13.20	*****	*****	14.58	
12	*****	*****	*****	*****	*****	*****	14.06	*****	13.12	*****	*****	14.30	
13	*****	*****	*****	*****	*****	*****	14.36	*****	13.07	*****	*****	13.97	
14	*****	*****	*****	*****	*****	*****	14.08	*****	13.03	*****	*****	13.76	
15	*****	*****	*****	*****	*****	*****	14.72	*****	12.96	*****	*****	13.72	
16	*****	*****	*****	*****	*****	*****	17.06	*****	13.27	*****	*****	13.55	
17	*****	*****	*****	*****	*****	*****	14.70	*****	14.03	*****	*****	13.39	
18	*****	*****	*****	*****	*****	*****	13.93	*****	13.86	*****	*****	13.41	
19	*****	*****	*****	*****	*****	*****	13.74	13.49	14.10	*****	*****	13.38	
20	*****	*****	*****	*****	*****	*****	13.80	13.43	16.12	*****	*****	13.61	
21	*****	*****	*****	*****	*****	*****	13.50	13.63	14.23	*****	*****	13.45	
22	*****	*****	*****	*****	*****	*****	13.39	13.64	16.04	*****	13.51	13.34	
23	*****	*****	*****	*****	*****	*****	13.30	13.53	14.87	*****	13.48	13.85	
24	*****	*****	*****	*****	*****	*****	13.31	13.49	14.02	*****	13.27	13.84	
25	*****	*****	*****	*****	*****	14.31	14.23	13.53	13.56	*****	13.16	15.36	
26	*****	*****	*****	*****	*****	13.78	13.55	13.66	13.38	14.01	13.13	14.01	
27	*****	*****	*****	*****	*****	13.50	13.32	14.06	*****	13.63	13.18	13.62	
28	*****	*****	*****	*****	*****	13.52	13.19	14.36	*****	13.78	13.42	13.69	
29	*****		*****	*****	*****	13.87	*****	13.93	*****	14.89	14.34	13.85	
30	*****		*****	*****	*****	13.85	*****	14.06	*****	14.41	14.48	13.61	
31	*****		*****		*****		*****	14.66		13.83		13.78	
MIN.	*****	*****	*****	*****	*****	13.44	13.15	13.30	12.96	13.52	11.76	13.28	11.76
MEAN	*****	*****	*****	*****	*****	13.81	14.09	13.81	13.84	14.09	13.10	13.92	13.82
MAX.	*****	*****	*****	*****	*****	14.77	18.22	15.23	17.75	15.94	15.30	16.33	18.22

N. B. MIN. AND MAX. ARE INSTANTANOUS VALUES

HYDROLOGY BRANCH D. I. D. MALAYSIA

STATION NO. 5074401.

YEAR 1970

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	14.08	13.24	12.83	13.55	13.68	*****	15.01	13.81	13.43	13.51	*****	*****	
2	13.70	13.62	12.79	14.21	14.00	13.85	14.37	13.47	13.68	13.48	*****	13.54	
3	13.45	13.79	12.79	15.18	14.11	13.75	14.04	13.46	14.42	13.81	*****	13.62	
4	13.30	13.66	12.80	14.03	13.88	14.15	14.03	13.44	14.75	13.63	*****	*****	
5	13.23	16.27	13.01	14.17	13.70	14.44	14.14	13.48	13.84	13.56	*****	*****	
6	13.36	14.87	13.10	13.74	14.47	16.02	13.97	13.75	13.56	13.46	*****	*****	
7	13.89	13.98	13.06	*****	13.95	14.90	14.11	14.21	13.57	13.54	*****	*****	
8	13.76	13.59	12.97	13.38	13.63	14.43	13.63	14.67	13.59	13.55	*****	*****	
9	14.04	13.54	12.90	13.70	13.69	14.68	13.47	14.68	13.74	14.43	*****	*****	
10	14.34	13.36	12.98	13.52	13.75	13.94	*****	13.75	13.49	*****	*****	*****	
11	14.27	13.29	12.98	13.53	13.44	14.09	*****	13.51	13.59	*****	*****	*****	
12	13.79	13.64	12.92	13.61	13.58	13.81	13.38	14.01	13.35	*****	*****	13.39	
13	14.31	13.74	12.85	13.42	13.81	13.74	13.25	13.65	13.48	*****	*****	14.00	
14	13.89	13.42	12.79	13.44	13.79	13.51	13.20	13.57	13.46	*****	*****	13.81	
15	13.49	13.29	12.89	13.43	13.63	13.36	13.15	14.52	13.91	13.49	*****	13.57	
16	13.36	13.16	13.34	13.34	13.56	13.79	13.11	15.32	13.48	13.35	*****	13.41	
17	13.29	13.10	13.03	13.72	13.59	13.48	13.11	14.28	13.41	13.74	*****	13.31	
18	13.71	13.05	12.89	13.47	13.61	15.53	13.22	14.26	13.69	13.93	*****	13.45	
19	14.17	13.01	12.83	13.40	13.94	15.65	13.61	15.36	14.29	13.52	*****	13.17	
20	14.17	12.97	12.85	13.52	14.04	14.26	13.38	14.06	14.20	13.55	*****	13.12	
21	13.89	*****	13.00	13.35	13.85	15.59	13.22	13.89	15.34	*****	*****	13.37	
22	14.56	12.90	13.35	13.27	13.63	14.29	13.19	13.87	16.08	*****	*****	13.40	
23	15.01	13.07	13.19	13.27	13.50	14.50	13.11	13.51	17.16	*****	*****	14.28	
24	14.28	12.91	13.09	13.20	13.94	15.96	13.47	14.75	17.58	*****	*****	14.15	
25	14.05	12.85	13.06	13.53	13.79	16.57	13.81	13.89	18.91	*****	*****	15.11	
26	13.77	12.81	13.26	13.94	14.14	15.33	14.23	14.41	17.49	*****	*****	14.32	
27	13.59	12.95	13.53	13.47	14.10	15.62	13.85	13.81	17.45	*****	*****	13.85	
28	13.41	12.82	13.39	13.36	*****	14.82	13.49	13.49	15.78	*****	*****	13.76	
29	13.35		13.57	13.62	*****	14.70	13.38	13.72	14.09	*****	*****	13.73	
30	13.38		13.38	13.55	*****	15.60	13.29	13.83	14.02	*****	*****	13.98	
31	13.25		13.14		*****		13.41	13.65		*****		13.76	
MIN.	13.19	12.79	12.77	13.14	13.38	13.31	13.07	13.34	13.22	13.31	*****	13.09	12.77
MEAN	13.81	13.44	13.05	13.62	13.81	14.63	13.61	14.00	14.63	13.64	*****	13.73	13.83
MAX.	17.65	17.68	13.74	16.00	15.22	17.59	15.36	16.07	19.82	14.96	*****	15.71	19.82

N. B. MIN. AND MAX. ARE INSTANTANOUS VALUES

STATION NO. 5074401.

YEAR 1971

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	14.30	16.00	*****	*****	13.29	*****	14.34	*****	14.16	13.23	13.92	14.95	
2	14.77	14.22	*****	*****	13.29	*****	15.21	*****	14.35	13.26	13.66	14.05	
3	13.92	13.84	13.84	*****	13.28	13.70	17.28	*****	14.05	13.12	13.47	14.32	
4	13.53	13.56	13.61	13.46	13.67	13.90	16.54	*****	13.68	13.08	13.41	13.83	
5	13.36	13.68	13.51	13.35	13.82	13.64	15.63	*****	13.59	13.03	13.29	13.60	
6	13.33	20.21	13.45	13.29	13.46	14.07	14.49	*****	13.89	12.98	13.34	13.51	
7	13.50	22.94	13.41	13.24	13.69	14.29	14.05	*****	13.60	12.94	13.49	14.01	
8	15.08	19.71	13.40	13.31	13.70	14.57	14.30	13.74	13.48	12.93	14.05	13.87	
9	14.54	21.74	13.39	13.31	13.96	14.64	13.84	13.76	13.54	12.92	13.64	13.97	
10	13.91	16.96	13.72	13.24	14.08	13.98	13.77	13.97	13.47	12.90	14.32	14.61	
11	13.68	14.60	13.77	13.24	13.59	13.77	13.55	13.64	13.81	12.89	14.40	16.31	
12	13.53	13.67	13.48	13.23	13.47	13.54	13.97	13.60	*****	12.89	14.47	14.27	
13	13.40	*****	13.37	13.23	13.65	13.41	13.89	13.74	*****	13.01	14.08	14.38	
14	13.36	*****	13.36	13.19	13.63	*****	13.94	13.75	*****	13.25	14.25	14.12	
15	13.27	14.94	13.43	13.19	13.66	13.49	14.05	13.68	*****	13.27	15.82	13.87	
16	13.17	14.84	13.94	13.24	13.66	13.48	13.66	13.61	*****	13.31	14.98	13.66	
17	13.09	14.64	13.73	13.26	13.82	13.69	14.79	13.82	*****	14.17	14.28	13.68	
18	13.03	14.77	14.09	13.36	13.99	13.64	14.56	14.27	*****	13.93	13.91	13.80	
19	13.00	14.17	14.39	13.55	15.16	13.54	*****	14.01	*****	13.62	13.78	13.60	
20	13.14	14.05	13.68	13.51	14.70	13.85	*****	13.79	*****	14.56	13.73	13.80	
21	13.30	14.11	13.73	13.58	14.82	14.21	*****	14.12	*****	13.83	13.57	13.96	
22	13.55	14.15	*****	13.37	14.17	14.16	*****	14.21	13.63	13.44	14.29	14.44	
23	14.71	14.11	*****	13.71	13.97	14.15	*****	14.19	13.63	13.66	13.76	14.69	
24	14.09	13.81	*****	13.86	14.47	15.96	14.39	14.42	13.51	13.57	14.21	14.42	
25	13.55	14.05	*****	13.99	*****	14.28	13.70	13.95	13.48	13.58	14.25	15.24	
26	*****	14.32	*****	13.43	*****	14.66	13.44	14.91	13.36	13.62	13.81	14.43	
27	*****	*****	*****	13.28	*****	14.05	13.41	14.66	13.30	13.73	13.55	15.26	
28	*****	*****	*****	13.19	*****	13.90	13.45	14.17	13.62	14.48	15.60	14.42	
29	*****		*****	13.17	*****	15.04	14.01	13.85	13.34	13.73	14.40	14.84	
30	*****		*****	13.25	*****	14.45	13.67	14.70	13.24	13.86	14.03	15.44	
31	14.14		*****		*****		*****	14.49		14.49		15.26	
MIN.	12.97	13.36	13.35	13.15	13.19	13.37	13.34	13.44	13.20	12.87	13.25	13.45	12.87
MEAN	13.70	15.55	13.65	13.37	13.88	14.08	14.32	14.04	13.64	13.46	14.06	14.34	14.01
MAX.	15.83	25.30	15.19	15.23	16.62	16.99	18.95	16.46	14.69	15.33	17.67	19.21	25.30

N. B. MIN. AND MAX. ARE INSTANTANOUS VALUES

HYDROLOGY BRANCH D. I. D. MALAYSIA

STATION NO. 5074401.

YEAR 1972

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	17.60	*****	13.26	14.05	*****	14.08	13.23	12.94	14.54	14.38	14.24	13.34	
2	15.00	*****	13.36	13.91	*****	13.66	13.09	12.89	15.23	14.21	13.82	13.54	
3	14.30	*****	13.57	13.78	*****	13.50	13.19	12.87	14.98	*****	13.64	13.51	
4	14.32	14.05	13.30	13.93	*****	13.46	13.04	13.20	14.20	*****	13.64	13.47	
5	14.29	13.92	13.20	13.69	*****	13.84	13.03	13.36	14.54	*****	13.39	13.32	
6	13.80	13.60	13.32	13.46	*****	13.51	13.01	13.55	14.36	*****	14.35	13.22	
7	13.57	13.42	14.18	13.51	*****	13.36	13.02	13.75	14.03	*****	14.59	13.14	
8	13.52	13.33	13.92	13.43	*****	13.95	13.05	13.60	15.13	*****	13.85	13.18	
9	13.63	13.26	13.44	*****	13.64	13.68	13.44	13.60	14.56	*****	14.01	13.29	
10	13.39	*****	13.29	*****	13.63	13.52	13.29	14.03	14.40	16.50	14.38	13.39	
11	13.32	13.19	13.22	*****	13.47	13.46	13.22	14.42	17.43	14.99	14.62	13.42	
12	13.26	13.14	13.24	*****	13.38	13.46	13.15	13.70	14.69	14.38	14.37	13.30	
13	13.21	13.12	13.19	*****	13.39	13.36	13.07	13.51	15.35	14.39	13.85	13.28	
14	13.17	13.07	13.12	*****	13.25	13.30	13.00	13.35	14.59	14.91	13.88	13.24	
15	13.43	13.05	13.08	*****	13.68	13.33	12.91	14.02	14.43	15.63	14.41	13.23	
16	*****	13.35	13.06	*****	13.66	13.34	12.88	13.72	14.38	14.50	14.08	13.24	
17	*****	17.73	13.09	*****	13.81	13.22	13.37	13.69	14.86	13.96	13.70	13.18	
18	*****	14.67	13.32	*****	13.72	13.20	13.55	13.60	15.04	13.78	14.16	13.25	
19	14.78	*****	13.22	*****	13.63	13.20	13.60	13.63	15.23	13.81	13.96	13.27	
20	14.08	*****	13.42	*****	13.91	13.21	13.51	13.64	15.57	13.64	*****	13.25	
21	14.20	*****	13.65	*****	14.76	13.42	13.45	14.68	16.16	13.52	*****	13.35	
22	*****	14.28	13.53	*****	14.28	13.43	13.25	14.24	14.98	13.64	*****	13.27	
23	*****	14.03	13.55	*****	14.98	13.29	13.45	13.72	15.54	13.91	*****	13.17	
24	*****	14.18	13.34	*****	14.36	13.20	13.25	13.50	16.26	13.83	*****	13.19	
25	*****	14.00	13.27	*****	14.02	13.30	13.21	13.97	16.15	14.03	13.77	13.46	
26	*****	13.86	13.32	*****	14.12	13.27	13.08	14.17	14.86	13.68	13.70	14.22	
27	*****	13.59	13.20	*****	14.85	13.37	13.01	13.80	14.78	13.55	13.89	13.61	
28	*****	13.40	13.10	*****	14.22	13.20	13.21	14.69	14.15	13.69	13.72	13.29	
29	*****	13.32	13.05	*****	14.33	13.33	13.30	14.00	14.30	15.00	13.56	13.24	
30	*****		13.42	*****	14.44	13.35	13.12	14.36	14.12	15.49	13.40	13.07	
31	*****		14.70		15.37		13.01	15.04		15.24		13.01	
MIN.	13.15	13.05	13.02	13.31	13.18	13.12	12.86	12.86	13.84	13.46	13.33	12.98	12.86
MEAN	14.05	13.80	13.38	13.72	14.04	13.43	13.19	13.78	14.96	14.36	13.96	13.32	13.81
MAX.	20.06	20.07	15.50	14.53	16.52	14.45	14.04	15.77	18.26	17.23	16.06	15.01	20.07

N. B. MIN. AND MAX. ARE INSTANTANOUS VALUES

STATION NO. 5074401.

YEAR 1973

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	13.49	12.67	12.67	12.99	14.41	13.74	13.63	13.89	13.04	14.63	14.76	14.91	
2	13.86	12.65	12.66	12.87	13.61	13.93	13.91	13.60	13.06	15.13	14.30	15.19	
3	13.41	12.64	12.63	12.97	13.37	13.86	16.27	13.49	13.21	14.08	14.34	14.54	
4	13.34	12.66	12.62	12.89	13.47	13.68	14.17	13.84	13.35	15.48	14.67	14.16	
5	13.39	12.64	12.61	12.83	13.51	13.46	13.61	13.58	13.36	14.30	15.52	13.85	
6	13.34	12.62	12.59	12.75	13.71	13.32	13.44	13.40	13.40	14.47	14.30	13.81	
7	13.29	12.61	12.57	12.81	13.80	13.26	13.66	13.42	13.83	14.44	14.69	13.58	
8	13.26	12.60	12.58	12.82	13.65	13.26	13.73	13.70	13.69	14.55	13.75	13.82	
9	13.19	12.59	12.58	12.79	13.45	13.38	13.66	13.74	13.61	14.94	11.08	13.63	
10	13.11	12.65	12.57	12.72	13.59	13.74	13.38	14.18	13.93	14.26	10.70	13.38	
11	13.15	12.75	12.61	12.67	13.68	13.82	13.38	13.87	13.93	14.21	10.51	13.26	
12	13.02	12.71	12.64	12.73	13.60	14.98	13.66	*****	15.26	14.14	10.68	13.63	
13	12.94	12.70	12.65	12.87	13.65	13.84	13.71	*****	14.39	14.01	10.57	13.39	
14	12.91	13.46	12.67	12.98	13.47	13.41	13.45	*****	14.29	14.88	10.38	13.35	
15	12.99	13.37	12.69	13.22	13.37	13.70	13.45	*****	14.78	14.21	10.26	13.26	
16	12.91	13.24	12.62	13.17	13.29	13.58	13.42	*****	15.03	14.16	10.22	13.23	
17	12.97	13.13	12.95	13.27	13.20	13.42	13.49	*****	14.30	13.93	13.36	13.69	
18	12.96	12.98	13.63	13.42	13.31	14.05	13.56	*****	14.31	13.72	13.54	13.69	
19	12.94	12.91	13.33	13.38	13.36	13.87	13.33	13.22	14.28	13.78	13.65	13.53	
20	12.89	12.88	13.12	13.44	14.65	13.69	13.19	13.91	14.21	13.70	13.44	13.37	
21	12.83	12.88	12.96	13.38	13.95	13.90	13.08	13.49	*****	13.74	13.23	13.37	
22	12.79	12.83	12.87	13.37	13.83	13.69	13.45	13.34	*****	13.53	13.13	13.53	
23	12.77	12.85	13.39	14.40	13.62	13.84	14.94	13.26	*****	13.78	13.05	13.66	
24	12.76	12.82	13.12	14.06	13.44	14.80	14.27	13.17	*****	14.61	13.00	13.45	
25	12.72	12.78	12.95	13.88	13.48	13.94	15.43	13.26	*****	14.14	14.25	13.28	
26	12.72	12.74	12.82	13.84	13.39	13.51	14.38	13.38	*****	13.98	14.20	13.49	
27	12.71	12.71	12.76	13.73	13.43	13.49	13.83	13.18	*****	13.88	13.54	13.54	
28	12.70	12.70	12.83	13.80	13.75	13.92	13.65	13.07	*****	13.88	13.39	13.88	
29	12.68		12.79	14.14	13.92	13.87	13.57	13.05	*****	14.48	13.25	13.78	
30	12.67		12.81	13.93	14.28	13.75	14.42	13.07	14.60	14.22	13.27	13.49	
31	12.67		12.91		13.78		14.07	13.18		14.54		13.52	
MIN.	12.67	12.58	12.56	12.65	13.18	13.21	13.05	11.60	13.00	13.51	10.17	13.17	10.17
MEAN	13.01	12.81	12.81	13.27	13.65	13.76	13.84	13.47	13.99	14.25	12.97	13.69	13.45
MAX.	14.64	14.20	14.11	14.78	15.60	15.73	17.31	14.88	15.95	16.69	16.45	15.88	17.31

N.B. MIN. AND MAX. ARE INSTANTANOUS VALUES

HYDROLOGY BRANCH D. I. D. MALAYSIA

STATION NO. 5074401.

YEAR 1974

DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	13. 71	13. 85	13. 84	13. 76	13. 45	13. 46	*****	*****	13. 71	*****	13. 00	14. 47	
2	14. 47	14. 18	14. 05	13. 55	13. 41	13. 43	*****	*****	13. 45	*****	12. 92	14. 06	
3	14. 77	13. 60	14. 33	13. 69	13. 37	13. 53	*****	*****	13. 28	*****	12. 81	13. 81	
4	14. 09	13. 44	13. 98	14. 02	13. 85	14. 00	*****	*****	13. 19	*****	12. 91	13. 72	
5	13. 55	13. 53	13. 73	14. 15	14. 04	13. 50	*****	*****	13. 26	*****	13. 03	13. 48	
6	13. 37	13. 87	13. 60	14. 33	13. 72	13. 30	*****	*****	13. 27	*****	12. 94	13. 54	
7	13. 30	13. 59	13. 47	14. 90	13. 65	13. 21	*****	*****	13. 21	*****	12. 81	13. 61	
8	13. 40	13. 39	13. 41	14. 46	13. 41	13. 14	*****	*****	13. 50	*****	12. 73	13. 56	
9	13. 35	13. 47	13. 29	14. 15	13. 45	13. 07	*****	*****	13. 43	*****	12. 67	14. 51	
10	13. 51	13. 57	13. 21	14. 10	*****	13. 10	*****	*****	13. 30	*****	12. 64	14. 64	
11	13. 27	13. 54	13. 85	14. 41	*****	13. 25	*****	*****	13. 31	*****	12. 66	15. 17	
12	13. 14	14. 76	14. 10	14. 28	*****	13. 15	*****	*****	13. 34	*****	12. 87	14. 29	
13	13. 06	16. 15	14. 00	14. 25	*****	13. 09	*****	13. 55	13. 20	*****	13. 29	13. 85	
14	13. 05	14. 51	13. 75	13. 84	*****	13. 35	*****	14. 02	13. 58	*****	13. 62	13. 58	
15	13. 05	14. 02	13. 48	13. 55	*****	13. 31	*****	13. 67	13. 66	13. 31	13. 37	13. 44	
16	13. 05	13. 76	13. 34	13. 56	*****	13. 26	*****	13. 79	13. 46	13. 27	13. 19	13. 40	
17	12. 99	13. 65	13. 22	14. 39	*****	13. 19	*****	13. 41	*****	13. 24	13. 42	13. 22	
18	13. 00	13. 82	13. 14	14. 02	*****	13. 30	*****	13. 27	*****	13. 77	13. 32	13. 14	
19	13. 04	14. 42	13. 07	14. 27	*****	13. 43	*****	13. 28	*****	13. 95	13. 30	13. 19	
20	13. 05	13. 96	13. 01	14. 19	*****	13. 43	*****	13. 44	*****	13. 65	13. 24	13. 44	
21	13. 14	14. 22	12. 96	13. 95	*****	13. 33	*****	13. 63	*****	13. 63	13. 12	13. 28	
22	13. 61	14. 16	12. 91	15. 57	*****	13. 28	*****	13. 69	*****	13. 37	13. 43	13. 15	
23	13. 56	14. 39	12. 90	14. 17	*****	13. 24	*****	13. 36	*****	13. 19	14. 53	13. 19	
24	13. 24	14. 41	12. 92	14. 04	*****	13. 85	*****	13. 35	*****	13. 08	14. 24	13. 57	
25	13. 17	14. 25	13. 00	13. 57	*****	*****	*****	13. 35	*****	13. 12	13. 87	13. 70	
26	13. 19	15. 43	13. 02	13. 42	*****	*****	*****	13. 24	*****	13. 18	13. 45	14. 19	
27	13. 48	14. 19	13. 09	13. 30	*****	*****	*****	13. 21	*****	13. 23	13. 40	14. 34	
28	13. 27	14. 18	13. 06	13. 22	*****	*****	*****	13. 34	*****	13. 10	13. 48	14. 35	
29	13. 26		13. 19	13. 42	*****	*****	*****	14. 43	*****	12. 98	13. 79	13. 80	
30	13. 24		13. 38	13. 77	*****	*****	*****	13. 95	*****	12. 92	13. 53	13. 79	
31	13. 40		13. 44		13. 44		*****	13. 57		13. 01		13. 80	
MIN.	12. 94	13. 36	12. 89	13. 19	13. 31	13. 03	*****	13. 10	13. 06	12. 88	12. 61	13. 06	12. 61
MEAN	13. 38	14. 08	13. 41	14. 01	13. 58	13. 34	*****	13. 56	13. 39	13. 30	13. 25	13. 78	13. 57
MAX.	15. 42	17. 29	14. 77	19. 01	15. 19	14. 35	*****	15. 64	14. 25	14. 30	14. 75	16. 57	19. 01

N. B. MIN. AND MAX. ARE INSTANTANOUS VALUES

STATION NO. 5074401.

YEAR 1975

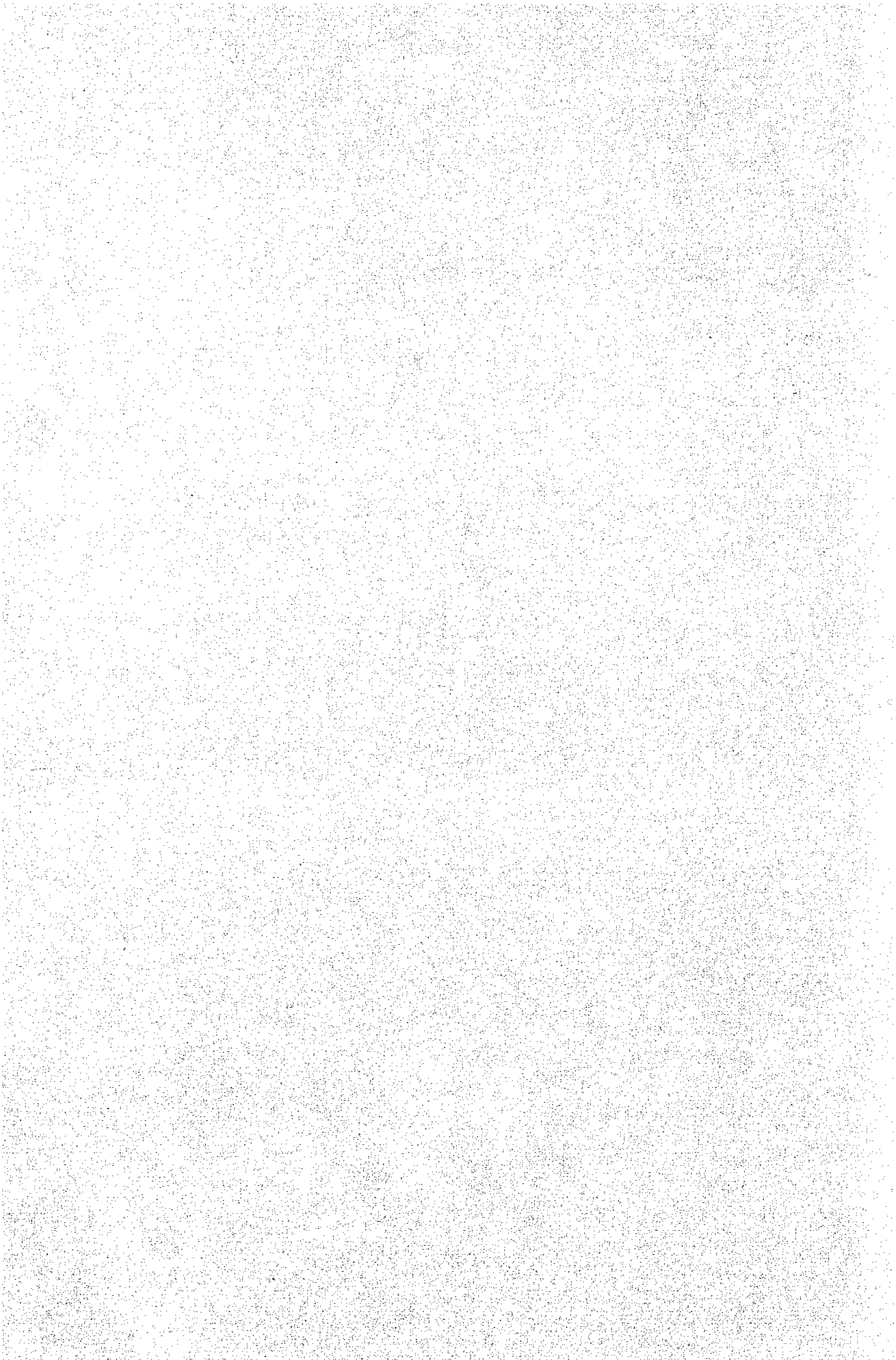
DAILY MEAN STAGE (UNIT = METRES)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	14.06	13.68	14.44	*****	*****	13.80	*****	*****	14.12	*****	13.89	13.83	
2	14.12	13.49	16.73	*****	*****	13.70	*****	*****	14.04	*****	14.30	13.50	
3	13.66	13.31	14.97	*****	*****	*****	*****	13.29	13.72	*****	14.40	13.58	
4	13.91	13.21	14.49	*****	*****	*****	*****	13.18	13.66	*****	14.18	14.06	
5	13.72	13.16	*****	*****	*****	*****	*****	13.20	14.03	*****	14.38	13.55	
6	14.28	*****	*****	*****	13.36	*****	*****	13.38	14.07	*****	15.82	13.36	
7	14.39	*****	13.60	*****	13.43	*****	*****	13.69	14.97	*****	14.30	13.21	
8	14.66	*****	13.37	13.24	15.19	*****	*****	13.86	14.33	*****	15.38	13.23	
9	14.38	*****	13.26	13.12	15.18	*****	*****	14.27	14.05	*****	14.62	13.17	
10	14.04	*****	13.17	13.01	14.25	*****	*****	13.72	*****	*****	14.14	13.28	
11	14.80	12.95	13.26	12.99	14.28	*****	14.15	13.88	*****	*****	14.31	13.18	
12	14.52	12.87	13.30	12.93	14.61	*****	13.85	14.05	*****	*****	13.81	13.15	
13	14.05	12.83	13.17	12.94	14.23	*****	13.52	13.69	*****	*****	13.60	13.35	
14	13.76	12.79	13.08	12.98	14.27	*****	13.79	13.47	*****	*****	13.59	13.83	
15	14.36	12.77	13.08	13.09	16.20	*****	13.77	13.37	*****	*****	13.52	13.89	
16	15.85	12.74	13.51	13.27	14.27	*****	13.60	13.26	*****	*****	13.52	13.56	
17	14.05	12.73	13.41	*****	14.30	*****	13.65	13.31	*****	*****	13.40	14.02	
18	13.59	12.78	*****	*****	14.04	*****	14.04	13.44	*****	*****	13.36	14.10	
19	13.40	12.83	*****	*****	14.21	*****	14.29	13.43	*****	*****	13.36	13.74	
20	13.34	12.95	*****	*****	14.58	*****	13.89	*****	*****	*****	13.24	14.05	
21	13.47	13.23	*****	*****	14.04	*****	13.84	*****	*****	*****	13.16	14.00	
22	13.59	13.37	*****	*****	13.96	*****	13.77	14.31	*****	*****	13.14	14.16	
23	13.41	13.59	*****	*****	13.83	*****	13.74	15.56	*****	*****	13.07	13.67	
24	13.23	15.27	*****	*****	13.70	*****	13.58	14.61	*****	*****	13.03	13.64	
25	13.09	16.64	*****	*****	13.46	13.15	13.78	13.83	*****	*****	13.00	14.74	
26	13.21	14.07	*****	*****	13.35	13.14	*****	13.84	*****	*****	13.09	13.84	
27	13.71	14.14	*****	*****	13.51	13.13	*****	13.82	*****	*****	13.46	13.57	
28	13.36	14.34	*****	*****	13.39	13.11	*****	13.89	*****	*****	13.31	13.38	
29	13.30		*****	*****	13.94	13.21	*****	13.82	*****	*****	14.96	*****	
30	13.35		*****	*****	14.01	14.87	*****	14.15	*****	*****	14.25	*****	
31	13.52		*****		14.20		*****	14.01		14.22		*****	
MIN.	13.03	12.72	13.06	12.90	13.24	13.06	13.47	13.14	13.55	13.79	12.96	13.11	12.72
MEAN	13.88	13.47	13.79	13.06	14.15	13.51	13.82	13.79	14.11	14.22	13.85	13.67	13.78
MAX.	18.22	19.40	18.24	13.40	17.94	16.25	14.55	16.63	15.64	14.66	17.23	15.57	19.40

N. B. MIN. AND MAX. ARE INSTANTANOUS VALUES

ANNEX 3 KUAMUT 5274201

Daily rainfall (1969-1975)



Station Number	PERIOD OF MISSING RECORD START DATE	TIME	FINISH DATE	TIME	DURATION IN DAYS	HRS
5274201	1/ 1/69	000	28/ 5/69	1400	147	14
	24/ 6/69	1600	25/ 6/69	1400		22
	9/11/69	1500	11/11/69	800	1	17
	12/11/69	1400	14/11/69	800	1	18
	6/12/69	2400	8/12/69	800	1	8
	11/ 1/70	900	12/ 1/70	800		23
	7/ 2/70	1500	11/ 2/70	800	3	17
	22/ 3/70	1500	23/ 3/70	800		17
	28/ 3/70	1100	30/ 3/70	800	1	21
	2/ 4/70	1400	7/ 4/70	800	4	18
	3/ 5/70	2200	4/ 5/70	800		10
	2/10/70	1200	2/10/70	1500		
	6/10/70	1100	7/10/70	700		20
	4/12/70	1300	4/12/70	2100		8
	30/ 1/71	1200	1/ 2/71	900	1	21
	7/ 2/71	1400	1/ 3/71	800	21	18
	2/ 3/71	1800	2/ 4/71	800	30	14
	12/11/71	1500	17/ 1/72	800	65	17
	5/ 3/72	1500	6/ 3/72	900		18
	16/ 3/72	2400	19/ 3/72	800	2	8
	23/ 5/72	700	24/ 5/72	800	1	1
	24/ 7/72	1600	8/ 8/72	600	14	14
	13/ 4/73	2000	16/ 4/73	800	2	12
	2/ 8/73	2000	3/ 8/73	700		11
	25/12/73	1200	10/ 1/74	600	15	18
	20/ 1/74	1200	22/ 1/74	700	1	19
	23/ 2/74	2000	24/ 2/74	800		12
	13/ 5/74	700	14/ 5/74	300		20
	18/ 5/74	700	19/ 5/74	700	1	0
	21/ 7/74	900	22/ 7/74	800		23
	2/ 8/74	800	3/ 8/74	700		23
	24/ 8/74	1800	30/ 8/74	700	5	13
	6/ 9/74	1800	8/ 9/74	700	1	13
	4/11/74	000	4/11/74	800		8
	11/ 5/75	900	12/ 5/75	800		23
	31/ 8/75/	000	31/ 8/75	800,		8
	7/ 9/75	1300	8/ 9/75	800		19
	9/10/75	700	30/10/75	800	21	1
	5/11/75	1100	6/11/75	500		18
	23/11/75	1500	24/11/75	800		17

HYDROLOGY BRANCH D.I.D. MALAYSIA

STATION NO. 5274201 (Started operating May 1969)

YEAR 1969 Kuamut

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	*****	*****	*****	*****	*****	0	21	17	0	3	9	36	
2	*****	*****	*****	*****	*****	15	2	0	2	0	5	1	
3	*****	*****	*****	*****	*****	8	1	1	1	30	10	62	
4	*****	*****	*****	*****	*****	5	0	3	0	0	0	0	
5	*****	*****	*****	*****	*****	1	3	14	47	0	18	3	
6	*****	*****	*****	*****	*****	7	5	3	5	0	6	*****1	
7	*****	*****	*****	*****	*****	1	0	4	2	0	33	*****0	
8	*****	*****	*****	*****	*****	14	0	0	0	10	***** 37	*****0	
9	*****	*****	*****	*****	*****	3	27	1	0	0	*****112	6	
10	*****	*****	*****	*****	*****	0	27	14	0	15	***** 2	8	
11	*****	*****	*****	*****	*****	0	0	36	0	0	***** 7	37	
12	*****	*****	*****	*****	*****	2	6	3	0	0	***** 8	3	
13	*****	*****	*****	*****	*****	0	0	0	0	5	***** 16	0	
14	*****	*****	*****	*****	*****	2	3	0	0	7	***** 7	4	
15	*****	*****	*****	*****	*****	30	29	0	7	0	0	0	
16	*****	*****	*****	*****	*****	2	0	14	18	5	0	4	
17	*****	*****	*****	*****	*****	0	0	3	66	0	0	0	
18	*****	*****	*****	*****	*****	0	0	4	10	0	24	1	
19	*****	*****	*****	*****	*****	58	9	17	22	0	0	1	
20	*****	*****	*****	*****	*****	22	0	2	1	0	2	11	
21	*****	*****	*****	*****	*****	1	0	15	11	0	0	0	
22	*****	*****	*****	*****	*****	0	0	25	21	0	0	3	
23	*****	*****	*****	*****	*****	*****21	1	3	5	0	0	19	
24	*****	*****	*****	*****	*****	***** 0	26	6	0	0	0	8	
25	*****	*****	*****	*****	*****	***** 7	0	15	0	4	1	3	
26	*****	*****	*****	*****	*****	0	0	4	0	7	8	1	
27	*****	*****	*****	*****	*****	7	0	4	5	4	20	4	
28	*****	*****	*****	*****	*****	13	5	0	7	1	5	11	
29	*****		*****	*****	0	13	0	8	15	79	0	22	
30	*****		*****	*****	0	0	3	1	5	7	4	20	
31	*****		*****		0		0	9		5		38	
	*	*	*	*	*								
TOTAL	*****	*****	*****	*****	0	232	168	226	250	132	334	308	1699

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
26	51	79	87	94	94	94
24 HR.	48HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
102	128	135	155	179	294	359

STATION NO. 5274201

YEAR 1970

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	0	25	1	26	***** 2	0	15	1	14	***** 0	0	1	
2	0	0	1	*****22	***** 2	0	0	15	0	***** 0	42	4	
3	5	8	1	*****14	***** 0	17	7	1	21	8	6	***** 3	
4	1	23	1	***** 5	***** 0	4	7	2	1	***** 8	13	*****24	
5	10	38	6	***** 0	10	3	6	2	0	***** 2	17	0	
6	5	8	3	***** 1	6	26	8	8	41	***** 0	1	80	
7	2	***** 8	7	***** 0	0	8	0	4	0	***** 3	11	1	
8	9	***** 8	0	0	27	0	12	34	1	0	0	2	
9	36	*****15	0	0	31	12	17	0	15	13	25	4	
10	***** 9	***** 0	0	2	0	2	0	0	1	21	12	6	
11	*****12	*****14	0	0	0	7	0	1	0	41	1	5	
12	***** 0	32	0	0	0	1	0	1	0	0	0	2	
13	0	4	0	11	0	0	0	1	0	0	2	4	
14	0	4	3	1	0	0	0	0	5	1	5	0	
15	40	0	0	1	5	1	2	22	0	0	4	0	
16	22	2	0	0	0	1	0	10	0	11	33	0	
17	18	7	0	0	0	31	2	0	6	10	5	0	
18	62	0	0	11	0	8	1	0	2	0	0	2	
19	49	0	4	20	0	1	3	0	0	0	4	0	
20	16	0	0	0	0	7	0	0	20	61	1	0	
21	1	0	*****29	0	0	2	0	0	15	1	0	6	
22	44	0	*****26	0	1	0	0	0	41	93	2	10	
23	4	1	***** 0	0	41	56	21	0	1	18	24	8	
24	0	1	0	0	0	15	44	0	35	3	0	45	
25	0	0	5	54	1	46	24	23	4	9	18	0	
26	8	34	1	2	0	0	6	1	11	0	1	28	
27	1	62	***** 0	1	0	0	7	9	5	1	15	31	
28	0	4	*****21	47	2	0	0	0	*****5	54	24	1	
29	0		*****72	0	3	0	0	2	*****0	24	1	2	
30	0		***** 0	2	0	0	3	31	*****0	7	6	14	
31	0		0		17		0	0		0		26	
TOTAL	344	303	181	220	148	248	177	168	144	389	273	310	2905

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
22	40	51	71	91	91	95
24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
95	155	155	191	212	312	458

HYDROLOGY BRANCH D.I.D. MALAYSIA

STATION NO. 5274201

YEAR 1971

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG.	SEP	OCT	NOV	DEC	
1	29	*****112	***** 4	*****	0	0	30	8	23	0	6	***** 8	
2	0	2	***** 0	*****	0			0	0	0	12	***** 0	
3	0	7	***** 0	0	19	15	1	0	3	0	1	***** 1	
4	0	2	***** 0	0	0	26	6	9	0	0	1	***** 7	
5	4	99	***** 0	0	0	80	1	22	0	0	11	***** 3	
6	17	125	***** 0	0	13	14	5	1	0	0	2	*****19	
7	5	*****118	***** 0	0	6	5	13	1	1	0	9	*****14	
8	2	***** 0	***** 1	11	12	9	1	1	0	0	5	***** 9	
9	8	***** 0	*****14	0	14	0	3	10	0	0	0	***** 6	
10	4	***** 0	*****19	0	8	51	0	1	10	0	81	*****25	
11	2	***** 0	*****19	0	3	0	0	9	5	1	6	*****11	
12	6	***** 0	***** 0	0	0	0	12	5	0	0	*****18	***** 0	
13	3	***** 0	***** 2	0	21	0	29	5	3	12	***** 2	***** 0	
14	0	***** 38	***** 1	0	2	18	0	3	1	1	***** 6	***** 0	
15	1	***** 1	***** 2	0	2	2	0	26	0	1	*****40	***** 4	
16	0	***** 4	*****37	0	35	0	5	3	0	85	*****42	***** 3	
17	0	***** 20	*****15	1	2	0	12	12	0	21	***** 0	*****20	
18	0	***** 19	*****15	1	10	0	4	0	0	8	*****42	*****16	
19	23	***** 0	*****31	10	7	23	0		8	0	***** 0	***** 5	
20	21	***** 4	***** 0	0	0	0	0	7	0	0	***** 1	***** 4	
21	4	***** 0	***** 4	0	49	26	0	12	0	0	***** 7	*****10	
22	31	***** 0	***** 0	3	1	1	0	10	2	0	*****67	***** 7	
23	67	***** 14	***** 0	1	1	6	40	24	13	0	***** 0	*****53	
24	2	***** 2	***** 0	12	1	7	4	9	32	4	***** 0	*****13	
25	8	***** 23	***** 0	0	2	27	0	23	1	41	***** 5	*****82	
26	14	***** 16	***** 1	0	2	0	27	49	1	6	***** 8	***** 2	
27	17	***** 2	***** 0	0	9	0	1	1	3	22	***** 0	*****24	
28	3	***** 8	***** 0	0	1	5	2	1	1	1	***** 9	***** 0	
29	1		***** 0	10	10	3	1	4	0	6	***** 0	*****10	
30	***** 2		***** 0	0	13	13	1	5	0	2	***** 7	*****10	
31	*****45		***** 0		10		12	1		6		***** 5	
TOTAL	332	414	145	52	270	341	221	301	106	224	388	371	3387

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
18	36	56	77	81	102	112
24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
194	262	273	282	284	328	500

STATION NO. 5274201

YEAR 1972

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	*****35	0	17	2	0	0	1	*****10	2	29	0	0	
2	***** 2	1	*****18	0	0	22	27	***** 1	0	0	0	1	
3	*****12	1	***** 3	0	0	1	1	***** 1	0	4	0	6	
4	***** 2	17	***** 0	0	0	1	0	*****15	0	2	0	0	
5	***** 0	3	*****19	0	0	1	0	***** 0	1	6	0	0	
6	***** 0	0	***** 0	0	0	1	0	***** 4	8	1	15	0	
7	***** 0	0	5	0	0	1	0	***** 1	2	10	1	21	
8	***** 3	0	0	0	0	0	0	***** 0	15	1	1	0	
9	***** 7	0	0	0	1	0	0	9	10	4	47	1	
10	***** 0	1	0	0	0	4	0	32	10	4	17	18	
11	***** 0	4	0	0	0	1	0	6	2	20	41	5	
12	***** 3	5	0	0	0	16	0	0	12	29	0	0	
13	***** 5	5	0	0	0	2	0	0	19	2	3	5	
14	***** 0	2	0	0	0	10	0	18	7	23	14	13	
15	*****59	22	8	0	31	12	0	23	6	6	2	1	
16	***** 1	41	7	0	0	4	5	1	11	20	23	2	
17	*****24	58	*****58	0	0	20	39	1	51	0	0	0	
18	38	3	*****40	0	0	0	1	5	1	0	2	3	
19	1	15	***** 2	0	0	0	4	1	8	2	0	11	
20	2	2	34	0	74	0	14	24	30	1	33	17	
21	8	1	0	0	14	3	0	22	23	29	9	0	
22	4	31	0	0	112	17	***** 0	1	51	11	11	0	
23	0	1	0	0	*****106	0	*****10	2	4	0	0	0	
24	5	5	0	0	***** 7	0	***** 0	25	11	0	0	6	
25	1	24	0	0	9	0	***** 2	7	14	0	0	16	
26	5	0	0	0	38	0	*****42	0	24	21	0	5	
27	1	0	0	0	4	18	***** 4	11	2	0	0	0	
28	28	0	0	0	10	0	***** 7	0	1	14	0	3	
29	3	0	0	0	0	20	***** 0	0	3	16	0	8	
30	60		0	0	50	27	***** 0	46	1	0	4	9	
31	0		12		7		***** 0	66		0		0	
TOTAL	304	242	223	2	463	181	157	334	329	255	223	151	28 4

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
37	45	73	78	78	80	84
24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
91	165	180	193	240	333	436

HYDROLOGY BRANCH D.I.D. MALAYSIA

STATION NO. 5274201

YEAR 1973

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	3	0	0	22	14	27	0	***** 3	0	0	0	4	
2	24	0	0	0	0	3	0	***** 6	0	0	0	0	
3	1	0	0	0	2	0	0	*****13	0	0	0	0	
4	3	0	0	0	9	5	0	6	0	0	0	0	
5	0	0	0	0	0	0	0	0	10	0	0	0	
6	23	0	0	0	14	0	0	4	8	0	0	0	
7	18	0	0	0	0	0	0	4	24	0	0	5	
8	0	0	24	0	0	0	0	0	40	0	0	0	
9	7	0	0	0	0	21	3	0	4	0	0	0	
10	0	0	15	0	0	6	0	1	0	0	0	0	
11	0	0	0	0	18	0	0	1	15	0	0	0	
12	0	0	0	0	0	0	0	0	3	0	0	0	
13	2	4	0	******0	0	0	0	0	1	0	0	0	
14	5	5	0	*****40	0	0	0	0	0	0	0	0	
15	5	6	0	***** 1	0	0	0	0	10	0	0	0	
16	0	4	0	***** 2	0	0	0	0	0	0	0	33	
17	0	2	55	21	0	2	0	0	0	0	0	*****49	
18	0	0	5	12	0	22	0	0	20	5	0	*****19	
19	0	0	0	16	0	0	0	0	18	0	0	***** 0	
20	0	0	14	8	0	0	0	0	8	9	0	***** 0	
21	0	0	6	1	2	0	0	0	1	0	0	***** 0	
22	0	0	6	3	0	4	0	0	0	0	0	***** 0	
23	0	0	0	1	0	4	20	0	0	0	0	***** 0	
24	0	0	0	1	0	0	2	0	0	3	0	***** 0	
25	0	0	0	22	0	0	31	12	8	5	8	***** 1	
26	0	0	0	4	8	0	7	0	0	0	0	*****49	
27	0	0	0	4	0	0	2	0	0	0	4	***** 2	
28	0	0	0	8	17	0	12	0	0	0	3	*****83	
29	0		0	22	15	0	7	0	0	0	6	***** 4	
30	0		0	2	18	0	***** 8	0	0	0	1	***** 0	
31	0		11		2		***** 4	0		0		***** 5	
TOTAL	96	21	136	190	123	94	96	50	168	22	22	254	1272

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
27	27	29	31	33	55	55
24 HR.	**48 HR.**	**72 HR.**	**5 DAY**	**6 DAY**	**14 DAY**	**30 DAY**
64	72	82	87	102	152	224

STATION NO. 5274201

YEAR 1974

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	***** 0	0	8	2	0	3	0	***** 3	0	0	***** 0	9	
2	*****13	0	6	0	10	0	4	***** 7	24	0	***** 0	0	
3	*****41	8	10	2	0	18	0	*****23	3	0	***** 0	0	
4	***** 2	21	0	0	0	8	0	8	1	0	***** 0	0	
5	***** 7	1	0	36	2	0	0	6	0	0	0	3	
6	***** 1	3	1	23	0	0	0	2	***** 0	0	0	9	
7	*****10	5	0	8	0	4	0	0	*****12	0	0	7	
8	***** 4	10	0	12	0	0	0	0	***** 6	2	0	0	
9	***** 5	46	0	11	3	0	0	7	6	0	4	0	
10	*****14	20	0	0	8	0	0	0	1	0	0	0	
11	0	9	7	24	26	0	0	0	0	0	18	0	
12	0	102	6	31	*****29	7	21	0	8	21	0	0	
13	0	63	22	44	*****	38	35	0	0	31	50	0	
14	0	8	31	3	*****	1	5	0	13	0	4	0	
15	0	3	0	0	*****77	1	0	0	0	0	0	7	
16	0	4	0	62	***** 0	0	0	0	0	0	0	0	
17	***** 0	11	0	0	***** 0	7	0	0	0	16	0	0	
18	***** 6	15	0	5	***** 1	15	14	0	12	7	0	6	
19	***** 0	0	0	0	***** 7	25	2	55	0	0	1	1	
20	*****12	10	1	1	0	0	5	3	0	26	8	4	
21	*****15	0	11	0	5	0	***** 4	14	0	0	20	0	
22	***** 2	45	0	18	5	0	***** 0	1	0	0	12	0	
23	0	****48	1	14	10	0	21	***** 1	16	13	31	0	
24	0	*****22	0	0	1	0	0	***** 0	0	6	40	6	
25	0	17	0	0	10	0	5	***** 0	0	32	0	14	
26	0	22	2	0	0	12	15	***** 6	9	0	9	3	
27	0	31	2	0	6	0	0	***** 6	5	0	4	23	
28	0	9	0	0	18	8	0	***** 8	0	0	1	2	
29	0		7	0	0	0	1	*****23	0	0	0	47	
30	0		17	0	0	8	85	***** 1	0	***** 0	26	0	
31	0		5		2		4	0		*****18		0	
TOTAL	132	534	137	296	220	156	221	174	113	172	248	141	2544

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
23	38	69	80	82	82	82

24 HR.	40 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
130	171	180	241	258	338	510

HYDROLOGY BRANCH D.I.D. MALAYSIA

STATION NO: 5274201

YEAR 1975

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	0	14	83	1	0	0	0	0	1	0	2	2	
2	1	1	26	2	0	0	48	0	0	0	1	1	
3	2	0	0	0	0	5	1	0	0	0	***** 0	16	
4	10	47	0	2	0	11	13	0	6	0	***** 5	2	
5	86	0	9	4	0	3	12	12	37	0	*****47	1	
6	10	0	0	4	1	0	11	2	*****38	0	***** 0	0	
7	30	1	0	0	4	5	15	7	*****12	5	0	0	
8	0	7	0	0	0	0	11	1	***** 6	*****10	0	0	
9	0	0	0	0	0	0	20	1	3	***** 3	16	6	
10	4	0	11	0	***** 1	0	1	28	31	***** 0	0	16	
11	0	0	0	0	***** 9	0	1	0	4	***** 0	0	3	
12	1	0	0	0	*****29	0	1	0	16	***** 0	8	16	
13	3	0	0	18	0	0	1	0	2	*****20	14	1	
14	0	0	0	0	8	0	1	0	1	*****31	0	10	
15	25	1	4	0	1	0	7	8	15	***** 0	0	10	
16	5	1	1	18	13	36	1	0	1	***** 0	0	17	
17	1	0	12	0	3	8	10	0	1	***** 1	4	1	
18	1	0	59	2	0	31	3	37	2	*****23	1	28	
19	10	24	4	0	0	6	7	2	5	***** 1	7	2	
20	27	40	15	0	0	1	1	2	7	***** 4	0	5	
21	4	8	15	0	1	1	1	3	4	*****33	5	37	
22	2	5	80	6	0	0	29	4	12	***** 0	1	106	
23	0	34	1	1	0	0	14	5	1	***** 0	*****50	12	
24	0	33	0	5	6	0	12	0	29	*****15	***** 4	36	
25	0	6	0	0	2	19	12	1	0	***** 6	3	2	
26	3	12	0	0	0	5	5	4	7	*****31	6	0	
27	6	2	0	85	0	0	0	23	7	***** 0	0	0	
28	10	50	0	0	12	0	0	12	4	***** 0	0	0	
29	13		0	0	2	5	0	19	10	***** 0	26	2	
30	8		0	0	0	0	0	*****20	19	***** 0	1	1	
31	1		13		0		0	***** 1		15		***** 0	
TOTAL	263	286	333	148	92	136	238	192	281	183	201	340	2693

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	7 HR.	12 HR.
16	32	61	85	87	100	115
24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
117	154	159	197	227	323	470

ANNEX 4 TANGKULAP 5473001

Daily Painfall (1969-1975)

STATION NO. 5372001 TANGKULAP (Stented Operating August 1969)

YEAR 1969

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
1	*****	*****	*****	*****	*****	*****	*****	*****	0	0	8	33
2	*****	*****	*****	*****	*****	*****	*****	*****	0	0	5	1
3	*****	*****	*****	*****	*****	*****	*****	*****	0	0	0	17
4	*****	*****	*****	*****	*****	*****	*****	*****	1	0	13	61
5	*****	*****	*****	*****	*****	*****	*****	*****	1	0	1	12
6	*****	*****	*****	*****	*****	*****	*****	*****	1	0	7	0
7	*****	*****	*****	*****	*****	*****	*****	*****	1	0	1	0
8	*****	*****	*****	*****	*****	*****	*****	*****	0	0	44	0
9	*****	*****	*****	*****	*****	*****	*****	*****	32	2	2	22
10	*****	*****	*****	*****	*****	*****	*****	*****	0	23	9	43
11	*****	*****	*****	*****	*****	*****	*****	*****	0	0	11	14
12	*****	*****	*****	*****	*****	*****	*****	*****	0	0	11	2
13	*****	*****	*****	*****	*****	*****	*****	*****	0	2	0	0
14	*****	*****	*****	*****	*****	*****	*****	*****	0	10	21	6
15	*****	*****	*****	*****	*****	*****	*****	*****	0	13	0	0
16	*****	*****	*****	*****	*****	*****	*****	*****	32	22	0	0
17	*****	*****	*****	*****	*****	*****	*****	*****	5	0	5	0
18	*****	*****	*****	*****	*****	*****	*****	18	7	0	3	3
19	*****	*****	*****	*****	*****	*****	*****	10	18	0	0	1
20	*****	*****	*****	*****	*****	*****	*****	3	15	0	0	5
21	*****	*****	*****	*****	*****	*****	******	3	0	0	0	12
22	*****	*****	*****	*****	*****	*****	*****	4	0	0	0	3
23	*****	*****	*****	*****	*****	*****	*****	3	0	0	0	46
24	*****	*****	*****	*****	*****	*****	*****	13	0	0	0	54
25	*****	*****	*****	*****	*****	*****	*****	3	0	0	2	0
26	*****	*****	*****	*****	*****	*****	*****	25	0	129	8	0
27	*****	*****	*****	*****	*****	*****	*****	0	0	13	71	0
28	*****	*****	*****	*****	*****	*****	*****	0	0	6	27	0
29	*****		*****	*****	*****	*****	*****	0	0	32	1	0
30	*****		*****	*****	*****	*****	*****	12	0	13	1	0
31	*****		*****		*****		*****	0		15		0
TOTAL	*****	*****	*****	*****	*****	*****	*****	94	113	280	251	335

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
16	32	59	104	112	133	133
24 HR.	**48 HR.**	**72 HR.**	**5 DAY**	**7 DAY**	**14 DAY**	**30 DAY**
140	144	178	192	215	290	453

HYDROLOGY BRANCH D.I.D. MALAYSIA

STATION NO. 5372001

YEAR 1970

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	0	23	0	56	14	0	7	0	0	***** 0	0	1	
2	0	4	1	14	0	0	0	0	44	***** 0	13	1	
3	0	37	1	1	0	2	18	0	19	***** 0	33	13	
4	0	34	1	30	0	1	2	1	1	***** 0		25	
5	0	38	6	18	40	25	4	29	13	*****	54	2	
6	0	24	1	1	1	18	1	18	2	17	12	27	
7	19	14	0	0	1	2	0	39	0	0	30	1	
8	12	18	0	23	13	0	0	11	1	16	1	1	
9	19	*****	0	0	12	0	0	0	11	33	23	1	
10	10	*****	0	8	0	38	0	26	1	5	3	5	
11	4	*****	0	0	5	1	0	2	3 2	13	11	7	
12	0	*****	0	0	*****	0	0	1	0	0	6	0	
13	0	*****	0	0	*****	0	0	2	0	0	14	3	
14	0	*****	0	5	*****	0	0	3	7	0	1	0	
15	*****	*****	0	6	*****	1	0	14	2	0	16	0	
16	*****	*****	0	0	*****	1	0	14	2	2	57	0	
17	6	*****	1	0	*****	1	3	0	14	8	8	14	
18	55	*****	0	9	0	22	36	0	1	0	0	0	
19	15	*****	0	1	0	2	7	0	4	11	0	0	
20	6	*****	1	4	0	42	0	0	94	73	12	0	
21	8	*****	23	0	0	2	2	0	16	4	1	36	
22	58	*****	0	0	0	2	0	0	0	47	10	1	
23	4	0	0	0	0	50	18	0	0	5	3	3	
24	1	0	4	0	0	48	4	0	0	1	1	47	
25	1	0	0	11	0	54	45	14	0	0	30	5	
26	1	0	4	0	0	1	7	16	0	0	60	20	
27	1	0	1	12	0	4	1	14	***** 0	0	35	13	
28	1	0	30	40	8	1	0	25	***** 0	47	46	2	
29	1		0	40	0	7	16	7	***** 0	23	1	4	
30	0		0	14	8	5	1	0	***** 0	6	11	42	
31	3		42		9		0	0		4		22	
TOTAL	225	192	116	293	111	330	172	236	235	315	528	296	3049*

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
33	38	43	53	58	72	94
24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
98	121	152	172	200	298	540

STATION NO. 5372001

YEAR 1971

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	26	***** 0	0	0	1	0	***** 0	15	8	0	0	0	
2	0	***** 0	0	0	0	0	***** 0	3	1	0	5	0	
3	0	***** 0	0	0	23	0	***** 0	0	0	0	0	2	
4	0	***** 0	0	0	1	3	******0	5	0	0	2	0	
5	0	***** 0	0	0	6	0	***** 0	64	0	0	9	*****	
6	0	***** 0	0	0	35	0	*****	0	0	0	0	*****	
7	0	***** 0	3	0	1	0	34	0	0	0	6	*****	
8	0	***** 0	19	62	3	0	0	0	0	0	0	*****	
9	0	***** 0	31	6	8	0	0	8	0	1	0	*****	
10	2	*****	0	0	14	0	0	10	9	0	0	*****	
11	0	*****	0	0	0	0	0	38	7	0	10	*****	
12	2	*****	0	0	0	0	40	20	0	1	18	*****	
13	0	*****	0	3	0	1	28	0	6	5	26	*****	
14	1	0	0	0	0	0	8	12	18	0	41	*****	
15	0	0	15	0	0	8	0	1	0	0	58	*****	
16	0	6	0	0	15	1	0	51	0	19	5	*****	
17	1	1	1	21	2	4	32	5	0	51	64	*****	
18	1	12	57	2	1	0	1	1	4	0	20	2	
19	1	1	1	2	0	0	1	0	0	8	1	35	
20	18	4	6	6	0	0	0	0	15	7	1	24	
21	6	9	1	1	15	0	0	17	0	0	58	11	
22	28	4	0	2	0	0	0	9	4	33	4	16	
23	66	4	0	0	0	0	58	2	44	0	0	1	
24	2	5	0	14	17	0	3	8	7	1	7	34	
25	8	11	0	0	2	0	0	18	2	27	12	8	
26	17	2	34	0	0	0	2	50	0	1	0	16	
27	33	1	2	0	0	0	0	0	2	29	1	4	
28	3	9	1	0	0	10	0	0	0	0	22	1	
29	1		19	0	0	0	0	9	0	2	60	9	
30	14		0	0	0	0	0	37	0	0	2	4	
31	*****35		0		0		7	1		1		2	
TOTAL	235	69	190	119	144	27	209	384	127	186	432	169	2291*

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
15	29	53	58	59	70	83
24 HR.	**48 HR.**	**72 HR.**	**5 DAY**	**7 DAY**	**14 DAY**	**30 DAY**
90	101	137	194	233	317	434

HYDROLOGY BRANCH D.I.D. MALAYSIA

STATION NO. 5372001

YEAR 1972

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	1	0	2	*****	0	0	0	11	20	10	12	*****	
2	5	2	2	*****	0	1	28	0	4	47	0	*****	
3	4	1	1	*****	0	15	0	41	0	15	0	*****	
4	0	1	2	*****	2	1	2	6	2	0	0	*****	
5	1	2	1	*****	0	0	0	36	0	27	0	*****	
6	0	4	1	*****	0	0	0	39	13	0	13	0	
7	1	4	2	*****	0	33	8	27	71	41	7	4	
8	1	3	1	*****	39	0	0	0	40	28	0	3	
9	1	2	2	*****	*****	0	0	11	0	1	12	1	
10	1	0	2	*****	0	0	0	7	1	8	6	3	
11	2	1	1	*****	0	21	0	1	0	6	13	6	
12	1	2	1	*****	0	4	0	11	11	2	0	2	
13	1	0	0	*****	0	7	0	0	13	63	0	1	
14	0	1	0	*****	7	0	1	52	41	30	0	7	
15	0	5	1	0	52	2	65	53	41	0	1	16	
16	5	0	0	0	0	9	1	1	0	5	0	3	
17	8	2	1	0	0	2	17	00	21	0	0	0	
18	39	2	0	0	3	4	0	6	0	0	8	11	
19	16	1	39	2	14	0	27	2	22	1	0	5	
20	6	3	4	0	12	4	1	55	6	10	69	12	
21	3	2	1	0	13	23	0	1	36	16	16	3	
22	2	1	0	0	54	9	58	2	0	3	7	0	
23	1	2	18	36	29	0	0	26	0	6	16	0	
24	2	2	4	13	6	1	0	4	0	1	0	28	
25	1	2	0	4	18	1	51	20	0	0	*****	47	
26	3	2	1	0	0	0	1	2	0	9	*****	4	
27	3	2	0	0	0	36	42	15	0	0	*****	0	
28	8	1	0	0	0	0	1	1	0	28	*****	0	
29	18	1	27	0	9	2	0	6	0	14	*****	0	
30	8		21	0	19	0	0	34	10	12	*****	0	
31	1		*****		14		5	8		9		1	
TOTAL	143	51	137	55	291	175	308	528	352	391	180	157	2768*

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
23	40	65	82	84	86	111
24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
122	145	158	199	210	334	566

STATION NO. 5372001

YEAR 1973

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	21	0	0	0	20	7	0	12	0	2	1	12	
2	6	0	0	1	0	1	26	6	0	0	4	1	
3	2	0	0	0	0	0	0	53	11	16	15	1	
4	7	0	0	6	8	0	0	4	2	0	86	3	
5	0	0	0	0	0	0	0	0	0	14	6	39	
6	0	0	0	8	1	1	7	6	1	22	1	0	
7	9	0	1	1	00	0	77	8	0	5	0	5	
8	4	9	*****	0	0	0	1	10	37	3	0	0	
9	0	0	*****	0	14	0	4	0	57	3	8	0	
10	0	0	*****	0	0	0	0	0	30	18	29	0	
11	2	0	*****	26	18	15	17	2	31	1	1	0	
12	0	0	*****	0	00	0	0	1	3	0	5	10	
13	0	18	*****	0	0	0	1	8	17	17	5	0	
14	8	24	*****	8	0	13	0	3	5	0	0	0	
15	3	12	*****	2	0	0	0	0	6	0	0	14	
16	0	1	*****	2	0	0	55	9	0	0	0	119	
17	2	0	14	8	0	57	0	2	8	8	6	7	
18	0	0	11	2	0	9	0	00	1	3	10	0	
19	0	0	0	23	47	1	0	0	7	7	0	1	
20	0	7	3	11	0	20	0	0	12	1	0	1	
21	0	0	1	5	5	0	36	0	1	1	0	1	
22	0	0	11	4	0	0	64	0	2	3	0	0	
23	0	0	0	20	1	6	22	0	10	7	0	0	
24	0	0	0	0	0	0	10	13	4	9	0	0	
25	0	0	0	3	1	1	0	22	5	0	0	14	
26	0	0	0	13	1	3	0	1	1	0	4	6	
27	0	0	0	2	9	2	0	0	4	26	9	26	
28	0	0	0	44	6	0	21	0	35	1	5	19	
29	6		1	16	7	32	16	0	12	5	39	1	
30	1		0	2	4	0	15	0	1	14	10	4	
31	0		0		0		4	0		1		2	
TOTAL	71	62	42	209	142	168	376	160	301	187	244	286	2248

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR
26	30	59	103	114	118	118
24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
119	134	140	157	178	260	429

HYDROLOGY BRANCH D.I.D. MALAYSIA

STATION NO. 5372001

YEAR 1974

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	25	33	11	4	7	00	0	3	0	0	0	4	
2	13	1	5	19	1	0	0	17	28	49	0	0	
3	19	6	21	3	18	0	2	63	9	0	0	0	
4	1	13	2	0	1	0	0	23	8	0	26	0	
5	5	0	30	15	1	0	0	2	1	0	3	0	
6	14	0	0	6	0	0	0	0	2	0	0	0	
7	5	3	0	1	0	0	0	0	0	0	0	14	
8	21	2	0	10	0	0	0	0	1	0	0	11	
9	20	20	0	1	11	0	0	0	1	0	5	3	
10	0	35	0	1	2	0	0	0	0	0	0	16	
11	0	18	0	8	91	0	7	0	0	0	7	1	
12	0	45	0	25	0	0	15	0	1	0	1	1	
13	0	72	0	0	0	0	2	0	20	0	10	6	
14	0	2	45	1	3	0	2	0	8	0	5	1	
15	32.	8	0	1	47	0	8	0	1	0	7	13	
16	0	14	1	31	32	0	1	0	0	0	5	0	
17	0	5	0	11	0	0	1	0	0	0	0	0	
18	0	6	0	7	0	0	6	0	4	35	0	63	
19	3	4	0	1	35	0	17	0	2	1	28	6	
20	2	11	2	1	15	0	32	0	0	16	10	0	
21	43	7	2	2	110	0	1	0	6	0	13	0	
22	9	23	2	51	21	0	2	0	0	0	25	1	
23	1	12	14	4	1	0	0	0	0	0	16	0	
24	1	0	1	0	0	0	0	0	0	0	5	3	
25	1	5	1	0	4	0	36	0	0	10	0	45	
26	20	18	9	0	1	0	4	0	0	0	2	5	
27	0	12	11	0	37	0	4	11	16	0	0	12	
28	0	14	1	0	6	17	0	1	0	0	0	8	
29	0		1	0	0	28	58	65	0	0	0	2	
30	18		11	8	0	4	26	0	0	19	25	1	
31	2		2		0		1	0		0		0	
TOTAL	250	389	172	217	404	49	225	185	108	130	193	216	2538

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
18	22	42	77	97	106	118
24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
119	159	161	189	240	329	415

STATION NO. 5372001

YEAR 1975

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	0	39	34	0	0	0	0	0	14	0	0	11	
2	0	11	62	0	0	3	41	0	1	0	0	4	
3	3	0	2	0	0	10	0	0	0	0	0	18	
4	3	12	1	*****	0	4	0	0	53	0	8	8	
5	56	0	2	*****	0	14	0	39	9	0	0	0	
6	42	0	0	0	63	0	0	2	3	0	16	0	
7	12	0	12	0	12	3	7	0	42	0	0	0	
8	5	5	0	0	8	1	58	14	1	0	0	0	
9	1	0	0	0	0	0	2	1	15	0	1	0	
10	41	0	1	0	3	9	18	25	14	0	0	0	
11	1	0	1	0	14	0	5	0	9	0	0	7	
12	0	0	0	0	1	0	0	0	4	0	0	37	
13	0	0	0	7	2	0	12	0	2	0	5	0	
14	3	0	0	3	2	0	10	0	0	0	0	69	
15	6	0	35	0	0	14	19	4	0	0	0	4	
16	0	0	13	9	0	38	0	1	0	0	0	107	
17	1	1	13	2	15	6	20	2	3	0	11	0	
18	0	0	50	0	0	44	1	6	0	0	0	15	
19	0	12	4	0	26	0	3	1	0	0	0	37	
20	0	101	21	00	2	0	0	28	0	0	0	18	
21	0	9	42	0	0	0	0	39	0	0	7	14	
22	0	11	23	2	0	0	17	4	0	0	0	*****	
23	0	2	25	0	5	0	2	3	0	0	0	0	
24	0	22	0	0	0	0	33	0	0	0	4	102	
25	0	1	0	0	0	19	18	0	0	0	6	0	
26	0	1	0	0	0	0	10	0	0	0	0	0	
27	1	31	0	16	0	0	1	12	0	0	0	0	
28	18	6	0	0	27	0	42	3	0	0	0	0	
29	2		0	0	0	2	0	12	0	0	0	*****3	
30	10		0	2	0	0	0	14	0	0	15	*****0	
31	5		8		4		0	20		0		*****8	
TOTAL	204	263	349	41	185	167	319	230	170	0	73	462	2452*

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
39	55	71	84	96	107	107
24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
107	120	179	216	250	410	479

ANNEX 5 ULU KUAMUT 5074001

Daily Rainfall (1969-1975)

STATION NO. 5074001 (Stanted Operating June 1969)

YEAR 1969

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OOCT	NOV	DEC	
1	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	0	
2	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	8	
3	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	7	
4	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	0	
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	0	
6	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	0	
7	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	15	5	
8	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5	4	
9	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	12	
10	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	9	
11	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	3	0	
12	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	0	
13	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0	0	
14	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0	0	
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0	0	
16	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0	0	
17	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0	0	
18	*****	*****	*****	*****	*****	*****	*****	*****	*****	***** 0	6	0	
19	*****	*****	*****	*****	*****	*****	*****	*****	*****	***** 0	0	0	
20	*****	*****	*****	*****	*****	*****	*****	*****	*****	***** 0	0	4	
21	*****	*****	*****	*****	*****	*****	*****	*****	*****	***** 0	0	0	
22	*****	*****	*****	*****	*****	*****	*****	*****	*****	***** 0	0	5	
23	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****10	0	4	
24	*****	*****	*****	*****	*****	*****	*****	*****	*****	2	0	3	
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	0	0	0	
26	*****	*****	*****	*****	*****	*****	*****	*****	*****	2	2	0	
27	*****	*****	*****	*****	*****	*****	*****	*****	*****	0	3	3	
28	*****	*****	*****	*****	*****	*****	*****	*****	*****	5	3	3	
29	*****		*****	*****	*****	*****	*****	*****	*****	10	1	3	
30	*****		*****	*****	*****	*****	*****	*****	*****	1	0	3	
31	*****		*****		*****		*****	*****		2		4	
TOTAL	*****	*****	*****	*****	*****	*****	*****	*****	*****		47	77	156

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
4	7	10	10	10	15	17

24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
20	23	29	29	29	51	76

HYDROLOGY BRANCH D.I.D. MALAYSIA

STATION NO. 5074001

YEAR 1970

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	3	4	0	0	0	0	2	1	2	0	0	0	
2	0	0	0	2	0	0	0	3	2	0	0	0	
3	0	0	0	1	0	0	0	5	0	2	3	0	
4	0	5	0	4	1	5	0	3	0	0	14	0	
5	2	5	2	6	0	1	3	7	0	3	5	0	
6	7	0	0	0	0	7	9	2	5	0	0	0	
7	3	0	0	0	0	0	0	3	1	0	0	0	
8	1	3	0	0	0	2	0	0	1	6	0	0	
9	2	0	0	0	3	0	0	0	1	1	8	5	
10	0	0	0	0	0	0	0	2	9	7	3	1	
11	0	3	0	3	0	0	0	2	1	8	0	*****	
12	4	5	0	0	2	0	0	1	1	2	2	*****	
13	1	0	0	2	1	0	0	1	1	0	0	*****	
14	0	1	0	0	2	0	0	1	1	0	0	2	
15	0	0	0	3	1	0	0	1	1	0	6	0	
16	2	0	0	3	0	0	0	3	1	0	1	0	
17	0	0	0	0	3	0	0	0	1	8	1	0	
18	6	0	0	0	0	4	6	2	1	0	0	0	
19	5	0	0	2	0	0	2	0	1	0	0	0	
20	2	0	3	0	0	6	0	0	1	9	4	0	
21	0	0	3	0	0	0	0	0	1	0	0	0	
22	15	0	0	0	0	0	0	0	2	14	0	12	
23	0	0	0	0	5	1	6	0	2	9	0	5	
24	0	0	0	1	0	6	0	0	2	1	0	0	
25	2	0	5	2	0	4	2	5	2	0	0	12	
26	2	0	3	2	0	1	0	0	2	0	0	0	
27	0	0	0	0	0	3	0	0	6	0	0	3	
28	0	0	2	5	0	3	0	2	1	0	6	0	
29	0		0	0	2	8	0	0	2	0	2	0	
30	0		0	0	1	2	2	0	0	0	1	2	
31	0		0		5		0	0		0		3	
TOTAL	57	26	18	36	26	53	32	44	51	70	56	63	532

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
6	9	9	14	14	15	15
24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
16	23	25	33	40	58	92

STATION NO. 5074001

YEAR 1971

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
1	*****	2	3	0	2	0	1	0	*****	*****	*****	*****
2	*****	2	0	0	0	1	1	0	*****	*****	*****	*****
3	*****	2	0	1	4	1	1	0	*****	*****	*****	*****
4	*****	2	0	0	0	1	0	0	*****	*****	*****	*****
5	*****	7	0	0	0	3	0	7	*****	*****	*****	*****
6	*****	20	0	0	0	1	2	0	*****	*****	*****	*****
7	*****	26	0	0	0	1	3	0	*****	*****	*****	*****
8	*****	10	0	7	0	4	0	0	*****	*****	*****	*****
9	*****	12	0	0	0	1	0	0	*****	*****	*****	*****
10	*****	6	2	0	0	1	0	0	*****	*****	*****	*****
11	*****	0	0	1	0	1	0	0	*****	*****	*****	*****
12	0	3	0	0	0	1	2	0	*****	*****	*****	*****
13	0	10	0	0	0	0	3	4	*****	*****	*****	*****
14	0	4	0	0	5	1	2	1	*****	*****	*****	*****
15	0	0	7	0	0	0	0	1	*****	*****	*****	*****
16	0	0	1	0	11	3	0	1	*****	*****	*****	*****
17	0	5	1	1	0	0	3	4	*****	*****	*****	*****
18	0	0	8	1	0	0	0	2	*****	*****	*****	*****
19	2	0	1	3	7	5	0	*****	*****	*****	*****	*****
20	5	0	2	2	3	10	0	*****	*****	*****	*****	*****
21	0	0	0	0	8	0	2	*****	*****	*****	*****	*****
22	8	0	4	0	0	0	0	*****	*****	*****	*****	*****
23	8	0	0	0	1	14	16	*****	*****	*****	*****	*****
24	1	0	0	10	1	2	2	*****	*****	*****	*****	*****
25	3	4	0	0	0	0	0	*****	*****	*****	*****	*****
26	3	0	0	0	0	0	0	*****	*****	*****	*****	*****
27	2	0	5	0	0	0	4	*****	*****	*****	*****	*****
28	1	2	0	0	3	2	0	*****	*****	*****	*****	*****
29	1		0	2	0	0	0	*****	*****	*****	*****	*****
30	1		0	1	0	6	1	*****	*****	*****	*****	*****
31	14		0		0		0	*****		*****		*****
TOTAL	49	117	34	29	45	59	43	20	*****	*****	*****	*****

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
4	8	11	14	14	15	17
24 HR.	**48 HR.**	**72 HR.**	**5 DAY**	**7 DAY**	**14 DAY**	**30 DAY**
26	47	59	75	84	117	163

HYDROLOGY BRANCH D.I.D. MALAYSIA

STATION NO. 5074001

YEAR 1972

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
1	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
3	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
4	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
6	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
7	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
8	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
9	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
10	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
11	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
12	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
13	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
14	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
16	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
17	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
18	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
19	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
20	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
21	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
22	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
23	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
24	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
25	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
26	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
27	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
28	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
29	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
30	*****		*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
31	*****		*****		*****		*****	*****		*****		*****
TOTAL	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
0	0	0	0	0	0	0

24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
0	0	0	0	0	0	0

STATION NO. 5074001

YEAR 1973

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
1	*****	*****	*****	*****	*****	*****	*****	*****	*****	48	2	3
2	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	2	16
3	*****	*****	*****	*****	*****	*****	*****	*****	*****	11	4	2
4	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	31	2
5	*****	*****	*****	*****	*****	*****	*****	*****	*****	53	8	14
6	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	0	1
7	*****	*****	*****	*****	*****	*****	*****	*****	*****	2	5	10
8	*****	*****	*****	*****	*****	*****	*****	*****	*****	0	18	0
9	*****	*****	*****	*****	*****	*****	*****	*****	*****	0	4	0
10	*****	*****	*****	*****	*****	*****	*****	*****	*****	47	3	0
11	*****	*****	*****	*****	*****	*****	*****	*****	*****	13	2	35
12	*****	*****	*****	*****	*****	*****	*****	*****	*****	1	1	0
13	*****	*****	*****	*****	*****	*****	*****	*****	*****	30	3	0
14	*****	*****	*****	*****	*****	*****	*****	*****	*****	32	1	5
15	*****	*****	*****	*****	*****	*****	*****	*****	*****	4	2	0
16	*****	*****	*****	*****	*****	*****	*****	*****	*****	19	6	52
17	*****	*****	*****	*****	*****	*****	*****	*****	*****	13	48	0
18	*****	*****	*****	*****	*****	*****	*****	*****	*****	18	22	0
19	*****	*****	*****	*****	*****	*****	*****	*****	*****	2	0	5
20	*****	*****	*****	*****	*****	*****	*****	*****	*****	17	0	1
21	*****	*****	*****	*****	*****	*****	*****	*****	*****	0	0	23
22	*****	*****	*****	*****	*****	*****	*****	*****		5	0	0
23	*****	*****	*****	*****	*****	*****	*****	*****	0	0	0	0
24	*****	*****	*****	*****	*****	*****	*****	*****	6	7	22	0
25	*****	*****	*****	*****	*****	*****	*****	*****	6	0	21	23
26	*****	*****	*****	*****	*****	*****	*****	*****	2	14	21	4
27	*****	*****	*****	*****	*****	*****	*****	*****	2	7	1	21
28	*****	*****	*****	*****	*****	*****	*****	*****	8	18	1	*****
29	*****		*****	*****	*****	*****	*****	*****	2	10	33	00
30	*****		*****	*****	*****	*****	*****	*****	67	16	63	0
31	*****		*****		*****		*****	*****		10		0
TOTAL	*****	*****	*****	*****	*****	*****	*****	*****	105	400	342	217

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
20	39	61	64	65	66	66

24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
113	115	117	129	182	274	441

HYDROLOGY BRANCH D.I.D.   MALAYSIA

STATION NO. 5074001

YEAR 1974

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	0	0	5	5	9	14	0	5	0	10	0	5	
2	0	0	7	8	1	7	0	7	12	4	0	2	
3	0	0	15	3	0	51	0	79	28	0	0	2	
4	0	0	7	4	0	1	0	30	1	0	46	8	
5	0	0	1	9	0	1	0	14	4	4	0	0	
6	0	12	1	5	6	1	0	0	7	0	0	6	
7	0	4	1	0	2	1	1	0	11	7	0	3	
8	0	21	0	1	3	1	0	0	2	1	0	3	
9	0	31	0	4	10	1	0	0	6	1	1	6	
10	0	10	0	27	13	3	2	0	0	1	0	1	
11	0	17	7	27	17	0	1	0	5	1	42	1	
12	0	70	9	36	9	0	10	13	7	12	0	1	
13	0	33	26	4	8	20	3	4	31	18	58	1	
14	0	9	1	1	23	1	3	0	0	*****	0	0	
15	0	10	1	1	0	8	1	0	0	3	0	26	
16	0	3	1	42	0	0	1	0	22	0	0	0	
17	5	16	1	1	0	1	1	0	0	54	0	0	
18	1	3	1	5	21	14	4	0	3	4	4	0	
19	7	3	1	8	5	24	14	19	5	3	4	11	
20	9	8	1	1	1	7	61	1	2	5	2	11	
21	11	16	5	108	8	0	1	2	20	0	23	1	
22	1	17	0	70	6	9	4	2	1	0	30	1	
23	1	6	7	15	3	0	20	0	1	2	32	60	
24	1	0	7	2	3	0	0	19	1	2	22	2	
25	32	7	0	0	5	0	20	1	1	1	2	9	
26	4	0	16	0	1	29	10	11	9	2	2	15	
27	1	64	5	0	1	0	0	7	1	0	2	25	
28	9	18	2	0	37	24	0	0	1	0	16	4	
29	1		1	0	2	25	16	24	1	0	1	5	
30	1		6	0	2	0	7	0	1	0	24	0	
31	4		5		0		3	9		0		16	
TOTAL	88	378	140	382	196	243	192	247	183	135	311	225	2720

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR	12 HR.
22	34	51	73	89	138	139
24 HR.	**48 HR.**	**72 HR.**	**5 DAY**	**7 DAY**	**14 DAY**	**30 DAY**
177	186	195	202	235	347	418

STATION NO. 5074001

YEAR 1975

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	11	0	100	2	0	4	0	0	12	0	7	1	
2	1	0	13	2	*****	1	29	0	18	0	1	1	
3	1	0	2	0	*****	5	13	0	2	0	1	28	
4	1	4	2	0	*****	1	4	0	1	0	1	1	
5	47	1	4	7	*****	1	12	11	30	0	45	0	
6	21	*****	1	9	0	1	1	3	41	0	2	0	
7	35	*****	0	1	17	1	36	0	2	17	*****	0	
8	4	*****	0	0	1	51	55	0	2	15	2	0	
9	4	*****	0	0	1	5	5	0	3	12	5	0	
10	78	*****	0	6	1	0	1	0	43	11	1	4	
11	1	0	0	0	1	0	1	3	8	19	1	4	
12	1	0	0	0	7	0	1	0	1	2	9	3	
13	1	0	0	0	38	0	1	0	3	10	1	13	
14	0	0	0	0	117	0	1	0	0	1	1	67	
15	18	0	3	8	3	0	1	0	7	1	1	4	
16	0	0	14	1	3	0	1	0	1	30	1	38	
17	0	0	30	1	7	17	2	4	33	2	12	6	
18	0	0	64	1	0	1	2	46	12	1	7	1	
19	0	30	8	1	15	32	13	28	14	1	0	58	
20	0	21	27	7	1	0	16	40	17	3	0	3	
21	0	18	72	0	1	0	12	3	3	7	4	26	
22	0	4	6	7	4	0	15	44	11	2	0	1	
23	0	26	8	0	3	0	7	5	4	2	2	0	
24	0	114	0	0	3	1	5	0	43	13	1	23	
25	0	13	0	0	1	1	23	16	22	15	1	0	
26	0	26	0	0	6	1	29	5	1	0	15	0	
27	0	10	0	6	15	1	37	16	18	0	0	0	
28	0	12	0	27	10	1	0	9	2	70	0	0	
29	0		0	0	0	15	0	13	2	4	23	0	
30	0		3	0	0	0	0	0	104	25	1	0	
31	0		2		0		0	24		35		*****	
TOTAL	224	279	359	85	255	146	323	270	460	298	145	312	3157

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
19	25	43	87	102	111	116
24 HR.	**48 HR.**	**72 HR.**	**5 DAY**	**7 DAY**	**14 DAY**	**30 DAY**
122	155	163	201	300	389	585

ANNEX 6 LAMAG 5478001

Daily Rainfall (1969-1975)

STATION NO. 5478001 BUKIT GARAM/LAMAG (Stanted October 1968)

YEAR 1969

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	*****38	0	0	*****0	0	0	0	13	0	23	0	0	
2	***** 0	0	0	*****0	14	0	8	1	0	0	23	0	
3	***** 6	0	0	*****0	0	5	7	26	18	0	0	0	
4	***** 0	0	0	*****0	0	11	5	2	1	1	5	2	
5	***** 1	1	0	*****0	0	19	0	4	80	7	24	0	
6	***** 2	19	0	*****0	2	7	0	0	0	8	1	0	
7	***** 0	28	0	*****0	0	0	28	1	0	0	1	0	
8	***** 0	30	11	*****0	91	1	0	0	0	0	4	11	
9	***** 0	68	0	*****0	1	42	11	0	0	0	3	0	
10	***** 0	18	0	*****0	4	6	16	17	0	1	10	16	
11	***** 3	5	10	*****0	0	1	0	0	0	21	16	0	
12	***** 6	0	0	*****0	0	0	0	0	0	0	12	33	
13	***** 4	5	0	*****	71	3	0	0	0	10	12	0	
14	*****	*****1	0	0	4	0	0	0	0	6	18	0	
15	0	*****0	0	0	23	0	62	2	0	7	0	0	
16	0	*****0	0	0	0	11	5	18	29	6	14	3	
17	0	*****0	0	2	3	1	0	1	7	0	0	1	
18	0	*****0	0	0	16	4	0	1	2	0	0	10	
19	0	0	0	0	*****14	4	0	1	0	0	0	0	
20	0	0	0	0	*****29	8	6	5	0	0	0	0	
21	3	0	0	1	*****11	0	0	3	0	4	0	0	
22	0	0	18	1	***** 0	87	0	0	4	0	0	0	
23	0	0	16	0	***** 0	0	5	0	1	0	0	3	
24	2	0	10	0	***** 0	2	2	3	0	0	2	52	
25	0	0	14	4	***** 0	1	0	24	0	2	2	18	
26	0	0	4	0	***** 0	2	0	21	0	0	0	2	
27	0	0	***** 0	0	***** 0	12	0	1	1	24	3	8	
28	45	0	***** 0	8	13	0	0	2	0	8	4	50	
29	0		***** 0	7	0	3	0	2	0	57	18	53	
30	0		***** 0	00	0	5	0	5	0	0	0	5	
31	0		***** 0		20		1	3		0		0	
TOTAL	120	180	83	23	313	246	166	158	143	179	172	274	2051

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
45	80	80	83	90	91	91

24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
91	110	127	153	190	249	322

HYDROLOGY B ANCH D.I.D. MALAYSIA

STATION NO. 5478001

YEAR 1970

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	10	*****33	0	19	3	*****	21	0	85	7	0	0	
2	8	*****13	0	9	0	0	0	18	0	0	0	3	
3	0	*****29	0	17	0	2	4	0	3	0	0	34	
4	4	*****15	0	3	1	4	17	25	0	0	0	***** 5	
5	14	45	19	10	3	1	2	24	0	13	44	*****44	
6	15	15	0	1	0	18	3	10	0	17	1	***** 0	
7	0	0	1	0	10	11	0	31	28	0	5	***** 3	
8	0	20	0	22	24	0	18	9	18	0	3	***** 0	
9	25	0	0	0	0	0	37	1	4	8	0	***** 2	
10	0	2	0	27	4	10	1	0	1	11	0	***** 5	
11	14	53	0	0	0	5	0	3	0	50	15	*****10	
12	4	14	0	0	4	10	0	0	1	0	11	***** 0	
13	7	0	0	4	0	0	0	0	0	0	3	***** 0	
14	0	1	0	33	0	11	0	1	15	0	1	***** 6	
15	4	0	0	0	31	1	0	3	3	0	*****	***** 0	
16	1	0	0	0	0	0	0	10	1	7	*****	***** 0	
17	32	0	0	0	2	23	0	12	5	31	9	***** 0	
18	25	0	0	0	0	49	28	0	0	0	0	***** 0	
19	68	0	12	3	11	0	2	1	0	0	0	***** 0	
20	59	0	2	0	0	0	0	0	0	16	0	***** 2	
21	40	0	14	0	3	18	0	0	7	4	0	***** 3	
22	*****15	0	1	0	7	0	0	72	28	34	1	*****19	
23	***** 0	0	0	0	24	17	68	4	0	52	2	***** 0	
24	***** 0	0	2	3	38	9	0	0	7	19	0	*****73	
25	***** 1	0	9	45	6	12	47	7	7	21	14	***** 3	
26	***** 9	0	27	5	12	6	4	1	9	9	117	***** 9	
27	***** 0	0	6	19	7	0	8	3	12	0	8	*****26	
28	*****34	0	0	0	0	0	0	0	1	0	0	*****15	
29	***** 0		0	0	*****59	2	0	49	0	25	8	***** 0	
30	***** 0		0	0	*****15	3	0	0	0	7	19	*****21	
31	*****20		0		*****14		1	6		17		*****37	
TOTAL	407	240	92	225	278	214	273	290	222	345	314	320	3220

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
26	52	70	85	87	114	115
24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
121	136	193	235	269	323	437

STATION NO. 5478001

YEAR 1971

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	*****12	***** 3	***** 0	***** 1	*****	1	3	22	0	0	*****11	*****12	
2	***** 4	***** 0	***** 0	***** 1	*****	1	50	28	0	0	***** 1	***** 2	
3	***** 0	***** 0	***** 0	***** 0	0	15	6	19	28	18	***** 0	***** 0	
4	***** 5	***** 2	***** 0	***** 0	0	0	0	9	0	0	***** 0	***** 0	
5	12	*****31	***** 0	***** 0	0	15	4	69	0	0	***** 1	***** 3	
6	12	*****60	***** 0	***** 0	0	0	0	0	0	0	***** 1	*****13	
7	0	*****117	***** 0	***** 4	0	0	0	0	2	0	*****10	*****10	
8	22	*****90	*****27	***** 0	0	48	0	0	0	0	*****21	***** 9	
9	57	*****71	*****33	***** 0	0	0	15	4	0	35	23	*****59	
10	35	*****153	*****11	***** 0	0	8	0	11	11	0	6	***** 2	
11	5	*****18	***** 0	***** 2	40	0	0	3	3	0	17	*****13	
12	3	***** 0	***** 0	***** 0	20	0	16	11	1	0	1	***** 0	
13	4	***** 0	*****12	***** 2	1	0	1	15	0	74	***** 0	***** 4	
14	0	***** 1	***** 1	***** 0	1	11	26	12	0	10	***** 4	***** 0	
15	0	*****15	***** 2	***** 0	12	2	1	1	21	1	***** 4	*****27	
16	0	***** 0	***** 5	***** 0	11	8	1	8	0	1	***** 2	***** 8	
17	0	*****12	*****38	***** 0	1	7	19	7	0	75	***** 0	***** 1	
18	0	***** 2	***** 3	*****17	0	2	35	2	0	36	***** 0	*****24	
19	2	***** 1	***** 0	***** 5	18	18	0	12	0	1	***** 7	***** 2	
20	19	***** 5	***** 0	***** 0	48	33	38	6	0	1	*****15	***** 4	
21	2	***** 0	***** 1	***** 0	3	20	0	41	0	1	***** 3	20	
22	30	***** 0	***** 0	***** 0	0	1	0	29	0	1	*****11	0	
23	164	*****11	***** 0	***** 0	0	4	19	1	0	0	***** 0	0	
24	33	*****11	***** 0	*****10	15	0	11	25	4	40	***** 1	0	
25	7	*****11	***** 0	***** 9	34	0	0	16	0	16	***** 3	4	
26	39	*****20	***** 6	***** 0	9	0	0	62	0	5	*****17	2	
27	0	***** 0	***** 0	***** 0	23	0	0	*****20	11	7	***** 1	0	
28	0	***** 1	*****35	***** 0	26	0	6	***** 8	6	24	*****27	0	
29	0		***** 3	*****43	0	2	0	***** 4	0	17	***** 0	0	
30	***** 1		*****13	***** 0	2	103	0	33	0	0	***** 0	10	
31	*****22		***** 0		3		42	0		6		1	
TOTAL	487	635	190	94	257	292	301	481	81	373	187	230	3618

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
18	26	43	55	57	72	107
24 HR.	**48 HR.**	**72 HR.**	**5 DAY**	**7 DAY**	**14 DAY**	**30 DAY**
183	213	232	277	298	204	486

HYDROLOGY BRANCH D.I.C. MALAYSIA

STATION NO. 5478001

YEAR 1972

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
1	22	0	0	*****48	*****	***** 0	0	0	34	0	0	0
2	4	16	0	***** 0	*****	***** 0	0	0	0	1	21	12
3	12	0	0	***** 0	*****	*****16	0	3	0	39	0	0
4	0	0	0	***** 0	*****	***** 0	21	0	0	8	0	33
5	2	0	1	***** 0	*****	0	*****14	0	0	10	4	0
6	0	0	42	***** 0	*****	0	*****22	0	0	38	0	37
7	10	0	24	0	*****	0	***** 0	0	9	0	2	1
8	0	0	1	1	*****	0	***** 1	0	53	1	1	1
9	0	1	0	0	*****	0	***** 0	0	41	0	0	15
10	0	13	0	4	*****	0	***** 0	48	33	3	4	32
11	0	7	0	1	*****	0	***** 0	2	3	0	***** 3	0
12	0	0	2	2	*****	0	***** 0	0	12	35	*****82	9
13	0	24	14	0	*****	0	***** 0	0	10	42	0	24
14	18	3	0	0	*****	0	***** 0	6	41	5	7	8
15	1	12	***** 0	0	*****	0	***** 0	0	1	2	32	14
16	54	47	***** 8	0	*****	0	***** 5	0	3	1	0	0
17	*****50	64	*****37	0	*****	0	***** 0	0	13	1	0	0
18	16	0	*****15	16	*****	0	*****81	5	33	12	45	21
19	1	0	***** 6	14	*****	0	0	0	20	4	0	3
20	6	5	*****63	0	*****	17	0	42	0	0	0	1
21	42	28	***** 0	0	*****	4	0	4	0	0	11	3
22	2	14	***** 0	1	*****	0	17	1	0	23	40	0
23	44	0	***** 0	1	*****	0	0	1	0	6	5	0
24	0	47	***** 2	2	*****	37	26	1	6	3	0	2
25	20	1	*****14	1	*****	0	41	71	81	3	11	5
26	4	3	*****10	0	*****	0	23	3	0	0	0	00
27	0	0	***** 0	***** 0	*****	0	12	3	0	0	1	0
28	21	0	***** 0	***** 0	*****	0	1	0	1	0	0	0
29	1	0	***** 0	***** 0	26	71	0	13	0	4	37	17
30	16		***** 3	***** 0	43	0	0	13	0	72	0	15
31	16		*****32		*****		0	1		1		3

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
25	50	82	82	62	82	82
24 HR.	**48 HR.**	**72 HR.**	**5 DAY**	**7 DAY**	**14 DAY**	**30 DAY**
100	130	138	154	192	275	439

STATION NO. 5478001

YEAR 1973

DAILY AINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	8		0	0	0	26	58	1	5	26	34	34	
2	0	*****0	0	0	0	0	58	5	0	0	53	6	
3	3	*****0	0	0	60	6	0	11	25	20	6	1	
4	1	*****0	0	0	25	0	3	2	8	*****15	7	1	
5	1	*****0	0	0	2	3	1	3	6	*****12	29	39	
6	2	*****0	0	3	22	0	1	0	0	*****12	11	1	
7	***** 6	0	33	1	0	0	2	28	10	*****45	2 27	3	
8	***** 0	0	0	0	3	6	0	2	0	60	12	0	
9	***** 0	0	0	0	28	1	21	2	0	4	1	3	
10	***** 1	0	0	0	1	6	1	2	4	1	14	0	
11	***** 0	0	0	0	1	7	1	37	64	3	1	0	
12	0	0	0	0	***** 0	0	0	4	3	4	27	0	
13	2	0	0	24	*****13	0	0	1	10	***** 2	0	0	
14	3	0	0	6	***** 0	0	37	36	48	***** 0	0	0	
15	0	0	0	9	***** 1	5	13	0	4	***** 1	0	4	
16	0	0	2	3	***** 0	0	0	3	1	***** 0	0	0	
17	0	0	8	2	***** 0	0	30	15	5	***** 2	19	3	
18	0	0	4	46	***** 0	0	0	1	15	***** 0	*****13	0	
19	0	0	0	16	*****19	0	0	1	0	* 1	***** 5	0	
20	0	0	9	16	*****32	82	0	0	0 5	3	***** 0	0	
21	0	0	4	2	0	2	0	0	14	2	0	0	
22	0	0	0	0	0	0	3	0	0	2	0	0	
33	0	0	0	0	0	***** 0	0	59	0	24	0	0	
24	0	0	0	2	2	*****49	0	17	15	3	0	6	
25	0	0	0	125	1	***** 0	46	4	0	1	13	17	
26	0	0	0	64	5	***** 1	6	0	45	1	1	*******	
27	0	0	0	21	40	0	4	0	1	18	8	*****	
28	0	0	1	3	0	0	15	16	4	12	0	3	
29	0		0	3	6	4	11	0	6	14	0	16	
30	11		8	0	19	24	9	0	2	41	14	7	
31	***** 0		0		1		47	3		1		42	
TOTAL	38	0	69	340	281	222	381	278	296	331	295	200	2737

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
16	31	58	80	81	81	112
24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
125	205	210	215	218	330	505

HYDROLOGY BRANCH D.I.D. MALAYSIA

STATION NO. 5478001

YEAR 1974

DAILY RAINFALL TOTALS (MM)

DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	COCT	NOV	DEC	
1	21	*****23	45	4	6	1	7	6	0	0	0	7	
2	18	*****85	24	1	9	0	34	0	0	0	0	0	
3	52	***** 0	0	1	0	9	1	37	2	0	0	0	
4	5	***** 3	0	18	0	0	36	5	***** 1	17	140	0	
5	0	***** 1	0	19	0	0	9	***** 3	***** 0	23	10	91	
6	14	0	0	13	0	0	2	***** 3	8	2	0	45	
7	7	1	0	11	0	18	0	***** 0	8	1	0	0	
8	3	30	0	0	1	0	0	***** 9	0	13	0	6	
9	4	3		0	40	0	0	***** 0	0	***** 8	17	4	
10	14	32	0	16	10	3	0	***** 3	***** 0	***** 0	0	0	
11	0	32	7	12	23	1	1	***** 0	*****56	***** 0	0	0	
12	0	565	6	10	18	8	0	***** 5	***** 0	66	0	0	
13	0	165	5	3	2	22	3	***** 0	***** 7	24	0	0	
14	2	26	16	26	2	*****14	6	***** 0	4	0	0	1	
15	16	***** 5	0	0	0	***** 6	0	***** 0	***** 2	0	0	10	
16	0	****** 5	0	12	0	***** 0	4	***** 0	*****19	0	0	6	
17	0	*****10	0	1	4	***** 0	90	***** 0	***** 5	10	0	0	
18	0	10	0	19	9	***** 3	7	***** 0	***** 0	4	0	0	
19	3	2	0	0	8	6	0	***** 0	***** 0	7	0	69	
20	6	3	1	0	17	0	48	*****17	***** 1	2	***** 0	3	
21	4	6	12	13	1	0	2	***** 0	14	0	***** 3	0	
22	18	1	1	39	15	0	4	*****23	9	1	***** 0	0	
23	1	11	1	0	19	20	7	***** 1	0	22	14	0	
24	1	1	1	0	1	36	2	***** 0	0	6	11	32	
25	1	25	1	0	14	19	17	***** 0	7	35	1	27	
26	36	3	1	0	16	0	7	***** 0	0	47	1	4	
27	0	44	21	0	2	0	1	***** 5	0	1	1	61	
28	3	11	23	0	4	0	1	***** 0	18	0	14	31	
29	00		1	30	1	2	75	*****28	4	10	0	37	
30	7		5	0	1	2	18	*****54	0	10	20	10	
31	***** 7		62		1		1	0		0		0	
TOTAL	227	113	230	310	228	186	344	190	147	295	283	396	3943

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
37	70	97	137	149	248	421
24 HR.	68 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
579	742	778	820	853	892	1062

STATION NO. 5478001

YEAR 1975

DAILY RAINFALL TOTALS (MM)

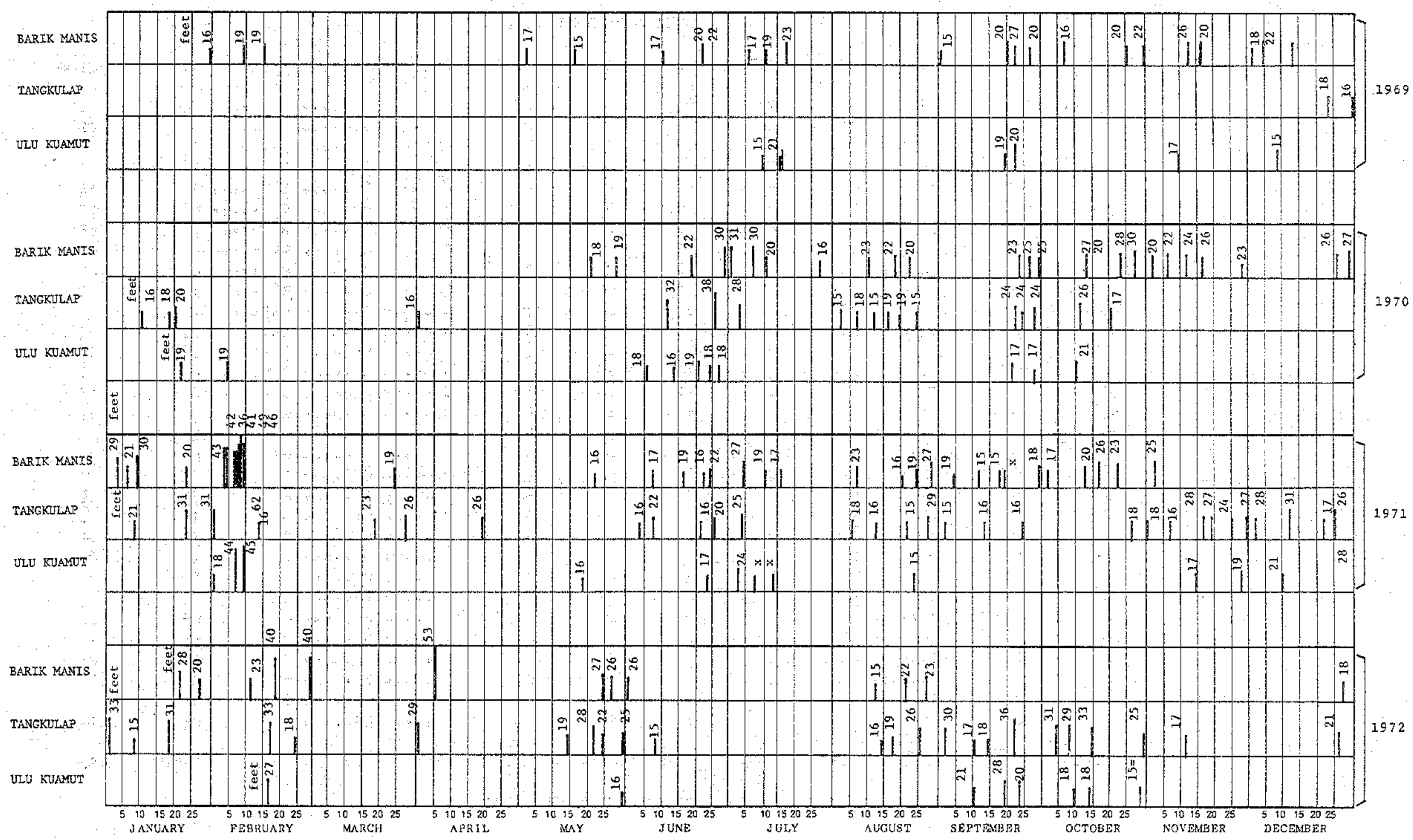
DAY	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC	
1	0	18	*****60	*****11	0	6	0	0	0	*****71	0	31	
2	0	10	***** 0	***** 0	2	2	0	0	0	***** 1	1	1	
3	0	28	***** 4	***** 0	8	0	0	37	0	***** 0	0	17	
4	11	0	***** 1	***** 0	6	0	0	7	79	***** 0	0	0	
5	58	0	***** 0	***** 0	2	1	5	44	49	***** 0	1	7'	
6	86	0	***** 0	***** 3	0	0	0	2	0	***** 0	5	0	
7	35	0	*****11	***** 8	2	10	62	0	2	0	13	5	
8	1	0	***** 0	***** 0	0	0	0	32	6	7	0	2	
9	1	0	***** 0	***** 0	0	0	0	0	6	2	5	31	
10	1	0	***** 0	***** 0	8	0	1	0	41	0	8	2	
11	1	0	*****15	***** 0	0	69	0	2	23	24	1	0	
12	36	0	***** 1	***** 0	28	0	0	0	10	0	18	38	
13	12	4	***** 0	***** 4	20	0	0	0	0	33	7	4	
14	0	10	***** 0	***** 4	15	0	9	0	0	5	0	0	
15	42	3	***** 0	***** 0	4	0	8	0	0	0	0	6	
16	8	0	***** 0	***** 0	3	3	8	0	0	94	0	1	
17	0	0	***** 2	***** 0	11	5	11	3	5	62	0	0	
18	0	2	*****17	***** 0	0	15	4	13	43	13	4	0	
19	2	4	*****38	***** 0	7	13	0	26	41	2	4	84	
20	58	258	***** 0	***** 0	0	1	11	2	15	0	0	0	
21	3	*****189	***** 1	***** 0	22	8	0	2	14	9	14	0	
22	1	***** 32	***** 0	72	14	0	10	11	18	37	0	2	
23	0	***** 8	***** 0	0	0	0	24	4	1	30	9	0	
24	0	***** 16	***** 0	0	6	0	17	0	0	2	8	49	
25	3	***** 8	***** 0	69	0	3	36	7	0	6	4	3	
26	0	***** 5	***** 0	6	0	5	24	0	10	2	22	62	
27	6	***** 3	***** 0	0	3	0	0	18	1	0	0	0	
28	0	***** 3	***** 0	21	7	0	0	8	5	30	0	0	
29	0		***** 0	0	1	17	10	27	23	35	8	15	
30	5		***** 0		0		0	5	*****24	0	0	7	
31	68		***** 0		38		0	24		55		***** 8	
TOTAL	439	521	150	198	187	155	270	272	429	516	133	384	3654

ANNUAL MAXIMUM TOTALS

15 MIN.	30 MIN.	1 HR.	2 HR.	3 HR.	6 HR.	12 HR.
35	55	87	89	104	185	240

24 HR.	48 HR.	72 HR.	5 DAY	7 DAY	14 DAY	30 DAY
268	275	297	277	280	322	524

FLOOD PEAKS IN THE KINABATANGAN REGION 1969 TO 1972



FLOOD PEAKS IN THE KINABATANGAN REGION 1973 TO 1976